



# **C.P. & Berar E.S. College** **Mahal, Nagpur**

**Two Day Multidisciplinary National Virtual Conference**

**On**

**"SOCIAL IMPLICATION OF ARTIFICIAL INTELLIGENCE  
ON WOMEN ATHLETE, WOMEN HEALTH AND  
NUTRITION IN LIGHT OF COVID -19 PANDEMIC"**

## **Souvenir**

**Sponsored by**

**Indian Council of**

**Social Science Research (ICSSR),**

**WRC, Mumbai**

**Jointly Organised by**

**Department of**

**Home Economics**

**&**

**Department of**

**Physical Education & Sports**

**8th & 9th March 2022**







Sr. No	Particular	Page No
1.	About College	1
2.	About Conference	2
<b>Welcome Messages</b>		
3.	Maj Gen Achyut S. Deo (Retd.) President, C.P. & Berar Education Society, Nagpur.	3
4.	Dr. Milind Barhate, Principal, C.P. & Berar E. S. College, Nagpur.	4
5.	Prof. Prerana Ratnaparkhi Dr. Nishant Arun Tipte Organizing Secretary	5
<b>Research Papers</b>		
6.	A Review of Challenges and Solutions for Nutritional Importance in Women Athlete - Mr. Amit Das	6
7.	Artificial Intelligence Based Solution for Women Athletes after the Impact of Covid-19: A Review - Dr. A. D. Sakhare	10
8.	THE IMPACT OF COVID-19 ON WOMEN'S MENTAL WELL-BEING - Dr. A. D. Sakhare <sup>1</sup> Miss Swati S. Kale <sup>2</sup>	22
9.	THE ROLE OF INDIAN MASS MEDIA IN DEVELOPMENT OF WOMEN'S SPORT - Dr. ANIS AHMED KHAN	29
10.	WOMEN HEALTH CARE IN COVID 19 - Dr. D. S. Wankhade	38
11.	Effect of Technology on Women Athlete Psychology - Dr. Dhiraj W. Bhoskar	52
12.	Female Human Capital in the Covid -19 situation - Dr. Medha Kanetkar	57
13.	Importance of Nutrition for Women Athletes - Dr. Meena Balpande <sup>1</sup> Dr. Sujata Sakhare <sup>2</sup>	64
14.	Importance of Sports Nutrition - Dr. Mrunal R. Waliokar	75
15.	Critical review of Impact of Proper diet and Exercise on menstrual health - Dr. Muktai Chavan Deb <sup>1</sup> Dr. Monika Jain <sup>2</sup> Dr. Gauree Pimpralekar	79
16.	Impact of Artificial Intelligence on Health and Nutrition of Elite Volleyball Players of Nagpur City - Dr. Rahul Madhukarrao Rode	89
17.	WOMAN EMPOWERMENT ENHANCING THE GROWTH OF ECONOMIC DEVELOPMENT - Dr. Ravi M. Shastrakar	96
18.	महिलाओ का पोषण : एक अध्ययन - प्रा. डॉ. रोहिणी दि, मेश्राम	104
19.	Impact of COVID-19 Lock Down on Adolescents - Dr. Sampada Naseri	115
20.	Social Media Use by Adolescent Girls of Nagpur City to Seek Nutrition Related Information - Dr. Shubhangi S. Kukekar	125



21.	WEIGHT MANAGEMENT THROUGH YOGA - DR. SUNIL. S. BHOTMANGE	133
22.	STRETCHING EXERCISES EFFECT ON FLEXIBILITY OF COLLEGE GIRL STUDENTS - Dr. Sushil S Chauhan	136
23.	कोविडकाल के प्रभावो का एक अध्ययन: सामाजिक, आर्थिक और मानसिक विकास - प्रा. डॉ. व्ही. एन. कन्नाके.	144
24.	<b>Science of Indian Food for Women's Health - Dr. Vibha Kshirsagar</b>	159
25.	Adoption, Application and Impact of Artificial Intelligence (AI) on the Indian Industry - Dr. Vinod W. Dongarwar	165
26.	Role of Artificial Intelligence (AI) in ERP for Education Institutions Mr. Vishwas Patil	175
27.	Impacts & Benefits of Technology on Sports Science - Dr. Ramesh Ashok Gaikwad	183
28.	Women Health and Challenges - Dr.Surekha Bhaguji Bhingardive	189
29.	Effect of technology on women investors psychology - Dunal Harishankar Bagde	193
30.	INFLUENCE OF COMBINED POSITIVE BIORHYTHM ON THE PERFORMANCE OF SPORTS PERSONS - Mr. Nilesh S. Ingole <sup>1</sup> Dr. Tanuja S. Raut <sup>2</sup>	199
31.	WOMEN'S HEALTH AND THE RISE OF DOMESTIC VIOLENCE IN COVID-19 - Ishita Mahajan	206
32.	Digital Impressions: A New Paradigm In Dentistry - Jaykumar R Gade <sup>1</sup> , Megha J Agrawal <sup>2</sup> and Vandana J Gade <sup>3</sup>	212



33.	IMPACT OF STABILITY TRAINING AND COMBINED TRAINING ON ANXIETY AMONG SENIOR RECURVE ARCHERS OF GADCHIROLI - Mr. Shyam B. Korde <sup>1</sup>	221
34.	ASSESSMENT OF AEROBIC CAPACITY AMONG DIFFERENT FEMALE INDIVIDUAL GAME PLAYERS - Mrs. Shital S. Raut	227
35.	A STUDY OF LOWER LIMB POSTURAL DEFORMITIES OF SCHOOL GOING STUDENTS - Nikhil Sharma <sup>1</sup>	232
36.	Women Health and Nutrition During Pregnancy - Nilima P. Mahore	242
37.	ROLE OF TECHNOLOGY TO IMPROVE WOMEN'S HEALTH CARE - PROF. ANJALI DIGAMBAR BARDE	249
38.	Study of Mental Health of Women during the Covid 19 Pandemic - Prof. Sudhir Dnyaneshwarrao Pathare	254
39.	Critical evaluation of online healthcare services and its significance for patients and professionals - Prof. Sumant L. Wachasundar <sup>1</sup> , Dr. Nirja Upadhye <sup>2</sup>	270
40.	Obstacles In Implementing Technology In Women's Healthcare Roopam Bhattacharya <sup>1</sup> , Dr. Prafulla. W. Sudame <sup>2</sup>	283
41.	Importance of Vitamin D in Women Athlete With Respect To Covid 19: A Review - Shweta M.Barhate	288
42.	Effect of Locomotor Activities Training Program on Manipulative Skill Abilities of Children - Saurav Tripathy <sup>1</sup> Dr. Tanuja S. Raut <sup>2</sup>	300
43.	Unveil the Mystery of Artificial Intelligence in Dentistry - Vandana Gade <sup>1</sup> , Reema Asani <sup>2</sup> , Jaykumar Gade <sup>3</sup>	313
44.	Analysis of Current Status of Physical Education in High Schools of Jammu and Kashmir State - Vickey Kumar <sup>1</sup> , Sanjay Kumar <sup>2</sup>	326



**C.P. & Berar E.S. College, Mahal, Nagpur-440032  
Two Day Multidisciplinary National Virtual Conference**

On

**"SOCIAL IMPLICATION OF ARTIFICIAL INTELLIGENCE  
ON WOMEN ATHLETE, WOMEN HEALTH AND  
NUTRITION IN LIGHT OF COVID -19 PANDEMIC"**

Sponsored by

**Indian Council of Social Science Research (ICSSR), WRC, Mumbai**

Report of Conference

**About College**

The C.P. & Berar Education Society, founded in pre-independence days i.e. 1930, in fact represents the dreams & aspirations of Late G. S. Gokhale and Late M. N. Kagbhat. These two were then young and inspired teachers, who instead of serving the British Government, nurtured a dream of setting up a model school and there by served the society. The Central Provinces & Berar Education society, which is one of the premier prestigious institutions in Nagpur & Vidarbha, has completed 85 years of its fruitful existence. The C.P. & Berar E.S. College was established in 1960. During the last 55 years it has rendered glorious service to the entire Vidarbha by catering to the educational needs of not only local students but students from surrounding rural areas as well.





## About Conference

In our day to day life Artificial Intelligence is entering —like Alexa, self-driving cars, mobile apps, sports gadgets and programmed stock trading—and this trend will slowly accelerate. After COVID -19 Pandemic AI has been widely used in health care – including diagnosis, public health, clinical decision making, social control, therapeutics, vaccine development, surveillance, combination with big data, operation of other core clinical services, and management of patients with COVID-19. In other words we can say that, The coronavirus is spurring new applications and developments for the technology within the sector. To develop the positive aspects of the technology, manage its risks and challenges, and ensure that everyone has the opportunity to help in building an Artificial Intelligence enhanced society.

At this conference, after introducing AI and its social implications in a panel format, the conference discussed AI's implications on Women Athlete, Women health and Nutrition in light of COVID -19 in interactive. We have brought together futurists, nutritionists, academicians, and policymakers to consider the social implications of AI. Using AI technology may encourage healthier behavior in Individual Sports Women and help with the proactive management of the healthy lifestyle.

This Conference is very helpful in bringing this topic of the conference into the mainstream of the society. A large number of Sports Coaches, Research Scholars, Dietitians, Nutritionists have participated in this conference and they will be benefited in their respective disciplines. A total of 275 participants have registered from all over the country and from other countries also.



## President's Welcome Message

Warm Greeting to all !

I welcome all the Academicians & Professionals to this event on International Women's Day. Our College is organizing a Multidisciplinary National Virtual Conference on “Social Implication of Artificial Intelligence on Women Athlete, Women Health and Nutrition in light of the COVID -19' at virtual platform on March 8th & 9th 2022. Conference is a platform for dissemination of knowledge, for interaction, for innovations, and for introduction of unique concepts. Young researchers and Academicians deserve better opportunities in the related fields and we trust that this conference will provide the best opportunities for all stakeholders. I congratulate the concerned departments for organizing this National Virtual Conference. Such Conference is the need of the day especially in the current pandemic situation. It helps the academicians to understand the various latest developments in their respective fields. C.P. & Berar Education Society Nagpur always supports and encourages all such initiatives.

On this occasion I take this Opportunity to congratulate all the Staff members and HoDs of the Departments for their efforts and initiative and wish them the very best for all their future endeavors.

Maj Gen Achyut S. Deo (Retd.)

President,

C.P. & Berar Education Society. Nagpur.



## Principal's Welcome Message

Welcome to All !

Due to the COVID-19 pandemic, there is still significant uncertainty over the safety and feasibility of many activities and events for several months ahead, both in India and worldwide. Traveling will also be likely to remain restricted in the near future. Many educational institutions and colleges have embraced these changes during this unprecedented period, but also academicians, and research scholars have embraced these changes to expand their reach, as well as to engage and connect themselves locally and globally.

With all this in mind, the Department of Home Economics and Department of Physical Education & Sports of our college is organizing a Multidisciplinary National Virtual Conference On 8th & 9th March 2022 titled “Social Implication of Artificial Intelligence on Women Athlete, Women Health and Nutrition in the Light of COVID -19”, on the occasion of International Women's Day. This conference would be a platform for the interaction between experts from different states and aims at providing valuable contribution to the ongoing research in this field. Participants from various corners of the country are going to present technical & research papers in this conference virtually.

I appeal you all to join this conference to make the change which is within our reach and means.

I add my best wishes for a successful and fruitful conference.

Dr. Milind Barhate,

Principal,

C.P. & Berar E. S. College, Nagpur.





## Organizing Secretary welcome Message

Dear Professionals, Researchers, Presenters and Participants,

The impact of artificial intelligence as a powerful technology can be witnessed in industry. The education field across the globe is no exception to this. Artificial intelligence in education is being used by various educational institutions in the country. The use of AI in education has given a completely new perspective of looking at education to teachers, students, parents, and of course the educational institutions as well. It is a small effort to get as much information about Artificial Intelligence in the society as possible through this conference. Definitely, this conference will be very helpful in bringing this topic of the conference into the mainstream of the society. On behalf of C.P. & Berar E.S. College, we are glad to invite all the Eminent Speakers, Academicians, Professors, Young Researchers and Students from all over India to attend the Two Days Multidisciplinary National Virtual Conference at Nagpur, during March 8-9, 2022. We believe we have created both a unique conference theme and conference structure which was designed to stimulate discussion and participation of attendees from different corners of the state. All the panels in the conference session will be live. Their video presentations will enliven the conference sessions. During the presentation technical discussion will be encouraged by the presenters' answers & questions. These two days of Conference will be enhanced by Keynote, Plenary talks and researchers presentations. We sincerely hope to have you accept our invitation and join the elite conference in March. I encourage all the participants to present their paper in an online oral presentation session. Looking forward to welcoming you to this great event.

Prof. Prerana Ratnaparkhi  
Department of Home Economics

Dr. Nishant Arun Tipte  
Department of Physical  
Education & Sports



Sr. No	Particular	Page No
1.	About College	1
2.	About Conference	2
<b>Welcome Messages</b>		
3.	Maj Gen Achyut S. Deo (Retd.) President, C.P. & Berar Education Society, Nagpur.	3
4.	Dr. Milind Barhate, Principal, C.P. & Berar E. S. College, Nagpur.	4
5.	Prof. Prerana Ratnaparkhi Dr. Nishant Arun Tipte Organizing Secretary	5
<b>Research Papers</b>		
6.	A Review of Challenges and Solutions for Nutritional Importance in Women Athlete - Mr. Amit Das	6
7.	Artificial Intelligence Based Solution for Women Athletes after the Impact of Covid-19: A Review - Dr. A. D. Sakhare	10
8.	THE IMPACT OF COVID-19 ON WOMEN'S MENTAL WELL-BEING - Dr. A. D. Sakhare <sup>1</sup> Miss Swati S. Kale <sup>2</sup>	22
9.	THE ROLE OF INDIAN MASS MEDIA IN DEVELOPMENT OF WOMEN'S SPORT - Dr. ANIS AHMED KHAN	29
10.	WOMEN HEALTH CARE IN COVID 19 - Dr. D. S. Wankhade	38
11.	Effect of Technology on Women Athlete Psychology - Dr. Dhiraj W. Bhoskar	52
12.	Female Human Capital in the Covid -19 situation - Dr. Medha Kanetkar	57
13.	Importance of Nutrition for Women Athletes - Dr. Meena Balpande <sup>1</sup> Dr. Sujata Sakhare <sup>2</sup>	64
14.	Importance of Sports Nutrition - Dr. Mrunal R. Waliokar	75
15.	Critical review of Impact of Proper diet and Exercise on menstrual health - Dr. Muktai Chavan Deb <sup>1</sup> Dr. Monika Jain <sup>2</sup> Dr. Gauree Pimpralekar	79
16.	Impact of Artificial Intelligence on Health and Nutrition of Elite Volleyball Players of Nagpur City - Dr. Rahul Madhukarrao Rode	89
17.	WOMAN EMPOWERMENT ENHANCING THE GROWTH OF ECONOMIC DEVELOPMENT - Dr. Ravi M. Shastrakar	96
18.	महिलाओं का पोषण : एक अध्ययन - प्रा. डॉ. रोहिणी दि, मेश्राम	104
19.	Impact of COVID-19 Lock Down on Adolescents - Dr. Sampada Naseri	115
20.	Social Media Use by Adolescent Girls of Nagpur City to Seek Nutrition Related Information - Dr. Shubhangi S. Kukekar	125



21.	WEIGHT MANAGEMENT THROUGH YOGA - DR. SUNIL. S. BHOTMANGE	133
22.	STRETCHING EXERCISES EFFECT ON FLEXIBILITY OF COLLEGE GIRL STUDENTS - Dr. Sushil S Chauhan	136
23.	कोविडकाल के प्रभावो का एक अध्ययन: सामाजिक, आर्थिक और मानसिक विकास - प्रा. डॉ. व्ही. एन. कन्नाके.	144
24.	<b>Science of Indian Food for Women's Health - Dr. Vibha Kshirsagar</b>	159
25.	Adoption, Application and Impact of Artificial Intelligence (AI) on the Indian Industry - Dr. Vinod W. Dongarwar	165
26.	Role of Artificial Intelligence (AI) in ERP for Education Institutions Mr. Vishwas Patil	175
27.	Impacts & Benefits of Technology on Sports Science - Dr. Ramesh Ashok Gaikwad	183
28.	Women Health and Challenges - Dr.Surekha Bhaguji Bhingardive	189
29.	Effect of technology on women investors psychology - Dunal Harishankar Bagde	193
30.	INFLUENCE OF COMBINED POSITIVE BIORHYTHM ON THE PERFORMANCE OF SPORTS PERSONS - Mr. Nilesh S. Ingole <sup>1</sup> Dr. Tanuja S. Raut <sup>2</sup>	199
31.	WOMEN'S HEALTH AND THE RISE OF DOMESTIC VIOLENCE IN COVID-19 - Ishita Mahajan	206
32.	Digital Impressions: A New Paradigm In Dentistry - Jaykumar R Gade <sup>1</sup> , Megha J Agrawal <sup>2</sup> and Vandana J Gade <sup>3</sup>	212





33.	IMPACT OF STABILITY TRAINING AND COMBINED TRAINING ON ANXIETY AMONG SENIOR RECURVE ARCHERS OF GADCHIROLI - Mr. Shyam B. Korde <sup>1</sup>	221
34.	ASSESSMENT OF AEROBIC CAPACITY AMONG DIFFERENT FEMALE INDIVIDUAL GAME PLAYERS - Mrs. Shital S. Raut	227
35.	A STUDY OF LOWER LIMB POSTURAL DEFORMITIES OF SCHOOL GOING STUDENTS - Nikhil Sharma <sup>1</sup>	232
36.	Women Health and Nutrition During Pregnancy - Nilima P. Mahore	242
37.	ROLE OF TECHNOLOGY TO IMPROVE WOMEN'S HEALTH CARE - PROF. ANJALI DIGAMBAR BARDE	249
38.	Study of Mental Health of Women during the Covid 19 Pandemic - Prof. Sudhir Dnyaneshwarrao Pathare	254
39.	Critical evaluation of online healthcare services and its significance for patients and professionals - Prof. Sumant L. Wachasundar <sup>1</sup> , Dr. Nirja Upadhye <sup>2</sup>	270
40.	Obstacles In Implementing Technology In Women's Healthcare Roopam Bhattacharya <sup>1</sup> , Dr. Prafulla. W. Sudame <sup>2</sup>	283
41.	Importance of Vitamin D in Women Athlete With Respect To Covid 19: A Review - Shweta M.Barhate	288
42.	Effect of Locomotor Activities Training Program on Manipulative Skill Abilities of Children - Saurav Tripathy <sup>1</sup> Dr. Tanuja S. Raut <sup>2</sup>	300
43.	Unveil the Mystery of Artificial Intelligence in Dentistry - Vandana Gade <sup>1</sup> , Reema Asani <sup>2</sup> , Jaykumar Gade <sup>3</sup>	313
44.	Analysis of Current Status of Physical Education in High Schools of Jammu and Kashmir State - Vickey Kumar <sup>1</sup> , Sanjay Kumar <sup>2</sup>	326



**C.P. & Berar E.S. College, Mahal, Nagpur-440032  
Two Day Multidisciplinary National Virtual Conference**

On

**"SOCIAL IMPLICATION OF ARTIFICIAL INTELLIGENCE  
ON WOMEN ATHLETE, WOMEN HEALTH AND  
NUTRITION IN LIGHT OF COVID -19 PANDEMIC"**

Sponsored by

**Indian Council of Social Science Research (ICSSR), WRC, Mumbai**

Report of Conference

**About College**

The C.P. & Berar Education Society, founded in pre-independence days i.e. 1930, in fact represents the dreams & aspirations of Late G. S. Gokhale and Late M. N. Kagbhat. These two were then young and inspired teachers, who instead of serving the British Government, nurtured a dream of setting up a model school and there by served the society. The Central Provinces & Berar Education society, which is one of the premier prestigious institutions in Nagpur & Vidarbha, has completed 85 years of its fruitful existence. The C.P. & Berar E.S. College was established in 1960. During the last 55 years it has rendered glorious service to the entire Vidarbha by catering to the educational needs of not only local students but students from surrounding rural areas as well.



## About Conference

In our day to day life Artificial Intelligence is entering —like Alexa, self-driving cars, mobile apps, sports gadgets and programmed stock trading—and this trend will slowly accelerate. After COVID -19 Pandemic AI has been widely used in health care – including diagnosis, public health, clinical decision making, social control, therapeutics, vaccine development, surveillance, combination with big data, operation of other core clinical services, and management of patients with COVID-19. In other words we can say that, The coronavirus is spurring new applications and developments for the technology within the sector. To develop the positive aspects of the technology, manage its risks and challenges, and ensure that everyone has the opportunity to help in building an Artificial Intelligence enhanced society.

At this conference, after introducing AI and its social implications in a panel format, the conference discussed AI’s implications on Women Athlete, Women health and Nutrition in light of COVID -19 in interactive. We have brought together futurists, nutritionists, academicians, and policymakers to consider the social implications of AI. Using AI technology may encourage healthier behavior in Individual Sports Women and help with the proactive management of the healthy lifestyle.

This Conference is very helpful in bringing this topic of the conference into the mainstream of the society. A large number of Sports Coaches, Research Scholars, Dietitians, Nutritionists have participated in this conference and they will be benefited in their respective disciplines. A total of 275 participants have registered from all over the country and from other countries also.





## President's Welcome Message

Warm Greeting to all !

I welcome all the Academicians & Professionals to this event on International Women's Day. Our College is organizing a Multidisciplinary National Virtual Conference on “Social Implication of Artificial Intelligence on Women Athlete, Women Health and Nutrition in light of the COVID -19’ at virtual platform on March 8th & 9th 2022. Conference is a platform for dissemination of knowledge, for interaction, for innovations, and for introduction of unique concepts. Young researchers and Academicians deserve better opportunities in the related fields and we trust that this conference will provide the best opportunities for all stakeholders. I congratulate the concerned departments for organizing this National Virtual Conference. Such Conference is the need of the day especially in the current pandemic situation. It helps the academicians to understand the various latest developments in their respective fields. C.P. & Berar Education Society Nagpur always supports and encourages all such initiatives.

On this occasion I take this Opportunity to congratulate all the Staff members and HoDs of the Departments for their efforts and initiative and wish them the very best for all their future endeavors.

Maj Gen Achyut S. Deo (Retd.)  
President,  
C.P. & Berar Education Society, Nagpur.



## Principal's Welcome Message

Welcome to All !

Due to the COVID-19 pandemic, there is still significant uncertainty over the safety and feasibility of many activities and events for several months ahead, both in India and worldwide. Traveling will also be likely to remain restricted in the near future. Many educational institutions and colleges have embraced these changes during this unprecedented period, but also academicians, and research scholars have embraced these changes to expand their reach, as well as to engage and connect themselves locally and globally.

With all this in mind, the Department of Home Economics and Department of Physical Education & Sports of our college is organizing a Multidisciplinary National Virtual Conference On 8th & 9th March 2022 titled “Social Implication of Artificial Intelligence on Women Athlete, Women Health and Nutrition in the Light of COVID -19”, on the occasion of International Women's Day. This conference would be a platform for the interaction between experts from different states and aims at providing valuable contribution to the ongoing research in this field. Participants from various corners of the country are going to present technical & research papers in this conference virtually.

I appeal you all to join this conference to make the change which is within our reach and means.

I add my best wishes for a successful and fruitful conference.

Dr. Milind Barhate,  
Principal,  
C.P. & Berar E. S. College, Nagpur.



## Organizing Secretary welcome Message

Dear Professionals, Researchers, Presenters and Participants,

The impact of artificial intelligence as a powerful technology can be witnessed in industry. The education field across the globe is no exception to this. Artificial intelligence in education is being used by various educational institutions in the country. The use of AI in education has given a completely new perspective of looking at education to teachers, students, parents, and of course the educational institutions as well. It is a small effort to get as much information about Artificial Intelligence in the society as possible through this conference. Definitely, this conference will be very helpful in bringing this topic of the conference into the mainstream of the society. On behalf of C.P. & Berar E.S. College, we are glad to invite all the Eminent Speakers, Academicians, Professors, Young Researchers and Students from all over India to attend the Two Days Multidisciplinary National Virtual Conference at Nagpur, during March 8-9, 2022. We believe we have created both a unique conference theme and conference structure which was designed to stimulate discussion and participation of attendees from different corners of the state. All the panels in the conference session will be live. Their video presentations will enliven the conference sessions. During the presentation technical discussion will be encouraged by the presenters' answers & questions. These two days of Conference will be enhanced by Keynote, Plenary talks and researchers presentations. We sincerely hope to have you accept our invitation and join the elite conference in March. I encourage all the participants to present their paper in an online oral presentation session. Looking forward to welcoming you to this great event.

Prof. Prerana Ratnaparkhi  
Department of Home Economics

Dr. Nishant Arun Tipte  
Department of Physical  
Education & Sports



# **A Review of Challenges and Solutions for Nutritional Importance in Women Athlete**

**Amit Das**

Research Scholar, NET, MBA, B.E. Biotechnology, Department of Commerce and Management  
C.P. & Berar E.S. College, Nagpur India  
E-Mail: [amitdass8888@gmail.com](mailto:amitdass8888@gmail.com)

---

**Abstract:** Nutrition helps athletes to treat muscle injuries. It is accepted that the provision of dietary proteins enhances the adaptive processes to both resistance and endurance based exercise and it is, therefore, attractive to hypothesize that increasing dietary protein may alleviate markers of muscle damage. Exercise induced amenorrhea is observed in some young patients who are working hard physically and on diet which affects the metabolic activities within the body. These are very negligible changes, which go unnoticed but with repetition of routine one day the menstrual cycle gets affected. There is generally no change in weight and body fat remains in lower side with normal or less BMI. Weight loss may be significant eating disorders may be there due to intake of more proteins. Nutrition literacy is an integral part of advanced health care objectives for any athlete but proper funding and sports management from government and appointment of health advisors and experts, who will counsel women athletes at time of their emotional breakdown, can overcome those challenges faced by women athletes. Basic physical education courses are embedded in school curriculum to overcome nutrient illiteracy and let the budding athletes, gymnasts and sports enthusiasts having proper knowledge about health care and training.

**Keywords:** Body Mass Index BMI, Amenorrhea

---

## **Introduction**

Women athletes regulate their energy consumption majorly fats to keep their body composition correct (Volek et al., 2006). Protein requirement is slightly higher in female athletes to get proper nitrogen balance and proper protein synthesis. Hence, female athletes must go for subsequently less carbohydrate intake and more protein intake for energy balance, which will improve their training regime adaptations, and their health is improved. Bone health improves as the athletes follow disciplined lifestyle and healthy diet, past physical activities keep old female athletes protected from disease like osteoporosis and keep the cardiovascular system intact, heart efficiency increased which leads to increased metabolic actions. Breast cancer and other diseases are also at minimal (Meczekalski et al., 2014). Nutrition is in direct correlation with health, the micro nutrient which we intake stimulates metabolic activities at cellular level and helps to cope up with injuries by formation of lean mass and muscle protein which obviously improves our body composition (Baranauskas et al., 2020). Nutrition helps athletes to treat muscle injuries. It is accepted that the provision of dietary proteins enhances the adaptive processes to both resistance and endurance based exercise and it is, therefore, attractive to hypothesize that increasing dietary protein may alleviate markers of muscle damage (Close et al., 2019). If protein increased in diet, it may curb muscle atrophy and induce muscle repairs. Nutrition helps athletes prevent bone injuries. Playing sports, leads to various injuries like stress fractures, which are very common, contact fractures, are also prevalent in contact sports. Some of the key nutrients for

bone health, which include an adequate supply of calcium, protein, magnesium, phosphorus, vitamin D, potassium, and fluoride to directly support bone formation. Other nutrients important to support bone tissue include manganese, copper, boron, iron, zinc, vitamin A, vitamin K, vitamin C, and the B vitamins (Close et al., 2019). It is observed that there is a weak ( $r < 0.5$ ) associations between higher nutrition knowledge and dietary intake (Spronk et al., 2014). Few beneficial things, which happens nowadays, is that female athletes are featured in commercials, which shows major exposure of women athletes (Namie & Warne, 2017)

## **Body composition and perceptions of dietary requirements**

(Jagim et al., 2021) Athletes have specific requirements of dietary supplements, these supplements enhance their performance and play essential role to fulfil their physical training demands of nutrients and in optimizing their sports performance. Nutrients like protein and carbohydrates are very much important in increasing body activities and stamina so the athletes require more nutrients because of higher activity levels, intensive training, and lean body in comparison to normal people, but without proper knowledge, they tend to follow instructions, which are floating on social media by so-called fitness gurus, as their instruction cannot be taken as proper scientifically approved advice. The studies done earlier has shown that women athletes tend to under estimate nutrient requirements specifically the amount of carbohydrate intake. After an assessment dietary requirements of women lacrosse players, energy ( $-1284 \pm 685$  kcal/day), carbohydrate ( $-178 \pm 94$  g/day), protein ( $-31.4 \pm 29.8$  g/day), and fat ( $-27.9 \pm 18.7$  g/day) requirements (Jagim et al., 2019). He has also gathered information by observing inconsistencies among the athletes in their perception of dietary intakes and compared it with their original intake by electronic logs. In this study also the inconsistencies are observed among the perceived requirement and actual intakes, that shows a fact that the athletes are having a bad understanding of their own dietary requirements and also they are not understanding what their actual intakes should be. The athletes having low sports nutrition knowledge are having higher body fat percentage. It indicates that women athletes with higher body weight, body fat percentage are opting weight loss programs.

## **Exercise induced Amenorrhea**

Amenorrhea can also be exercise induced but its occurrence is observed in a range of frequency across the mass which again depend on competition and preparation. Luteinizing hormone secretion is not normal in some athletes and improper propagation of Follicle-stimulating hormone due to metabolic stress occurring because of training schedules and specific diet. Thus the sensitivity of the reproductive system to nutritional and other metabolic stresses is exemplified by the frequent suppression of cycle seen in athletes (Warren, 1999). Exercise induced amenorrhea is observed in some young patients who are working hard physically and on diet which affects the metabolic activities with in body. These are very negligible changes, which goes unnoticed but with repetition of routine one day the menstrual cycle get affected. There is generally no change in weight and body fat remains in lower side with normal or less BMI. Weight loss may be significant eating disorders may be there due to intake of more proteins, such a diet and amenorrhea will start eating disorder in female athletes. They suffer from anorexia nervosa, which is very common among women athletes because they become obsessive about what they are eating because they want to stay in low weight. Bulimia also known as binge eating disorder where athletes eat selective less food to avoid calories. These all disorders may eventually lead to

osteoporosis, which lead to stress fractures and regular fractures. Loss of bone density is also observed in hypo estrogenic and secondary amenorrhea patients is very common problem where the body is unable to reach the optimum bone mass. This problem of amenorrhea can be reversed when there is a subsequent decrease in training

## **Mental health**

Athletes experience various mental health issues and disorders. Anxiety, depression, eating disorders, insomnia and alcohol abuse are some common problems, which is observed among athletes (Castaldelli-Maia et al., 2019). Going for treatment of mental sickness is out of bounds because they have to maintain their image in front of general public as strong individual and a winner if the news of mental sickness is out their career would have ended. Factors contributing for mental health issues of athletes are continuous hard training sessions, stressful routine for increasing performance. Many of them live at training centres away from family and friends, which is more stressful. Unplanned retirement from sports due to constant non-performance and injury effects mental composure. Acceptance of women as athletes on basis of their physical capabilities. Women athletes undergo sexual perception among male athletes; they may be receiving unnecessary sexual messages subjected to sexual references or may be even asked for sexual favour. High percent of mental health symptoms is found in women (Walton et al., 2021). They tend to report interpersonal conflicts, discrimination and low self-esteem. Extensive health care packages provided by government and proper medical counselling on regular basis may reduce mental issues.

## **Nutritional requirements for female athletes**

Nutritional needs of an athlete can be determined by intensity, frequency and duration of his exercise routine. In contrast with the athlete’s body mass nutrient recommendations are standardized which are used to provide a generalised nutrient intake for all female athletes. estrogen and progesterone levels interfere with nutrient intake and which could be unwanted by athlete. For instance fluid retention during menstrual cycle due to high levels of progesterone the athlete may experience an unwanted increase in body weight 2 kg at least which will definitely hamper her performance. Due to estrogen imbalance less requirement of protein in female athletes is observed (Desbrow et al., 2019). Female athletes when they are in luteal phase will have a less dependence on muscle glycogen. Due to this, there is a difference in carbohydrate metabolism. Menstrual bleeding and body temperature fluctuation should also be taken into account because this may affect the fluid intake, which will influence their nutritional practices. In addition to pregnant athletes must reassess their nutrient needs especially carbohydrate requirements

## **Conclusion**

There are some obvious challenges in getting a proper nutritional knowledge, nutrition literacy is an integral part of advanced health care objectives for any athlete but proper funding and sports management from government and appointment of health advisors and experts, who will counsel women athletes at time of their emotional breakdown, can overcome those challenges faced by women athletes. Basic physical education courses are embedded in school curriculum to overcome nutrient illiteracy and let the budding athletes, gymnasts and sports enthusiast having proper knowledge about health care and training. The studies on nutrients and their importance on health of athletes is majorly conducted in foreign countries its need of the hour that some research must be initiated in India.



## References

- Baranauskas, M., Jablonskienė, V., Abaravičius, J. A., & Stukas, R. (2020). Actual nutrition and dietary supplementation in Lithuanian elite athletes. *Medicina*, 56(5), 247.
- Castaldelli-Maia, J. M., e Gallinaro, J. G. de M., Falcão, R. S., Gouttebarga, V., Hitchcock, M. E., Hainline, B., Reardon, C. L., & Stull, T. (2019). Mental health symptoms and disorders in elite athletes: A systematic review on cultural influencers and barriers to athletes seeking treatment. *British Journal of Sports Medicine*, 53(11), 707–721.
- Close, G. L., Sale, C., Baar, K., & Bermon, S. (2019). Nutrition for the prevention and treatment of injuries in track and field athletes. *International Journal of Sport Nutrition and Exercise Metabolism*, 29(2), 189–197.
- Desbrow, B., Burd, N. A., Tarnopolsky, M., Moore, D. R., & Elliott-Sale, K. J. (2019). Nutrition for special populations: Young, female, and masters athletes. *International Journal of Sport Nutrition and Exercise Metabolism*, 29(2), 220–227.
- Jagim, A. R., Fields, J. B., Magee, M., Kerksick, C., Luedke, J., Erickson, J., & Jones, M. T. (2021). The Influence of Sport Nutrition Knowledge on Body Composition and Perceptions of Dietary Requirements in Collegiate Athletes. *Nutrients*, 13(7), 2239.
- Jagim, A. R., Zabriskie, H., Currier, B., Harty, P. S., Stecker, R., & Kerksick, C. M. (2019). Nutrient Status and perceptions of energy and macronutrient intake in a Group of Collegiate Female Lacrosse Athletes. *Journal of the International Society of Sports Nutrition*, 16(1), 1–7.
- Meczekalski, B., Katulski, K., Czyzyk, A., & Podfigurna-Stopa, A. (2014). Health in older women athletes. *Maturitas*, 79(4), 357–361.
- Namie, J., & Warne, R. (2017). Representations of Female Athletes in Sports Nutrition Advertising. *Sport Journal*.
- Spronk, I., Kullen, C., Burdon, C., & O'Connor, H. (2014). Relationship between nutrition knowledge and dietary intake. *British Journal of Nutrition*, 111(10), 1713–1726.
- Volek, J. S., Forsythe, C. E., & Kraemer, W. J. (2006). Nutritional aspects of women strength athletes. *British Journal of Sports Medicine*, 40(9), 742–748.
- Walton, C. C., Rice, S., Gao, C. X., Butterworth, M., Clements, M., & Purcell, R. (2021). Gender differences in mental health symptoms and risk factors in Australian elite athletes. *BMJ Open Sport & Exercise Medicine*, 7(1), e000984.
- Warren, M. P. (1999). Health issues for women athletes: Exercise-induced amenorrhea. *The Journal of Clinical Endocrinology & Metabolism*, 84(6), 1892–1896.
-

# **Artificial Intelligence Based Solution for Women Athletes after the Impact of Covid-19: A Review**

**Dr. A. D. Sakhare,**

Assistant Professor,

Department of Electronics and Computer Science, RTMNU, Nagpur.

[Adsakhare616@gmail.com](mailto:Adsakhare616@gmail.com)

**Miss Swati S. Kale**

Department of Electronics and Computer Science, RTMNU, Nagpur.

[Swati23kale@gmail.com](mailto:Swati23kale@gmail.com)

---

## **Abstract:**

The SARS CoV-2 virus (severe acute respiratory syndrome coronavirus) has brought the entire athletic calendar to a standstill. All female athletes' health may need to be taken into account. The emphasis should be on physiological requirements for female athletes during and after the COVID-19 epidemic. It is crucial to understand that there are countless unidentified occurrences of COVID-19 that have a negative influence on female athletes in both the short and long term. In this work, we examined many papers to study the post-covid impact of the covid virus on female athletes, and we propose artificial intelligence ways to solve the problem of covid victims.

**Keywords:** athlete, coronavirus, menstrual cycle, mental health, cardiopulmonary.

---

## **Introduction :**

Humans are more likely to smoke, drink alcohol, be less attentive with risk-reducing activities like handwashing, and have comorbidities (such hypertension and diabetes) that have been linked to a worsening COVID-19 outcome. When activated by a virus, men and women have unique immune responses. Infection rates in 10- to 50-year-old women are greater than in males in the same age bracket, but lower in girls under the age of 10 and women over the age of 50 when compared to boys and men of the same ages, according to new research. The role of sex hormones in infection rate and severity can be determined by studying these factors throughout the female lifecycle, as hormonal profiles differ significantly between prepubertal girls, reproductive-aged women, pre-menopausal and post-menopausal women. However. According to current research, female athletes who are

typically young, fit, and healthy with no comorbidities are at a lower risk of experiencing severe symptoms and a fatal outcome if infected with COVID-19 than their male counterparts. However, because our understanding of the virus and its effects is still developing, the potential short- and long-term effects of COVID-19 infection, as well as the impact of "lockdown" periods on female athletes, remain largely unknown. Sports science and sports medicine colleagues are worried about maximizing the safety of athletes in the return to play (RTP) phase and eliminating any short- and long-term health concerns [1].

### **IMPACT OF COVID 19 ON WOMEN’S LIFE:**

At the end of 2019, a new coronavirus was found in the Chinese province of Wuhan. It is a respiratory ailment that mostly affects the lungs. symptoms are similar to those of pneumonia, which spreads from person to person. Dealing with this epidemic has been a difficult issue for the medical community all across the world.

#### **Mental Health:**

Because greater susceptibility to unpleasant states of anxiety and stress is expected during uncertain and life-changing periods, such as the COVID-19 pandemic, the influence of the COVID-19 pandemic on psychological and emotional health must also be considered. The 2003 SARS outbreak in Hong Kong was demonstrated to have long-term negative effects on mental health. Changes in competition schedule, changes in training regimens, restricted access to facilities, and social isolation, regardless of sex or gender, all have the potential to cause a substantial degree of uncertainty. When compared to male counterparts, females were more likely to experience melancholy feelings, energy depletion, and a lack of motivation in a study investigating the influence of COVID-19 on semi-elite and elite athletes. Women are more likely than men to be primary caretakers for their children making them more likely to have to sacrifice their job status. By maintaining the protective role, women can emphasis on physical exercise constantly so that it will result in mental wellbeing[2].

#### **Cardiopulmonary:**

Athletes who have been hospitalized with covid-19 should get a thorough heart examination, failure to do so covid-19-related cardiac scarring or latent myocarditis should be identified potentially lead to an increase in the number of people dying from sudden cardiac death due to exertion in the future and we have the chance to research and avoid when both sexes are reintroduced to sport this occurs interestingly according to certain study the occurrence and consequence of it in women pneumonia and myocarditis may have a better prognosis vs covid-19-positive guys.



### **Menstrual Cycle:**

Menstrual cycle characteristics are difficult to analyse outside of the context of COVID-19. Normal change occurs women throughout their lives, as well as between women in connection to variables such as infertility history. The menstrual cycle is referred to as a "vital sign," as it provides an indication of overall health state. On the other hand, athletes have experienced menstrual cycle changes because of the pandemic. Two recent studies found combined hormonal contraception users have higher blood concentrations of certain inflammatory markers and markers of oxidative stress compared to non-users. However, the impact this may have on viral activation and response is not known. Another study demonstrated viral immunosuppression in cell cultures from women using medroxyprogesterone, but not other forms of progestin. Although it is clear that more research is needed here, it would be advisable to take extra care when monitoring hormonal changes.

### **AI Based Solution has Come Up in the Covid Era:**

AI is currently one of the most researched topics with promising applications and results in every domain. The implementation of AI algorithms has become easy due to the data boom in recent years and affordable computing power. AI has many subfields such as machine learning (ML), deep learning (DL), natural language processing (NLP), and computer vision (CV), which can be used for pattern recognition, explanation, and prediction based on the data with comparable human-level accuracy. These applications help to manage the pandemic's socio-economic impacts and can be used hand-in-hand with the current infrastructure to manage the infections. In the COVID-19 outbreak.

## Subfields of Artificial Intelligence



Machine Learning



Neural Network



Robotics



Natural Language  
Processing



Vision



Speech  
Processing

AI researchers are exploring how to use AI and other analytical tools in this. So, we believe that AI can potentially contribute to mitigate the effect of the COVID-19 pandemic and identified the current restrictions on these contributions [3].

**Table 1. AI Techniques and its Description**

<b>AI techniques</b>	<b>Description</b>
Convolutional neural networks (CNN):	Its mostly used in Image processing and Video Processing. It consists of certain layers which perform different tasks like reduction in dimensionality, convert the data in vector form
Recurrent neural network (RNN):	Its is an extension to the feedforward neural network the output of the previous is the input of the net layer. It is opposite to feedforward nueral network
K-nearest neighbor (KNN):	This algorithm is as a classifier, which classify the similar element categorical manner. The algorithm can be used for prediction and classification.
Decision trees (DT):	Decision Tree represents the dataset in tree-like structure. The model traverse all the possible paths for accurate decision. DT cannot be used when larger datasets used for training. It cause the problem of overfitting
Linear regression:	This model is used to minimize the prediction error on testing data. This model represents the relationship between dependent and independent variables. This model supports a simple linear regression model as well as multiple linear regression
Logistic regression (LR):	LR is used when the dependent variable is in continuous form. The value can range exclusively from 0 to 1. The linear regression fails when the output is in binary forms. example predict whether the email is spam as it is unbounded, so we utilize LR for such applications. The technique fails when the data are not in a categorical form.



## **Question related the impact AI in the light of covid-19**

What are the potential applications of AI for COVID-19? AI can help to minimize the strain on the healthcare business by assisting in diagnostics, assisting the government in ensuring that social distancing rules are followed, and also assisting in the speedier discovery of vaccines.

What are the advantages of integrating AI with the healthcare system? Because AI judgments are data-driven, increased diagnosis efficiency and the automation of some jobs can minimise administrative costs and unnecessary hospital visits.

What is the current research direction in the AI-healthcare domain? AI has been employed in a variety of sectors in recent years, with particular interest from researchers and medical practitioners in the healthcare area.

1. Nguyen, D.C et.al. introduced a conceptual architecture which integrates blockchain and artificial intelligence. They discussed the key roles of blockchain for solving the pandemic via five important solutions, including outbreak tracking, user privacy protection, safe day-to-day operations, medical supply chain, and donation tracking. They pointed out several potential challenges and future directions of fighting with covid[4].

2. Francesco Piccialli et.al. proposed a temporal step approach, describing recent research studies, analyzing how AI observes and acts on the society and health care system and reporting the different issues, they suggested to healthcare systems and society can start work on previous experiences provided by various researchers[5].

3. Het Shah et.al. surveyed the possible use cases of BC to tackle the COVID-19 situations like contact tracing, which is of utmost importance in an easily transmitted disease like COVID-19 and hence its high accuracy and integrity is demanded, which can be solved by BC; an efficient and privacy-preserving patient data sharing model in BC; payments method; and security of the data flowing in the BC network. All these aspects are not covered in a single proposed framework, which leads the studies in the future towards the amalgamation of these aspects into a single framework and presents a working model for the real world[6].

4. Chamola, V et.al. discussed the stages the disease goes through in the course of its spread. We also list the various treatment efforts being made to put an end to the

pandemic and the preventive measures to be followed till the time that is possible. To calibrate the disastrous impact of the COVID-19, we also take a broad look at the state of the global economy following its outbreak. In the thorough discussion post this, we dissect the various technological interventions made in the direction of COVID-19 impact management[7].

5. Shi, F discussed over the entire pipeline of medical imaging and analysis techniques involved with COVID-19, including image acquisition, segmentation, diagnosis, and follow-up and particularly focus on the integration of AI with X-ray and CT, both of which are widely used in the frontline hospitals, in order to depict the latest progress of medical imaging and radiology fighting against COVID-19[8].

6. Shuva Paul et.al. they analyze and identify how their applications function, the currently available state-of-the-art technologies, solutions to current challenges, and innovative start-ups that have impacted healthcare, with regards to the Industry 4.0[9].

7. Vaishya, R. et.al. concluded that AI is not only helpful in the treatment of COVID-19 infected patients but also for their proper health monitoring. It can track the crisis of COVID-19 at different scales such as medical, molecular and epidemiological applications. It is also helpful to facilitate the research on this virus using analyzing the available data. AI can help in developing proper treatment. Regimens, prevention strategies, drug and vaccine development. prevention strategies, drug and vaccine development[10].

### **AI based Solution being implemented for covid 19 outbreak**

Bluedot is a Toronto-based startup's AI research that tries to detect coronavirus in the pandemic. Bluedot employs AI techniques to create virus detection prediction models. It even detected the coronavirus epidemic in Wuhan hours before local authorities had diagnosed the virus. Bluedot gathers data from social media, government documents, and healthcare organisations data to create insight powered by natural language processing (NLP) and machine learning. It can track outbreaks of over 100 different diseases every 15 minutes, 24 hours a day, seven days a week.

Infervision seeks to assist clinicians in quickly detecting and monitoring disease. Infervision was employed at Tongji Hospital in Wuhan, China, which was in the

epicentre of the epidemic outbreak. Infection AI has enhanced CT diagnosis speed, which is critical for accelerating pneumonia diagnosis and detecting suspected patients early. This AI system has proven to be quite useful in assisting healthcare services in emergency situations, such as coronavirus outbreaks [11].

3) Google DeepMind, AlphaFold system Recently, Google DeepMind released AlphaFold, an AI tool that predicts the structure of numerous under-studied proteins connected with the SARS-CoV-2 virus, which causes the coronavirus outbreak. This AI platform is powered by a deep learning system and an MSA-based free modelling technique to estimate protein structures when no matching protein structures are available. AlphaFold is currently in the trial stage, and tests have yet to be validated [12].

4) NVIDIA's artificial intelligence (AI) Last month, a team of clinicians at Wuhan's Zhongnan Hospital used GPU-accelerated AI software called NVIDIA's AI, which was previously used to detect cancer in lung CTs, to identify the visual symptoms of the COVID-19 virus. Data training was carried out using approximately 2,000 CT images from many of the first coronavirus patients in China, with the goal of developing AI models for detecting indications of coronavirus pneumonia. This AI system aids doctors in viral recognition, allowing for faster diagnosis and treatment.

5) Federated Artificial Intelligence A real-world federated AI project using FL for COVID-19 area segmentation in chest CT, with medical institutions from China, Italy, and Japan participating, was recently presented in [150]. Specifically, a multi-national database of 1704 scans from these three nations is gathered to set up the FL framework and compare it to the usual local training approach of 945 images with professional radiologists' assistance. Given the rigorous legal policy on data privacy, FL has proven to be a promising alternative for countries to work on COVID-19 segmentation and detection without fear of user information leakage or dataset shortages [12].

## **AI based Solution for Women Athletes**

The morbid coronavirus has presented the globe with new difficulties. Every day, hundreds of thousands of new positive cases are reported around the world. While the physical effects of COVID-19 can be diagnosed and managed, the mental effects are frequently overlooked. Many people are having emotional breakdowns, feeling uneasy,

tense, stressed, and lonely, as well as having panic attacks, anxiety, depression, and sleep difficulties. All of this, combined with the fear of losing one's job, freedom to go out, concern for one's own and loved ones' health, stigma towards people who have tested COVID-19 positive or who are suffering from a harmless common cold or flu, and an overwhelming desire to hoard essentials, adds to the mental struggle woes. Things was worse for people with a history of mental health conditions. As the mental disease issue worsens, specialists are looking to artificial intelligence (AI) technologies to help these people better or maintain their mental health. Chatbot is one of the most popular applications. Woebot is a type of chatbot that can assist patients in managing mental health conditions by changing the way they think and behave by allowing patients to reframe their negative thoughts into positive ones using natural language processing, clinical expertise, and light-hearted daily talk to create a therapeutic experience for the user.

Menstrual cycle effects the performance of women athletes. For Menstrual monitoring we can use Ai based monitoring app such as 'Flo' is a period tracking app that's helping its users understand and prepare for their menstruation cycles through the use of artificial intelligence. The app functions primarily off the use of neural networks to provide its users with an accuracy that's increased by 54%. Users are asked to log the start and end dates of their period with the option to track additional symptoms, such as cramping or fatigue. The algorithm used helps predict and determine unique patterns within the cycle, accurately and effectively pinpointing ovulation periods, to help those who are attempting to get pregnant. The Clue mobile application calculates and predicts a user's period, fertile window, and premenstrual syndrome. It also informs users the most or least likely time for becoming pregnant and allows them to track more than 30 health categories, including sex, sleep, pain, exercise, hair, skin, digestion, emotions and energy. The app can also explain how pill dosages impact fertility and includes an alarm system to allow for reminders for taking pills.

A new age of consumer-driven health has arrived, with great future benefits in cardiovascular disease prevention, diagnosis and management. Currently, several challenges hinder the widespread use of wearable technologies in clinical practice. As sensor and computing technologies continue to evolve, wearables will acquire more complex functions and become an integral part of our cardiovascular practice



armamentarium. These devices must be regulated through comprehensive evaluation frameworks and adequate regulatory oversight policies to ensure safety and efficacy. Moreover, a practical clinician’s guide can facilitate the integration of these devices into the clinical workplace. As COVID-19 has launched us at rocket speed into a new era of remote and decentralized patient care, this is a golden opportunity to shake off our skepticism and embrace wearable technologies in our clinical practices for the benefit of our athletes.

### **Conclusion -**

Although the focus of tackling the direct impact of COVID-19 is important, in many healthcare settings, it is important to maintain core and critical clinical service to the women athletes, it is essential to undertake daily monitoring of athletes to capture any symptoms that are consistent with COVID-19 infection, including raised body temperature. Symptom screening is a minimum precaution to protect athletes, support staff and their families and to prevent further competition and league-wide competition shutdowns.

### **Future Directions -**

We discuss several of future direction on AI adaption for lighting COVID-19 pandemic. To achieve better efficiency in solving epidemic-related is uses, blockchain and AI can be incorporated with other technologies to build a comprehensive healthcare system. Various company such as Alibaba has integrated Ai with cloud computing which facilities Ai analytics. we can make use of Ai and blockchain for solving pandemic. the combination of AI and blockchain attracted the attention of industries . the role of blockchain for coronavirus fighting via key solutions like medical supply chain and security of database related to covid.

### **References**

Georgie Bruinvels,Nathan A. Lewis, Richard C. Blagrove , Dawn Scott, Richard J. Simpson, Aaron L. Baggish , John P. Rogers, Kathryn E. Ackerman<sup>11</sup> and Charles R. Pedlar, ”COVID-19–Considerations for the Female Athlete”(2020).

Hristo Novatchkov ,Arnold Baca” Artificial Intelligence in Sports on the Example of Weight Training” Journal of Sports Science and Medicine (2013) 12, 27-37.

R. Martin. What Countries are Still in Lockdown and How Many Weeks Has it Been for Them? Metro. Apr. 2020.

Nguyen, D.C., Ding, M., Pathirana, P.N., Seneviratne, A.: Blockchain and AI-based solutions to combat coronavirus (COVID-19)-like epidemics: a survey. Preprint at arXiv:2106.14631 (2020)

Francesco Piccialli, Vincenzo Schiano di Cola, Fabio Giampaolo, Salvatore Cuomo,” The Role of Artificial Intelligence in Fighting the COVID-19 Pandemic”, information Systems Frontiers (2021).

Het Shah, Manasi Shah, Sudeep Tanwar, Neeraj Kumar,” Blockchain for COVID-19: a comprehensive review” under exclusive licence to Springer-Verlag London Ltd., part of Springer Nature 2021.

Chamola, V., Hassija, V., Gupta, V., Guizani, M.: A comprehensive review of the COVID-19 pandemic and the role of IOT, drones, AI, blockchain, and 5g in managing its impact. IEEE Access 8, 90225–90265 (2020).

Shi, F., Wang, J., Shi, J., Wu, Z., Wang, Q., Tang, Z., He, K., Shi, Y., Shen, D,” Review of Artificial Intelligence Techniques in Imaging Data Acquisition, Segmentation, and Diagnosis for COVID-19”, IEEE Rev Biomed Eng. 2021

Shuva Paul 1, Muhtasim Riffat , Abrar Yasir , Mir Nusrat Mahim , Bushra Yasmin Sharnali , Intisar Tahmid Naheen 2 , Akhlaqur Rahman 3 and Ambarish Kulkarni “Shuva Paul 1,\* , Muhtasim Riffat 2 , Abrar Yasir 2 , Mir Nusrat Mahim 2 , Bushra Yasmin Sharnali 2 , Intisar Tahmid Naheen 2 , Akhlaqur Rahman 3 and Ambarish Kulkarni 4”

Vaishya, R., Javaid, M., Khan, I.H., Haleem, A.: Artificial intelligence (AI) applications for COVID-19 pandemic. Diabetes Metab. Syndr. Clin. Res. Rev. 14, 337–339 (2020)

J. Huang, F. Liu, Z. Teng, J. Chen, J. Zhao, X. Wang, and R. Wu, “Care for the psychological status of frontline medical staff fighting against coronavirus disease 2019 (COVID-19),” Clinical Infectious Diseases, vol. 71, no. 12, pp. 3268–3269, 2020.

S. Dananjayan and G. M. Raj, “Artificial intelligence during a pandemic: The COVID-19 example,” The International Journal of Health Planning and Management, 2020.

D. Yang, Z. Xu, W. Li, A. Myronenko, H. R. Roth, S. Harmon, S. Xu, B. Turkbey, E. Turkbey, X. Wang, W. Zhu, G. Carrafiello, F. Patella, M. Cariati, H. Obinata, H. Mori, K. Tamura, P. An, B. J. Wood, and D. Xu, “

M. L. Holshue, C. DeBolt, S. Lindquist, K. H. Lofy, J. Wiesman, H. Bruce, C. Spitters, K. Ericson, S. Wilkerson, and A. Tural, “First case of 2019 novel coronavirus in the United States,” *New England J. Med.*, vol. 382, pp. 929–936, Mar. 2020.

M. Wang, R. Cao, L. Zhang, X. Yang, J. Liu, M. Xu, Z. Shi, Z. Hu, W. Zhong, and G. Xiao, “Remdesivir and chloroquine effectively inhibit the recently emerged novel coronavirus (2019-nCoV) in vitro,” *Cell Res.*, vol. 30, no. 3, pp. 269–271, Mar. 2020.

R. Khamitov, S. Loginova, V. Shchukina, S. Borisevich, V. Maksimov, and A. Shuster, “Antiviral activity of arbidol and its derivatives against the pathogen of severe acute respiratory syndrome in the cell cultures,” *Voprosy virusologii*, vol. 53, no. 4, pp. 9–13, 2008. [100] Y. Boriskin, I. Leneva, E.-I. Pecheur, and S. Polyak, “Arbidol: Abroadspectrum antiviral compound that blocks viral fusion,” *Current Medicinal Chem.*, vol. 15, no. 10, pp. 997–1005, Apr. 2008.

L. Wei, “The curative effect observation of shuanghuanglian and penicillin on acute tonsillitis,” *J. Clin. Otorhinolaryngol.*, vol. 16, no. 9, pp. 475–476, 2002.

---

## THE IMPACT OF COVID-19 ON WOMEN’S MENTAL WELL-BEING

Dr. Alka Kolhe: [shrigurumauli10@gmail.com](mailto:shrigurumauli10@gmail.com)

Assistant Professor (CHB) Shri Binzani City College, Nagpur

Dr. Vaishali Panhekar: [vaishalinandagawali@gmail.com](mailto:vaishalinandagawali@gmail.com)

Assistant Professor (CHB) Shri Binzani City College, Nagpur

Dr. Sangeeta Somwanshi: [sangeeta.ghogre3@gmail.com](mailto:sangeeta.ghogre3@gmail.com)

Assistant Professor (CHB) Shri Binzani City College, Nagpur

### ABSTRACT:

The word mental and wellbeing. Mental means mind and wellbeing means a state of being comfortable, healthy, and happy. Mental health is a state of well-being in which an individual realizes his or her abilities, can cope with the normal stresses of life, can work productively, and can make a contribution to his or her community. WHO constitution stated that complete mental health is a state of physical, mental, and social wellbeing and not merely the absence of disease. Mental wellbeing is related to self-happiness. and physical and emotional health is like atwo-way street; mental well-being contributes to our health and health contributes to our happiness (Diner and Seligman,2004) the global pandemic declared in March of 2020, the number of demographic variables that impact women’s mental wellbeing is innumerable. What we are discussing in this article is how covid 19 affect women’s mental well-being.

**Keywords:** The impact of covid 19, women’s, mental wellbeing.

---

### INTRODUCTION

30<sup>th</sup> January 2020 the day on which WHO declared a public health emergency of international concern later was recognized as a pandemic on 11<sup>th</sup> March 2020. It was Coronavirus 2019 which took birth in the year 2019 in China.(Dryhurst et al., [2020](#)). It has an impact on everyone’s life’s overall wellbeing especially women. This article will focus on the toll Covid 19 pandemic has taken on women, mothers, and caregivers, 80% of mothers that have been managing not only their work but also their children’s schooling within the homeso their work andtheir teaching and 55% household work women are twice as likely to be the primary sole person responsible for childcare,



cleaning, cooking, and education as stated. So, we know the women are stretched thin and it is having a major impact on their total mental health and wellbeing. Women are the chief health officers of their homes. They take care of themselves they are the dominant person in the home that makes all the appointments for their children and elders at home. So, the whole health ecosystem of the people around us is run by women; sisters, daughters, mothers. What they don't have is time and which makes it extremely stressful. Covid has impacted every aspect of our life. Our eating and sleep pattern changed, our worrying changed. Even the way we celebrate has changed or how we see our grandparents has changed or how we celebrate birthdays or death has changed, Internet addictions increased, restricted to go out; outing, walking. This negatively impacts our well-being and that's hard to tell these days. Some of the symptoms of emotional distress start with changes for the individual. We all have our normal patterns.

So, pay attention to changes and patterns and that's important because we often think of mental health and mental illness this thing that only happens to very few instead of a continuation of mental wellbeing.

So much stress and anxiety worry about the future. Uncertainty of cancellations, exhausting, mothers afraid hope for the future dealing with online school, parents working from home facing economic stressors, some of them have cut back on working hours...

Many researchers found that the consequences of covid19 have been multidimensional and complex over 4.5 million people losing their lives. A huge amount of the population suffering from post-infection medications, also identified low income, social isolation, loss of compartments, the thinness of premises, loss of loved ones, fear of dying, difficulties in accessing medical and social services closure, and the short preventive measures to check the spread of the disease have impacted the emotional and psychological wellbeing of people, especially women.

## **Impact of covid psychologically on women**

**Burnout:** Burnout means feeling mentally exhausted or emotionally drained. In covid-19 women started to become helpless, despairing, doing something without any goal.

**Perceived Helplessness:** A mental state in which the organism is forced to bear aversive stimuli, or stimuli that are painful or otherwise unpleasant, becomes unable or unwilling to avoid subsequent encounters with those stimuli, even if they are ‘escapable’ presumably because it has learned that it cannot control the situation.

Guo et al. (2020) reported that COVID-19 positive patients had higher levels. Women reported significantly more “Perceived Helplessness” as compared to men and controls.

**Depression:** Human beings are social creatures. Being cut off from love, support, and close contact with family friends can trigger depression. Months of social distancing and shelter at home can leave you feeling isolated and lonely, you have to face your problems lonely. The rates of depression have significantly increased during the pandemic because people are more socially isolated; have less structure and routine, and have more uncertainty about the future. Which lead to doubt and negative predictions (Dr. Brittany Lemonda)

**PTSD:** Exposure to large-scale traumatic events is associated with an increased burden of mental illness in the population affected.

Liu et al. (2020) found a prevalence of post-traumatic stress symptoms of 7% in Wuhan (China) 1 month after the COVID-19 outbreak (in 285 residents). In a sub-symptom analysis of PCL-5 (PTSD Checklist for DSM-5), women suffer more re-experiencing, negative alterations in cognition or mood, and hyper-arousal as compared to men.

Liu et al. have also reported high levels of depression (43.3%, PHQ-8 scores  $\geq 10$ ), anxiety scores (45.4%, GAD-7 scores  $\geq 10$ ), and PTSD symptoms (31.8%, PCL-C scores  $\geq 45$ ) in 898 Americans (18–30 years) during the pandemic.

**Anxiety:** All the fear and uncertainty surrounding covid 19 means it’s natural to worry. When your worries twist out of control, though, they can cause panic and anxiety.

**Coronasomnia or covidsomnia** is the term that describes sleep problems related to stress caused by the COVID-19 pandemic (Dr.Drerup2020) social distancing and quarantining can lead to more isolation which can cause significant sleep issues.

The WHO postulated that many health care providers could develop PTSD, depression, anxiety, and burnout during and after the pandemic.

Lai et al.conducted a cross-sectional study in 1257 Chinese InCOVID-19 (76.7% of all participants were women, and 60.8% were nurses). They found a high prevalence of mental health symptoms. In total, 50.4, 44.6, 34.0, and 71.5% of participants reported symptoms of depression, anxiety, insomnia, and more than 70% reported psychological distress, respectively.

Chew et al.(2020)reported that in 906 healthcare workers (64.3% were female) from Singapore and India, only 5.3% had moderate to severe depression, 8.7% had moderate to severe anxiety, 2.2% moderate to severe stress, and 3.8% moderate to severe levels of psychological distress.

**Psychological distress:**Psychological distress is an unpleasant emotional experience caused by a variety of factors, which can be manifested as tension, fear, anxiety, and psychological instability. Certain distress leads to serious psychological problems. Infectious diseases can be an important cause of psychological distress.(Brody et al.,2016;)

Psychological distress has often been identified as one of the major consequences of environmental and natural disasters (Stain *et al.* 2011, [Ho et al. 2014](#), Chua *et al.* 2004, [Cowling et al. 2010](#), [James et al. 2019](#)). Since the onset of the Covid-19 pandemic, mental health experts have been expressing caution about the high incidence of stress among people, due to the heavy socio-economic burden of the pandemic and isolation.

**Domestic Violence:** Many researchers have reported that in covid 19 pandemic increasing rate of domestic violence has been observed. Women spent more time in the home, asking for more support, so the domestic burden can trigger domestic violence against women.

January and July 2020 as well as data analyzed the situation of pregnancy during the pandemic; the specific psychological and psychiatric risks faced by women at home and the workplace

[Ravindran and Shah \(2020\)](#) and [Rahman et al.\( 2021\)](#) Bangladesh, women are disproportionately affected by mental health problems because of their disadvantageous socio-economic position compared to men in the household, the greater burden of daily chores, critical role in managing household food shortages, care responsibilities for children, elderly, and sick family members, and the risk of being victims of intimate partner violence. Consequently, the mental well-being of women living in rural Bangladesh could deteriorate due to the lack of resources, and poor mental health support mechanisms.

Zika epidemics have already shown that these crises have increased existing Ebola inequalities including those based on gender and economic status (UN issue-brief-covid-19-and-ending-violence-against-women-and-girls.) A lack of adequate domestic and emotional support can have consequences on women's mental health. The risk of anxiety, depression, and post-traumatic stress disorder (PTSD) is also much higher.

Intimate partner violence (IPV)2020 includes physical or sexual violence, emotional abuse, and stalking. It is the major cause of homicide death for women. Victims of IPV are at increased risk of multiple mental disorders as well as somatic diseases (cardiovascular disease, chronic pain, sleep disturbances, gastrointestinal problems, sexually transmitted infections, traumatic brain injury).

Hurricane Katrina 2009, which occurred in the United States, the prevalence of domestic violence had quadrupled; the physical violence suffered by women had almost doubled (4.2 to 8.3%)

New Zealand earthquake(2010), police-reported a 50 percent increase in calls for family violence.



## **Conclusion**

The research paper focused on the subject of the impact of covid-19 on women's mental wellbeing. The covid-19 pandemic has affected women more than men, both as working women and homemakers at home. Regardless, we should consider this pandemic as an opportunity to build better, tougher, more pliable societies that could bring relief as well as hope to all women on earth. We hope that this pandemic will also help to recognize the major role of women at home and in the workplace.

## **Suggestions**

1. We need to take care of women's physical needs and mental needs and also spiritual needs and we need to bring our best self into our life or our world because so many other people depend on us, so when you stand back and say. How do we do this? how do we help women on this path to their optimal self so they can be all of these things in life we have to be realistic and focus on real lived lives of women
2. This issue is about time and space and access services when we need them not when they are necessarily open because we may not be available when they are open so we have thought you know thoughtfully about how we use all the assets that we have to make care personalized, accessible, as you know as affordable as possible, really getting deep into communities. What that means for physical health.
3. Women need to have time, they need to have care accessible to them. One of the things that hope we keep as we come out of this pandemic is so much more willingness and openness to talk about mental health.

## REFERENCES

- **Journal Article**

1. A.Jasrotia and J.Meena, “Women,work and pandemic:An impact study of covid-19lockdown on working women in India” *Article of Asian Social Work and Policy Review/Volume15,Issue 3*

2. *Population Foundation of India July (2020) Brief: “The Impact of COVID-19 on Women”*. New Delhi: Population Foundation of India.

[https://populationfoundation.in/wp-content/uploads/2020/07/Policy-Brief\\_Impact-of-COVID-19-on-Women.pdf](https://populationfoundation.in/wp-content/uploads/2020/07/Policy-Brief_Impact-of-COVID-19-on-Women.pdf).

3. F.Ahmad,A.Islam,D.Prakashi,T.Rahman,A.Siddique(2021)“Covid-19 and mental health: Improving women’s mental well-being via Tele counseling”*Article of Ideas for India*

<https://onlinelibrary.wiley.com/doi/10.1111/aswp.12240>

4. A.H.Rogers, W. Z, Melvyn, Cyrus S. H.,Cyrus Et, al,(2014) “Impact of 2013 southAsian haze crisis: a study of physical and psychological symptoms and the perceived dangerousness of pollution level”*Bmc Psychiatry14,Article no.81*

5. Burki T. (2020) “The indirect impact of COVID-19 on women” *Newsdesk vol.20,issue 8, p904-905*

[https://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(20\)30568-5/fulltext](https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(20)30568-5/fulltext)

6. Thibaut F.and Patricia J.M.(2020)“Women’s mental health in the time of Covid-19 pandemic” *Front. Glob. Women Health,*

<https://www.frontiersin.org/articles/10.3389/fgwh.2020.588372/full>

7. Lin-Sen Feng,Zheng-jiao Dong, *PsychiatryRes.(2020)Published online Ncbi.nlm.nih.gov/pmc/a*

- **Book**

1. Dr.Shinde V.( 2016)“Positive Psychology” *Diamond Publication Pune.*

# THE ROLE OF INDIAN MASS MEDIA IN DEVELOPMENT OF WOMEN’S SPORT

**Dr. ANIS AHMED KHAN**  
Director of Physical Education  
Mahatma Gandhi College of Science  
Gadchandur. Dist:Chandrapur.  
Email: aakhanpathan786@gmail.com

---

## ABSTRACT

This study analyzed the job of Indian Mass Media in the improvement of Women's Games according to a specialist point of view. This study is a graphic assessment of field research. Among the specialists, 100 media specialists, 100 games experts, and 100 public and global female competitors were chosen as tests of this review. Information is gathered through a self-controlled survey. The survey is arranged into 21 inquiries that action Mass Media's job in five-game factors (four inquiries), execution improvement (six inquiries), the executives and arranging (four inquiries), monetary assets (four inquiries) media assets (three inquiries), and current status. Chronbach's alpha coefficient is utilized to test the dependability of the present status of 0.9729 and the ideal state of 0.9723. Information was dissected at a sane degree of  $P < 0.05$  utilizing Kolmogorov-Smirnov, Kruskal Wallis, Mann Withney, and Wilcoxon. Albeit, for the situation you need. It can assume a significant part in ladies' games. Furthermore, the outcomes show an undeniable distinction between the subject of the article about Mass Media's ideal job in the current and advantageous setting in ladies' games. The distinction between the current and the ideal state in all factors has shown that Mass Media plays an extraordinary likely part in the ladies down, yet for reasons unknown, they are not doing it right. In this manner, the appropriate utilization of broad communications is significant in the improvement of ladies' games.

**Key words:** Mass Media, Women’s Sport, Experts in Sport, Expert in Media.

---

## **INTRODUCTION**

In each general public, ladies are such a lot of a piece of society that the obligation regarding really focusing on, building a family, and keeping a day-to-day life relies to a great extent upon their endeavors. In our general public, the presence of ladies in sports and actual instruction exercises as a feature of our general public is viewed as an unquestionable need and is fundamental to giving physical and emotional well-being, forestalling different types of social ills, decreasing clinical expenses, expanding efficiency, and usefulness. Albeit many elements influence the advancement of ladies in sports, provided that the media shows a superior perspective on ladies' games, more young ladies will be drawn to sports. Radio, TV, and papers assume a significant part in illuminating, fostering the view of ladies, sport, and their future turn of events. Broadcasting of other ladies' games media is truly necessary. In the event that the traditional press focuses on female competitors, it can invigorate the development and inspiration of ladies locally and lead them to actual wellbeing and thus to otherworldly wellbeing.

Regardless of the endeavors of Indian ladies, their portion of sports news in Indian media is extremely low and overlooked. When individuals can never again know the endeavors of our competitors, how might an Indian female competitor be relied upon to be propelled and to show up at the most significant levels? On the off chance that the media has not truly thought to be a ladies' game, how might we hope to build the number and nature of our female competitors? Considering the significance of the ladies' game at the public level and the job of the media in molding mentalities and evolving conduct, this study will investigate the job of the media from the point of view of actual instruction experts, media experts, and female competitors as partners.

## **METHODOLOGY OF THE STUDY:**

As far as exploration points and Objectives, ebb and flow research is an elucidating measure that is led in the wild examination. These review tests are pro athletics, media, and female competitors at the public level, Due to the absence of precise measurable insights, considering research goals, test factual examination in the field of designated media experts, 50 games editors, female columnists. , sports news editors, sports supervisors for TV and radio broadcasts. In the class of experts in the field of sports, 100 bad habit staff members, presidents, and VPs, the secretaries of the games alliances



were chosen as tests of learning insights. Moreover, 100 female competitors at public and public contests were chosen as factual examples of the review among 10 games scenes like Volleyball, Basketball, Football, Handball, Karate, Taekwondo, fencing, Kabaddi, Hockey, and Shooting.

The information assortment strategy is an exploration poll a demonstrated its scientist legitimacy and dependability. The poll inquiry is coordinated in view of the fifth Likert esteem scale. Distinct insights were utilized to decide scale, standard deviations and to draw tables and outlines. The Kolmogorov-Smirnow overview showed that the appropriation of exploration information isn't exceptional; thusly a non-boundary test was utilized. For this reason, the Kruskal-Wallis test was utilized to concentrate on the various speculations of exploration variety in the current and wanted condition, and the Wilcoxon test was utilized to survey the distinctions between the current and wanted conditions according to a hypothetical viewpoint. Information examination was performed with Mathematical programmings like Excel and SPSSv 11/5. All test theories were dissected at the  $P < 0/05$  level.

## RESULTS OF THE STUDY:

### Descriptive analysis of data:

**Table No: 01**

**The Average and Standard Deviation of current and desired situation of Medias in studied variables**

Variables		Sport Components		Performance Improvement		Management & Planning	
		Current	Desired	Current	Desired	Current	Desired
Media Experts	Average	2/04	3/93	1/97	3/95	2/01	4/01
	S.D.	0/63	0/58	0/66	0/6	0/69	0/6
Sport Experts	Average	1/89	4/47	1/77	4/45	1/69	4/53
	S.D.	0/66	0/46	0/59	0/51	0/61	0/47
Athletes	Average	1/73	4/64	1/62	4/67	1/59	4/75
	S.D.	0/65	0/35	0/52	0/31	0/52	0/28

As per the table above, media specialists accept that numerous Media in the current setting assume a key part in media adaptability, sports parts, the board and altering, and execution improvement, separately. According to the perspective of sports specialists, this order will change the media, working on the presentation of the games area, the board and arranging, and monetary administrations. On account of competitors, the media is at the front, and sports, vocation improvement, monetary assets, the board, and arranging are at the front. In the ideal case, media specialists accept that broad communications can influence media adaptability, the board and arranging, execution enhancements, sports parts, and monetary assets. According to the perspective of sports specialists, broad communications greatly affect sports execution than execution improvement. The adaptability of the review material according to a competitor's perspective is like that of media experts.

**Table No: 02**

**Comparison of the test subjects point of view about studied variables in the current situation**

<b>Variable</b>	<b>Group</b>	<b>Average</b>	<b>Test type</b>	<b>X</b>	<b>df</b>	<b>P</b>	<b>Final result</b>
	Media experts	175/90		2			
Sport Components	Sport experts	149/35	Kruskal-Wallis	18/38	2	0/000*	Difference
	Athletes	122/14					
	Media experts	173/45					
Performance Improvement	Sport experts	150/40	Kruskal-Wallis	61/260	2	0/000*	Difference
	Athletes	123/59					
	Media experts	180/14					
Management	Sport experts	173/70	Kruskal-Wallis	20/234	2	0/000*	Difference

& Planning	Athletes	129/65				
	Media	174/46				
Financial Sources	experts		Kruskal-Wallis	20/174	2	0/000* Difference
	Sport experts	121/95				
News Sources	Athletes	150/12				
	Media	176/56				
News Sources	experts		Kruskal-Wallis	13/36	2	0/000* Difference
	Sport experts	128/14				
	Athletes	151/83				

Table No.02 shows a significant contrast between the factors perspective regarding Media's job and all concentrated on factors regarding what is going on.

**Table No: 03**

**Different point of view between the test subject groups about the role of mass medias on the current situation of studied variables**

Variable	Group	Test type	Z	Sig-(2-tailed)	Final result
Sport Components	Group1-Group2	U Mann	-2/101	0/034*	No Difference
	Group1-Group3	Withney	-4/377	0/000*	Difference
	Group2-Group1		-2/3.25	0/002*	No Difference
Performance Improvement	Group1-Group2	U Mann	-2/021	0/035*	No Difference
	Group1-Group3	Withney	-3/096	0/000*	Difference
	Group2-Group1		-2/224	0/031*	No Difference
Management & Planning	Group1-Group2	U Mann	-3/234	0/002*	No Difference
	Group1-Group3	Withney	-4/374	0/000*	Difference
	Group2-Group1		-0/345	0/664*	No Difference

Financial Sources	Group1-Group2	U Mann	-5/342	0/000*	No Difference
	Group1-Group3	Withney	-3/23	0/003*	Difference
	Group2-Group1		-2/843	0/007*	No Difference
News Sources	Group1-Group2	U Mann	-3/453	0/000*	No Difference
	Group1-Group3	Withney	-1/453	0/134*	Difference
	Group2-Group1		-1/756	0/064*	No Difference

As indicated by table 03, there is a significant distinction among sports and medias specialists perspective with regards to sports parts, execution improvement, monetary and news sources and furthermore there is a significant contrast among Medias and sport specialists and game specialists and competitors regarding the board and arranging variable.

**Table No: 04**

**Comparison of the test subjects point of view about current situation of studied variables**

Variable	Group	Average	Test type	X2	df	P	Final result
Sport Components	Media experts	78/55	Kruskal-Wallis		2	0/000*	Difference
	Sport experts	154/65					
	Athletes	187/33					
Performance Improvement	Media experts	79/09	Kruskal-Wallis		2	0/000*	Difference
	Sport experts	165/12					
	Athletes	189/33					
Management & Planning	Media experts	76/65	Kruskal-Wallis		2	0/000*	Difference
	Sport experts	156/39					
	Athletes	199/34					
Financial Sources	Media experts	99/93	Kruskal-Wallis		2	0/000*	Difference
	Sport experts	146/27					
	Athletes	186/21					

	Media	100/20				
News Sources	experts	156/90	Kruskal- Wallis	2	0/000*	Difference
	Sport experts	179/32				
	Athletes					

The above table shows a significant distinction between subjects perspective with regards to the job of Medias on the all concentrated on factors in women's sport in the ideal situation

**Table No: 05**

**Different point of view between the test subject groups about the role of mass medias on the desired situation of studied variables**

Variable	Group	Test type	Z	Sig-(2-tailed)	Final result
Sport Components	Group1-Group2	U Mann Withney	-5/644	0/001*	No Difference
	Group1-Group3		-7/432	0/000*	Difference
	Group2-Group1		-2/134	0/0054*	No Difference
Performance Improvement	Group1-Group2	U Mann Withney	-6/675	0/020*	No Difference
	Group1-Group3		-8/761	0/000*	Difference
	Group2-Group1		-6/560	0/000*	No Difference
Management & Planning	Group1-Group2	U Mann Withney	-5/209	0/002*	No Difference
	Group1-Group3		-3/332	0/000*	Difference
	Group2-Group1		-2/222	0/007*	No Difference
Financial Sources	Group1-Group2	U Mann Withney	-7/621	0/000*	No Difference
	Group1-Group3		-5/342	0/007*	Difference
	Group2-Group1		-7/54	0/000*	No Difference
News Sources	Group1-Group2	U Mann Withney	-5/688	0/000*	No Difference
	Group1-Group3		-6/754	0/000*	Difference
	Group2-Group1		-3/712	0/232*	No Difference

The above shows no significant distinction among media and sports specialists' perspectives in sport parts, execution improvement, and news sources. In different



factors and gatherings, there is a significant contrast between guineas' pigs' perspectives with regards to the job of media in the desired circumstance.

**Table No: 06**

**Comparison of desired and current situation of Medias role on the studied variables in the women’s sport**

Comparison	Test Type	Z	Sig.(2-tailed)	Final Result
Variable				
Womens sport components		-7/645	0/000*	Difference
Womens sport performance improvement	Wilcoxon	-7/654	0/000*	Difference
Womens sport management and planning		-7/662	0/000*	Difference
Womens sports financial sources		-7/612	0/000*	Difference
Womens sports News sources		-7/679	0/000*	Difference
<b>Total</b>		<b>-7/675</b>	<b>0/000*</b>	<b>Difference</b>

The above table shows a significant contrast among current and wanted circumstances of Media's job in women's sport according to subjects' perspective.

**DISCUSSION AND CONCLUSION:**

The aftereffects of the review showed critical contrasts in the current status of the Media's part in sports disciplines according to the viewpoint of trial studies and this distinction is huge between the two gatherings of media experts and competitors. Competitors on normal have appraised this differentiation under media specialists. For the situation investigation of the Media's hypothesis that assumes a powerless part within the sight of dynamic ladies in local area sports preparing, the game is a cutthroat game.

The qualification among media and sports experts' perspectives and between media experts and ten competitors has a mean

There are huge contrasts in the administration of ladies' games and hierarchical adaptability in the title view and this distinction was critical between the three groups. The rating evaluations of these factors have shown that competitors and media experts separately assume a more prominent and lesser part in the media.

Given the varying perspectives on the job of the media, which lead to an absence of progress in ladies' games it is proposed that yearly gatherings and gatherings be hung on the subject of ladies' games and the media and the media and sports experts. As well as assessing the presentation of the media, they traded sees with regards to this issue. Given the huge contrasts between the ideal status and the current status of the Medias' significant job in the ladies' game, it is recommended that projects and projects be set up to wipe out these distinctions.

## **REFERENCES:**

Nazemi, Maziar, 2000 content analysis of sport news of news network, MS thesis of communication, Islamic Azad university.

Afchangi, Mahmood, 2001, the sport image in Iran's news, Ministry of culture and Islamic guidance, research center of IRIB.

Darai, Mehri, 2001 studying the cultural factors of womens tendency to do exercise in Tehran. MS thesis.

Womens sports foundation UK, 2006 research report women in the 2006 Olympic and pereolympic winter games and analsis of Participation, Leadership and media Coverage.

Duncan, M.C. Duncan, M.A., 1988, Sociology of Sport Journal.

Lombard, m, Snyder Duch J Bracken, C.C 2002, Human communication Research.

Salman Farzalipour et.al., 2012., The role of mass media in womens sport, European journal of sports and exercise science.

Coakley, J.J. 1978, Issues and Controversies , Sports in Society, C.V. Mosby co.

Home, J., 2005 Sport and the Mass Media in Japan, Sociology of sport Journal.

-----

## **WOMEN HEALTH CARE IN COVID 19**

Dr. D. S. Wankhade

Director, Dept. of Physical Education

Vidya Bharati Mahavidyalaya, Amravati

---

### **Abstract**

The COVID-19 pandemic is hurting wellbeing, social and financial prosperity around the world, with Women at the middle. As a matter of first importance, Women are driving the wellbeing reaction: Women make up practically 70% of the medical services labor force, presenting them to a more serious gamble of disease. Simultaneously, Women are likewise bearing a large part of the weight at home, given school and kid care office terminations and longstanding orientation disparities in neglected work. Women additionally face high dangers of work and pay misfortune, and face expanded dangers of savagery, double-dealing, misuse or provocation during seasons of emergency and quarantine.

Strategy reactions should be prompt, and they should represent Women' interests. Legislatures ought to consider taking on crisis measures to assist guardians with overseeing work and caring liabilities, building up and broadening pay support measures, growing help for private companies and the independently employed, and further developing measure to help Women casualties of savagery. Essentially, all strategy reactions to the emergency should implant an orientation focal point and record for Women' one of a kind requirements, obligations and viewpoints

**Keyword-** Pandemic, Disparities, Disease, Double-Dealing, Provocation, Quarantine

---

## **Introduction**

The COVID 19 pandemic is making a significant shock around the world, with various ramifications for people. Women are serving on the cutting edges against COVID 19, and the effect of the emergency on Women is obvious. Women face intensifying weights: they are over-addressed working in wellbeing frameworks, keep on doing most of neglected consideration work in families, face high dangers of financial instability (both today and tomorrow), and face expanded dangers of brutality, double-dealing, misuse or provocation during seasons of emergency and quarantine. The pandemic has had and will keep on significantly affecting the wellbeing and prosperity of numerous weak gatherings. Women are among those generally vigorously impacted.

According to a clinical point of view, early proof proposes that COVID 19 appears to hit men harder than Women. Casualty rates for men who have contracted COVID 19 are 60-80% higher than for Women. Nonetheless, as COVID 19 spreads all over the planet, the effect of the pandemic on Women is turning out to be progressively serious.

Women are at the very front of the fight against the pandemic as they make up practically 70% of the medical services labor force, presenting them to more serious gamble of contamination, while they are under-addressed in initiative and dynamic cycles in the medical services area. In addition, because of diligent orientation disparities across many aspects, Women' positions, organizations, wages and more extensive expectations for everyday comforts might be more presented than men's to the expected broad monetary aftermath from the emergency. Among seniors, all around the world, there are all the more older Women living alone on low earnings - putting them at higher gamble of financial instability.

### The Lockdown

India forced a cross country lockdown on March 25, 2020, because of the COVID-19 pandemic. On April 14, 2020, the public authority pronounced early termination a fundamental assistance. Yet, travel limitations and disgrace around contraception and early termination prompted numerous Women not getting the basic medical services they required.

During the pandemic, numerous Women and couples experienced issues seeing specialists and other medical services suppliers for their sexual and regenerative wellbeing. Thus, Women

neglected to gain opportune birth influence, crisis wellbeing administrations and fetus removals. Notwithstanding early termination being considered a fundamental medical care administration, many individuals saw it to be inaccessible because of helpless correspondence inside networks.

"With restricted admittance, private administrations became one of only a handful of exceptional choices, yet this was frequently exorbitant for some, particularly the youthful," said Sangeeta Rege, facilitator of CEHAT a Mumbai research focus occupied with basic liberties support

As the COVID-19 lockdowns caught Women at home with their victimizers, abusive behavior at home rates spiked all through the world. In India, reports of abusive behavior at home, youngster marriage, digital savagery and dealing of Women and young Women expanded inside the initial not many months of the pandemic. As per the National Commission of Women information, India recorded a 2.5 times expansion in aggressive behavior at home among February and May 2020. A few Women' associations detailed that in the initial four periods of the lockdown, they got a larger number of reports of aggressive behavior at home than they had over the most recent decade for a comparable timeframe. Others showed that numerous Women couldn't report the brutality, as they had less protection and means to get to help.

The Indian Government characterized aggressive behavior at home safe house and backing administrations as "fundamental" - a significant stage in COVID-19 reaction. During the first and second rushes of the pandemic, 700 One-Stop-Crisis focuses stayed open in India, supporting north of 300,000 Women who endured misuse and required asylum, legitimate guide and clinical consideration.

The current draft of the counter dealing charge that will be postponed soon in the Parliament is one more invite venture, as it is set to build punishments for culprits and make revealing of such wrongdoings required.

All over the planet, Women do undeniably more consideration work than men - up to ten fold the amount of as per the OECD Development Center's Social Institutions and Gender Index (SIGI). The movement limitations, at-home isolations, school and day-care focus terminations, and the expanded dangers looked by old family members can be anticipated to force extra weights on Women, in any event, when the two Women and their accomplices are restricted and might be relied upon to keep telecommuting. Vitality, lockdown circumstances compound dangers of brutality, double-dealing, misuse or provocation against Women, as has been seen from past emergencies and from the early instance of China during the COVID emergency. Also regardless

of this, Women' voices are as yet not all around addressed in the media. This dangers leaving their mastery unheard and their viewpoints overlooked in the strategy reaction to the emergency.

This arrangement brief focuses a light on a portion of the key difficulties looked by Women during the continuous COVID 19 pandemic, and proposes early advances that states can take to moderate unfortunate results for Women and for society at large. Large numbers of these approaches influence all kinds of people, however extraordinary consideration should be dedicated to diminishing rather than fueling existing orientation imbalances.

To restrict current and future pay uncertainty, states ought to consider stretching out admittance to joblessness advantages to hindered gatherings; think about one-off installments to impacted laborers; monetarily assist shaky specialists and families with remaining in their homes; and guarantee that entrepreneurs have sufficient monetary help to endure the emergency. To assist guardians with overseeing both work and caring liabilities, states ought to give childcare choices to working guardians in fundamental administrations, similar to medical services; offer direct monetary help to laborers who should disappear to really focus on kids (or backing businesses who deal paid leave for this); and adjust telecommuting and adaptable work prerequisites to empower laborers to consolidate paid and neglected work. To help Women survivors of viciousness - who might confront much more brutality when caught at home with their victimizers - state run administrations ought to guarantee that specialist organizations cooperate, share data, and consider cautiously regarding how to help casualties when their method for correspondence might be firmly observed by the victimizer with whom they live.

All the more essentially, these monetary and social arrangement estimates should be inserted in more extensive endeavors to standard orientation in legislatures' reactions to the emergency. In the short run, it implies, at every possible opportunity, applying an orientation focal point to crisis strategy measures. In the more extended run, it implies states having set up a well-working arrangement of orientation mainstreaming, depending on prepared admittance to orientation disaggregated proof in all areas and limits. Legislatures should guarantee that all strategy and underlying changes focused on recuperation go through vigorous orientation and diverse investigation, so differential impacts on Women and men can be evaluated - and anticipated.

This arrangement brief intends to offer help to state run administrations and other pertinent partners in contemplating the significant gendered ramifications of the pandemic and making an approach move.



## **The Covid-19 Vaccine Safe For Pregnant Women**

There is no proof yet about COVID-19 antibodies causing unsafe aftereffects in bleeding, pregnant or lactating Women. There is additionally no proof that COVID-19 antibodies cause richness issues. Indeed, there is a higher gamble of serious indications of COVID-19 whenever contracted during pregnancy.

WHO has additionally affirmed that Women who are breastfeeding can securely take the antibody and transmission of dynamic COVID-19 infection causing infection through bosom milk has not been distinguished. There is proof that immunizing lactating moms gives some security to children as the antibodies are given from mother to kid.

For more data on COVID-19 anticipation, security and immunization, if it's not too much trouble, allude to the WHO site

## **Uphold Women In India During The Covid-19 Emergency**

Each emergency impacts Women and young Women uniquely in contrast to men, due to existing orientation standards and disparities. To work back better and equivalent from the COVID-19 emergency, strategy, venture and activity should be formed by Women and young Women and purposely target them.

UN Women is working with the public authority and grassroots associations on the ground to give food, individual defensive gear for Women, and money help.

Through our correspondences crusades, we are ensuring that Women get checked data about infection counteraction and inoculation, and making public mindfulness about orientation based savagery. Through our projects, we are making schooling and professional preparation accessible for Women through computerized and distance learning, and assisting them with tracking down pathways to work and independent companies. We are working with our public accomplices to give cover, monetary and legitimate help and clinical assistance to overcomers of orientation based savagery in COVID-places of refuge.

UN Women is pushing with the public authority and private area partners to put resources into the formal and casual consideration economies to make feasible positions and lift Women' strengthening and pay.

With your assistance, we can do significantly more. Give to help Women in South Asia today.

## **Women, Employment, Income, And COVID-19**

The spread of COVID 19 addresses a general wellbeing emergency, yet additionally a monetary emergency. The worldwide economy is in more serious peril than whenever since the 2008 monetary emergency. The spread of the infection has intruded on global inventory chains, and is constraining laborers to stay at home since they are isolated, debilitated or dependent upon lockdowns. Organizations from an assortment of ventures are winding up compelled to hinder and downsize activities. Significant employment misfortunes will probably follow (ILO, 2020[16]).

Proof from past monetary and wellbeing emergencies proposes that shocks on the size of the COVID 19 pandemic regularly sway people in an unexpected way. The 2008 monetary emergency, for example, was described by more noteworthy employment misfortunes in male-overwhelmed areas (prominently development and producing) and an increment in hours worked by Women, particularly in the early years (Sahin, Song and Hobijn, During the recuperation stage, men's business further developed more rapidly than Women' work .

Notwithstanding, proof from irresistible illness driven monetary emergencies frequently highlight more keen impacts on Women. For instance, proof from the West African Ebola flare-up in recommends that Women experienced more through the emergency, to some degree in light of the fact that their jobs as guardians prompted higher diseases rates for Women, and partially in light of the fact that the sorts of occupations all the more regularly done by Women (for this situation, as laborers in the retail exchange, in neighborliness and in the travel industry) were more earnestly hit by the monetary constriction .Deficient public thoughtfulness regarding the gendered impacts of the Ebola emergency, as well as lacking consideration paid to public approaches supporting Women during these times, has prodded requires a more engaged glance at orientation aberrations during such wellbeing emergencies .

## **Women Employees And The Risks To Women’s Jobs**

This emergency is different in nature to past ones, and considering that the size of the financial effect is as yet arising, it is hard to make firm forecasts on whether and how much the emergency may lopsidedly influence Women' positions, business and salaries. In any case, there are a few substantial worries around the effect the emergency might have on Women' financial results.

In spite of the amazing headway made by Women over the past 50 years or somewhere in the vicinity, Women' situation in the work market stays totally different from men's. By and large, utilized Women work more limited hours than utilized men, procure not exactly utilized men

(EPIC), and appreciate less status than utilized men Women' work market connection will in general be more vulnerable than men's, particularly around life as a parent. By and large, more diminutive than men's. Also people keep on working in various areas of the economy, with Women' business frequently packed in the public area and in the consideration and instruction areas.

With regards to the COVID 19 emergency, the dread is that orientation work holes like these leave Women more defenseless than men to employment cutback; that Women' lesser status in the work market leaves them more presented and simpler to lay off. These feelings of dread are especially intense in many agricultural nations and arising economies, where huge quantities of Women laborers keep on working in "casual business" - occupations that are frequently unregistered and that for the most part come up short on friendly or lawful insurance and work benefits .

For Women in OECD nations, proof from the beyond couple of years - pre-emergency - gives some consolation on Women' overall employer stability. Overall, Women' joblessness rates have stayed near individuals' for a large part of the previous ten years , and information from the OECD Job Quality data set propose orientation holes in joblessness chances are for the most part just little . Information on self saw professional stability likewise recommend that orientation holes in the professional stability are just little. For instance, results from the International Social Survey Program 2015 show not many significant distinctions in sexual orientation in the portion of laborers accepting that their occupation isn't secure, with men, regardless, being more unfortunate of employment cutback than Women .

### **Self-Employed Women And The Risks To Women-Led Business**

The independently employed and little and medium-sized undertakings (SMEs) are at the focal point of the current emergency. While the size of the financial test is as yet unfurling, almost certainly, SMEs and the independently employed will be hit hard by store network disturbance in impacted nations, and will be seriously affected by the more drawn out term monetary slump. SMEs in assistance areas, for example, retailing, the travel industry and transportation are now experiencing the aftermath control measures, from the breakdown popular, and from the subsequent liquidity lack. The absence of advanced offices and abilities to permit their laborers to accomplish far off work can likewise put them in a difficult spot in the current setting. All the more by and large, numerous SMEs come up short on assets to adjust.

While all SMEs and independently employed laborers are probably going to be impacted by the emergency, contrasts in the kinds of organizations worked or business procedures followed

imply that people business visionaries might be affected in an unexpected way. Around 5% of working-age Women in OECD nations are proprietors of laid out organizations (for example a business over 42 months old), while 3% are proprietors of new business (for example a business under 42 months old) and another 5% are effectively attempting to begin a business .

Proof from the 2008 monetary emergency proposes that Women drove organizations are not really more helpless than men-drove organizations. Three-year business endurance rates from the 2009 accomplice of business new companies show that endurance paces of Women possessed organizations were roughly equivalent to those of men-claimed organizations in numerous nations, including Italy, Finland, the Slovak Republic and Austria. A little hole in business endurance rates was seen in Poland (57% versus 63%), and there were more extensive holes in France (63% versus 70%) and Spain (49% versus 58%) .This flexibility can be to some degree clarified by the idea of Women worked organizations, which are bound to zero in on wellbeing administrations, instructive administrations and other individual assistance areas that are less helpless to monetary slumps. This is reliable with studies in Italy, for instance, which observed that Women business people would in general take on more moderate business techniques comparative with male business people during the 2008-09 monetary emergency .

Notwithstanding, the effect of COVID 19 gives off an impression of being quickly affecting a larger number of organizations than the 2008-09 slump as nations carry out serious limitations on business and individual exercises. There is some proof that Women work organizations with lower levels of capitalisation and are more dependent on self-financing . This recommends that, in spite of a propensity to follow more gamble unwilling business methodologies, Women worked organizations might be at more serious gamble of shutting during broadened periods with considerably decreased, or no, income.

## **Women, Confinement, And Gender-Based Violence**

By most measures, viciousness against Women as of now addresses a worldwide wellbeing plague. Around the world, more than one of every three Women have encountered physical and additionally sexual cozy accomplice savagery or non accomplice sexual brutality in the course of their life .This emergency is probably going to just deteriorate because of COVID 19.

Proof from past emergencies and catastrophic events recommends that repression gauges regularly lead to expanded or first-time viciousness against Women and youngsters. For instance, proof from the Ebola episode in West Africa in 2014 15 shows that Women and young Women experienced higher paces of sexual brutality and maltreatment during the flare-up than in the

former years .The crossing out of get-togethers (for example football matches) and the conclusion of social spaces, joined with the conclusion of schools and the severe implementation of isolation measures, frequently speed up disappointments, setting off a flood in instances of assault and savagery not restricted to the family. Besides, studies on the results of the Ebola emergency in Sierra Leone show that a critical portion of young Women who had lost family members to the infection were constrained into conditional sex to cover their fundamental day by day needs, including food .

For sure, early reports from social specialist organizations in China and some OECD nations have shown an increment in abusive behavior at home (DV) against Women during the pandemic, as numerous Women and youngsters are caught at home with their victimizers .For limitations set on people's developments keep overcomers of savagery from looking for asylum somewhere else, giving victimizers colossal command over Women and young Women during obligatory lockdowns. Women that experience the ill effects of private accomplice savagery face high obstructions while endeavoring to pass on the family to safeguard themselves or in any event, calling the crisis hotlines within the sight of their victimizers, while Women and kids who are as of now in sanctuaries or brief lodging are finding it challenging to continue on given the dangers of contamination and absence of spots to which to migrate.

As the social outcomes of the flare-up and related constraints begin to create, accepted practices and male centric masculinities may likewise drive up abusive behavior at home. Proof from the OECD SIGI 2019 shows that the pervasiveness of abusive behavior at home is firmly interwoven with the social acknowledgment of aggressive behavior at home (Figure 8). Before the COVID 19 episode there were at that point 27% of Women matured 15 to 49 internationally who defended the utilization of abusive behavior at home .1 The social outcomes of COVID 19 - for example failure to go external the family, loss of social communications, the entire day presence of kids following school terminations, strains inborn to constrained living together - are probably going to establish an extra justification behind some to legitimize savagery. Abusive behavior at home, regularly dedicated by men, is well established in man centric masculinities that lead to power and control of men over Women. As the emergency and the vulnerability at the individual and family levels unfurl, culprits of brutality should reassert their control and express their dissatisfactions brought about by the lockdown through expanded episodes of savagery.

## **Support For Women, Workers And Families With Caring Responsibilities**

The enormous scope conclusion of childcare offices and schools currently executed in an expanding number of OECD nations is probably going to cause impressive trouble for some, working guardians, and for working moms specifically, given orientation incongruities in care liabilities. As has been all around reported .numerous Women were at that point working "twofold moves" before the emergency; the conclusion of schools and childcare offices is just intensifying the troubles numerous Women face in adjusting work and family. Additionally, a further entanglement is that grandparents, who are regularly depended on as casual consideration suppliers, are especially powerless and are expected to limit close contact with others, remarkably with youngsters. Without family organizations to depend on, many working guardians will have not many choices other than focusing on their youngsters at home.

## **Strategy Choices To Help Women, Laborers And Families With Caring Liabilities**

- Offering public childcare choices to working guardians in fundamental administrations, for example, medical care, public utilities and crisis administrations.
- Giving elective public consideration plans.
- Offering direct monetary help to laborers who need to withdraw.
- Giving monetary endowments to bosses who give laborers paid leave.
- Advancing adaptable working game plans that record for laborers' family liabilities.

Teleworking could give an incomplete answer for a few working guardians, however teleworking full available time can be extremely challenging on the off chance that certainly feasible by and by, strikingly for families with little youngsters, couples where just one accomplice can telecommuting, and single guardians. Additionally, not all laborers have the choice of telecommuting. By and large, laborers in lower-gifted, lower-paid occupations specifically are more averse to have the option to telecommute .In the particular setting of COVID 19, numerous specialists in fundamental administrations like public utilities and crisis administrations may likewise not have the option to select teleworking choices. Furthermore there are likewise worries around the effect that mass teleworking could have on Women' usefulness. By and large, have less access, less openness and less involvement in computerized advancements than men, possibly putting them in a difficult spot while working from a distance. Particularly when combined with



their more noteworthy consideration obligations, Women laborers are probably going to find it especially hard to work at full limit through any time of supported telecommuting.

Many working guardians might have to demand leave from work. Temporarily, they could possibly utilize legal yearly leave, albeit this regularly stays at the caution of the business. In the United Kingdom, for instance, laborers should give their managers notice before they disappear, and businesses can confine as well as decline to give leave at specific times. In the United States, at the public level, laborers have no legal privilege to paid yearly leave by any means.

Guardians' extra freedoms to get some much needed rest on account of for example school/office conclusion are regularly muddled. Practically all OECD nations give representatives a qualification to leave to really focus on sick or harmed youngsters or different wards . In certain nations, guardians reserve a privilege to leave in the event of unanticipated terminations (for example Poland and the Slovak Republic) or other "unanticipated crises" (for example Australia and the United Kingdom), which would almost certainly incorporate abrupt school conclusion. Others (for example Austria, Germany) have as of late explained that current crisis leave privileges will apply in instances of school or childcare office conclusion. Nonetheless, these privileges in some cases broaden just to the extent that neglected leave, with the choice to proceed with installment of compensations regularly left to the business. Many guardians might not be able to bear the cost of taking neglected leave for any timeframe. Also, in certain nations (for example Austria, Germany and the Slovak Republic), these leaves (or the right to installment during leave) are time-restricted, while in others, it is muddled the way in which long these freedoms would keep on applying.

A few nations have started executing crisis measures to help working guardians in instances of conclusion of schools or childcare focuses. In a few nations where childcare offices and schools have been shut (for example Austria, France, Germany and the Netherlands), a few offices stay open, with a skeleton staff, to take care of offspring of fundamental help laborers, quite in wellbeing and social consideration and instructing. In France, for instance, childcare offices for such families can have up to 10 kids, and childminders working out of their homes may especially get up to 6 rather than 3 kids. In the Netherlands, the rundown of fundamental occupations likewise incorporates public vehicle, food creation, transport and appropriation, transportation of fills, squander the executives, the media, police and the military and fundamental public specialists.

Nations are additionally offering monetary help to assist with the expenses of elective consideration plans. This chance is available to the two representatives and the independently

employed. France has expressed that guardians affected by school conclusion as well as self-disconnection will be qualified for paid debilitated leave if no elective consideration or work (for example teleworking) plans can be found. Portugal reported that guardians with kids beneath the age of 12 who can't telecommute and whose kids are impacted by school terminations get an advantage of 66% of their month to month benchmark pay, paid in equivalent offers through bosses and federal retirement aide. Independently employed laborers can guarantee 33% of their standard salary.

A further measure is monetary help to businesses who give laborers paid leave. In Japan, the Ministry of Health, Labor and Welfare has declared an endowment to firms that lay out their own paid-leave frameworks for laborers impacted by school terminations. Managers will be made up for the proceeded with installment of pay rates while laborers are on surrender to a furthest reaches of JPY 8 330 for every individual each day.

In the public area, a few nations are additionally extending adaptable working choices to assist guardians with shuffling work and care. Ireland, for instance, has presented a large group of adaptable working open doors for public area representatives, including teleworking, adaptable movements, staggered shifts, longer opening times and end of the week working. An inventive practice includes expecting representatives to work in various jobs or associations on an impermanent premise to really work with the adaptable work choices while permitting conveyance of basic administrations.

### **Support For Women, Workers And Families Facing Job Loss**

While the COVID 19 emergency will jeopardize the positions and vocations of many segments of society, Women' below salaries, below riches, more noteworthy caring liabilities and potential over-openness to employment cutback implies they are almost certain than others to wind up in weak positions (Section 3). Rising monetary instability is probably going to have an especially harming impact on Women, particularly single parents, as seen through the last downturn in 2008. In such manner, strategies that assist with keeping up with ways of life in instances of pay misfortune are probably going to be particularly significant for Women.

Strategy choices to help Women, laborers and families confronting position and pay misfortune

- Stretching out admittance to joblessness advantage to non-standard specialists.
- Giving more straightforward admittance to benefits focused on at low-pay families, specifically single guardians, who are transcendently female.
- Thinking about one-off installments to impacted specialists.

- Investigating the substance and additionally timing of changes confining admittance to joblessness benefits that are now planned.
- Assisting monetarily unreliable specialists with remaining in their homes by suspending removals and conceding home loan and utility installments.

Joblessness benefits and related pay upholds are pivotal for padding pay misfortunes. Nonetheless, not all work failures approach such help, which is particularly hazardous in the event that health care coverage is attached to business or advantage receipt. Ongoing OECD investigation (2019[63]) shows that, before later and approaching crisis changes, admittance to pay support shifts considerably both among nations and inside nations, with laborers in non-standard types of business regularly fundamentally less all around safeguarded than laborers in standard types of work.

All entertainers need to "work for a huge expansion in speculations to close the orientation hole", according to the responsibilities in the 2030 Agenda for Sustainable Development, even more significant as we face the fight against COVID 19. The OECD gauges that the objective to 'Accomplish Gender Equality and Empower all Women and Girls', Sustainable Development Goal 5, might be the third least subsidized Goal by accomplices in agricultural nations

Followers to the 2030 Agenda consented to foster an essential vision for accomplishing SDGs established on key strategy intelligibility standards and to make an interpretation of responsibilities into substantial measures at public, subnational and worldwide levels. The OECD Recommendation on Policy Coherence for Sustainable Development can direct the utilization of an orientation point of view towards a more incorporated vision for supportability. It offers a structure for reinforcing powerful strategy and institutional co appointment, as well as observing, detailing and assessment frameworks taking into account the execution of the SDGs. PCSD information and philosophies permit strategy producers to delineate basic cooperations (collaborations and compromises) across arrangements that affect Women.

## References

UNGA A/70/723. Protecting Humanity from Future Health Crises: Report of the High Level Panel on the Global Response to Health Crises; UNICEF Helpdesk, “GBV in Emergencies: Emergency Responses to Public Health Outbreaks,” September 2018, p. 2.

Smith, Julia (2019). Overcoming the ‘tyranny of the urgent’: integrating gender into disease outbreak preparedness and response, *Gender and Development* 27(2).

[https://www.un.org/ga/search/view\\_doc.asp?symbol=A/70/723](https://www.un.org/ga/search/view_doc.asp?symbol=A/70/723)

Ministry of Social Welfare, Gender and Children’s Affairs, UN Women, Oxfam, Statistics Sierra Leone (2014). *Multisector Impact Assessment of Gender Dimensions of the Ebola Virus Disease*

National Family Health Survey (2015-16) 10. Sample Registration Survey (SRS), 2016-18

<https://www.unfpa.org/swop-2019> 12. [https://www.unfpa.org/sites/default/files/resource-pdf/COVID19\\_impact\\_brief\\_for\\_UNFPA\\_24\\_April\\_2020\\_1.pdf](https://www.unfpa.org/sites/default/files/resource-pdf/COVID19_impact_brief_for_UNFPA_24_April_2020_1.pdf) 13.

---

# Effect of Technology on Women Athlete Psychology

**Dr. Dhiraj W. Bhoskar**

Email - dhirajbhoskar79@gmail.com

---

## **Abstract:**

The origin of sports and games is as old as the history of mankind. Man's intense struggle for livelihood was balanced in the form of games and games. Initially these were done only for pastime, leisure and entertainment, but now they have become a way to name, fame and monetary gain and lucrative profession. Modern sports and games are full of competitive spirit, and are played to win. All Countries with sporting excellence are given special attention and respect by fellow nations. As a result, all nations are seriously involved to excel in the field of sport, so that they can add more feathers to their crown. Currently, sport is not just a display of muscle power, but a game of the brain. Along with a healthy body, knowledge of a rich mind is also essential. It is true that a person who participates in sports has more power than a normal person. The freedom of women to participate in sports is considered primarily from the Olympics. In ancient times, women were strictly forbidden to participate in the Olympics. But women were allowed to participate in the 1904 Olympics in golf and tennis, after which they were gradually allowed to participate in other sports. The research paper reflects on the Effect of Technology on Psychology of Women Athlete.

**Keywords:** Technology, Psychology, Women Athlete, personality development, sport

---

## **Preface:**

People say that regular exercise, sports and a balanced diet are very important to keep the body healthy. As far as being healthy is concerned, both men and women need to be healthy, and then we can imagine a healthy world, so it is very important to encourage women to participate in sports and sports competitions. It was only after Second World War that the way was opened for women to participate more in sports and the credit goes to women. Games are very beneficial because they teach loyalty, patience, discipline, group work and dedication. Any game teaches you to increase and improve confidence level. If we practice sports regularly, we can stay more active and healthy. Joining sports helps you to stay safe from many diseases; Such as - arthritis, obesity, heart problems,

diabetes etc. Sport makes you more disciplined, patient, relaxed and polite in life. The game teaches us to overcome all the shortcomings in life and move on. It makes us brave, and gives us a sense of joy gives you physical and mental relaxation, so that we can easily cope with all the problems. Playing various sports regularly helps to enhance a person's character and health. Usually a person, who is involved in sports at an early age, develops clean and strong character as well as good health. Players are very relaxed and disciplined, so we can say that any sport provides a variety of strong and good citizenship for the country and society. When we talk about education and research in physical education and sports, we have to pay attention to some other inter-related aspects of its field, because physical education is a 'movement through education' within the framework of total education which is both mental and physical. Now it has become an integral part of education and the emphasis is placed on educational experience rather than just building muscle. The development of teacher education in physical education is also a very important area which needs to be discussed as teacher training institutes grow, departments of physical education start being established. It had its formal beginning in the West more than a hundred years ago, and the concept reached India via Britain. In fact the entire system of physical education experienced change along with the education bearing continental influences. In England, when teacher training programs in general education were formalized and standardized in terms of basic entry qualifications for prospective teachers to take up teaching assignments at various levels, duration of training courses, theoretical course content, Teaching practice lessons, etc. The development of England in the field of education in India also influenced.

### **Technology in Sports:**

Computer Applications in Physical Education and Sports because modern civilization has become so complex and sophisticated that one has to survive. In fact, computers have innumerable applications and new ones are being developed daily due to rapid changes in information technology. In physical education and sports, computers are used in every aspect, be it personal, employee work, class organization and conduct, health services, assignments, budgeting, financial aid, accounting, publications, advancement of knowledge, management of grants It is used everywhere, conference, library, or a gymnasium. She concluded that the only limit to our creativity is to imagine a use for computers. Sharma (2005) indicated that physical education has always been a neglected area for research. But with the emergence of sports sciences such as sports medicine, sports psychology, sports sociology, exercise physiology, kinesiology and biomechanics, the face of the subject is gradually changing and it is ushering in a new era, where the spirit of competition in sports has taken over gave a push to innovate new technologies and methods to improve sports performance all over the world. Bhagirathi (2005) pointed out that information communication technology is also playing an important role in physical education and exercises for sports. He felt that

ICT is helpful in the professional development, research, management and exchange of resources of teachers in physical education and sports.

### **Women sport psychology:**

A common area of study within sports psychology is the relationship between personality and performance. There are various personality characteristics that have been found to be consistent among elite women athletes. These include, but are not limited to, mental toughness, self-efficacy, arousal, motivation, commitment, competition and control. Mental toughness is a psychological edge that helps one consistently performs at a high level. Mentally tough athletes exhibit four characteristics: a strong self-confidence in their ability to perform well, an intrinsic motivation to succeed, the ability to focus on their thoughts and feelings without distraction and stability under pressure. Self-efficacy is the belief that a person can successfully perform a specific task. In sport, self-efficacy is conceptualized as sport-confidence. However, efficacy beliefs are specific to a certain task (for example, I believe that I can successfully perform both free throws), whereas confidence is a more general feeling (for example, I believe that Today my game will be good). Arousal refers to one's physical and cognitive activity. While many researchers have explored the relationship between arousal and performance, a unified theory has yet to be developed. However, research shows that the perception of a stimulus (i.e., good or bad) is related to performance. Motivation can be broadly defined as the desire to perform a given task. People who play or perform for internal reasons, such as pleasure and satisfaction, are said to be intrinsically motivated, while those who play for external reasons, such as money or the attention of others, are said to be extrinsically motivated. Commitment refers to the dedication a game has to continue from early development to a higher level of game expertise. Competitiveness is the ability to challenge opponents with the aim of success. Control is the ability to isolate various events that occur in one's life and to focus on both within and outside athletics. Additionally, there are specific psychological skills that are inherent in the personality that occur at a higher level in elite athletes than in the typical individual. These include stimulus regulation, goal setting, imagery, pre-performance routines and self-talk.

### **Conclusion:**

Education and research in physical education and sports in India is growing at a rapid pace. Sports institutes with great potential are providing education in this area and research is also being done in such centers. But when we think less about our standards of education and research at the international level, the results are not satisfactory. We have to restructure our curriculum, provide excellent research facilities to sports scientists, formulation and proper implementation of policies are important topics for reflection. All deficiencies should be eliminated at every level. In short we can



conclude that a lot has to be done in the field of education and research in physical education and sports in India. Technology has profoundly changed society, and as a result, women have the opportunity to work outside the home. But women are now divided into two parts, one with household responsibilities and the other with employment, but still sports opportunities for women continue to grow. Women started getting opportunities to play in schools and colleges. Employment created new confidence in women which created awareness about health and recreation as a result women started participating in sports. In the future, women also got employment in the field of sports as coaches and physical educators. Which increased the social mobility of women? In the past, women were not even allowed to watch sports. But then the women started watching the game and then started participating in the game. New laws and policies on women sports have not been considered separately in India, but efforts to legalize women participation in sports in countries such as the United States and Canada began a few years ago. In India today, as many women as men are making a name for themselves by excelling in various sports. It seems that sports have a very important place in women empowerment.

---

## References:

- Health and Physical Education - Dr.Sopan Kangane,Healthy Education -Hetsinh BaghelaBailey. Physical Education and Sport in Schools-A review of benefits and outcomes. Journal of School Health
  - Biddle, S. & Goudas, M. - Effort is virtuous: Teacher preferences of pupil effort, ability and grading in physical education, Educational Research.
  - Betler, I. - Spoert serving development and peace: Achieving the goals of the United Nations through sport. Sport in Society, Vol. 11.
  - Biddle, S.J.H., Gorely, T. and Stensel, -Women Health-enhancing physical activity andSedentary behaviour in children and adolescents. Journal of Sports Sciences.
  - Houston J, Kulinna P. Health-related fitness models in physical education.
-

## **Female Human Capital in the Covid -19 situation**

Dr. Medha Kanetkar

Associate Professor

C.P. & Berar E. S. College, Nagpur

---

### **Abstract -**

As we all know Covid-19 has put a lot of restrictions on our day to day movement and has affected work culture too. To gear up and perform best even in such critical times is expect by organizations. This study was organized to solve this purpose by helping female human capital strike the work and immunity balance.

Women play a pivotal role in the overall progress of a country as they constitute half the human resources of a nation. The economic wealth of a country is seriously depleted if about half of the nation’s human resource is neglected. The role of women worldwide is undergoing a dramatic change. Women today share the podium with men in almost all the fields, be it in kitchen or in defense. Working women are no longer a rarity and are now accepted as an integral part of the working force. Figures point towards a gradual balancing out of the difference between the genders at managerial and boardroom level, and it is here that India will remain far behind until a great deal of work is made to rectify the situation.

Researcher under the theme of Workplace Empowerment would like to focus on few fundamental issues like Women Human Capital, Need and Importance of Women Human Capital in the covid -19 situation with emphasis on India. Fundamentally to empower women it would be significant to prove importance of women human capital at work place.

**Keyword:** Female Human Capital, Women Empowerment, COVID-19 Glass Ceiling

---

## **Introduction-**

The economy of India had undergone significant policy shifts in the beginning of the 1990s. This new model of economic reforms is commonly known as the LPG or Liberalization, Privatization and Globalization model. The primary objective of this model was to make the economy of the seventh largest country in the world the fastest developing economy in the globe with capabilities that help it match up with the biggest economies of the world.

The chain of reforms that took place with regards to business, manufacturing, and financial industries targeted at lifting the economy of the country to a more proficient level. These economic reforms had influenced the overall economic growth of the country in a significant manner. In COVID -19 the situation is going very worst and women are suffering from various issues related to their working conditions.

### **❖ Impact of COVID 19 on Business Environment in India:**

COVID-19 has brought along with it few good and so to say few bad things, on larger picture it had been instrumental in growth in different areas of economic importance. As far as our context is concerned it brought tremendous opportunities in IT sector Job Market and online service business. This research tried to capture following few benefits for the discussion purpose.

#### **Increased Competition**

One of the most visible effects is the improved quality of products due to global competition. Customer service and the 'customer is the king' approach to production have led to improved quality of products and services. As domestic companies have to fight out foreign competition, they are compelled to raise their standards and customer satisfaction levels in order to survive in the market. Besides, when a global brand enters a new country, it comes in riding on some goodwill, which it has to live up to. This creates competition in the market and a 'survival of the fittest' situation.

### **Employment**

With COVID -19, companies have forayed into the developing countries and hence generated employment for them. But it can turn out to be either good or bad, depending on the point of view you wish to see it from. It has given an opportunity to invest in the emerging markets and tap the talent which is available there. In developing countries, there is often a lack of capital which hinders the growth of domestic companies and hence, employment. In such cases, due to global nature of the businesses, people of developing countries too can obtain gainful employment opportunities. But the developed countries have lost jobs on account of this shift of jobs to the developing world and hence it is a pinch felt by people in the First World.

### **Investment and Capital Flows**

A lot of companies have directly invested in developing countries like Brazil and India by starting production units, but what we also need to see is the amount of Foreign Direct Investment (FDI) that flows into the developing countries. Companies which perform well attract a lot of foreign investment and thus push up the reserve of foreign exchange.

### **Spread of Technical Know-How**

While it is generally assumed that all the innovations happen in the Western world, the know-how also comes into light in the COVID -19 Situation. Without it, the knowledge of new inventions and medicines would remain cooped up in the countries that came up with them and no one else would benefit. The spread of know-how can also be expanded to include economic and political knowledge, which too has spread far and wide. The most obvious example of the spread of knowledge is that the Western world today is waking up to the benefits of Ayurveda and Yoga - traditional Indian practices, while the Western antibiotics are flooding the Indian markets and improving the quality of life of People of India

### **Spread of Education**

One of the most powerful effects of COVID -19 is the spread of education. Today, you can move in the search of the best educational facilities in the world, without any hindrance. A person living in INDIA can Learn online for a new experience which he may not find in his home country. If one is interested, one can even get a specialization in subjects not indigenous to his country and then spread that knowledge to the home country. A good example of that Online Learning apps.

### **WOMEN AS AN INDUSTRY-**

Women have been associated with shopping since the concept began but, until fairly recently, not so much with buying. But looking at the recent statistics by Margie Zable Fisher, the trend seems to be changing:

- 80% of apparel purchases (for men, women and children) are made by women
- 52% of all new vehicle purchases are made by women (and 85% are influenced by women)
- 40% of consumer electronics purchases are made by women (and 61% of purchases are influenced by women)

Globally, women controlled about \$20 trillion in consumer spending and that figure could climb as high as \$28 trillion after five years, according to a study by Boston Consulting Group. When we compare this figure with the GDP's of India and China which were \$1.8 trillion and \$7.2 trillion respectively, we can see that the female economy is more than twice of the 2 biggest growing economies in the world.

It is obvious to cater to such a huge untapped market it will need a specialist “A Woman” to understand the requirements properly and imbibe them in the products.

## **Advantage Female Human Capital:**

Here are 9 ways women can use their innately female traits to boost business success.

### **1. Communicate well.**

Women routinely outscore men on oral and written tests because they use both hemispheres of the brain--left and right--to process verbal, visual, and emotional stimuli. Kaputa's advice: Ask great questions, listen with attunement, and hone your business conversation and presentation skills. Become known for being a master communicator in both speaking and writing.

### **2. Reach out.**

The larger your network, the more career capital you'll acquire--great news for women, who are natural-born networkers and team builders. Kaputa's advice: Make and keep friends. Ask others for help, ideas, and feedback. And continually grow your network of colleagues, advisors, and mentors.

### **3. Be inclusive.**

Choosing inclusion over exclusivity is an inherent female strength and a powerful advantage in today's diverse, globalized workplace. Kaputa's advice: Commit to inviting as many perspectives as possible and extending goodwill to everyone--friends and foes. Cultivate strong alliances, and be loyal.

### **4. Read between the lines.**

Studies show that women are much better at picking up subtle emotional messages than men are. This makes them especially attuned to body language and able to detect unspoken signals of distress, confusion, and frustration. Kaputa's advice: Pay attention to what's going on behind the scenes. In meetings, for example, if something feels incomplete or not talked about, act on your hunch and initiate a follow-up phone conversation.



### **5. Empower others.**

Gender studies show that girls tend to work together, forming a kind of committee, in order to accomplish tasks. This inclusivity helps everyone in the group succeed. Kaputa's advice: The highly collaborative style of females is increasingly valuable in today's interconnected global business environment. Lead in a way that doesn't seek to have power over people, but empowers others instead. Create teams and a "personal board of directors" who can advise you-- and be sure to include men too. Give public credit to people when they contribute.

### **6. Be a big picture thinker.**

Studies show that women tend to take in multiple perspectives and consider a wide range of tangential elements when solving a problem or coming to a decision, while men's style of problem solving is different--more linear and more narrowly focused. Kaputa's advice: Leverage your enhanced ability to be a big picture thinker so you can bring more creativity and innovation to your work.

### **7. Tune in emotionally.**

Women are especially intuitive and empathetic. Kaputa's advice: Use these emotionally driven strengths to be open and responsive to others' feelings and build strong and healthy work relationships.

### **8. Be likeable.**

Women's gift for compassion, empathy, and intuition also makes them more likeable. Kaputa's advice: Likeability is a key asset the workplace. Smile and be positive--as opposed to being serious and stern--and you will win everyone over and be more influential in your job.

### **9. Create an attractive package.**

You don't have to look like a fashion model, but people who make a good physical impression are more likely to be viewed as smart and competent. Kaputa's advice: Think about what your visual image conveys – your grooming, poise. You want to make a powerful statement.

## Conclusion:

After detailed discussion on various fronts ranging from COVID -19, Growing Job Market, Shortage of Talent and required skill sets, advantage that women can bring to board room, it is obvious that how important and crucial is women human capital for business to sustain and prosper. After detailed understating of the issue, researcher would like to suggest a framework for gender diversity in organization (Fig. 1.5).

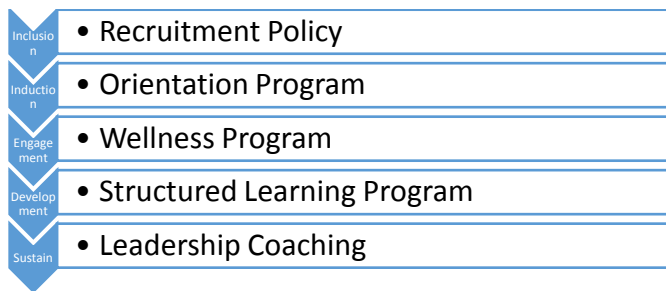


Fig.1.5

## Reference:

Statistics on Women in India 2010, National Institute of Public Cooperation and Child Development

India's Economy Lags as Its Women Lack Opportunity. [BusinessWeek.com](http://www.businessweek.com). 2/1/2013, p6-6. 1p. [Kolhatkar, Sheelah](#)

Impact of Globalization on Women Workers in India, International Models Project on Women's Rights, Wed, 2012-06-06, G. Subhalakshmi

The Effects of Globalization on Women in Developing Nations, Honors College Theses, 2005, Pace University, Nazreen Bacchus

<http://www.businessweek.com/articles/2013-01-31/indias-economy-lags-as-its-women-lack-opportunity>

<http://www.manpowergroup.com>

-----

## **Importance of Nutrition for Women Athletes**

**Dr. Meena Balpande**

Dayanand Arya Kanya Mahavidyalaya Nagpur

**Dr. Sujata Sakhare**

Dayanand Arya Kanya Mahavidyalaya Nagpur

---

### **ABSTRACT: -**

Optimal nutrition is an important aspect of an athlete’s preparation to achieve optimal health and performance. While general concepts about micro- and macronutrients and timing of food and fluids are addressed in sports science, rarely are the specific effects of women’s physiology on energy and fluid needs highly considered in research or clinical practice. Women differ from men not only in size, but in body composition and hormonal milieu, and also differ from one another. Their monthly hormonal cycles, with fluctuations in estrogen and progesterone, have varying effects on metabolism and fluid retention. Such cycles can change from month to month, can be suppressed with exogenous hormones, and may even be manipulated to capitalize on ideal timing for performance. But before such physiology can be manipulated, its relationship with nutrition and performance must be understood. This review will address general concepts regarding substrate metabolism in women versus men, common menstrual patterns of female athletes, nutrition and hydration needs during different phases of the menstrual cycle, and health and performance issues related to menstrual cycle disruption. We will discuss up-to-date recommendations for fueling female athletes, describe areas that require further exploration, and address methodological considerations to inform future work in this important area.

**Keywords :** nutrition, Function of nutrients, Minerals, Vitamin

---

### **INTRODUCTION: -**

Female athletes make up nearly 50% of sports participants. Unfortunately, research into optimizing nutrition for health and performance specific to female physiology is lacking. In this review, we will describe the challenges of studying women, the potential pitfalls of applying research from males to females, provide recommendations for adequate caloric intake, describe sequelae of insufficient

caloric intake, propose a simple framework for designing nutrition plans for female athletes, and outline basic recommendations for nutrition plans for female athletes with resources for further reading. Without the calories from carbs, fat, and protein, you may not have enough strength. Not eating enough also can lead to malnutrition. Female athletes can have abnormal menstrual cycles. You increase your risk of osteoporosis, a fragile bone condition caused in part from a lack of calcium. For athletes, the main purpose of nutrition is to ensure the compensation of increased energy consumption and the need for nutrients in the athlete's body, thereby enabling maximum adaptation to physical loads. The aim of this study was to determine the habits of highly trained endurance athletes depending on sports type, sex and age in order to improve the planning and management of the training of athletes using targeted measures. While most of us know that good nutrition is essential in helping us feel our best and reach our optimal health; finding time to eat a balanced diet on a daily basis seems a formidable task in this fast-paced, affluent society. Yet, though your life may be hectic, there are still many good tasting, healthy choices which can help you lose weight and improve your health.

Nutrition is defined as the processes by which an animal or plant takes in and utilizes food substances. Essential nutrients include protein, carbohydrate, fat, vitamins, minerals and electrolytes. Normally, 85% of daily energy use is from fat and carbohydrates and 15% from protein. Nutrition is the biochemical and physiological process by which an organism uses food to support its life. It includes ingestion, absorption, assimilation, biosynthesis, catabolism and excretion. The science that studies the physiological process of nutrition is called nutritional science. Nutrients have one or more of three basic functions: they provide energy, contribute to body structure, and/or regulate chemical processes in the body. These basic functions allow us to detect and respond to environmental surroundings, move, excrete wastes, respire (breathe), grow, and reproduce. Nutrients are substances required by the body to perform its basic functions. Most nutrients must be obtained from our diet, since the human body does not synthesize or produce them. Nutrients have one or more of three basic functions: they provide energy, contribute to body structure, and/or regulate chemical processes in the body. These basic functions allow us to detect and

respond to environmental surroundings, move, excrete wastes, respire (breathe), grow, and reproduce.

**Objectives:-**

a. Nutrition is essential for supporting an athletes general health and their training needs

b. To promote health and reduce the risk of developing chronic diseases by encouraging Americans to consume healthful diets and to achieve and Maintain healthy body weights.

c. The goa of nutrition education is to reinforce specific nutrition-related practices or behaviors to change habits that contribute to poor health.

**FUNCTIONS OF NUTRIENTS:-** The primary function of nutrients are as follows.

Nutrients	Primary Function
Carbohydrates	Provide a ready source of energy for the body and structural constituents for the formation of cells.
Fat	Provides stored energy for the body , functions as structural components of cells and also as signaling molecules for proper cellular communication. It provides insulation to vital organs and works to maintain body temperature
Protein	Necessary for tissue and organ formation, cellular repair and hormone and enzyme production. Provide energy, but not a primary function.
Water	Transports essential nutrients to all body parts, transports waste products for disposal and aids with body temperature regulation
Minerals	Regulate body processes, are necessary for proper cellular function, and comprise body tissue.
Vitamins	Regulate body processes and promote normal body-system functions.

There are some major functions of minerals in the body. They are as follows.

<b>Minerals</b>	<b>Major Functions</b>
Sodium	Fluid balance, nerve transmission, muscle contraction
Chloride	Fluid balance, stomach acid production
Potassium	Fluid balance, nerve transmission, muscle contraction
Calcium	Bone and teeth health maintenance, nerve transmission, muscle contraction, blood clotting
Phosphorus	Bone and teeth health maintenance, acid-base balance
Magnesium	Protein production, nerve transmission, muscle contraction
Sulfur	Protein production
Iron	Carries oxygen, assists in energy production
Zinc	Protein and DNA production, wound healing, growth, immune system function
Iodine	Thyroid hormone production, growth, metabolism
Selenium	Antioxidant
Copper	Coenzyme, iron metabolism
Manganese	Coenzyme
Fluoride	Bone and teeth health maintenance, tooth decay prevention
Chromium	Assists insulin in glucose metabolism
Molybdenum	Coenzyme

There are major functions of vitamins in the body

<b>Vitamins</b>	<b>Major Functions</b>
Thiamin (B1), Riboflavin (B2 ), Niacin (B3), Pantothenic acid (B5)	Coenzyme, energy metabolism assistance
Pyridoxine (B6)	Coenzyme, amino acid synthesis assistance
Biotin (B7)	Coenzyme, amino acid and fatty acid metabolism
Folate (B9)	Coenzyme, essential for growth
Cobalamin (B12)	Coenzyme, red blood cell synthesis
C (ascorbic acid)	Collagen synthesis, antioxidant
A	Vision, reproduction, immune system function
D	Bone and teeth health maintenance, immune system function
E	Antioxidant, cell membrane protection
K	Bone and teeth health maintenance, blood clotting

Nutrition means getting the food and nourishment that you need for health and growth. Without nutrition, we grow weak, sick and at the very worst can even die. The healthy human body needs seven different kinds of nutrients to thrive; proteins, carbohydrates, fats, vitamins, minerals, fiber and water. Sports Nutrition is the nutrition for athletes and is a quantitative science and is important as it affects performance. Nutrition for sports is much more than just a high protein diet and no single food solution can increase athletic performance.

## **Importance of Nutrition:-**

Nutrition can help enhance athletic performance. An active lifestyle and exercise routine, along with eating well, is the best way to stay healthy. Eating a good diet can help provide the energy you need to finish a race, or just enjoy a casual sport or activity. Athletes will have different nutritional needs compared with the general public. They may require more calories and macronutrients to maintain strength and energy to compete at their optimum level. In addition to consuming sufficient amounts of calories and macronutrients, athletes may also require more vitamins, minerals, and other nutrients for peak recovery and performance. Moreover, they may need to consider meal timing and ensure adequate hydration. Having a suitable diet provides a person with enough energy and nutrients to meet the demands of training and exercise. In addition to helping a person perform optimally, it facilitates recovery. Athletes may need to consider their caloric needs, macronutrient amounts and ratios, meal and snack timings, vitamins and minerals for recovery and performance, and hydration.

Active females and competitive female athletes have unique energy and nutrition issues compared to their male counterparts. The most common nutrition issues center around getting adequate energy to meet the energy demands of sport, activities of daily living, and reproduction, and selecting appropriate foods to get the nutrients required to support high levels of physical activity, building and repair of bone and muscle, and overall health. Adolescent female athletes can face even larger energy and nutrition challenges due to the need for energy and nutrients for growth and maturation, while having limited knowledge about appropriate food selection for sport and weight management, and a dependency on others to help provide food. Regardless of the age of the athlete, adequate food and nutrients must be consumed in the appropriate amounts and at the appropriate times for health and performance to be optimal. Thus, health professionals who work with active females need to monitor energy and nutrition intakes to help prevent any health-related issues due to low or inappropriate intakes. The key energy and nutrient issues most likely to occur in the female athlete are reviewed in this Sports Science Exchange article.



## **RELATIVE ENERGY DEFICIT:-**

If the Red-S syndrome is present in an athlete, either inadvertently or through purposeful dieting or disordered eating, athletes can experience increased fatigue, injuries or illness, nutrient deficiencies, menstrual dysfunction, poor bone health, and lack of improvement in performance. In addition, athletes can experience impairments in metabolic rate, immunity, protein synthesis and cardiovascular health. When energy intake does not cover the demands of energy expenditure it may be manifested as oligomenorrhea (irregular periods) or amenorrhea especially during the training and competitive season. The irregularity or cessation of menses is a sign that the body does not have enough fuel for exercise and training, activities of daily living, and reproductive functions. If a female athlete is on oral contraceptives, it is important to know if she is using these because of menstrual irregularities. Remember, a female athlete does not have to have an eating disorder or disordered eating to have menstrual irregularities. There are following deficiencies are observed in women athletes.

**1) Weight loss:** Once other health issues are eliminated, weight loss while training hard is a clear sign of inadequate energy intake . If an athlete wants to lose body fat and weight, this process should be planned at a time when exercise energy demands are lower and there is more time to focus on energy intake and food selection. Typically, it is not recommended that athlete's diet for weight loss during periods of high-level training or during the competitive season. Finally, any focus on weight loss should emphasize the preservation of lean tissue while maximizing fat loss. Thus, diet composition during this time is as important as total energy intake. Adequate protein must be consumed to assure lean tissue is preserved

**2) Poor growth:** For young athletes, if growth is below the recommended levels, it may be due to inadequate energy to fuel both exercise and growth. Poor growth may be most evident in high energy demanding endurance sports. or weight sensitive sports gymnastics, diving or dance.

**3) Frequent injuries/illnesses:** Repeated muscle or bone injuries that heal slowly may also be a sign of overtraining and under fueling. The Female Athlete Triad established the link between low EA, menstrual dysfunction and bone health issues in women. Subsequent research has confirmed this association. Frequent illnesses may also be a sign of a weakened immune system due to inadequate energy intake and the nutrients important for immune health.

**4) Fatigue/irritability:** If the athlete is finding it difficult to concentrate during exercise, or is shaky or lightheaded while training, it may be due to inadequate energy intake. This can be especially true if an athlete has not eaten for 3-4 hours before a training session, or if they do a long, hard run before eating breakfast.

In addition to the above health signs and symptoms, poor energy intake or food choices can dramatically affect overall nutrient intakes and status.

#### **EFFECT OF POOR MACRONUTRIENT INTAKES: -**

The primary reasons for poor macronutrient intake, especially carbo-hydrate and protein, are due to poor energy intakes and/or poor food selection. Poor energy intakes can be due to purposeful energy or food restrictions, illness or injury, loss of appetite due to exercise training practices, or specific dietary practices. Poor food selection can be due to avoidance of particular foods or food groups (no processed or cooked foods), limited food availability or the inability to buy adequate food due to low income. It is well documented that carbohydrate is important for exercise performance and to replenish liver and muscle glycogen stores following exercise. It is generally recommended that athletes training very hard consume between 6-12 g carbohydrate/kg body weight/d. Depending on body size and energy needs of the female athlete, this level of carbohydrate intake can be difficult for some to consume, especially if unprocessed, low energy dense carbohydrates are being consumed (whole fruits and vegetables, whole wet grains). Overall, these types of carbohydrates are nutrient dense and are recommended as part of a healthy diet, but they are also filling, due to their high volume and high fiber content, which increases a sense of fullness and reduces hunger. The result is that individuals consuming a low energy dense diet may eat fewer calories. Research suggests that low energy dense diets may be a contributing factor in the low EA and menstrual dysfunction seen in some endurance female athletes. The

female athletes most likely to be at risk for low protein intakes are vegans, who eliminate all animal products from their diet, those female athletes who are dieting for weight loss. Thus, the primary focus needs to be on getting adequate, high-quality protein spread out across the day. Current recommendations are that weight stable athletes consume 1.2-2.0 g protein/kg body weight/d, in addition, there is evidence supporting the intake of meals or snacks containing carbohydrate and protein after exercise for the preservation of lean tissue and glycogen replacement. Unfortunately, the majority of research on protein requirements of active individuals has been done in men. Although research focuses on the need for adequate energy, carbohydrate and protein intakes, it is important that adequate total fat and essential fatty acids (linoleic acid and  $\alpha$ -linolenic acid (ALA)) also be consumed. In the past, many female athletes avoided dietary fat, especially if they were interested in weight loss or maintaining a low body weight. These long-chain fatty acids are typically high in marine food and are important for numerous biological functions. Thus, if athletes follow a vegan diet and eliminate all marine and fish products from their diet, the intakes of EPA and DHA may be low. Emerging research has linked the importance of these two fatty acids for the attenuation of inflammation and to brain health, especially in sports or activities at high risk for concussion and brain injury.

### **Conclusion:-**

The diet of highly trained endurance athletes does not fully meet their requirements and in this situation cannot ensure maximum adaptation to very intense and/or long-duration physical loads. The diet of highly trained endurance athletes must be optimized, adjusted and individualized. Particular attention should be focused on female athletes. A number of energy and nutrition issues may occur in the female athlete. However, if athletes are aware that they exist and know how to monitor their health, these issues can be addressed and corrected. Discussing their diet and nutrition issues with a qualified sports dietitian can help female athletes prevent nutrition problems before they arise.

## **REFERENCES:-**

Arends, J.C., M.Y. Cheung, M.T. Barrack, and A. Nattiv (2012): Restoration of menses with nonpharmacologic therapy in college athletes with menstrual disturbances: a 5-year retrospective study. *Int. J. Sport Nutr. Exerc. Metab.* 22: 98-108.

Barrack, M.T., J.C. Gibbs, M.J. De Souza, N.I. Williams, J.F. Nichols, M.J. Rauh, and A. Nattiv (2014): Higher incidence of bone stress injuries with increasing female athlete triad-related risk factors: a prospective multisite study of exercising girls and women. *Am. J. Sports Med.* 42: 949-958.

Beals, K.A., and M.M. Manore (1998): Nutritional status of female athletes with subclinical eating disorders. *J. Am. Diet. Assoc.* 98: 419-425.

Beals, K.A., and M.M. Manore (2002): Disorders of the female athlete triad among collegiate athletes. *Int. J. Sport Nutr. Exerc. Metab.* 12: 281-293.

Bratland-Sanda, S., and J. Sundgot-Borgen (2013): Eating disorders in athletes: overview of prevalence, risk factors and recommendations for prevention and treatment. *Eur. J. Sport Sci.* 13: 499-508.

Burke, L.M., M.L. Ross, L.A. Garvican-Lewis, M. Welvaert, I.A. Heikura, S.G. Forbes, J.G. Mirtschin, L.E. Cato, N. Strobel, A.P. Sharma, and J.A. Hawley (2017): Low carbohydrate, high fat diet impairs exercise economy and negates the performance benefit from intensified training in elite race walkers. *J. Physiol.* 595: 2785-2807.

Cialdella-Kam, L., and M.M. Manore (2009): Macronutrient needs of active individuals: An update. *Nutr. Today* 44: 104-111.

Cialdella-Kam, L., and M.M. Manore (2017): Diet and exercise approaches for reversal of exercise-associated menstrual dysfunction. In: H.C. Lukaski (Ed.), *Body Composition. Health and Performance in Exercise and Sport*. Boca Raton, FL: CRC Press, pp. 357-374.

Gibbs, J.C., N.I. Williams, and M.J. De Souza (2013): Prevalence of individual and combined components of the female athlete triad. *Med. Sci. Sports Exerc.* 45: 985-996.

Gilliat-Wimberly, M., M.M. Manore, K. Woolf, P.D. Swan, and S.S. Carroll (2001): Effects of habitual physical activity on the resting metabolic rates and body compositions of women aged 35 to 50 years. *J. Am. Diet. Assoc.* 101: 1181-1188.

Guebels C.P., L.C. Kam, G.F. Maddalozzo, and M.M. Manore (2014): Active women before/after an intervention designed to restore menstrual function: resting metabolic rate and comparison of four methods to quantify energy expenditure and energy availability. *Int. J. Sport Nutr. Exerc. Metab.* 24: 37-46.

Hand, T.M., S. Howe, L. Cialdella-Kam, C.P. Hoffman, and M. Manore (2016): A pilot study: Dietary energy density is similar between active women with and without exercise-associated menstrual dysfunction. *Nutrients* 8: 230.

Howe, S.M., T.M. Hand, T.M., D.E. Larson-Meyer, K.J. Austin, B.M. Alexander, and M.M. Manore (2016): No effect of exercise intensity on appetite in highly-trained endurance women. *Nutrients* 8: 223.

Jackson, P.A., V. Pialoux, D. Corbett, I. Drogos, K.I. Erickson, G.A. Eskes, and M.J. Poulin (2016): Promoting brain health through exercise and diet in older adults: a physiological perspective. *J. Physiol.* 594: 4485-4498.

Kopp-Woodroffe, S.A., M.M. Manore, C.A. Dueck, J.S. Skinner, and K.S. Matt (1999): Energy and nutrient status of amenorrheic athletes participating in a diet and exercise training intervention program. *Int. J. Sport Nutr.* 9: 70-88.

Longland, T.M., S.Y. Oikawa, C.J. Mitchell, M.C. Devries, and S.M. Phillips (2016): Higher compared with lower dietary protein during an energy deficit combined with intense exercise promotes greater lean mass gain and fat mass loss: a randomized trial. *Am. J. Clin. Nutr.* 103: 738-746.

Manore, M.M. (2015). Weight management for athletes and active individuals: A brief review. *Sports Med.* 45: 83-92.

Martin, M.K., D.T. Martin, G.R. Collier, and L.M. Burke (2002): Voluntary food intake by elite female cyclists during training and racing: influence of daily energy expenditure and body composition. *Int. J. Sport Nutr. Exerc. Metab.* 12: 249-267.

Melin, A., A.B. Tornberg, S. Skouby, S.S. Møller, J. Sundgot-Borgen, J. Faber, J.J. Sidelmann, M. Aziz, and A. Sjödin (2015): Energy availability and the female athlete triad in elite endurance athletes. *Scand. J. Med. Sci. Sports* 25: 610-22.

Mettler, S., N. Mitchell, and K.D. Tipton (2010): Increased protein intake reduces lean body mass loss during weight loss in athletes. *Med. Sci. Sports Exerc.* 42: 326-337.

Mountjoy, M., J. Sundgot-Borgen, L. Burke, S. Carter, N. Constantini, C. Lebrun, N. Meyer, R. Sherman, K. Steffen, R. Budgett and A. Ljungqvist and K. Ackerman (2015): Relative Energy Deficiency in Sport (RED-S) Clinical Assessment Tool (CAT). *Br. J. Sports Med.* 49: 421-423.

-----

## Importance of Sports Nutrition

Dr. Mrunal R. Waliokar  
Head, dept. of Home-Economics  
Kamla Nehru MV. Nagpur

---

### Abstract-

Nutrition is the science of food and its interaction with an organism to promote and maintain health, which deals with those processes by which body utilizes food for energy, growth and maintenance of health. Nutrition includes everything that happens to food, is used for various functions in the body. Today the view of sports nutrition is totally changed and developed. Research shows that the coupling exercise and proper diet helps to prevent chronic diseases and also to maintain healthy lifestyle.

**Key Words-** Sports, Nutrition, Food,

---

The interest in physical fitness is very high in all the age groups of populations around the world. It may be to keep fit healthy and thus improve the quality of life or it can be to participate in athletics and possible competitions. The aim of sports is to improve one's physical social and ethical standards. The basic principle must guide all athletes and sportsman.

Our body compositions, muscular ability, respiratory and cardiovascular capabilities are very closely related to nutrition and exercise. Sports nutrition is a discipline which applies principles derived not only from nutritional but also biochemical physical & scientific knowledge for the purpose to promote optimal performance. It is depends upon the food & nutrients taken by the athlete.

From the time when ancient Greeks and Romans started the olympic games, the athletes had their own special routine for great performance which includes diet and nutrition. Today the view of sports nutrition is totally changed and developed. Research shows that the coupling exercise and proper diet helps to prevent chronic diseases and also to maintain healthy lifestyle.

In 2008 US News reported that 65% of Americans exercised regularly by working out, playing sports and other physical activities, thus the importance of proper nutrition is of great interest to athletes and exercisers for optimal performance and long term benefits. (Handbook of Sports Nutrition, by sprots publication.) .

Food is the basic necessity of life. It is intimately woven into the physical, economic, psychological, intellectual and social life of man. It is a part of his culture and is filled with many different meanings and symbolisms for all individuals at various ages and stages of their maturity. Agricultural products

such as cereals , pulses, fruits and vegetables, milk, eggs are foods. Food, Nutrition and Health are intimately connected aspects of our life.

Nutrition is the science of food and its interaction with an organism to promote and maintain health, which deals with those processes by which body utilizes food for energy, growth and maintenance of health. Nutrition includes everything that happens to food, is used for various functions in the body.

Nutrients are chemical components of food that are needed by the body in adequate amount in order to grow reproduce and lead a normal healthy life. It includes water, proteins, fats, carbohydrates, minerals and vitamins. Each nutrient class has its own function.

To enhance the performance of a player sports nutrition plays a vital role which improves body composition & to increase speed quickness, mobility & strength. It also help the speed recovery, it allows to increase energy for both competitions and practice. Although sports nutrition basics are similar for all athletes, important differences exist for individual athletes in various sports. eg- nutritional needs of a gymnast would be different from a long distance runner and the need of a tennis player would be different from weight-lifter or judo player. Various factors are affected on athlete's nutrition such as energy weight, height, age sex and metabolic rate etc. Emotional & physical stress of training and competitions, hectic travel schedules affects dietary intake, adequate calorie and essential nutrient intake must be planned carefully to meet requirements for training and fitness.

Sports Authority of India, National Institute of Nutrition and Indian Life Science Institute, recommended nutritional and hydration requirement during training and competing for Indian sports person. Which helps to fulfill sport person's nutritional needs. Essential to the diet are carbohydrates, fats, proteins, vitamins, minerals and water .

**Carbohydrates-** Carbohydrate is the major nutrient for energy support in exercise . carbohydrate should contribute about 55to 60 percent or more of the daily caloric intake. Carbohydrates offer most fuel nutritional value and satisfy. Fruits & vegetables are good sources of carbohydrates for an athletes diet.The body can only store limited amounts of carbohydrates training increases the ability to store and spare carbohydrate. Sportsman should increase slowly a intake of carbohydrate in the week before the event.

**Protein-** Next to water level of protein is most abundant compound of the body. There are thousands of different specific proteins in the body each having a unique structure and functions proteins are the main solid matter in the muscles. It is an essential part of every cell protein requirement of athletes particularly those engaged in strength and power events .

The type of sport and total calorie intakes influence protein requirement. To fulfill their protein needs athletes should eat sufficient foods. Adequate exercise does increase needs of athletes. Increase muscle mass can only be achieved by long term training without training program extra dietary protein is converted to

storage fat. The protein is used to maintain metabolism & some is used to repair the tissue.

Protein deficiency can cause many problems such as early and extreme fatigue, poor wound healing . So it important to get complete proteins such as meat eggs. Which has all essential amino acids. Protein has wide variety of physiological functions that are very essential to health and physical performance.

Food source of protein- The foods which are richest in essential amino acids are good source of protein. eg- animal protein. milk etc. Plant protein contains some amount of the essential amino acids, therefore to fulfill a protein needs with plant protein one should required wide range of vegetables. Common source of proteins are cereal, cheese, eggs, fish , meat, liver, milk protein requirement is estimated on body weight basis it provides for greater protein intake with increase in muscle mass.

**Vitamins-** Vitamins are one of the six classes of nutrients. They are required for normal growth and maintenance of all. Vitamins are very important for their regulatory and protective functions. It does not provide calories but are very essential in metabolic reactions. Vitamins are organic substances which occurs in small amount in food.

Several micro nutrients are important in exercise and sport, including folate, vit.B, Athletes involved in heavy training may need more nutrients, such as thiamin, riboflavin and pyridoxine, because they important in energy production. Antioxidants, vit A, vit. D, vit. E, vit. C and phytonutrients are very important.

A deficiency of vitamins can lead to serious illness, chronic disease, even death. The minimum daily requirements of vitamins are small and can be easily met through a varied diet.

Sources of Vitamins- Green leafy vegetables, red & orange fruits and vegetables, fish Milk eggs etc.

**Minerals-** Minerals are inorganic compounds found in trace amount in the body and also very essential for bodily function. Calcium, Magnesium, phosphorus, potassium, sodium, iron and iodine are a few of the more important required minerals. Most of the minerals are found naturally in a larger variety of foods. For example milk is rich in calcium, most animal protein foods are good sources of phosphorus. Common salt supplies with sodium. Iron is an important mineral in diet of both male & female athletes. As an essential constituent of hemoglobin, iron deficiency can occur with or without anemia.

Calcium is the most important mineral found in the body. It is needed for developing the bones and maintaining rigidity, about 90% of calcium is stored in the bones. In additional structural function it plays important role in blood clotting muscle tone, contraction and irritability, normal heart activity and activation of several metabolic enzymes. Phosphorus combines with calcium in bones and teeth. It plays very important role on energy metabolism of the cells. Magnesium is essential for human metabolism and is important for maintaining



the electrical potential in nerves and muscle cells. Sodium plays a vital role in regulating. Iodine is needed to synthesize hormones of thyroid glands. Copper deficiency is associated with the failure to use iron in the formation of hemoglobin. Zinc is also important in forming enzymes.

Sources for minerals included milk, green leafy vegetables, citrus fruits

**Fats-** Fat is an important nutrients which supplies calories to human body for proper functioning of the body it plays very important role as a fuel for exercise and sports. It is important for maintenance of cellular membranes, skin hormones and transport of fat soluble vitamins. Total fat intake of more than 20-30 percent is not required in most of athletes. Various kinds of raw materials are being provided by fatty acids which help in controlling blood pressure, blood clotting and various body functions. It is recommended by the experts that up to the ten percent of the total calories that is being consumed daily should constitute saturated fat.

**Result-** Proper nutrition for a sportsman is very important to maintain weight by increasing muscles and to decrease fat. Athletes must use high protein diet complex carbohydrates and other micro nutrients. He also needs to avoid junk food. Athletes should eat foods that have the most nutritional benefit for the amount of calories.

## References-

- Nutrition & Dietetics with Indian case studies by Shubhangini A Joshi, The McGraw Hill Companies Higher Education.
- Dietetics, New Age International Publication, by Shrilakshmi
- Fundamentals of Foods Nutrition & Diet Therapy by Sumati R. Mudambi, M. V. Rajagopal
- Foods facts & principles by N. Shakuntala Manay, M. Shadaksharaswamy, New Age International Publishers.
- Food Nutrition & Health by Dr. Shashi Goyal Pooja Gupta, S. Chand & Company Ltd.
- Diet Nutrition & Health by Madhu Garg ABD publishers
- Handbook of Sports Nutrition by Dr. Tahir P. Hussain, Sports Publication, New Delhi.
- Textbook Nutrition A lifecycle Approach Edited by Ravindra Chanda, Pulkit Mathur, Orient Black Swan Chandha and Mathur.

## **Critical review of Impact of Proper diet and Exercise on Menstrual health**

**Dr. Muktai Chavan Deb<sup>1</sup>**

*Assistant Professor, Dr. Panjabrao Deshmukh  
Institute of Management Technology &  
Research, Nagpur.*

*Contact details: 9923571092*

*muktaideb@gmail.com*

**Dr. Monika Jain\***

*Assistant Professor, Dr. Ambedkar Institute of  
Management of Studies and Research,  
Nagpur.*

*Contact details: 9422441445*

*monika\_jain@daimsr.in*

**Dr. Gauree Pimpralekar**

*Gynecologist, Sahyadri Hospital, Nashik*

*Contact details: 7507874749*

**togauresw@yahoo.co.in**

### **Abstract:**

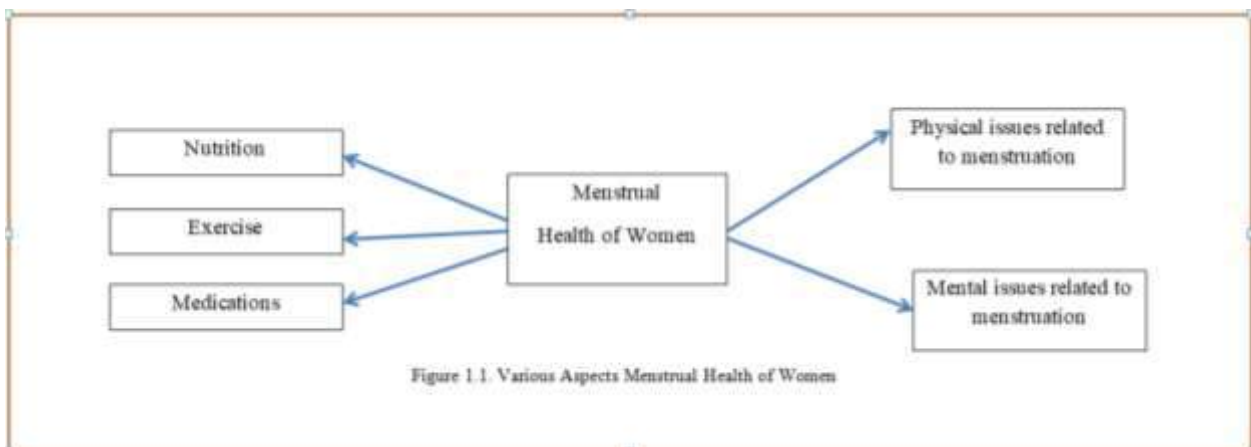
*One of the most ignored aspects of a woman's life is her monthly cycle. This cycle is often surrounded by social, cultural and religious angles. But the menstrual “health” (physical, social and mental well being) is not given due importance. Lack of proper diet and improper exercises lead to various problems, especially in women and cause various problems before, during and after menstruation..The purpose of the paper is to examine the relationship of balanced diet and exercise on menstrual health.. The paper will bring forth the physical and mental issues faced by women during menstruation and also suggest solutions through exercise and nutrition. The researchers have extracted 20 papers using Google Scholar and Pub Med databases from the year 2010 onwards. The extensive studies have brought forth a significant relationship between the dietary patterns, importance of nutrition and adequate exercise for reducing physical discomfort as well as providing relief from pain and maintaining emotional well-being. The researchers suggest conducting regular sessions by Gynecologists, Nutritionists and Physical trainers to spread awareness about the importance of a regular and nutritious diet, removing myths about exercise and menstruation. Further the researchers highly recommend these kinds of awareness sessions be conducted for school and college going girls so that they can manage their menstrual health effectively.*

**Keywords:** *Menstrual health, Exercise, Nutrition, Awareness sessions*

## INTRODUCTION

Menstrual health is a major concern for women's health, and it has an impact on menstrual features. Our eating habits and our routine are being influenced by today's events. On the one hand, fast food, coffee, alcohol, and other narcotics are all harmful to one's health. Other beverages are becoming more popular. To make matters worse, women are confused between exercises and manual labor. Menstrual difficulties and reproductive issues are common. These issues like Polycystic ovary syndrome, dysmenorrhea and irregular periods are becoming more prevalent. One needs to understand that the hormonal balance determines how well the body functions. Many of our hormones can be regulated through proper diet and exercise. Depending on how your body reacts to the physical activity, exercise might have minor or drastic effects on your menstrual cycle. Menstruation and fitness are linked for a reason: your period is governed by your body's hormone production and regulation, while the physical demands of exercise alter hormone levels. It has a variety of effects on your body-dopamine, a happiness hormone, is generated when we exercise. Further these hormones create mood swings before the menstrual cycle ie Premenstrual Syndrome which is characterized by irritation, anxiety and even frustration. Bodily changes such as bloating, tenderness in breast and backaches and cramps along with nausea and headache are quite common.

It is during these critical times the role of proper diet , nutritious food and exercise comes into play.



### Various Menstrual Health of Women

1. Physical issues related to menstruation: Pains and Cramps are common before and during menstruation. Lower back ache, stomach ache, nausea and headache is extremely common in young girls and women.
2. Mental or emotional issues related to menstruation: Hormones go haywire and create mood swings.

Both these issues can be tackled with proper guidance from nutritionists and physical trainers on advice of gynecologists. Another thing which needs to be taken into account is the lifestyle of women. Balancing the work and family or studies, peer pressure and family life becomes far more stressful. This hectic lifestyle has led to skipping meals or taking an unbalanced diet. Too much junk food or fast food along with high intake of coffee or tea, smoking/drinking has created many problems. Hence many women face issues like anemia,

low bone density, weakness and fatigue, low blood pressure or gynecological issues. Therefore the researchers wanted to study the impact of a balanced and proper diet with regular exercise on menstrual health of women.

### Objectives:

1. To ascertain the relationship of exercise on menstrual health of women.
2. To determine the effect of nutrition on menstrual health of women.

### Research methodology

Academic databases like Web of Science, Scopus, Google Scholar and PubMed were searched using keywords of Proper diet and Menstrual health, Nutrition and Menstruation, effect of Exercise on menstrual health. In this study, observational studies that were published in English from 2010 to 2021, which focused on the impact of nutrition/proper diet and exercise on menstrual health were selected. 20 Papers were selected using the following criteria:

Full text paper in English

1. Studies from 2010 to 2021
2. Citations more than 1
3. Focus on Exercise and Dietary implications on menstruation

### Summarized Result of various studies showing impact of Nutrition and exercise on menstrual health

Sr. No	Paper Title & Author Name	Year of publication/ Country of Publication/ Age group	Findings of the study
1	Effects of Food Habits on Menstrual Cycle among Adolescent Girls <b>Author name:</b> Amgain K, Neupane S.	2019 Participants size :140 Age group : 22-25 years Nepal	Menstrual problems were the most concerning issues among Kathmandu Valley adolescent college-going girls. Excessive use of junk/fast food, alcohol, and tea/coffee was linked to menstruation issues.
2	The relationship between food frequency and menstrual distress in high school females  <b>Author Names:</b> <u>Soheila Mohamadirizi</u> and <u>Masoumeh Kordi</u>	2015 Participant size: 407 Age group: 18-22 years Iran	In light of the high rate of menstrual anguish and poor nutritional habits among students, the Ministry of Education and Training should diagnose, prevent, and treat these disorders, and associated educational courses and counseling services should be held to address these issues.
3.	Effect of Dietary Habits on Menstrual Problems in Young Girls  <b>Author names:</b> Mumal Singh and Nikita Wadhawan	2019 Participant size: 100 Age group: 16-18 years India	The current study discovered a strong link between junk food consumption, dieting, and meal skipping on respondents' menstrual cycles. It was determined that for a healthy menstrual cycle, adjustments such as reducing junk food intake and fostering good eating habits should be stressed among young females.

- |   |  |   |  |
|---|--|---|--|
| 4 | Impact of dietary and lifestyle choices on menstrual patterns in medical students  | 2019<br>Participants size: 225<br>Age group: 18-25 years<br>India | Premenstrual symptoms, dysmenorrhoea, and menstrual irregularities were shown to be more common in girls. The most common symptoms were stress, abdominal pain, impatience, and mood swings. To prevent menstruation abnormalities in young pupils as early as in school, comprehensive education programmes on lifestyle adjustments such as regular physical activity and maintaining good eating habits should be emphasized. |
|   | <b>Author names:</b><br>Sreelakshmi U., V. Tushara Bindu, Subhashini T., K. Saritha  |   | The study makes an important contribution because it revealed the importance of a healthy lifestyle in providing good menstruation to typical young adult women.   |
| 5 | Development and Effects of College-Based Lifestyle Modification Program for Menstrual Health of Young Adult Women with Irregular Menses: A Randomized Controlled Trial | 2020<br>Participants: 38<br>Korea                                 |  |
|   | <b>Author names:</b><br>Young-Joo Park, Hyunjeong Shin , Songi Jeon, Inhae Cho and Hyun Ji Park  |   |  |
| 6 | Effect Of Diet, Physical Activity, And Psychosocial Factors, On Menstrual Cycle Abnormalities In College Students Of Karad, Maharashtra, India                         | 2021<br>Participants: 300<br>Age group- 18-36 years<br>India      | Menstrual cycle anomalies were influenced by diet, physical activity or exercise, and psychosocial factors. Education on the effects of these factors is necessary since they may be the underlying cause of anomalies, preventing future difficulties and improving overall quality of life.  |
|   | <b>Author names:</b><br>Divya Sachin Gupta, Neha Anandrao Jadhav, Suraj Bhimarao Kanase  |   |  |
| 7 | Impact Of Fast Foods On Menstrual Health Of School Going Adolescent Girls In West Bengal, Eastern India  | 2014<br>Participants : 670<br>Age group- 13-18 years<br>India     | Changes in women of reproductive age's typical menstrual patterns may have an impact on their physical and mental health. In order to promote menstruation health, school health education programmes should emphasize lifestyle adjustment, notably reducing fast food consumption and  |
|   | <b>Author names:</b><br>Purushottam Pramanik & Arunima Dhar  |   |  |
| 8 | Nutrition As A Potential Factor Of Primary Dysmenorrhea: A Systematic Review Of Observational Studies  | 2019<br>38 studies  | Due to methodological differences in analysing nutritional habits and varied techniques of detecting dysmenorrhea discomfort, a few researches came up with equivocal results. As a result, further research is needed, as well as future interventional studies that use more robust methodology.   |
|   | <b>Author names:</b> Bajalan Z. Alimoradi Z. Moafi F.  |   |  |

- 9 Menstrual Abnormalities In School Going Girls – Are They Related To Dietary And Exercise Pattern? 2013  
Participants: 853  
India  
**Author names:** Rupa Vani K., Veena K.S., Subitha L., Hemanth Kumar V.R., Bupathy A  
To improve menstrual health, lifestyle alterations such as frequent physical activity, reducing junk food intake, and promoting healthy eating habits should be emphasized in school health education programmes.
- 10 Impact Of Life Style And Dietary Habits On Menstrual Cycle Of College Students 2015  
Participants: 151  
Age group :19-24 years  
India  
**Author name:** Audhi lakshmi S  
The majority of the respondents in this study had a regular menstrual cycle, and while there was no significant link between lifestyle habits and menstrual cycle, many scientists have noticed and reported harmful effects of lifestyle habits on the menstrual cycle. To promote menstruation health in young college students, lifestyle changes such as frequent physical activity, reducing junk food intake, and promoting healthy eating habits should be emphasized.
- 11 Effect Of Dietary Habits And Socio-Economic Status On Menstrual Disorders Among Young Females 2016  
Participants: 100  
Age group : 17-33 years  
India  
**Author names:** Jasjit Kaur Randhawa, Kapila Mahajan, Manbir Kaur, Arti Gupta  
Menstrual problems such as dysmenorrhea, menorrhagia, metorrhagia, oligomenorrhea, and premenstrual syndrome were more common in young girls of intermediate socioeconomic class than in those of low socioeconomic rank. This study's findings suggest that a good eating pattern and socioeconomic position are both favourable contributors to menstruation problems. This adds to the growing body of data
- 12 Effects of dietary intervention in young female athletes with menstrual disorders 2014  
Participant: 45  
Age group: 18 plus  
Poland  
**Author names:** Karolina Łagowska, Karina Kapczuk, Zbigniew Friebe & Joanna Bajerska  
This study adds to the evidence that energy deficit has a role in menstruation disorders in young female athletes, as well as the effects of optimal energy intake and energy availability on hormone concentration. A continuation controlled dietary intervention is required to determine the extent to which long-term gains in nutritional status result in improvements in female athletes' hormonal balance, to the point where monthly cyclicity can be regulated.

- 13 Relationship between Diet, Menstrual Pain and other Menstrual Characteristics among Spanish Students
- 2020  
Participants : 311  
Age group : 18-35 years  
Spain
- Author names:** María Dolores Onieva-Zafra, Elia Fernández-Martínez Ana Abreu-Sánchez, María Teresa Iglesias-López, Francisca María García-Padilla Miguel Pedregal-González and María Laura Parra-Fernández
- Menstrual pain was linked to consuming fewer than two servings of fruit each day. Shorter cycles tend to be linked to high and moderate adherence to the Mediterranean diet and decreased alcohol consumption. Despite the fact that many studies have looked at the consumption of certain foods in relation to menstrual pain, this study is a first approximation to the adherence to the MD, the consumption of typical southern Spanish food, and its possible influence on the characteristics of the female menstrual cycle and menstrual pain.
- 14 The effect of diet on primary dysmenorrhea in university students: A randomized controlled clinical trial
- 2018  
Participants: 67  
Age group- 18-35 years  
Turkey
- Author names:** Yasemin Aydin Kartal and Elvan Yilmaz Akyuz
- The frequency of severe discomfort in dysmenorrhea was significantly reduced in the diet-treated group, according to findings. Healthy lifestyle behaviors should be emphasized in young females.
- 15 Menstrual Disorders: Causes and Natural Remedies
- 2016  
India
- Author names:** Monawara Begum, Sumit Das , H.K. Sharma
- Menstruation is quite painful and uncomfortable. Allopathic medicines seem to have many issues related and hence home remedies, reflexology, aroma therapy, and other remedies are to be looked into. Exercise and herbs also play an important role in relieving pain during menstruation.
- 16 Overview on: Herbs Use in Treatment of Primary Dysmenorrhea (Menstrual Cramps)
- 2019  
India
- Author names:** Bharti Goel , Neelesh Kumar Maurya
- Hormone-modulating herbs might be advised for chronic disorders and various herbs or herbal therapy. In this review paper, many herbs can be coupled with conventional and nutritional/supplemental treatments to treat primary dysmenorrhea.
- 17 The effect of corrective and therapeutic exercises on bleeding volume and severe menstrual pain in non-athletic women
- 2021  
Participant Size: 60 unmarried girls  
Age group: 18-22 years  
Iran
- Author Names:** Nahid Lorzadeh, Yasaman Kazemirad & Nastran Kazemirad
- After three months of corrective and therapeutic exercise, there was a reduction in lumber pain, according to the study.

- |    |   |  |   |
|----|---|--|---|
| 18 | The relationship between exercise frequency with the menstrual cycle of the adolescent on Ppencak Silat Group                           | Indonesia<br>Participant Size: 126<br>Age Group: 15-18 years       | The results of a statistical test revealed that adolescent girls in the Pencak Silat group of SMA Negeri in Purwokerto Region have a link between exercise frequency and menstrual cycle.   |
|    | <b>Author Names:</b><br>Machmudah, Fitri Yanna, Pawestri  |  |   |
| 19 | Relationship between duration of physical exercise and menstrual cycle female athletes in East Java Sports High School                  | 2021<br>Participant size: 60<br>Age group: 15-18 years<br>Surabaya | There is no link between the length of physical activity and menstruation abnormalities among female athletes at East Java Sports High School.  |
|    | <b>Author Names:</b><br>Paula Eka Romadona  |  |   |
| 20 | Effect of moderate aerobic exercise on perceived stress during luteal phase of menstrual cycle in students pursuing professional course | 2018<br>Participant Size: 30<br>Age Group-18-25 years<br>India     | It was observed that the subjects in the control and study groups differ significantly. In exercising students, intermenstrual haemorrhage was dramatically reduced, as was the incidence of pain and absenteeism during the menstrual period.  |
|    | <b>Author Names:</b><br>Anuradha Rajiv Joshi, Tanvi Nitin Pendse, Savita M Vaidya   |  |   |
| 21 | Effects of exercise participation on menstrual pain and symptoms  | 2021<br>Participant Size: 40<br>Age group:                         | Study revealed that pain during menstruation was greater for sedentary women. During menses, exercisers reported less pain than sedentary women. Exercise status was also linked to higher levels of anxiety during menstruation. Otherwise, there was no evidence that activity level influenced reports of symptoms or negative mood during the menstrual cycle |
|    | <b>Author names:</b><br>Mindy Hightower   |  |   |

### Findings and Conclusion:

Various studies are suggesting making changes in the eating patterns, taking in lots of fruits and green leafy vegetables and avoiding caffeine rich diets before and during the periods. Water retention takes place which gives rise to cramps and bloating. Reduced salt intake is also heavily advised by the doctors.

B6 is a vitamin which is not easily available to us through our diet and hence many doctors advise women to take Iron, Calcium and other vitamin supplements. But doctors encourage women to eat on time, not to skip meals and give the proper amount of rest to the body.



Yoga, meditation and regular exercise as per the body structure is also a necessity. Walking, Simple stretches and even Yoga through Mudras are heavily recommended these days.

Gynecological associations are promoting eco-friendly menstrual products but also now want to focus on various issues faced by women due to lack of proper diet and exercise. They also want to clear the misconceptions about periods and exercise. When periods come around, it's not uncommon for women to feel unmotivated. That isn't to say one shouldn't go to the gym. But exercise can influence – and often improve menstrual cycles.

**Suggestion** Young girls need to be apprised about the various physical and emotional issues related to menstruation and ways to deal with them through awareness programs and workshops at school and college level on a regular basis.

- Even college and schools can keep a check on the eating habits of girls through a mentoring system.
- Women cells of colleges can organize regular check ups of college going girls and help them open up about problems they are facing.
- Girls who are underweight, or are having medical conditions like anemia or low blood pressure can be counseled and encouraged to follow a regular healthy diet and exercise.
- The schools and colleges can design value added courses on Nutrition and Exercise for leading a quality life and encourage students to take on this course which will make them aware of various problems related to health.

### **Findings:**

The researchers came to a conclusion after extensive research that menstruation – a common phenomenon is associated with physical and emotional issues. Women go through a lot of stress and physical discomfort which can be easily managed through proper diet and exercise. Today's hectic lifestyle is making us forget our health and skip the most important thing for our survival ie. Food- healthy food. Skipping meals, eating junk food, eating foods which have no nutritional value or disturbed eating patterns create an imbalance in our body making it prone to diseases. Lack of nutritional supplements- vitamins, minerals, proteins, calcium, magnesium and iron cause various issues like anemia, weight loss, weakness and fatigue. Another victim of our hectic lifestyle is Physical exercise which keeps our body fit and healthy. Women (young and old) need to understand the importance of balanced diet and regular exercise. These two things can have a positive impact on their mental and physical health especially during menstruation. Issues associated with menstruation can be managed easily on doctors' advice.

### **REFERENCES**

- Amgain, E., & Neupane, S. (2019). *Effects of Food Habits on Menstrual Cycle among Adolescent Girls*.
- Bajalan, Z., Alimoradi, Z., & Moafi, F. (2019). Nutrition as a Potential Factor of Primary Dysmenorrhea: A Systematic Review of Observational Studies. *Gynecologic and Obstetric Investigation*, 84(3), 209–224. <https://doi.org/10.1159/000495408>
- Begum, M., Das, S., & Sharma, H. K. (n.d.). *Menstrual Disorders: Causes and Natural Remedies*. 14.

- *Can Diet Changes and Exercise Help With PMS?* (n.d.). WebMD. Retrieved March 1, 2022, from <https://www.webmd.com/women/pms/is-there-a-pms-diet>
- *Development and Effects of College-Based—ProQuest.* (n.d.). Retrieved February 20, 2022, from <https://www.proquest.com/docview/2474924369/B7B070BF1C6F43D4PQ/2>
- Fujiwara, T., Sato, N., Awaji, H., & Nakata, R. (n.d.). *Adverse Effects of Dietary Habits on Menstrual Disorders in Young Women.* 7.
- Goel, B., & Maurya, N. (2019). Overview on: Herbs Use in Treatment of Primary Dysmenorrhea (Menstrual Cramps). *Advances in Zoology and Botany*, 9, 47–52. <https://doi.org/10.13189/azb.2019.070302>
- Gupta, D. S., Jadhav, N. A., & Kanase, S. B. (2021). Effect of Diet, Physical Activity, and Psychosocial Factors, on Menstrual Cycle Abnormalities in College Students of Karad, Maharashtra, India. *Journal of Evolution of Medical and Dental Sciences*, 10(15), 1048–1053. <https://doi.org/10.14260/jemds/2021/224>
- Hospital, T. R. W. (n.d.). *Exercise, diet & periods.* The Royal Women’s Hospital. Retrieved February 20, 2022, from <https://www.thewomens.org.au/health-information/periods/healthy-periods/exercise-diet-periods>
- *JCDR - Menstrual abnormalities, Dieting, Junk food, Exercise.* (n.d.). Retrieved March 1, 2022, from [https://www.jcdr.net/article\\_fulltext.asp?issn=0973-709x&year=2013&month=November&volume=7&issue=11&page=2537&id=3603](https://www.jcdr.net/article_fulltext.asp?issn=0973-709x&year=2013&month=November&volume=7&issue=11&page=2537&id=3603)
- Kartal, Y. A., & Akyuz, E. Y. (2018). The effect of diet on primary dysmenorrhea in university students: A randomized controlled clinical trial. *Pakistan Journal of Medical Sciences*, 34(6), 1478–1482. <https://doi.org/10.12669/pjms.346.16477>
- Łagowska, K., Kapczuk, K., Friebe, Z., & Bajerska, J. (2014). Effects of dietary intervention in young female athletes with menstrual disorders. *Journal of the International Society of Sports Nutrition*, 11(1), 21. <https://doi.org/10.1186/1550-2783-11-21>
- *Menstrual characteristics and its association—ProQuest.* (n.d.). Retrieved February 20, 2022, from <https://www.proquest.com/docview/2249131223/13E6CCD79FDC4506PQ/12>
- *Menstruation and nutrition.* (n.d.). The University of Edinburgh. Retrieved March 1, 2022, from <https://www.ed.ac.uk/centre-reproductive-health/hope/menstruation-and-nutrition>
- Mohamadirizi, S., & Kordi, M. (2015). The relationship between food frequency and menstrual distress in high school females. *Iranian Journal of Nursing and Midwifery Research*, 20(6), 689–693. <https://doi.org/10.4103/1735-9066.170000>
- [No title found]. (n.d.). *International Journal of Nutritional Science and Food Technology.*

- *Nutrition And The Menstrual Cycle*. (n.d.). Daye. Retrieved March 1, 2022, from <https://yourdaye.com/vitals/health/nutrition-and-the-menstrual-cycle/>
- *Nutrition—Women’s extra needs—Better Health Channel*. (n.d.). Retrieved March 1, 2022, from <https://www.betterhealth.vic.gov.au/health/healthyliving/nutrition-womens-extra-needs>
- Onieva-Zafra, M. D., Fernández-Martínez, E., Abreu-Sánchez, A., Iglesias-López, M. T., García-Padilla, F. M., Pedregal-González, M., & Parra-Fernández, M. L. (2020). Relationship between Diet, Menstrual Pain and other Menstrual Characteristics among Spanish Students. *Nutrients*, 12(6), 1759. <https://doi.org/10.3390/nu12061759>
- Randhawa, J. K., Mahajan, K., Kaur, M., & Gupta, A. (2016). Effect of Dietary Habits and Socio-economic Status on Menstrual Disorders among Young Females. *American Journal of BioScience*, 4(3), 19. <https://doi.org/10.11648/j.ajbio.s.2016040301.14>
- Singh, M., & Wadhawan, N. (2019). Effect of Dietary Habits on Menstrual Problems in Young Girls. *International Journal of Current Microbiology and Applied Sciences*, 8(07), 279–286. <https://doi.org/10.20546/ijemas.2019.807.035>
- SRD, G. B. B. (2009). Pre-menstrual Syndrome and Diet. *Journal of Nutritional & Environmental Medicine*. <https://doi.org/10.1080/13590849862302>
- Yilmaz-Akyuz, E., & Aydin-Kartal, Y. (2019). The effect of diet and aerobic exercise on Premenstrual Syndrome: Randomized controlled trial. *Revista de Nutrição*, 32. <https://doi.org/10.1590/1678-9865201932e180246>
- Hightower, M. (1997). Effects of exercise participation on menstrual pain and symptoms. *Women & Health*, 26(4), 15–27. [https://doi.org/10.1300/j013v26n04\\_02](https://doi.org/10.1300/j013v26n04_02)
- Pendse, T., Joshi, A., & Vaidya, S. (2018). Effect of moderate aerobic exercise on perceived stress during luteal phase of menstrual cycle in students pursuing professional course. *National Journal of Physiology, Pharmacy and Pharmacology*, 1. <https://doi.org/10.5455/njppp.2018.8.1146213122017>

## **Impact of Artificial Intelligence on Health and Nutrition of Elite Volleyball Players of Nagpur City**

**Dr. Rahul Madhukarrao Rode**

Assistant Professor

Yashwantrao Gudadhe (Patil) Memorial College

Hingna Road, Nagpur

*E-mail ID of the author:* [rode\\_rahul@yahoo.co.in](mailto:rode_rahul@yahoo.co.in)

---

### **Introduction**

IBM defined Artificial intelligence (AI) as "any human- like intelligence exhibited by a computer, robot, or other machines. Specifically, the AI enables computer programs to learn from datasets that indicate cases and knowledge, identify substances, and help in decision-making by solving the problems. Recent advances in the field have shown that AI has a vast area of applications, including the provision of health and nutrition care. Moreover, the utility of AI in sports field is direct as well as indirect. That means the coaches of various games and sports are using it to solve their coaching and training related problems and the various online platforms like Facebook, Instagram, YouTube, etc. are also using it to understand the player’s behaviour likes and dislike, etc. The more a person spends time on a website watching a specific program, news or a product these platforms using AI algorithms can predict with a lot of certainty what which things will be preferred by the player.

For the players like the one who are engaged in volleyball, health is a fundamental factor that determines their performance. AI-powered systems can screen many physical parameters, including player’s movements, to assess their condition and even spot any injuries or health problems before the athlete himself or herself realizes it. Collecting information through various means is essential for data analytics in healthcare, but according to the most recent trends, the absolute protagonists are health wearables and the online behaviour, which are increasingly low costs. There are few things in the world that cannot be

quantified. Everything that can be quantified, can be predicted with precision using data analytics and artificial intelligence. The world of sports is abundant in such quantifiable elements, making it ideal for the use of AI. The applications of AI in sports have become a common sight in recent years. Considering the positive impact they've brought about through their growing capabilities, they will continue to make inroads into the realm of sports.

It is a well-known fact that the introduction of AI is transforming the healthcare industry in different ways. The extraordinary predictive and diagnostic capabilities of AI can also be applied in the realm of sports, where physical health and fitness is of prime importance. Since the essence of sports is the maintenance of peak physical condition, sports teams invest heavily in the physical and mental well-being of their players. In the pursuit of ensuring their players' health and fitness, they are increasingly incorporating technological tools in player healthcare. Since, the web currently is the primary medium to seek information, its use by the volleyball players has many implications, some of them can be bad and some could be good. Hence, in view of the above, the use of websites to get information about the healthcare and nutrition will activate the AI mechanisms of many online platforms, which then can have some impact on the player's lifestyle and physical fitness and for concern this investigation was carried out. For the purpose of this study, the elite female volleyball players of Nagpur city were considered.

## **Research Methodology**

### **Design of Study**

The design of the study was random group design, where the female volleyball players belonging to age group 18 to 25 years were selected randomly. Total 150 volleyball players from Nagpur City of Maharashtra were selected for this study. The selection criterion was participation of the female volleyball players in intercollegiate volleyball tournaments organized by Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.

### **Tester's Reliability**

To ensure that the investigator was well versed with techniques of conducting the tests, the investigator along with an assistant had a number of practice sessions in testing procedure under the guidance of supervisor. The tester's

reliability was evaluated together with reliability of tests prior to data collection. A Pearson’s product moment correlation above 0.901 indicated that the tester was well equipped for data generation.

### Data Collection

Data collection was done by using survey method. The self made questionnaire was prepared and the data was collected using Google form platform.

### Statistical Analysis and Significance Level

The data characteristics like Frequency, Mode, Percentage, were determined and Chi-Square ( $\chi^2$ ) test was used to check the difference in proportions. The data was analyzed using SPSS 18.0 Software. The significance level was chosen to be 0.05 (or equivalently, 5%).

## Results and Discussion

### Internet use for getting information about health and nutrition

**Table 1:** Level of use of internet for getting information about health and nutrition

Response	Nos.	Percentage
High	12	84.0
Moderate	6	13.3
Low	4	2.7
<b>Total</b>	<b>15</b>	<b>100.0</b>

Calculated  $\chi^2$ : 175.84; df: 2;  $\chi^2$  critical value: 5.99;  $p < 0.05$

**Table 3.1** presents results pertaining to level of use of internet by the female volleyball players of study area for getting information about health and nutrition. Study result shows that use of internet for getting information about health and nutrition during was high for 84.0% volleyball players, while 13.3% players used it moderately and only 2.7% players report such use to be low.

**Which platform provided maximum information about health and nutrition?**

**Table 2:** Platform providing maximum information about health and nutrition

<b>Response</b>	<b>Nos.</b>	<b>Percentage</b>
Facebook	5 7	38.0
Instagram	3 4	22.7
Google	4 0	26.7
Twitter	7	4.7
YouTube	1 2	8.0
<b>Tota l</b>	<b>1 5 0</b>	<b>100.0</b>

Calculated  $\chi^2$ : 56.6; df: 4;  $\chi^2$  critical value: 9.488;  $p < 0.05$

**Table 2** presents results pertaining to opinion of the female volleyball players of study area regarding platform providing maximum information about health and nutrition. Study result shows that according to 38.0% volleyball players Facebook provides maximum information about health and nutrition while 22.7%, 26.7% and 4.7% players feel that Instagram, google and twitter provides maximum information respectively. In addition to this 8.0% players feel that YouTube provides maximum information.

### Usefulness of health/nutrition information obtained from various platforms

**Table 3:** Usefulness of health/nutrition related information obtained from various platforms

<b>Response</b>	<b>Nos.</b>	<b>Percentage</b>
Yes	92	61.3
No	27	18.0
Can't say	31	20.7
<b>Total</b>	<b>150</b>	<b>100.0</b>

Calculated  $\chi^2$ : 53.08; df: 2;  $\chi^2$  critical value: 5.99;  $p < 0.05$

**Table 3** presents results pertaining to usefulness of health and nutrition related information obtained from various platforms. Study result shows that 61.3% volleyball players found the health and nutrition related information obtained from various platforms useful while 18.0% players did not find it useful and 20.7% players are not sure about its usefulness.

### Extent of benefit from the information obtained from various online platforms

**Table 4:** Extent of benefit from the information obtained from various online platforms

<b>Response</b>	<b>Nos.</b>	<b>Percentage</b>
To a large extent	113	75.3
Moderate	32	21.3
To a less extent	5	3.3
<b>Total</b>	<b>150</b>	<b>100.0</b>

Calculated  $\chi^2$ : 126.36; df: 2;  $\chi^2$  critical value: 5.99;  $p < 0.05$

**Table 4** presents results pertaining to extent of benefit from the information obtained from various online platforms. Study result shows that



benefit from the information obtained from various online platforms is up to a large extent for 75.3% volleyball players, while 21.3% players had moderate benefit and 3.3% players reported such benefit upto a less extent.

### **Problems with the online platforms regarding provision of information**

**Table 5:** Problems with the online platforms regarding provision of information

<b>Response</b>	<b>Nos.</b>	<b>Percentage</b>
Repetitive	78	52.0
Misleading	48	32.0
Not genuine	5	3.3
Unethical	6	4.0
Provide inadequate information	13	8.7
<b>Total</b>	<b>150</b>	<b>100.0</b>

Calculated  $\chi^2$ : 137.267; df: 4;  $\chi^2$  critical value: 9.488;  $p < 0.05$

**Table 5** presents results pertaining to problems with the online platforms regarding provision of information. Study result shows that according to 52.0% volleyball players online platforms show repetitive information while 32.0%, 3.3% and 4.0% players feel that information is misleading, not genuine and unethical respectively. Furthermore 8.7% players feel that online platforms provide inadequate information.

## **Conclusions**

### **Internet use for getting information about health and nutrition**

In view of the study results it is evident that the use of internet use for getting information about health and nutrition was significantly ( $p < 0.05$ ) high in majority of female volleyball players of study area.

### **Which platform provided maximum information about health and nutrition?**

On the basis of study results it is evident that for significantly ( $p < 0.05$ ) high no. of female volleyball players of study area Facebook provides maximum information about health and nutrition.

### **Usefulness of health/nutrition information obtained from various platforms**

From the study results it is evident that for significantly ( $p < 0.05$ ) high no. of female volleyball players of study area health and nutrition related information obtained from various platforms is useful.

#### **Extent of benefit from the information obtained from various online platforms**

In view of the study results it is evident that significantly ( $p < 0.05$ ) high no. of female volleyball players of study area have benefited from the information obtained from various online platforms upto a large extent.

#### **Problems with the online platforms regarding provision of information**

On the basis of study results it is evident that for significantly ( $p < 0.05$ ) high no. of female volleyball players of study area online platforms provide repetitive information.

#### **Bibliography**

Dhar, V. (2017). What Is the Role of Artificial Intelligence in Sports?, *Big Data*, 5(3), pp. 173-174.

Pantazopoulos, A and Maragoudakis, M. (2018). Sports & Nutrition Data Science using Gradient Boosting Machines, SETN '18: Proceedings of the 10th Hellenic Conference on Artificial Intelligence, 56, pp. 1-7.

Reddy, N. R. (2020). Implementation of New Ways of Artificial Intelligence in Sports, *Journal of Xidian University*, 14(5), pp. 5983-5997.

Wei, S., Huang, P., Li, R., Liu, Z and Zou, Y. (2021). Exploring the Application of Artificial Intelligence in Sports Training: A Case Study Approach, *Hindawi Complexity*, 8, <https://doi.org/10.1155/2021/4658937>

Xian, L. (2010). Artificial intelligence and modern sports education technology, *2010 International Conference on Artificial Intelligence and Education (ICAIE)*, pp. 772-776, doi: 10.1109/ICAIE.2010.5641441.

---

## **WOMAN EMPOWERMENT ENHANCING THE GROWTH OF ECONOMIC DEVELOPMENT**

**Dr. Ravi M. Shastrakar**

Assistant Professor and Head

Department of Economics

Mahatma Jyotiba Fule Arts College, Ashti Ta. Chamorshi, Dist. Gadchiroli

Gondwana University, Gadchiroli. 442707.

### **Abstract**

Women empowerment and monetary improvement are intently related: in a single direction, improvement on my own can play a chief position in riding down inequality among guys and woman; withinside the different direction, empowering woman can also additionally advantage improvement. Development rules and applications generally tend now no longer to view woman as critical to the monetary improvement system. This is meditated withinside the better investments in woman's reproductive in preference to their effective roles, specially in populace applications. Yet woman during the growing global interact in economically effective paintings and earn earning. They broadly speaking in agriculture and withinside the casual region and increasingly, in formal salary employment. Their earnings, however, are commonly low. Since the 1950s, improvement groups have spoke back to the want for bad woman to earn earning via way of means of making particularly small investments in earnings-producing tasks. Often such tasks fail due to the fact they're influenced via way of means of welfare and now no longer improvement concerns, imparting woman transient and part-time employment in historically female abilities together with knitting and stitching which have confined markets. By contrast, over the last twenty years, a few nongovernmental organizations, together with the Self-Employed Women's Association in India, had been powerful in enhancing woman's monetary fame due to the fact they've commenced with the basis that woman are essential to the system of monetary improvement.

## Introduction

The continual of gender inequality is maximum starkly delivered domestic withinside the phenomenon of "lacking woman". Today it's far expected that 6million woman are lacking each year (World Bank 2011) of these, 23 percentage are in no way born, and 10 percentage are lacking in early childhood, 21 percentage withinside the reproductive years, and 38 percentage above the age of 60. For every lacking woman, there are numerous extra woman who fail to get an training, a job, or a political duty that they could have received in the event that they were guys. Both the relative deprivation of woman, and the quantity to which there had been enhancements over the past twenty years, are obvious in some of spheres. In get admission to to training in low and slight earnings countries, the enrolment charge for woman in secondary faculty turned into 34 percentage in 2010, at the same time as that for boys turned into forty one percentage. Meanwhile number one faculty enrolment has turn out to be almost typical for each boys and woman. In labour marketplace opportunities: woman are much less in all likelihood to paintings; they earn much less than guys for comparable paintings, and are much more likely to be in poverty even if they paintings. Women spend nearly two times as a great deal time on housework, nearly 5 instances as a great deal time on infant care, and approximately 1/2 of as a great deal time on marketplace paintings as guys do. In political representation: woman constituted simply 19.four percentage of the individuals of decrease and top homes of parliaments in July 2011. In prison rights: woman in many nations nonetheless lack unbiased rights to very own land, manipulate property, behavior commercial enterprise, or maybe tour with out their husband's consent. There is a bidirectional courting among monetary improvement and woman's empowerment described as enhancing the capacity of woman to get admission to the constituent of improvement - especially fitness, training, incomes opportunities, rights, and political participation. In one direction, improvement on my own can play a chief position in riding down inequality among guys and woman; withinside the different direction, persevering with discrimination in opposition to woman can as Sen. has forcefully argued and avert improvement. Empowerment can, in different phrases boost up improvement. This paper evaluations the proof on each aspects of the empowerment–improvement courting. It first indicates that poverty

and absence of possibility breed inequality among guys and woman, so that after monetary improvement reduces poverty, the circumstance of woman improves on counts: first, whilst poverty is reduced, the circumstance of everyone, consisting of woman, improves, and second, gender inequality declines as poverty declines, so the circumstance of woman improves extra than that of guys with improvement, however, isn't sufficient to result in entire equality among guys and woman.

### **OBJECTIVES OF THE STUDY:**

- To observe the relation among woman empowerment and the monetary improvement.
- To observe the relation among the woman empowerment and training.
- To apprehend the relation among the woman empowerment and the poverty levels.
- To discover the fundamental troubles confronted via way of means of Indian woman today.

### **HYPOTHESIS**

The researcher had a hypothetic idea about the woman empowerment enhancing the growth of woman in different field as well as economic development of the country itself.

### **REVIEW OF LITERATURE:**

Duflo (2000) reveals in families wherein there may be a female receiving an old-age pension as compared to families wherein nobody gets a pension, woman have higher anthropometric fame (weight for peak and peak for age). Atkin (2009) makes use of Mexican information to observe the impact of mothers' employment in production on kid's peak for age. Engle (1993) offers cross-sectional information from Guatemala to reveal that a better girl price range proportion is related to higher kid's dietary fame (measured via way of means of peak for age, weight for age, and weight for peak). Phipps and Burton (1998) use information

from the 1992 Expenditure Survey in Canada and consciousness on married-couple families wherein each spouses paintings complete time. The authors locate that a better proportion of wives' earnings is correlated with better prices on infant care, kid's clothing, woman's clothing, and food. Kennedy and Peters (1992) evaluate girl headed with male headed families in Kenya and Malawi and locate that during girl headed families (normally headed via way of means of a widow, who's frequently the grandmother of the youngsters withinside the household), a bigger proportion of the price range is spent on food. The paper additionally files higher anthropometric effects (weight for age and peak for age). For Malawi, the paper additionally files smaller expenditure stocks on alcohol. The econometric specification does now no longer manage for earnings, however apparently girl-headed families have higher infant anthropometric effects regardless of typical decrease earning. Thomas (1990) makes use of Brazilian survey information amassed in 1974/seventy five to observe gender variations withinside the effect of non-salary earnings on fitness and nutrients in Brazil. He reveals that maternal earnings will increase own circle of relatives nutrients via way of means of 4 to seven instances extra than earnings of guys. Both overall calory consumption in addition to protein consumption is affected extra via way of means of girl than via way of means of male earnings. Child survival is fantastically undoubtedly associated with unearned earnings of mothers, and the impact is 20 instances large as compared to unearned earnings of guys. Maternal earnings additionally has a bigger impact on anthropometric effects (weight for peak and peak for age). Thomas (1994) makes use of the relative training stage of the spouse as compared to the husband as a proxy for bargaining energy. Based on information from the United States, Brazil, and Ghana, the paper files that the mother's training has a larger impact at the dietary fame of woman (measured via way of means of peak for age) as compared to the father's training, at the same time as the alternative is real for boys. In addition, latest randomized area experiments have observed that transfers to guys strolling small corporations cause a big boom in commercial enterprise income some years later, while no such impact is observed for woman (De Mel, McKenzie, and Woodruff 2009; Fafchamps et al. 2011).

## **WOMEN EMPOWERMENT:**

The phrase Women Empowerment basically method that the woman have the energy it modify the sports in day after day withinside the outside surroundings as withinside the social, political and monetary terms. Women’s empowerment is the brand new word withinside the monetary improvement. There are many researchers and pupils have proved that boom in woman empowerment has a drastic extrade withinside the monetary improvement. Empowering woman and selling gender equality are enshrined as international improvement sports in the Millennium Development Goals (MDGs) withinside the 2000’s. Women employer and freedom are many of the vital method for boosting to their improvement. In the twenty first century maximum of the woman are concerned withinside the agriculture and domestic primarily based totally sports as proven below.

Table 1: Levels and trends in sector wise composition of women by sector and region (%)

Year: 2009-2010	Agriculture	Manufacturing	Construction	Services	Mining
North	70.1	6.4	2.4	20.9	0.2
Centre	76.9	5.5	8.8	8.7	0.2
North-East	67.9	4.0	9.6	18.3	0.2
East	59.4	18.7	4.0	17.4	0.6
West	72.3	5.9	1.8	19.9	0.2
South	61.4	14	5.6	18.5	0.6

## **WOMEN EMPOWERMENT AND ECONOMIC DEVELOPMENT:**

The Indian woman have unfold in their age vintage shackles of serfdom and male domination. She has come to her very own and commenced scaling the ladder of social improve with proud and dignity. Women in India are actually uplifted and granted identical repute with the guys in all of lifestyles sports consisting of the political, social, home and educational. But nonetheless there may be a want to encourage and inspire woman to take part withinside the sports due to the fact

woman steady round of withinside the general population. For this, Women empowerment ought to want a few interventions for making woman to be worried withinside the financial improvement of the country. The improvement interventions which ought to cognizance at the actual gender wishes, consisting of woman’s profits and fabric property with the intention to result in the accelerated woman empowerment and reduced poverty. From this intervention the woman empowerment will begin and caused the extent. With the implementation of a few new interventions the price of boom withinside the woman empowerment will enhance to mark. Duflo’s rationalization became that there has been a high-quality correlation among woman’s rights and the consistent with capita GDP in phrases of a value advantage calculus. From this factor of view it became clean that with the aid of using boom withinside the woman empowerment the financial improvement might also additionally a enhance.

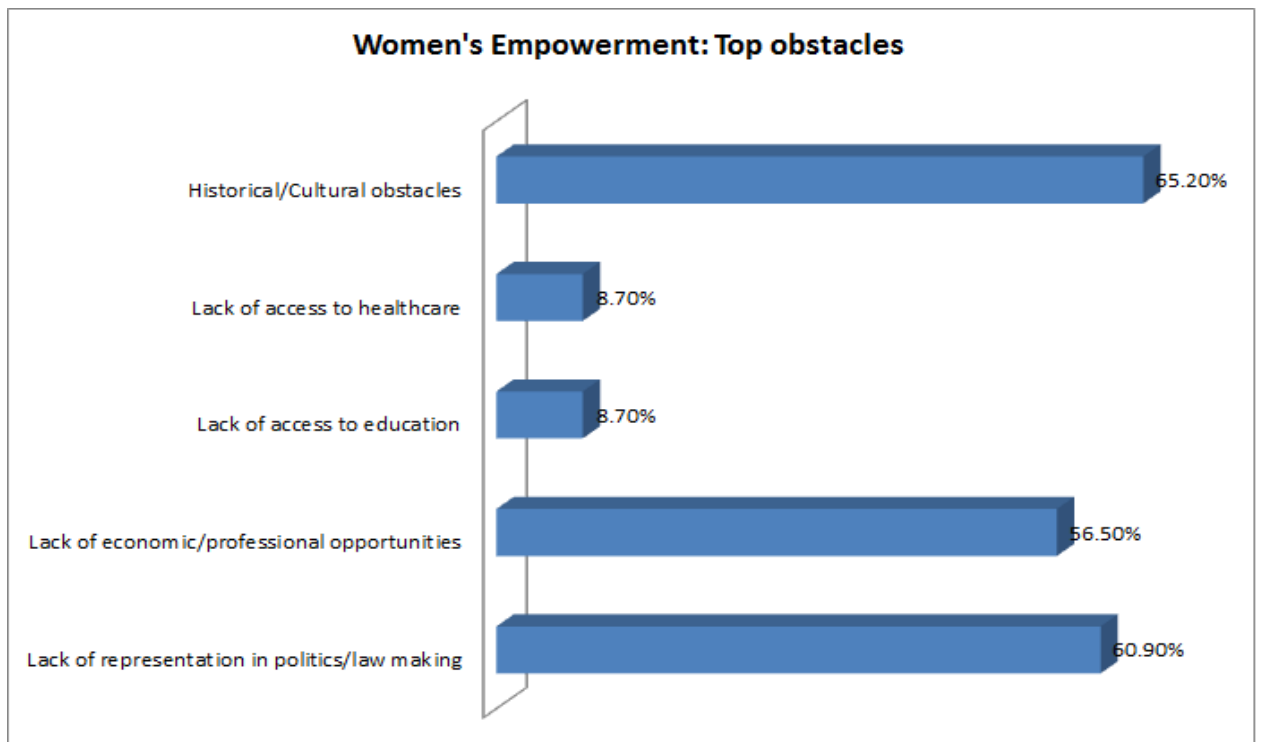
### **WOMEN EMPOWERMENT AND ECONOMIC GROWTH:**

Most woman withinside the India depend extra at the casual paintings quarter for an profits. If woman are empowered to do extra the opportunity for financial increase can be at large. If the casual quarter is worried into many duties and sports then there can be extra increase. It became proved that lady participation in counsels, companies and companies is visible to be an boom in efficiency. For example how an empowered woman can effect a scenario monetarily this became executed with the aid of using fortune 500 companies, “ Those with extra woman’s withinside the class of board administrators had appreciably better monetary returns, consisting of 53% better returns on equity, 24% better returns at the income and 67% better returns at the invested capital (OECD,2008).” This examine indicates that there has been a effect of woman withinside the usual financial blessings of the company. If this became carried out on the worldwide scale then the woman withinside the formal group of workers can boom the financial output of a nation. There with the aid of using the boom withinside the financial increase of the nation.



## WOMEN EMPOWERMENT AND POVERTY:

Investing within the girl's training is one of the simplest methods to lessen poverty. As poverty is going down women come to be extra empowered. Development sports have to consist of each construct the ability of woman to do that and additionally make certain that they've the fabric aid and social networks now no longer simply to triumph over any regulations however if you want to experience an accelerated capacity to make picks approximately their very own futures. Women dwelling in the acute poverty will now no longer need to warfare to development alongside the street of empowerment that is executed thru engagement in financial sports or thru mobilizing towards the effective to assert their rights, for this woman will need to paintings hard. Women in the acute poverty first off give attention to the sensible wishes which replicate at the each day sports for survival. Hence with the aid of using having woman empowerment the poverty strains can be reduced.



## **Conclusion**

It is concluded that from the above discussions that girls empowerment performs a primary position withinside the growing international locations like India as through project the schooling they preserve their significance in every and each class which this they may be prepared to resolve the organizational troubles too there through discount withinside the poverty tiers and development withinside the monetary increase happens.

## **REFERENCES:**

1. Abraham, Vinoj. 2009. “Employment Growth in Rural India: Distress Driven?” *Economic & Political Weekly* xliv (16): 97–104.
  2. Alessandrini, Michele. 2009. “Jobless Growth in Indian Manufacturing : A Kaldorian Approach” (November): 1–32.
  3. Anker, Richard. 1997. “Theories of Occupational Segregation through Sex: An Overview.” *International Labour Review* 136 (315).
  4. Arellano, Manuel, and Stephen Bond. 1991. “Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations.” *The Review of Economic Studies* 58 (2) (April 1): 277. doi:10.2307/2297968.
-

# महिलाओ का पोषण : एक अध्ययन

प्रा. डॉ. रोहिणी दि, मेश्राम

गृहअर्थशास्त्र विभाग

कला, वाणिज्य एव विज्ञान महाविद्यालय आर्वी जि. वर्धा

## सारांश :

स्वतंत्रता के पश्चात भारत में महामारियों पर नियंत्रण और सुविधाओं के विस्तार एवं स्वास्थ्य पोषण के प्रति जागरूकता के बावजूद भी देश की महिलाओं में उचित पोषण का अभाव पाया जाता है। महिलाओं को पुरुष के बराबरी का दर्जा नहीं मिलता है। सेहतमंद रहने के लिए आहार और व्यायाम के उचित तालमेल की जरूरत होती है। प्रस्तुत शोध लेख में महिलाओं के पोषण का अध्ययन किया गया है।

**मुख्य शब्द :** महिलाओं का पोषण

## भूमिका :

मनुष्य का पूर्ण शारीरिक, मानसिक और सामाजिक स्वास्थ्य किसी भी देश में अत्याधिक जरूरी है। स्वतंत्रता के पश्चात भारत में महामारियों पर नियंत्रण और सुविधाओं के विस्तार एवं स्वास्थ्य पोषण के प्रति जागरूकता के बावजूद देश की ५० प्रतिशत से ज्यादा आबादी अर्थात् महिलाओं में उचित पोषण का अभाव पाया जाता है। किसी भी महिलाओं अपने परिवार के दैनिक कार्य करने, विभिन्न बिमा बिमारियों रोकथाम तथा सुरक्षित व स्वास्थ्य प्रसव के लिए

अच्छे भोजन कि आवश्यकता होती है । लेकिन फिर भी पुरे संसार मे किसी अन्य स्वास्थ्य समस्या कि तुलना मे तथा पुरुषो कि तुलना मे महिलाओं को कुपोषण का सबसे अधिक सामना करना पडता है । इसके करण थकावट, कमजोरी, अशक्तपणा और बारा स्वास्थ्य हो सकत है । इसका प्रभाव समाजपर भी पडता है ।

भूकमारी और अच्छा भोजन न खा पाने के कारण है । इनमे सबसे प्रमुख गीरीबी मे जीवन व्यतीत होना । संसार के कुछ भागो मे वडा कि अधिकार धन-दौलत कुछ गिने-चुने लोगो के पास होती है । वे भोजन देणे वाली फसलो कि बजाय गन्ना व तम्भाखू उगाते है कौकी उनसे ज्यादा आमदनी होती है । गरीब लोग कर्ज लिए गए जमीन के छोटे से तुकडे पार खेती करते है जबकी उस जमीन के मलिक फसल का एक बडा भाग हडप जाती है ।

गरिबी रेखा सबसे कुप्रभाव महिलाओ पर पडता है । ऐसा इसलिए होता है क्योकी चाहे खाणे के लिए कितना भी कम हो, महिलाओ को सबसे कम भोजन मिलता है । महिलाए तभी भोजन करती है जब पुरुषो व बच्चो ने खा लिया हो अर्थात वे सबसे अंत मे खाती है । इसलिए भूखमारी तथा कुपोषण कि समस्या का तब तक कोई समाधान नही निकाल सकता है जब तक जमीन व अन्य संसाधनो का न्यायपूर्वक वितरण नाही होता है और महिलाओ को पुरुषो के बराबरी का दर्जा नही मिलता है । सेहतमंद राहणे के लिए सही आहार और व्यायाम के उचित तालमेल कि जरूरत होती है । वैसे तो भातार मे खान-पान

कि सही आदतों का पालन न करने कि आदत का पालन न करने कि आदत महिलाओं की रही है ।

### **शोध लेख कि उद्देश :**

प्रस्तुत शोध लेख के उद्देश निम्नलिखित है,

- १) महिलाओं के स्वास्थ्य संबंधी अध्ययन करना ।
- २) महिलाओं के स्वास्थ्य संबंधी अध्ययन कि समीक्षा करना ।
- ३) अध्ययन के माध्यम से महिलाओं के लिए आवश्यक पोषण हेतु सुझाव प्रदान करना ।
- ४) अध्ययन के माध्यम से दैनिक पोषण व स्वास्थ्य के सुझाव हेतु महिलाओंके लिए सुझाव प्रदान करना ।

### **शोध लेख में प्रयुक्त क्रियाविधि :**

प्रस्तुत शोध लेख वर्णनात्मक शोध प्रविधि का उपयोग किया गया है, शोध में प्रयुक्त तथ्य द्वितीय सहायक डेटा यांनी तथ महिलाओं के पोषण पर आधारित किताबे, शोध लेख आदी का प्रयोग किया गया है ।

## साहित्यकी समीक्षा :

हालीया अमेरिका मे हुए एक अध्ययन मे याह सामने आई कि महिलाओं कि तुलना मे पुरुष खाणे-पिणे को लेकर ज्यादा लापरवाह है । यह अध्ययन जनरल ऑफ द एकेडमी ऑफ नुत्रिशन एड डायटेटिक्स मे २०१९ मे प्रकाशित हुआ है । हालही मे जनरल ऑफ स्टडीज मे २०२० मे डॉ. किरण ने किये अध्ययन से पता चलता है कि समुचित पोषण के अभाव मे महिलाओ का स्वास्थ्य सुस्वास्थ्य नाही हो पाता, उनकी रक्षा शक्ती कमजोर होने के कारण तथा समुचित पोषण तत्वों के अभाव मे महिलाए पुरुषाओ के तुलनामें कमजोर होती है ।

इन सबके बावजूद, अनेक ऐसी बातें हैं जिनका पालन करके लोग, काम पैसे में भी, बेहतर भोजन प्राप्त कर सकते हैं ? यथासंभव पौष्टिक भोजन खाकर वे अपने सामर्थ में वृद्धि कर सकते हैं । और जब लोगों को पेट भरा होगा तो वे अपने परिवार व समुदाय कि आवश्यकताओं पर ध्यान लगा सकते हैं और उनमें परिवर्तन लाने के लिए कार्यरत हों सकते हैं /

भारत में माँ बनने- योग्य आयु कि एक चौथाई महिलाए कुपोषित है उनका बॉडी मास इंडेक्स (बीएमआई) १५.५ किलोग्राम/एमसे कम है (स्तोतरु NFHS 4 2015-2016) / यह सभी को पता हैं कि एक कुपोषित माँ अवश्य हि एक कमजोर बच्चे को जन्म देती है, और कुपोषण चक्र पिढी दर पिढी चलता रहता है । कुपोषित लाडकियों में कुपोषण माँ बननेकि संभावना अधिक होती है,

जीससे काम वजन के बच्चे को जन्म देने कि स्थिती अधिक होती हैं, और इस प्रकार कुपोषण का चक्र पिढीयों तक बना रहता है । इस चक्र को काम आयु कि माताओं द्वारा आगे बढ़ाया जा रहा हैं, विशेष रूप से उन किशोरीद्वारा, जो पूर्ण तौर पर शारीरिक रूप से विकसित होणे से पहले बच्चे पैदा करना शुरू करती हैं। जब माताए गर्भवस्था के बीच बहुत कम अंतराल रखती हैंजो कि आगे बच्चे में भी जारी रहता हैं। तो यह शारिर में पोषण कि कमी को बढ़ाया हैं जो कि आगे बच्चो में भी जारी रहता है । महिलाओंके मानसिक धर्म के अवसर पर रक्त क्षतियाने रक्त कि कमी होणे कि वजहसे शरीर पर बुरा असार पडता हैं । गर्भवती माता को प्रारंभ से दुध पिलाने तक लगभग १०० मिली ग्रामलौहो कि आवश्यकता होती हैं । तथा ४०० मिलीग्राम भ्रूण में पल रहे बच्चे को आवश्यकता कि कमी से भ्रूण का सही तौर पर विकसित नाहीं हो पाना, अधिकतर माँ द्वारा गर्भधारण करने के पहले और गर्भावस्था कि पहली तिमाही के दौरान पर्याप्त तौर पर पोषण नहीं लेने के कारण होता हैं ।

भारतीय बच्चो में कुपोषण स्तर के स्थिर बने रहने का मुख्य कारण महिलाओं के गर्भधारण से पहिले और गर्भावस्था के दोरान उनका कुपोषित होना ठीक करणे मी अभी तक प्राप्त असफलता है। इसके परिणामस्वरूप, महिलाओ के पोषण गर्भावस्था के पहिले, दोरान और बाद मी को अब युनिसेफ इंडिया की पोषण कार्यक्रम -निर्माण में एक विशेष ध्यान क्षेत्र के रूप में शामिल किया गया है। युनिसेफ का लक्ष्य अब वैश्विक और राष्ट्रीय सहमती प[पर आधारित

महिलाओ के लिये पांच आवश्यक पोषण के प्रयासो की व्यापित को और अधिक व्यापक बनाने पर ध्यान केंद्रित किया है।

**महिलाओ के लिये आवश्यक पोषण हेतु सुझाव :**

१) घरों में खाये जाने वाले भोजन की मात्रा और पोषक स्तर में सुधार करना इसमें मुख्य रूप में शामिल है, सार्वजनिक वितरण प्रणाली के माध्यम से याने रेशनींग के आम प्रकार के घरेलू खाद्य राशन तक पहुंच में सुधार करना, एकीकृत बाल विकास सेवा योजना के तहत पूरक खाद्य पदार्थों तक समाज के सभी लोगों तक पहुंच प्रदान करना , और पोषण और स्वास्थ्य शिक्षा के माध्यम से स्थानीय आहार, उत्पादन और घरेलू व्यवहार में सुधार हेतु जाणकारी प्रदान करना। महिलाओ को घरों में खाए जाने वाले भोजन की मात्रा और पोषक स्तर में सुधार करणं जरुरी है ।

२) सूक्ष्म पोषक तत्वों की कमी और एनिमिया को रोकना : महिलाओ को शरीर बहुतसी शारीरिक बिमारीओ का सामना करणं पडत है। आयरन फोलिक एसिड सप्लिमेंट मि-निवारण, गर्भ धारण के पहिले और बाद में फोलिक एसिड पूरक प्रदान करने,आयोडीन युक्त नमक के लिये सर्वगत पहुंच, मलेरिया प्रभावित क्षेत्रों में मलेरिया की रोकथाम और उपचार, गर्भावस्था के दोरान तंबाकू उत्पादों का उपयोग न करणे हेतु जाणकारी और सहायता, तथा मातृत्व के लिये जरुरी कैल्शियम व विटामिन ए सप्लिमेंट तक पहुंच प्रदान करता है।



३) बुनियादी पोषण और स्वास्थ्य सेवाओं तक महिलाओं की पहुंच बढ़ाना : यह गर्भावस्था के शुरुआत में ही पंजीकरण और प्रवसपूर्व जांच की गुवत्ता प्रदान करके, गर्भावस्था के दौरान वजन बढ़ने की निगरानी, जांच और जोखिम वाली माताओं की विशेष देखभाल के साथ प्रदान किया जाता है।

४) पाणी और स्वच्छता संबंधी शिक्षा तथा सुविधाओं तक पहुंच में सुधार : पाणी और स्वच्छता संबंधी शिक्षा तथा सुविधाओं का विस्तार जरूरी है। यह सफाई और स्वच्छता (साथ ही मासिक धर्म संबंधी साफ सफाई ) के बारे में शिक्षा प्रदान किया जात है।

५) गर्भधारण को रोकने के लिये सशक्त बनाना : महिलाओं को बहुत जल्दी , बार- बार और कमी अंतराल में गर्भधारण को रोकने के लिये सशक्त बनाना । इसमें शामिल है जागरूकता के माध्यम से १८ वर्ष की आयु में इसके बाद विवाह सुनिश्चित करने और एक लड़की को कम से कम माध्यमिक शिक्षा पूरी करने के लिये प्रोत्साहित करना जरूरी है। परिवार नियोजन , प्रजनन स्वास्थ्य जानकारी, गर्भावस्था और पुनः गर्भधारण में देरी करके मातृत्व क्षमता में होने वाली कमी को रोकना भी जरूरी है। महिलाओं के लिये मातृत्व अधिकार के हिस्से के रूप में सामुदायिक सहायता प्रणाली, कौशल विकास, आर्थिक सशक्तीकरण को भी बढ़ावा देना ; साथ ही महिलाओं को निर्णय लेने में और आत्मविश्वास निर्माण भी जरूरी है।

६) कोशल विकास और आर्थिक सशक्तीकरण : कोशल विकास और आर्थिक सशक्तीकरण के लिए समुदायिक सहायता प्रणाली प्रदान करना । भारतीय बच्चो के लिए पोषक कार्यक्रमो का ध्यान मुख्य रूप से प्रवेश के बाद के समय पर बच्चो और उनके खानपान पर केंद्रित है। यह सभी को मालूम है कि दो वर्ष तक की आयु वाले बच्चो में ठीक से शारीरिक विकास नही होने के ५० प्रतिशत मामले , बच्चे के गर्भ में होने के दौरान और गर्भावस्था से पहिले , बच्चे कि मा के खराब पोषण स्तर के करणं होते है । वर्ष २०१८-१९ और २०१९-२० में पोषण अभियान के राष्ट्रपती शुरुआत के परिणामस्वरूप, वर्ष २०१८ में महिलाओ के पोषण को नए सिरे से राजनीतिक और कार्यक्रम आधारित ध्यान प्राप्त हुआ है। साथ ही अंतरराष्ट्रीय स्तर पर युनिसेफ ने एनिमिया मुक्त भारत हेतू परिचालन दिशानिर्देशो और इससे संबंधित सामग्रीयो, जैसे रीपोर्टिंग डेशबोर्ड और संचार सामग्री के विकास हेतू अवघर्ना तैयार करणे व इसके संकलन में स्वास्थ्य और परिवार कल्याण मंत्रालय को सहयोग प्रदान किया है।

### **पोषक व स्वास्थ्य के सुझाव हेतू महिलाओ के दैनिक लिये सुझाव**

प्रतिदिन अधिक से अधिक हरी पत्तेदार सब्जीया खाना महिलाओ के स्वास्थ्य के लिये जरूरी होती है । खाईए । वे विटामिन , खनिजो तथा रेशो की अच्छे स्रोत है । मुली , गाजर , टमाटर , शलगम , खीरा , जैसी कुछ कच्ची सब्जीया प्रतिदिन खानी चाहिए । मुख्य खाद्य पदार्थ तथा सहायक खाद्य पदार्थो के संमिश्रण ( अन्नो व दालो ) जैसे कि इडली , खिचडी आदि अधिक

पौष्टिक होते हैं और इन्हें ज्यादा बार उपयोग करना स्वास्थ्य के लिए हितकारक होता है । अपने भोजन में अंकुरित दाले काफी मात्रा में शामिल करना जरूरी है । खाना पकाते समय ससब्जीयो को काटणे से पहिले भली भांती धो लें । पकाते समय बर्तन को ढक कर रखे । भोजन को आवश्यक से अधिक न पकाये । चावलं पकाते समय उसने केवल उतना ही पाणी डाले कि पकाने के बाद आपको उसका पाणी फैकना न पडे । गेहू का छोकरी एक पौष्टिक पदार्थ है। चोकर हटये बिना ही गेहू के आटे से रोटीया बनाई जा सकती है। कम खर्च में बेहतर खान-पान जब पैसा सीमित हो तो आवश्यक है कि इसे समझदारी से खर्च किया जाए ।

**१) प्रोटीन वाले खाद्य पदार्थ का सेवन :** सोयाबीन , फलिया व दाले प्रोटीन के अच्छे व सस्ते स्रोत हैं। अगर इन्हें पकाने और खाने से पहले अंकुरित भी कर लिया जाए तो इनमे विटामीनो की मात्रा और भी बढ जाती है। अंडे भी प्रोटीन का एक बढिया स्रोत है । अन्य मांसो की मात्रा की अपेक्षा गुरदे , कलेजी , तथा जिगर सस्ते लेकिन उतने ही पौष्टिक होते है ।

**२) दैनिक गेहू ,चावलं जैसे पदार्थो का सेवन :** अन्न जैसे गेहू , चावलं व अन्य अन्न तब अधिक पौष्टिक होते है जब कुटाई करके उनका छोकर (बाहरी सतह) अलग न कर दी जाए ।

**३) फल व सब्जीया का सेवन :** फल व सब्जीया का सेवनबी अधिक पौष्टिक होता है । सब्जीया पकाते समय कम से कम पाणी का प्रयोग करे क्योकी पकाते समय सब्जीयो के विटामिन पाणी मी मिल जाते है । ऐसा पाणी को फैकने की बजाए उसे शोरबा (सूप ) बनाने के लिये प्रयोग कर महिलाओ ने सेवन करना स्वास्थ्य के लिये अच्छा होता है । गाजर व गोबी की बाहरी सख्त सतह में उनके विटामिन होते है और उस्का प्रयोग स्वास्थ्यवर्धक सूप बनाने के लिए किया जा सकत है । अनेक जंगली फलो व बेर परिवार के फलो में काफी विटामिन सी तथा शक्कर होती है और ये काफी मात्रा में विटामिन व ऊर्जा (शक्ती )दे सकते है महिलाओ ने इनका सेवन भी करना जरुरी है । केवल आपको इतना ध्यान अवश्य होना चाहिये कि जहरिलें व अच्छे जंगली फलो में अंतर पहचान सके ।

**४) दूध और दूध के बारे पदार्थ का सेवन :** दूध और दूध के बारे पदार्थ । इन्हे हमेशा ठडी व छायादार जगह पर रखें । ये शरीर कि रचना व वृधि करने वाले प्रोटीन तथा कैल्शियम में अत्यंत समृद्ध होते है । चूकि आवश्यक विटामीनो को लोगो भोजन से ही आसनी से प्राप्त पर सकते है इसलिए विटामीनो की गोलिया, कैपसूल व सुईयो से बेहद सस्ती लेकिन उतनी ही असरदार होती है ।

## संदर्भ :

- हरिशचंद्र व्यास : महिलाओ को स्वास्थ्य कि मोलिक आवश्यकता ही उपलब्ध नहीं समाज कल्याण , सितम्बर, १९१९
- Shamin Alim's: "Woman's Development, Problem and Prosect" Padmaja Vani& Woman and Health Care, New Delhi, 1996
- Roy, Somnath. "Primany Health Care in India" Health and Population Perspective and Issues. 1985; 8(3). 8. Kingsley Davis: "Population Polity in Studies of Demography" (ed) Ashish Bose.
- Shakuntala Kiran. International Journal of Advanced Academic Studies 2020; 2(1): 248-250 international Journal of Advanced Academic Studies <http://www.allstudyjournal.com>
- <https://hi.vikaspedia.in/health/nutrition/92e93993f93293e913902-93894d93593e93894d92594d92f-935-92a94b937923>

## Impact of COVID-19 Lock Down on Adolescents

Dr. Sampada Naseri

Associate Professor

Mahila Mahavidyalaya, Nandanvan, Nagpur.

---

### **Abstract:**

This paper aims to identify the physiological impact of COVID-19 on adolescents. Their average age was 19.5 years. **Methodology:** The sample consisted of 421 participants, among which 75.5% adolescent were females whereas 24.5% adolescent were males. The survey was conducted on all India basis however, significant percentage (58.2%) of responses were received from Vidarbha region of Maharashtra State, India. **Materials:** This study used online survey through structured questionnaire which include different questions on physiological status and wellbeing. In this survey information about the health status of participants was collected. These questions include, health related problems, problems aroused due to insufficient physical activity during lock down and its impact on their health. **Procedure:** Participants responded to the online survey made with the google module. **Analysis of Data:** Descriptive statistics was used to analyze the data. **Results** indicated that adolescents suffered from multiple physical problems during COVID lockdown period. Female adolescents faced more physical problems. Adolescents with higher educational qualification experienced more physical problems. This study concluded that adolescents experienced tiredness, headache, insomnia, etc. Majority of adolescents suffered from backache and problems in vision during lock down period. Furthermore, adolescents suffered from multiple physical problems during COVID lockdown period.

**Keywords:** Adolescents, COVID-19, Physiological

---

## **Introduction:**

COVID-19 (corona virus disease 2019) is a pandemic and 2020 is worldwide infectious year as of the outbreak of this viral respiratory disease. Most of the countries are affected with infectious diseases caused by a recently discovered Novel Corona Virus. It was originated from Wuhan (Hubei, China), and spread throughout the world with quick contamination and mortalities (Graham *et al.*, 2020). Even though human corona virus identified since many years, COVID-19 is a novel strain and its extensive worldwide spread among the community become panic. The Virus is spread by inhalation or interaction or contact with infected droplets. Its incubation period ranges from 2 to 14 day (WHO,2020). First COVID-19 patient in India was reported on January 31, 2020 (WHO, 2020). World health organization (WHO) declared a public health emergency to outbreak the novel corona virus on January 30, 2020 (2019-nCoV). At the end of February 2020, the global risk level of COVID-19 reported very high, with reporting 83,652 confirmed cases and 2858 deaths globally while in India, 03 confirmed cases reported (Fahim, 2020). In the mid of March there were 107 confirmed cases and 02 deaths in India (WHO, 2020). At the end of March there were 1071 confirmed cases and 29 deaths in India (Practice, 2020).

In India, the lockdown was declared on March 24 for 21 days (March 25–April 14, 2020), but as the numbers of newly confirmed infections and deaths due to COVID-19 continued to escalate, the lockdown was extended for 19 days (April 15–May 3, 2020) (Biswal *et al.*, 2020). The lockdown was further extended from 4<sup>th</sup> May 2020 to 17<sup>th</sup> May 2020 and again from 18 May 2020 to 31 May 2020. Thereafter government left decision of implementing lockdown on state governments. However, in 2021, COVID-19 struck India again and government had to impose lock down again in four phases from month of April to June.

The applicability of lockdown due to COVID-19 not only affects people's mental health but also affecting their physical health due to reduce activity in their daily routine (Srivastav *et al.*, 2021). Furthermore, physical activities among adolescents was completely stopped. It may be due to protections imposed by parents as well as online studies. Adolescents hardly performed any routine activities during the day. Even though the lockdown restrictions are lifted up still school and colleges are not opened. The education is provided by using virtual

means, which restricted physical activities of adolescents. This may lead to various physiological problems in them which includes obesity, headache, insomnia, drowsiness, lethargy etc. These problems are curable but if ignored may persist for long duration and hence affect the overall health of individual. The age of adolescence is a crucial, it's the age of transition, which might be affected due to such long term physiological and may have long term impact on their future life. Birmingham *et al.*, (2021) found that moving to remote learning created physical and psychological stress. Students want to return to campus but do not want to take risk-reducing measures. Srivastav *et al.*, (2021) observed a significant reduction in self-report physical activity and energy expenditure levels were observed among physiotherapy professionals and students during the COVID-19 lockdown period. Sundarasan *et al.*, (2020) examines its impact on the anxiety level of university students in Malaysia during the peak of the crisis and the pertinent characteristics affecting their anxiety. They found the main stressors include financial constraints, remote online teaching and uncertainty about the future with regard to academics and career. Stressors are predominantly financial constraints, remote online learning, and uncertainty related to their academic performance, and future career prospects.

Dutta *et al.*, (2020) identified the difference between screen exposure time on weekdays before lockdown and weekends during lockdown was to be the highest. Three clusters based on sleep behavior and duration of screen time were identified of which Cluster 2 revealed simultaneous existence of high sleep duration and screen time. Siani and Marley (2021) observed that virtual reality (VR) use has significantly increased during the lockdown period for most participants, who expressed overwhelmingly positive opinions on the impact of VR activities on their mental and physical wellbeing. Strikingly, self-reported intensity of physical activity was considerably more strenuous in VR users than in console users. Sharma *et al.*, (2020) concluded that due to social distancing norms, the availability of Yoga trainers has become restricted. As a consequence, there is a spurt in social media. Schwinger, *et al.*, (2020) reported strong declines in autonomy and well-being; small declines in relatedness satisfaction; moderate increases in anxiety and depressive symptoms. These effects were stronger for people with moderate to bad subjective overall health.



In the backdrop of above information, it was decided to find out physiological impact of COVID-19 lockdown among adolescents. Furthermore, this study also focused on strategies adopted by the adolescents to overcome these problems.

### **Methodology:**

#### **Sample:**

The sample was composed of 421 participants among which 75.5% adolescent are female whereas 24.5% adolescent are male. Their average age is 19.5 years , with standard deviation ( $\pm 3.579$ ). The survey was conducted on all India basis however, significant percentage (58.2%) of responses were received from Vidarbha region of Maharashtra State, India.

#### **Materials:**

Study used online survey through structured questionnaire which include different questions on physiological status and wellbeing as well as measures to overcome physiological problems.

#### **Assessment of Physical wellbeing of Participants:**

In this survey information about the health status of participants was collected by providing questions. These questions include, health related problems, problems aroused due to insufficient physical activity during lock down and its impact on their health. In addition to this questions regarding measures taken by participants to overcome these problems were also asked.

#### **Procedure:**

Participants responded to the online survey made with the google module. The survey link was distributed to participants through social media particularly Facebook and WhatsApp. Participants were made aware regarding aims of the research through the same link itself.

#### **Analysis of Data:**

The collected data was entered in excel worksheet and analyzed category wise to form tables. Descriptive statistics was used to analyse data, particularly frequency, percentage and non-parametric chi square test was

applied. Furthermore, Pearson’s co-relation test was used to analyse association between different parameters.

**Results :** Results obtained after analysis of data are as follows-

**Table 1.1: Physical problems faced by adolescents**

Problems	Frequency	Percent	df	Chi Squar Value	Sig.
Headache	296	70.31	1	69.426	<0.05
backache	217	51.54	1	0.259	0.611 (NS)
Pain in Legs	87	20.67	1	144.914	<0.05
Pain in Arms	117	27.79	1	83.062	<0.05
Problem in Vision	214	50.83	1	0.116	0.733 (NS)
Problem in Hearing	111	26.37	1	94.064	<0.05
Insomnia	241	57.24	1	8.838	<0.05
Indigestion	168	39.90	1	17.162	<0.05
feeling tired	321	76.25	1	97.884	<0.05

df- Degrees of Freedom; Sig.- Significance; NS- Non Significant

Table 1.1 illustrates information pertaining to different physical problems experienced by adolescents during lock down period. It is apparent from the data that 76.25% adolescent feeling tired during lock down, 70.31% adolescent experienced headache, 57.24% adolescents were suffered from insomnia, 51.54% adolescents suffered from backache whereas 50.83% adolescent experienced problem in vision. In addition to this 39.90% adolescent had faced problems of indigestion during lock down. Physical problems such as pain in arms, problem in hearing and pain in legs were experienced by 27.79%, 26.37% and 20.67% adolescents respectively during lock down. Thus, it is evident that significantly ( $P < 0.05$ ) less percentage of adolescent faced physical problems such as indigestion, pain in arms, problem of hearing and pain in legs, however, significantly ( $P < 0.05$ ) high percentage of adolescents experienced physical problems such as feeling tired, headache, insomnia, etc. As well as majority of adolescent suffered from backache and problem in vision during lock down period. Results also indicates that adolescents suffered from multiple physical problems during COVID lockdown period.

**Table 1.2: Possible causes of problems faced by adolescent**

Cause of Problems	Frequency	Percent	df	Chi Square Value	Sig.
Excessive use of Mobile Phone	402	95.49	1	348.43	<0.05
Long Television Hours	321	76.25	1	116.012	<0.05
Lack of physical activity	256	60.81	1	19.67	<0.05
Lack of Exercise	117	27.79	1	93.062	<0.05
Excessive use of Earphones/Headphones	214	50.83	1	0.116	0.733 (NS)
Excessive eating	257	61.05	1	20.544	<0.05

df- Degrees of Freedom; Sig.- Significance; NS- Non Significant

Table 1.2 shows information regarding possible causes of physical problems experienced by adolescents during lock down period. It is apparent from the information that according to 95.49% of adolescent excessive use of mobile phone should be the possible cause of physical problems were as 76.25% adolescent reported long television hours as a possible cause of physical problems. In addition to this possible causes such as excessive eating, lack of physical activity, excessive use of earphones or headphones as well as lack of exercise were reported by 61.05%, 60.81%, 50.83% and 27.79% adolescents respectively for physical problems. Thus, it is evident that according to significantly ( $P < 0.05$ ) high percentage of adolescent, possible causes of physical problems should be excessive use of mobile phones, long television hours, excessive eating as well as lack of physical activity during COVID lock down period. Furthermore, adolescents felt that there are multiple causes for physical problems.

**Table1.3: Measures taken to overcome physical problems faced by adolescents**

Measures Taken	Frequency	Percentage	df	Chi Square Value	Sig
Practicing Yoga	216	51.31	1	0.208	0.592 (NS)
Doing Physical Exercise	219	52.02	1	0.686	0.407 (NS)

Keep engaged in household activity	297	70.55	1	71.09	<0.05
Reading Books	167	39.67	1	17.979	<0.05
Gardening	79	18.76	1	164.297	<0.05
Keep engaged in Creative activity	187	44.42	1	5.247	<0.05

df- Degrees of Freedom; Sig.- Significance; NS- Non Significant

Table 1.3 presented information about measures taken to overcome physical problems faced by adolescents during COVID lock down. It observed that 70.55% adolescent keep themselves engaged in household activities to overcome physical problems, whereas 52.02% adolescent performed physical exercise. In addition to this measures such as practicing yoga, keeping oneself engaged in creative activity, reading books and gardening were taken by 51.31%, 44.42%, 39.67% and 18.76% adolescents respectively to overcome physical problems during COVID lockdown. Thus it is apparent from the results that adolescents taken more than one measures to overcome physical problems during lock down, however, significantly ( $P < 0.05$ ) high percentage of adolescents taken measures such as keeping oneself engaged in household activity.

**Table 1.4: Relationship among different demographic factors and physical problems of adolescents during lock-down**

		Physical Problems
Physical Problems	N	421
	r	1
	Sig.	-
Age	N	421
	r	0.124*
	Sig.	0.0108
Gender	N	421
	r	0.113*
	Sig.	0.0204
Educational Qualification	N	421
	r	0.119*
	Sig.	0.0145

N- No. of samples; r- Pearson’s Correlation Coefficient; \* - Significant at 0.05

Table 1.4 shows results of correlation among different demographic factors and physical problems of adolescents during lock-down. Results illustrates that-

There is significant positive correlation ( $r=0.124$ ,  $p<0.05$ ) between age of adolescents and physical problems faced by them. There is significant positive correlation ( $r=0.113$ ,  $p<0.05$ ) between gender of adolescents and physical problems faced by them. Furthermore, there is significant positive correlation ( $r=0.119$ ,  $p<0.05$ ) between age of adolescents and physical problems faced by them. Hence it is evident that more physical problems experienced by adolescents belong to higher age group. Female adolescents faced more physical problems as compare to male adolescents. Adolescents with higher educational qualification experienced more physical problems.

### **Conclusion-**

The 2019 coronavirus disease (COVID-19) pandemic is a global event that is causing enormous changes in lifestyles and daily activities of people of every part of the world. There is evidence that lock down imposed during COVID pandemic affects physical wellbeing of individual enormously. This study is the effort to explore untouched subject regarding physical problems faced by adolescent in India during COVID lockdown period.

This study concluded that adolescents experienced physical problems such as feeling tired, headache, insomnia, etc. As well as majority of adolescents suffered from backache and problems in vision during lock down period. Furthermore, adolescents suffered from multiple physical problems during COVID lockdown period. It is evident that possible causes of physical problems should be excessive use of mobile phones, long television hours, excessive eating as well as lack of physical activity during COVID lock down period. Furthermore, there are multiple causes for physical problems. Adolescents taken more than one measures to overcome physical problems during lock down, however, most adolescents taken measure such as keeping oneself engaged in household activity. More physical problems experienced by adolescent belong to higher age group. Female adolescent faced more physical problems as compare to male adolescents. Adolescents with higher educational qualification experienced more physical problems.

## References:

Biswal, A., Singh, T., Singh, V., Khaiwal, R. and Mor, S. (2020). COVID-19 lockdown and its impact on tropospheric NO<sub>2</sub> concentrations over India using satellite-based data, *Heliyon* 6 (2020) e04764

Birmingham, W.C., Wadsworth, L.L., Lassetter, J.H., Graff, T.C., Lauren, E. and Hung, M. (2021). COVID-19 Lockdown: Impact on college student's lives. *Journal of American College Health*, DOI: 10.1080/07448481.2021.1909041

Brigante, G., Spaggiari, G., Rossi, B. *et al.* A prospective, observational clinical trial on the impact of COVID-19-related national lockdown on thyroid hormone in young males. *Sci Rep* 11, 7075 (2021). <https://doi.org/10.1038/s41598-021-86670-9>

Cellini, N., Canale, N., Mioni, G. and Costa, S. (2020). Changes in sleep pattern, sense of time and digital media use during COVID-19 lockdown in Italy, *Journal of Sleep Research*, 29(4):e13074

Dwivedi, A., Jaiswal, S., Malik, S. and Rani, S. (2021). Early Impact of Lockdown on Daily Activity Behaviors and Sleep Pattern in Small Indian Population, *Asian Journal of Medicine and Health*, 19(4): 1-9, Article no. AJMAH.68253

Graham Carlos W, Dela Cruz CS, Cao B, Pasnick S, Jamil S. Novel Wuhan (2019-NCoV) coronavirus. *Am J Respir Crit Care Med*. 2020;201(4):P7–P8.

Eurosurveillance Editorial Team. Note from the editors: world Health Organization declares novel coronavirus (2019-nCoV) sixth public health emergency of international concern. *Euro Surveill*. 2020;25(5):2019–2020. <https://doi.org/10.2807/1560-7917.ES.2020.25.5.200131e>.

Fahmi I. Covid19 coronavirus disease 2019. *DroneEmprit*. 2020;2019(February):1–19. Practice BB. Coronavirus Disease 2019 (COVID-19) Situation Report – 87. 2019. 2020; 2020 <https://doi.org/10.1001/jama.2020.2633>.

Giorgio, E.D., Polli, R., Lunghi, M. and Murgia, A. (2021). Impact of the COVID-19 Italian Lockdown on the Physiological and Psychological Well-Being of Children with Fragile X Syndrome and Their Families. *International Journal of Environmental Research and Public Health*, 18(11), 5752

Koumi Dutta, Ruchira Mukherjee, Devashish Sen & Subhashis Sahu (2020) Effect of COVID-19 lockdown on sleep behavior and screen exposure time: an observational study among Indian school children, *Biological Rhythm Research*, DOI: [10.1080/09291016.2020.1825284](https://doi.org/10.1080/09291016.2020.1825284)

Ngamije, James, Young Lives and Lockdown: Effects of COVID-19 on Children Health in Africa (February 23, 2021). Available at SSRN: <https://ssrn.com/abstract=3791236> or <http://dx.doi.org/10.2139/ssrn.3791236>

Rathod VJ. (2021). Impact of Coronavirus Disease-19 lockdown on physical activity and energy expenditure among middle adolescence - A cross-sectional e-survey. *Arch Med Health Sci.*, 9:35-8

Srivastav, A.K., Sharma, N. and Samuel, A.J. (2021). Impact of Coronavirus disease-19 (COVID-19) lockdown on physical activity and energy expenditure among physiotherapy professionals and students using web-based open E-survey sent through WhatsApp, Facebook and Instagram messengers, *Clinical Epidemiology and Global Health*, 9(2021): 78-84

Sundarasan S, Chinna K, Kamaludin K, Nurunnabi M, Baloch GM, Khoshaim HB, Hossain SFA, Sukayt A. Psychological Impact of COVID-19 and Lockdown among University Students in Malaysia: Implications and Policy Recommendations. *International Journal of Environmental Research and Public Health*. 2020; 17(17):6206. <https://doi.org/10.3390/ijerph17176206>.

Siani, A., Marley, S.A. Impact of the recreational use of virtual reality on physical and mental wellbeing during the Covid-19 lockdown. *Health Technol.* 11, 425–435 (2021). <https://doi.org/10.1007/s12553-021-00528-8>

Sharma, K, Anand, A. and Kumar, R. (2020). The Role of Yoga in Working from Home During COVID-19 Global Lockdown, *Work*, 66(4):731-737.

Schwinger M, Trautner M, Kärchner H, Otterpohl N. Psychological Impact of Corona Lockdown in Germany: Changes in Need Satisfaction, Well-Being, Anxiety, and Depression. *International Journal of Environmental Research and Public Health*. 2020; 17(23):9083. <https://doi.org/10.3390/ijerph17239083>

Sohel Ahmed, Rahemun Akter, Mohammad Jahirul Islam, Amena Abdul Muthalib, Asima Akter Sadia, Impact of lockdown on musculoskeletal health due to COVID-19 outbreak in Bangladesh: A cross sectional survey study, *Heliyon*, Volume 7, Issue 6, 2021, e07335, ISSN 2405-8440, <https://doi.org/10.1016/j.heliyon.2021.e07335>.

World Health Organization. Global Situation Report-55 15 March 2020 2020; 2020 2019(March).

Wood, C.J., Barton, J. and Smyth, N. (2021). A cross-sectional study of physical activity behaviour and associations with wellbeing during the UK coronavirus lockdown, *Journal of Health Psychology*, <https://doi.org/10.1177/1359105321999710>

## **Social Media Use by Adolescent Girls of Nagpur City to Seek Nutrition Related Information**

**Dr. Shubhangi S. Kukekar**

Associate Professor

Head Dept. of Home Economics

Smt. Binzani Mahila Mahavidyalaya

*E-mail ID of the author: shubhu.cook@gmail.com*

### **Abstract**

It is no secret that healthy eating during adolescence is very important as body undergoes many changes during this time that affect an individual's nutritional and dietary needs. However, in the current age of social media the adolescents are becoming more independent and making many food decisions on their own. Many adolescent children have a growth spurt and an increase in appetite and need healthy foods to meet their needs. It has been reported that adolescents need more nutrients than adults because they gain at least 40 percent of their adult weight and 15 percent of their adult height during this period. In view of the above, this study was carried out in the Nagpur city of central India to know the pattern of social media use by the adolescent girls to seek information about various nutrition related aspects. All the standard methods were used and the data was collected through an online survey. Subsequent to its collection the data was analysed using SPSS 18.0 Software. Based on the study results it was observed that significantly ( $p < 0.05$ ) high percentage of adolescent girls of Nagpur City use Instagram and Facebook to seek information about nutrition and their use is very high. Furthermore, majority of adolescent girls follow some or other celebrity to get information about nutrition and its benefits through social media and find this information to be useful and authentic. Thus, it is clear from the study results that the social media platforms significantly influence the nutrition related choices of the adolescent girls.

**Keywords:** Adolescence, nutritional & dietary needs, social media use, Instagram, Facebook

---



## **1.0 Introduction**

The nutrition is important aspect in the life of people of all ages, but it has certainly very high in case of children and adolescents. Adolescence and young adulthood are crucially important periods in the development of healthy adults and adequate nutrition is key and is associated with better lives and with potential intergenerational benefits. Also, presently, the adolescent nutritional behaviors are assuming considerable importance in nutrition interventions given their important relationships with medium- and long-term outcomes in their overall growth. This is the period when young people undergo major anatomical and physiological maturational changes in preparation for adulthood. A significant proportion of adolescents also become parents, and hence the importance of their health and nutritional status before as well as during pregnancy has its impact on their own health, fetal well-being, and newborn health.

Today, in the information age, the use of social media has assumed phenomenal importance. Not surprisingly, the information consumption from the social media platforms like Instagram, Facebook, Twitter, etc. has seen increasing trends in the adolescent population (both girls and boys). Furthermore, the information, especially the nutrition related i.e. what to eat, when to eat, what to not eat with respect to various objectives i.e. to get thin or fat or fit is available very easily. So in the social media universe, the information availability is not an issue, but its authenticity and reliability is a big concern. Hence, in view of the above, this study was carried out to determine the use of social media by the adolescent girls to seek information about various nutrition related aspects. For this study, the adolescent girls (middle adolescent girls) of Nagpur City of India were selected to study the influence of social media on nutrition.

## **2.0 Research Methodology**

### **2.1 Design of Study**

This study was carried out by adopting a descriptive cross-sectional design, where the adolescent girls belonging to age group 15 to 17 years (middle adolescence stage) were considered. Total 120 girls from Nagpur City of Maharashtra were selected randomly for the purpose of data collection. The selection criterion was moderate to high use of social media by the adolescent girls.

## 2.2 Tester's Reliability

In order to make sure that the collected data is reliable and valid, the researcher conducted pilot test, where all the procedures for data collection were tested. Prior to data collection, tester’s reliability was evaluated along with reliability of tests. A Pearson’s product moment correlation above 0.932 indicated that the tester was well versed with the procedures to generate the necessary data.

## 2.3 Data Collection

Survey method was used for the purpose of data collection and the necessary information was obtained from the adolescent girls through the Google form platform.

## 2.4 Statistical Analysis and Significance Level

All the data was analyzed using SPSS 18.0 Software. The data characteristics like Frequency, Mode, Percentage, were determined and Chi-Square ( $\chi^2$ ) test was used to check the difference in proportions. The significance level was chosen to be 0.05 (or equivalently, 5%).

## 3.0 Results and Discussion

### Most Used Social Media Platform

**Table 3.1:** Most Used Social Media Platform by adolescent girls

Response	Nos.	Percentage
Facebook	31	25.8
Instagram	50	41.7
Twitter	23	19.2
YouTube	16	13.3
<b>Total</b>	<b>120</b>	<b>100.0</b>

Calculated  $\chi^2$ : 21.533; df: 3;  $\chi^2$  critical value: 7.82;  $p < 0.05$

**Table 3.1** presents results pertaining to opinion of the adolescent girls of Nagpur city regarding the most used social media platform for seeking information about nutrition. Study result show that 41.7% adolescent girls of study are use Instagram for seeking information about nutrition. However, 25.8%, 19.2% and 13.3% adolescent girls use Facebook, Twitter and YouTube respectively for seeking information related to nutrition. The Chi-Square test

showed that there is significant difference in the proportion of adolescent girls in preference to social media platforms to seek information about nutrition.

### 3.2 Use of social media for getting information of nutrition

**Table 3.2:** Use of social media by adolescent girls for getting information of nutrition

Response	Nos.	Percentage
High	93	77.5
Moderate	19	15.8
Low	8	6.7
<b>Total</b>	<b>120</b>	<b>100.0</b>

Calculated  $\chi^2$ : 106.85; df: 2;  $\chi^2$  critical value: 5.99;  $p < 0.05$

**Table 3.2** presents results pertaining to use of social media by the adolescent girls of Nagpur City for getting information of nutrition related aspects. The result shows that use of social media by 77.5% adolescent girls is high (for seeking information about nutrition), while, 15.8% adolescent girls use it (social media) moderately and further 6.7% adolescent girls have a low use of social media for seeking information about nutrition and related aspects. The Chi-Square test showed that there is significant difference in the proportion of adolescent girls with respect to use of social media platforms to seek information about nutrition.

### 3.3 Following celebrities on social media to get nutrition related information

**Table 3.3:** Following celebrities on social media to get nutrition related information

Response	Nos.	Percentage
Yes	102	85.0
No	12	10.0
Can't say	6	5.0
<b>Total</b>	<b>120</b>	<b>100.0</b>

Calculated  $\chi^2$ : 144.6; df: 2;  $\chi^2$  critical value: 5.99;  $p < 0.05$

**Table 3.3** presents results regarding the adolescent girl’s behaviour with respect to their following any celebrity to get information about nutrition and its benefits through social media. Study result show that 85.0% adolescent girls of the study area follow celebrities on social media to get nutrition related information. However, 10.0% do not follow any celebrity and further 5.0% are not sure about it. The Chi-Square test results indicate that significantly high percentage of adolescent girls follow celebrities on social media to get information about nutrition

### 3.4 Use of nutrition related information provided by celebrities through social media

**Table 3.4:** Use of nutrition related information (by the adolescent girls) provided by celebrities through social media

Response	Nos.	Percentage
Very high	90	75.0
Moderate	26	21.7
Low	4	3.3
<b>Total</b>	<b>120</b>	<b>100.0</b>

Calculated  $\chi^2$ : 99.8; df: 2;  $\chi^2$  critical value: 5.99;  $p < 0.05$

**Table 3.4** presents results pertaining to use of information obtained about nutrition related aspects from various social media platforms and provided by the celebrities in their (adolescent girl’s) life. Study result shows that 75.0% adolescent girls of the study area have very high use of this information (pertaining to nutrition) in their personal life, while 21.7% use this information in a moderate way and further 3.3% have very low use of this information. The Chi-Square test results show that significantly high percentage of adolescent girls use the nutrition related information provided by the celebrities through social media in their personal life.

### 3.5 Authenticity of nutrition related information available on social media platforms

**Table 3.5:** Authenticity of nutrition related information available on social media platforms

<b>Response</b>	<b>Nos.</b>	<b>Percentage</b>
Highly authentic	72	60.0
Somewhat authentic	34	28.3
Unauthentic	6	5.0
Misleading	8	6.7
<b>Total</b>	<b>120</b>	<b>100.0</b>

Calculated  $\chi^2$ : 94.667; df: 3;  $\chi^2$  critical value: 7.82;  $p < 0.05$

**Table 3.5** presents results pertaining to authenticity of nutrition related information available on social media platforms. Results shows that according to 60.0% adolescent girls of study area the nutrition related information is authentic, while 28.3% consider this information as somewhat authentic, and 5.0% and 6.7% adolescent girls consider this information as unauthentic and misleading respectively. The Chi-Square test results show that significantly high percentage of adolescent girls considers the nutrition related information obtained from social media platforms is authentic.

### **3.6 Benefits of nutrition related information available on social media platforms**

**Table 3.6:** Benefits of nutrition related information available on social media platforms

<b>Response</b>	<b>Nos.</b>	<b>Percentage</b>
To a large extent	82	68.3
Somewhat	24	20.0
Not sure	3	2.5
No	11	9.2
<b>Total</b>	<b>120</b>	<b>100.0</b>

Calculated  $\chi^2$ : 127.667; df: 3;  $\chi^2$  critical value: 7.82;  $p < 0.05$

**Table 3.6** presents results pertaining to benefits of nutrition related information obtained from the social media platforms. According to 68.3% adolescent girls of study area the nutrition related information helps to a large extent, while 20.0% feel it is of somewhat extent helpful. 2.5% adolescent girls are not sure about the benefits of this information and 9.2% adolescent girls feel that it has no benefits. However, the Chi-Square test results show that

significantly high percentage of adolescent girls feel that the nutrition related information obtained from social media is beneficial.

## **4.0 Conclusions**

### **4.1 Most Used Social Media Platform**

- In view of the study results it is concluded that significantly ( $p < 0.05$ ) high percentage of adolescent girls of Nagpur City use Instagram and Facebook as social media platforms to seek information about nutrition.

### **4.2 Use of social media for getting information of nutrition**

- From the study results it is evident that social media use by the adolescent girls of Nagpur City for getting information of nutrition related aspects is very high.

### **4.3 Following celebrities on social media to get nutrition related information**

- On the basis of study results it is evident that significantly ( $p < 0.05$ ) high percentage of adolescent girls follow some or other celebrity to get information about nutrition and its benefits through social media.

### **4.4 Use of nutrition related information provided by celebrities through social media**

- Based on the study results it is concluded that noticeably ( $p < 0.05$ ) high percentage of adolescent girls of Nagpur City use nutrition related information obtained from various social media platforms in their day to day life.

### **4.5 Authenticity of nutrition related information available on social media platforms**

- In view of the study results it is evident that significantly ( $p < 0.05$ ) high percentage of adolescent girls of the study area feel the nutrition related information available on social media platforms is authentic.

### **4.6 Benefits of nutrition related information available on social media platforms**

- From the study results it is concluded that significantly ( $p < 0.05$ ) high percentage of adolescent girls of the study area have benefited from the nutrition related information obtained from multiple social media platforms.

## 5.0 Bibliography

- Brown Z, Tiggemann M. (2016). Attractive celebrity and peer images on Instagram: Effect on women's mood and body image. *Body Image*, 19, pp. 37-43.
- Chau M.M., Burgermaster M. and Mamykina L. (2018). The use of social media in nutrition interventions for adolescents and young adults—A systematic review, *International Journal of Medical Informatics*, 120, pp.77-91.
- Goodyear V., Andersson J., Quennerstedt M. and Varea V. (2022) Skinny girls: young girls’ learning processes and health-related social media, *Qualitative Research in Sport, Exercise and Health*, 14(1), pp. 1-18.
- Leary MP, Clegg EN, Santella ME, Murray PJ, Downs JS, Olfert MD., (2019). Consumption of Health-Related Content on Social Media Among Adolescent Girls: Mixed-Methods Pilot Study, *JMIR Form Res*, 3(1), pp.e11404.
- Miles M, Huberman MA. Qualitative data analysis: an expanded sourcebook. Thousand Oaks: SAGE Publications; 1994.
- Raikar K., Thakur A., Mangal A., Vaghela J.F., Banerjee S. and Gupta V. (2020) A study to assess the effectiveness of a nutrition education session using flipchart among school-going adolescent girls, *J Educ Health Promot*, 183(9), doi: 10.4103/jehp.jehp\_258\_18.
- Skinner H, Biscope S, Poland B, Goldberg E. (2003). How adolescents use technology for health information: implications for health professionals from focus group studies. *J Med Internet Res*, 5(4), p. e32
- Tiggemann M, Slater A. (2013). NetGirls: the Internet, Facebook, and body image concern in adolescent girls. *Int J Eat Disord*, 46(6), pp. 630-633.

## **WEIGHT MANAGEMENT THROUGH YOGA**

**DR. SUNIL. S. BHOTMANGE**

**Assistant Professor**

Department of physical Education & Sports

Arts commerce & Science College Koradi

Yoga-the art of living has always provided with better solutions for mental concentration staying active and positive strength for the body and mind these days more and more people have started to consume junk food Due to the bad eating habits for most people, there are many sufferers of obesity. Many people these days complain of overweight and obesity. Most people these days are suffering from overweight and are trying to seek guidance from doctors. A lot of money be spent in getting the cure for these problems. Yoga has been found & proven to be helpful in the prevention & cure various diseases.

Yoga is an efficient tool that can be very helpful to burn out calories and help a person to lose weight Yoga comprise of a set of exercises of a set of exercises and requires a person to sit or lay in various positions while concentrating on the breath. Breathing is a very important component and right breathing is very essential for the right metabolism rate. Yoga teaches a person how to breathe properly, make a person more flexible Yoga can help in making the weak muscles strong without straining them much. It is very important to do these yoga exercises in the right way get the right outcome Yoga can be learned through the various available books. Books can lend great help in laming the exercises, that yoga implements to help fight various disease.

A person suffering from overweight is prone to diseases linked with heart High blood pressure and high cholesterol ae other problems associated with overweight.

- **Obesity** may be defined as excess weight or deposition of excess fats on body. Which leads to various diseases like diabetes, heart diseases, and hypertension lowered pulmonary factions lowers life expectancy.



- **Obesity and Yoga** – Yoga has considered all aspects of Obesity (physical emotional and mental) Regular practice of Yoga and controlled life style reduces obesity. Yoga makes human Bingeable, efficient and slim. Yoga is suitable for people in any age group. Yoga helps achieve control over mind and behavior (one can easily control food habits and change life style to reduce the obesity.) Yoga has different effect on obesity, which is permanent in nature than other techniques for obesity reduction Excess accumulation of fats.
- **Obesity Symptoms** – Obesity increases weight, reduces physical movements, and also brings in slowness in emotional and mental activities. Food intake increases. Obesity can result in frustration. Laziness increases, reducing overall efficiency. Sometimes obesity can create obstruction to breathing process. Obesity may result in heart problems, diabetes or blood pressure. Yoga has considered all aspects of Obesity (physical emotional and mental)
- **Obesity Reasons** -Physical inactivity (lack of proper exercise) Eating in between meal so preference to sweets refined food fats preserved food Composition & periodicity of meal so Emotional disturbance Frustration and loneliness Endocrine glands problems Family tendency Males are at high risk during age 29 to 35 and females are at risk during the age 45 to 49. The risk increases with age.

### **Various ways to get rid of Obesity.**

- **Practice of Yoga and various exercises :-**

Regular exercise like running swimming etc. Yogasanas like paschimotannasana. Seral HaslaBhujangasana Sarvangasana Halasana Dhaurasna Veer asana Trlkonasana ArdhaMatsYendrasana etc.

Along with Yogasanas Sun salutation is very effective for obesity reduction also pranayama, cleansing processes like agnisar uddiyan bandha etc help to get rid of obesity.

- **Good Food habits :-**

The lunch and dinner timings should be fixed The time difference 2 meals should be 4 hours Low fat meal, with fiber rich vegetables and fruits should be taken. Reduce fats excess calories sweets, milk, butter, cheese etc in meals

- **Other useful habits :-**

Do not sleep for more than 6 to7 hours Try to stop addictions such as smoking dunking alcohol or any other drugs. Taking help from dietician, one should fix the daily diet schedule. If possible take massage and steam bath regularly.

Yoga and Meditation are proven and effective way to develop and maintain perfect harmony and balance in our body systems it provides us with immunity against all diseases It alters brain wave activities reflecting in increased relaxation and a better focused mind

Advantages of yoga practice:-

- Yoga has an important role to play in the treatment of Obesity. Yoga techniques affect body intimal organs organs endocrine glands, brain, mind and other factors concerning Body Mind complex Various yoga techniques can be practiced effectively to reduce the weight and achieve normal healthy condition of Body and Mind It provides us with immunity against all diseases.
- Adopting yoga as a tool for decreasing weights is a sheer option as it considers all aspects of obesity (mental physical and emotional) If results in an agile efficient and slim person and suits to any person of every age It helps achieving control over minds and behaviors including eating habits of a person thus, resulting in permanent with “no sides effects” results. These yogasanas problems such as Sciatica and slipped disc or soon after abdominal surgery

Thus control on diet helps to upgrade quality of life of each individual.

## **STRETCHING EXERCISES EFFECT ON FLEXIBILITY OF COLLEGE GIRL STUDENTS**

Dr. Sushil S Chauhan

Shrikrishnadas Jajoo Grameen

Seva Mahavidyalaya, Pipri – Wardha

E- mail : [Sushil9chauhan@gmail.com](mailto:Sushil9chauhan@gmail.com)

---

### **ABSTRACT**

The main purpose of the study was to find out the effect of 4 - weeks stretching exercises on flexibility of college students. Flexibility is one of the important Physical fitness variables that severely affect athlete’s performance. Before participation to physical activities stretching is a standard exercise for all levels of sports, competitive or recreational. Trainers, Physicians and physiotherapists recommend stretching in order to enhance performance and prevent injuries. Therefore, stretching exercises are commonly included in warm-up and cooldown exercises The study was based on sample of 40 Female students of villages and Shrikrishnadas Jajoo Grameen Seva Mahavidyalaya Pipri, Wardha or nearby villages of college of Maharashtra State ranged between the age group of 18 to 22 Years were selected purposively for the study during the kabaddi training camp. They were divided in two equal groups of 20 for experimental group and 20 for control group. The variables selected for the present study were stretching exercise (independent variable) and flexibility (dependent variables). Data for flexibility was collected by administrating Sit and Reach (SR) test. Pre-test data was collected before starting the training and post-test data was collected after 4-weeks stretching exercise programme. The subjects were asked to perform the stretching exercises in the morning for six days in a week for a period of 4 weeks. The total time of training was 45 minutes per day. In order to find out the effect of stretching exercise on flexibility the data was analysed by descriptive statistics and t-test. The statistical analysis measured that there is a significant difference between flexibility of Experimental group and Control group after 4-week stretching exercise programme, Calculated value of “t” 4.92 is greater than tabulated t value 2.021, it shows significant improvement at 0.05 significant

levels in the flexibility hence it proved that stretching exercises are beneficial for improving flexibility level.

**KEY WORDS:** Stretching; flexibility; range of motion; college students

---

### **Introduction:**

Flexibility is one of the important Physical fitness variables that severely affect athlete's performance. Changes in living environments due to mechanization decreased physical activity and decreased flexibility. In certain, increases in the time spent sitting on chairs in incorrect postures act to decrease the flexibility of hamstrings. Before participation to physical activities stretching is a standard exercise for all levels of sports, competitive or recreational. Trainers, Physicians and physiotherapists recommend stretching in order to enhance performance and prevent injuries. Therefore, stretching exercises are commonly included in warm-up and cooldown exercises. Among many muscles, hamstrings are shortened most often, and many people experience problems due to shortened hamstrings. Shortening and tightening of the hamstrings have a significant impact on spinal health and reduce lordosis of the lumbar vertebrae. A commonly seen injury in sports is hamstring strain; Stretching relaxes muscle tension and allows lengthening, and is a good warming-up exercise. Stretching use to decreases muscle pain or stress after physical activities and it increases the ranges of motion (ROM) of joints and muscles. Increases in range of motions in joints prepare the body for physical movement, thereby improving the competence of movement. Stretching also improves mobility, permits difficult movements and exercise, relaxes the mind and body, and decreases the threat of tendon distortion or muscle injure. Stretching is a frequently prescribed exercise action that has been applied to warm-up, accumulative range of motion (rom), and recovery from training. The trainer and player should understand the effects of stretching exercise and the natural differences between types of stretching exercises and activities planned to enhance "looseness" and freedom of motion. Stretching to enhance range of motion may be contraindicated when applied to recovery activities. Stretching for recovery

should be pain-free motion within the restrictions of maximum range of motion of a joint.

A..J..Micheal,( 1996). Flexibility is the ability of an individual to move the body and its parts through as wide range of motion as possible without undue strain to the articulation and muscle attachments. It is the ability to execute movements with greater amplitude or range.

Stretching can be categorized as static or dynamic, active or passive and acute or chronic. Active stretching talk about a limb position that places a joint at its extreme range of motion by virtue of the tension obtained from agonist muscles.

Passive stretching involves placing a joint in an extreme range of motion point by the use of inertia or gravity.

### **Hypothesis of the study**

It was hypothesized that stretching exercises significantly improve the Flexibility of students.

### **Objective of the study**

1. To measure the flexibility of the leg (hamstring) and back muscles of control group.
2. To measure the flexibility of the leg (hamstring) and back muscles of experimental group.

### **METHODOLOGY**

The purpose of the study was to find out the effect of Stretching exercise on flexibility of college students. Female students of villages and Shrikrishnadas Jajoo Grameen Seva Mahavidyalaya Pipri, Wardha of Maharashtra State ranged between the age group of 18 to 22 Years were selected purposively for the study during the kabaddi training camp. A total number of 40 samples were selected for the study those who registered their selves for the kabaddi training camp. The study was conducted by Experimental Method. The selected Variable for study was Flexibility. The criterion measure Flexibility, was measured by Sit and Reach Test. A 45 minute's training schedule was prepared for group. Before the training programme, we certify that the subjects were medically and physically fit to undergo of training programme. For the present study subjects were divided in to two equal groups by random method an experimental group (N-20) and a

control group (N-20). Group I underwent stretching exercise training, Group II acted as control group that did not participate in any special stretching exercise training apart from their regular fitness activities. The subjects were tested on selected criterion variable such as flexibility prior to and immediately after the training period of 4 weeks. The selected variables (flexibility) was measuring by sit and reach test. For testing the statistical significant difference among the pre - test and post - test, the data was analysed by Descriptive statistics and t-test. The level of significance was kept 0.05 in order to test the Hypothesis

### **Test Administration Flexibility**

(Sit and Reach Test) It was a kind of complete and linear test of flexibility.

### **Equipment**

Sit and reach box

### **Process**

The subject was asked to put off his shoes and sit the floor with straight knees and place his feet against the testing box. The subject was asked to place one hand on top of the other hand so that the middle fingers of both hands were together at the same length .The researcher kept his hand on the knees of the subject to keep them straight, not permitting any bending of the knees. The subject was instructed to lean forward and place his hands over the measuring scale lying on top of the box. Then, the subject was asked to slip his hands along the measuring scale as far as possible, without bouncing and instructed to hold the further position for one second at least.

### **Scoring**

3 trials were given to each subject and the highest score, nearest to an inch was noted to obtain the flexibility score.

### **PROCEDURE**

The experimental group has given the stretching exercise training for a period of 4 weeks. The experimental group was given a brief outline of the procedure. The researcher demonstrated and explained the stretching exercises in detail. The subjects were asked to perform the stretching exercises in the morning for six days in a week for a period of 4 weeks. The total time of training was 45 minutes per day. For analyse flexibility Pre and post - test were administered on the subjects. The control group did not involve in any parallel form of training. SR

test (Sit and Reach) was used to determine the Pre and post data of flexibility for control and experimental group.

### **Stretching program**

For the stretching program, each action is performed within ranges that caused no pain and moderate uneasiness. The stretching program consisted of 5 actions. Each action was held for 40 seconds followed by 10 seconds rest period. The action was repeated 4 times and the completion of all 5 actions in this manner was considered as a round. After the completion of a round, subjects were given a 1 minute rest and this pattern was repeated for a total of 3 rounds.

**Table no. – I**

**Stretching exercises prescribed for Flexibility during the training period.**

Stretching exercises	No. of Sets	Round	Recovery between set	Recovery between rounds
Forward Bending	04		10 second	
Trikon asana	04		10 second	
Paschimottanasna	04	03	10 second	01 minutes
Vakrasana	04		10 second	
Janushirasana	04		10 second	

SET - Number of repetition in each stretching exercise.

ROUND - Total number of Stretching exercises completed once.

### **Result and Discussion on Finding**

The data relating to the study were examined by applying mean difference method. T-test used to find out significant difference if any, between the pre - test and post - test means of both the groups .To test the hypothesis, the level of significance was chosen at 0.05. The results have been shown in the following table.

**Table- II**  
**Summary of Mean, Standard Deviation and t-ratio for the Data on Flexibility of Pre - tests of Experimental and Control Group**

Variable	Groups	Subjects	Pre – test mean	SD	Mean Difference	Standard Error of Mean Difference	‘T’ Value
Flexibility	EXP. Group	20	3.45	0.95	0.22	.336	.654
	Control Group	20	3.23	1.17			

Significant at 0.05 level

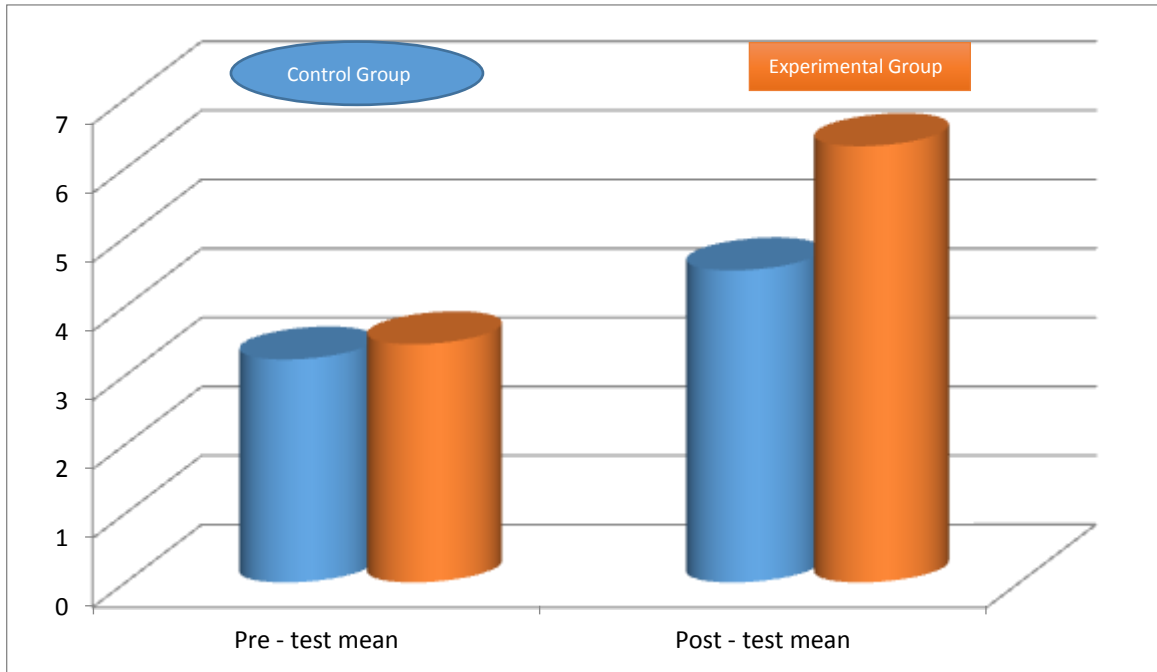
**Table- III**  
**Showing the Mean, Standard Deviation and t-ratio for Post - test of Experimental and Control Group for flexibility**

Variable	Groups	Subjects	Post – test mean	SD	Mean Difference	Standard Error of Mean Difference	‘T’ Value
Flexibility	EXP. Group	20	6.32	1.16	1.80	.366	4.92*
	Control Group	20	4.52	1.16			

Significant at 0.05 level



### Comparison of Mean on Flexibility of Pre – test and Post - test of Experimental and Control Group



#### Results:

Several studies have reported increased flexibility after stretching exercises and the present

results also support these conclusions. Table no II showing the comparison of pre – test flexibility of control and experimental group, value of calculate t – test (.654) is less than the tabulated t value, it is showing that there is no significant difference between the flexibility level of control and experimental group at 0.05 significant levels when they were came for the training programme. Whereas table no III showing the comparison of Post – test flexibility of control and experimental group, calculated value of t- test (4.92) indicates that the stretching exercises effect the flexibility positively. Calculated value of “t” 4.92 is greater than tabulated t value 2.021, it shows significant improvement at 0.05 significant levels in the flexibility of experimental group after 4 week stretching exercises. It reveals that 4 week stretching exercise improves the flexibility level.

#### Conclusion:

As per the above discussion and finding it can be concluded that the participation in four weeks stretching exercise programme resulted improved in flexibility of participants. The researcher find significant difference between control and experimental group data and it proved that stretching exercises are beneficial for improving flexibility level.

### **References:**

Chutia. S, changmai.S, Thapa K.R, Gogoi. B.C. Effect of suryanamaskar on flexibility of middle elementary school students. International Journal of Physical Education, Sports and Health 2016; 3(4): 142-143.

Divya. K. Effect of yogic practices on selected physical fitness variables of school students. International journal of scientific research and review, 2017, volume 6, issue 6, p 63-68

Hwang. H.S. The effect of stretching type on hamstring flexibility. <https://doi.org/10.20540/JIAPTR.2018.9.2.1461>.

Mittal.B. Effect of suryanamaskar on muscle flexibility of senior citizen. International Journal of Physical Education, Health and sports sciences 2020; 9(1): 39-42.

Marques.A.P., Vasconcelos. A.A.P., Cabral. C.M.N and Sacco. I.C.N. Effect of frequency of static stretching on flexibility, hamstring tightness and electromyographic activity. Brazilian Journal of Medical and Biological Research, October 2009, Volume 42(10) 949-953.

Sobti.R and Kumar.P. Effect of Aerobic training, Resistance training and concurrent training on flexibility among Basketball players. International Journal of Physical Education, Health and sports sciences 2020; 9(1): 31-38.

Zakas. A, Vergou. A, Grammatikopoulou. M G, Zakas. N. et al. Journal of Sports Medicine and Physical Fitness, Turin. 2003 Vol. 43, Iss. 2, 145-9.

---

## कोविडकाल के प्रभावो का एक अध्ययन: सामाजिक, आर्थिक और मानसिक विकास

प्रा. डॉ. व्ही. एन. कन्नाके.

सहाय्यक अधिव्याख्याता

जे. एम. पटेल कॉलेज, भंडारा

मोबाईल न. ९७६५३३०१५३

### सारांश:

भारत कृषी उत्पादनोसे भरा खुशियाल देश है। देश का भौगौलिक वातावरण अच्छा होणे के कारण नैसर्गिक रूपसे हरी भरी हरियाली नजर आती है | इस देश में विविध धर्मोका मिलाप पाया जाता है | विविधता में एकता दिखाई देती है। विभिन्न संस्कृती का जतन किया जाता है | भारतीय संस्कृती में विविध नितीमुल्योको महत्त्व दिया जाता है। सामाजिक एकता भारत देश में पायी जाती है | विविध धर्मो के अनुसार त्यौहार मनाने कि संस्कृती होणे के कारण इस महामारी ने सामाजिक नितीमुल्योपर बुरा असर दिखाई दिया है। सामाजिकताका रुपांतरण असमाजीकता में होता गया और मानसिक ताणतणाव से ही महामारी कि दुसरी लहर मे जादा से जादा मृत्यू का कारण बना है | भारत में महामारी कोविड १९ का संक्रमण आंतरराष्ट्रीय यांत्रियो के कारण जादासे जादा नुकसानी का सामना करना पडा | गरीब और जादा गरीब होते हुए नजर आए | छोटे उद्योग पर बुरा असर नजर आणे लगा है | मजदूर वर्ग पर भी भारी असर हुआ है |

**कोविड:** सामाजिक, आर्थिक, मानसिकविकास, कोविड महामारी

**प्रस्तावना:**

स्वास्थ्य, आपात सेवाओमे काम करने वालो पर संक्रमण होणे कि संभावना और खतरा जादा होणे के बावजूद इस महामारी का सामना करते हुए दिखाई दे रहे थे। अनाज यह प्राथमिक आवश्यकता होणे के कारण किराना स्टोअर्स, विमान परिचालकदल और ऑटोरिक्षा चालक के स्वास्थ्य और आजीविका के साधनो कि वजह से महामारी का खतरा मंडरा रहा था। लोगो के रोजगार छीनने, सभी क्षेत्रोमे उत्पादन गिरणे, गतिविधिया ठप होणे के कारण गरिबी का प्रमाण बढ़ते हुए दिखाई देता है। अर्थव्यवस्था और रोजगार नुकसान को सीमित रखने का प्रयास किया जा रहा है। इसमहामारी के कारण सामाजिक नितीमुल्यो पर भारी असर हुआ है। पुराने जमाने में स्पृश्य अस्पृश्यता का भेद किया जाता था इसी प्रकार का बदलाव नजर आणे लगा था। शहरी झुग्गी, झोपडी बस्ती के कम आय के परिवारोन्को काठिनायो का सामना करना पडा। असमानता, गरिबी कुपोषण के कारण आरोग्यसमस्याओ का सामना करना पडा। महामारीमे भूक और ये दोनो आवश्यकताओं में से एक चयन करने कि जादातर नौबत आते हुए दिखाई दिये। बेरोजगारी और लॉकडाऊन के कारण सारे व्यवहार बंद होणेसे मुलभूत आवश्यकता पूर्तता ण होणे के कारण मानसिक समस्याओं का सामना भी करना पडा। अनाज और स्वास्थ्य समस्याए बढ़ते नजर आने लगी थी। बच्चो का घरमे बंद रहने के कारण उनके सामाजिक विकास पर भी प्रभाव पडते हुए दिखाई दिया। घरमे बंदिस्थ होणे के कारण बच्चों में सामाजिक विकास होणे में

सामाजिक विकास होने में समस्याएं निर्माण होने लगी | भावनिक विकास भी दिक्कते दिखाई दिये | बाहर निकालने का मनमें डरसा पैदा हुआ।

**संकल्पना:**

**कोरोना:**

कोरोना वायरस कई प्रकार के विषाणुओं का एक समूह है | जो स्तनधारीयों और पक्षियों में रोग उत्पन्न करता है | उनके कारण स्वतंत्र सक्रमन पैदा हो सक्त है | जिनकी गहनता हल्की से लेकर अति गंभीर तक हो सकतीहैं | सिरदर्द, गंधना आना, भूखन लगना, खांसी, बुखार, गला बैठना, गले मी खरास, सिनेमें दर्द, सांसकि तकलीफ, दस्त, पेटदर्द कोरोना वायरस संक्रमण का संकेत होता है |

**सामाजिक विकास:**

कुंडू एव टूटू के अनुसार सामाजिक अपेक्षाओ के अनुसार व्यवहार करणे कि योग्यता को ग्रहण करना |

यह मानवीय दर्शन, वैज्ञानिकज्ञानऔर तकनिकी कौशल पर आनरीत एक धर्मार्थ कार्य है जो जरूरतमंद व्यक्तियो, समुयो, और समुदायो कि मदत करता है।

**आर्थिक विकास :**

देशो, क्षेत्रो या व्याक्तिओ कि आर्थिक समृद्धी के वृद्धी को आर्थिक विकास कहते है।

यह वस्तुओं और सेवाओं के उत्पादन के बारे में नहीं है बल्कि समाज के सभी क्षेत्रों के विकास के बारे में है। आर्थिक विकास रोजगार के अवसर का सृजन, गरीबी को कम करना, आर्थिक असमानता को कम करना, आर्थिक असमानता में कमी, समाज के सभी वर्गों के जीवन स्तर को ऊपर उठाना है।

### **मानसिक विकास :**

विभिन्न मानसिक क्षमताओं को अपनाता है। मानसिक विकास में शामिल होने, समझने, देखने, याद रखने, कल्पना करने, सोचने, समस्याओं को सुलझाने और बुद्धि के साथ भाषा विकास जैसे क्षमताएँ शामिल हैं।

### **पुर्वसंशोधन:**

१) प्रोफेसर इडबुल मोर इनके रिसर्च से अभी और भविष्य में कोरोना का मानसिक स्वास्थ्य पर विपरीत प्रभाव पड़ने का निष्कर्ष निकला है। बढ़ती बेरोजगारी या रोजगार छीनने का डर, परिवार से दूर होना, अर्थव्यवस्था की खराब हालत, क्वारंटाइन आर्डर शोलेषण के कारण दीर्घकालीन नकारात्मक बढ़ने लगी हैं।

२) २००३ में सार्स के महामारी से प्रभावित लोगों में निराशा, चिंता, पोस्ट ट्रॉमेटिक स्ट्रेस के लक्षण नजर आए।

३) प्रोफेसर ग्लोस्गो के रोरी के अनुसार सार्स के महामारी के बाद ६५ साल के ऊपर के लोगों में आत्महत्या का दर ३० प्रतिशत से भी जादा बढ़ी थी।

४) प्रोफेसर बेट्टी पेफर बॉम के अनुसार महामारी की अनिश्चितता, परीक्षण और उपचार के संशोधनों की कमी के कारण लोगों में चिंता पैदा करने का कारण बना है।

| क्वारटाईन और डीस्तसिंग यह शब्द से निराशा और तणाव निर्मित होने का डर पैदा होता हैं |

५) आस्ट्रेलिया, ब्रिटेन और अमेरिका देश में स्वास्थ्य और पुलिस बल के लिए भी अतिरिक्त संसाधन जुटाने के लिए अतिरिक्त खर्च बढ़ाया गया है ताकीपाबंदीया सख्तीसे लागू कि जा सके |

६) प्रोफेसर फरजाना आफरीदी के अनुसार १३ जानेवारी २०२० : ९१ प्रतिषद पुरुष अब काम नहीं करपा रहे | ८५ प्रतिषद उत्तरदाताने मुख्य व्यवसाय होने के बावजुद कुछ नहीं कमापाए | ५३ प्रतिषद लोगोंकोमार्च महिने का वेतन नाही मिल पाया | ६३ प्रतिषद अधिक लोगोने नोकरी गवाणे कि रिपोर्ट कि हैं | ७१ प्रतिषद लोगोने सरकार कि मदत अपर्याप्त होने का एहसासदिलाया| महिलाएपुरुषो कि तुलनामें अधिकत नाव ग्रस्त दिखाईदेती हैं |

७) इनके शोध के अनुसार, १४ जानेवारी २०२० : निरंतर सामाजिक दुरीऔर उपभोक्ता के परिवर्तीत व्यवहार के कारण व्यवसाय और आजीविका पर गहरा प्रभाव पडणे वाला हैं | आर्थिक सुरक्षा न केवल सामाजिकन्याय कि गारंटी के लिए आवश्यक है बल्की बिमारी के दमन और शमन के लिए भी प्रभावी बनाने के लिए भी प्रभावी बनाने के लिए जरूरी है |

८) प्रो. रितिका खेरा २७ जानेवारी २०२०, इन्होने सुझाव बताया है कि, नकद सहायता वस्तू रूप मी सहायता, स्वास्थ्य संबंधी तत्कालउपाय के बारे में बताया हैं|

९) हरिश : अगर बच्चों का किसिसँ संबंध प्रस्थापित नहीं हो पायातोउनकी सामाजिक वृद्धी नाही हो पायेगी | मतलब सामाजिक विकास होने के लीए विविध व्यक्तियों के साथ संपर्क प्रस्थापित होणा बेहद जरूरी है | संबंधयोग्य या सहीढंग से प्रस्थापित होणा जरूरी है |

### **प्रयोजन:**

- १) कोरोना काल मे निर्माण होने वाले सामाजिक समस्याओंकाअध्ययन करना
- २) कोरोना काल मे निर्माण होने वाले आर्थिक समस्याओंकाअध्ययन करना
- ३) कोरोना काल मे निर्माण होने वाले मानसिक समस्याओंकाअध्ययन करना
- ४) कोरोना काल मे निर्माण होने वाले बालक समस्याओंकाअध्ययन करना
- ५)विविध समस्या पर उपाय सुलझाना

अध्ययन के क्षेत्र : भंडारा जिले का अध्ययन हेतू चयन किया गया |

### **काल्पनिक:**

- १) कोरोनाकालमे सामाजिक नीती मुल्योंका हनन हुआ |
- २) कोरोना काल मी आर्थिक काठीनाई के कारण मुलभूत आवश्यकतापुरी करने में लोग असमर्थ रहे |
- ३) कोरोना काल में आर्थिक टंचाई के कारण, कोरोना का संसर्ग होने का डर, रिश्तोमें दुरी आने के कारण मानसिक समस्याओं का सामना करणा पडा |



४) समूह बंदी, लॉकडाउन के कारण बालक घर में ही रहकर उब गये और उनके सामाजिक, शारीरिक विकास, मानसिक विकास, भावनिक विकास पर बुरा हाल वूआ |

५) महामारी का प्रतिबंध करने हेतू प्रतिबंधात्मक उपाय के बारेमें जनजागृती हेतू प्रयास करना |

सीमाए : भंडारा जिल्हे तक ही संशोधन मर्यादित किया गया |

### अनुसंधान प्रक्रियाए :

तालिका क्र. : १ कोरोनाकाल मी सामाजिक कार्य करने का प्रकार दर्शक सारणी

अ. क्र.	सामाजिक मदत का प्रकार	वारंवारिता	प्रतिषत
१	देणगी	०६	१२
२	अन्नवाटप	०४	०८
३	मास्कवाटप	०२	०४
४	मास्क, सॅनिटायझर के बारे मे जानकारी देना	०४	०८
५	सॅनिटायझर वाटप	०२	०४
६	कोरोनाग्रस्त कुटुंबको अत्यावश्यक वस्तू की मदत	०६	१२

करना

७	कुछ भी नाही करना	२६	५२
	<b>एकूण</b>	<b>५०</b>	<b>१००</b>

कोरोना काल में ५० प्रतिषद लोग सामाजिक दायित्त्व को नजर अंदाज करने वालों में से दिखाई दिए | यह सामाजिक, नैतिकता मुल्यों का हनन होने के बराबर हैं | मानव एक समाज का घटक होने के नाते सामाजिक मुल्योंको दायित्त्व का स्वीकार करने मे असफल होते दिखाई दिए | कठीणाई के काल में मदत करना हर मनुष्य की नैतिक जबाबदारी समझ के कार्य किया तो समाज का विकास हो पायेगा | इस कोरोनाकाल में रिश्ते नाते, पडोसी यह सब रीश्तोंमे गजब परिवर्तन आते हुए दिखाई दिया | सभी रीश्तोंमें दूरिया नजर आणे की समस्या जादातर दिखाई दिये | कोरोनाग्रस्त कुटुंब का सदस्य होने के बावजूद उनका आखरी क्रियाकरम करने में कठीणाई नजर आने लगी | छुत अछूत का जीवन में एहसास प्रतक्ष रूप में देखने मिला | सामाजिक नीती ज्हास होते दिखाई दिया | सभी और स्वास्थ और मौत का आंकाड तांडव दिखने लगा | एक एक पल मौत का सामना करते हुए लोग दिखाई दिए | सभी और डर का माहोल पैदा होते हुए दिखाई दे रहा था |

**तालिका क्र. : २ कोरोनाकाल में आने वाली आर्थिक समस्या दर्शक सारणी:**

अ. क्र.	आर्थिक समस्या	वारंवारिता	प्रतिशत
१	घर का खर्चा पुरा करने की समस्याए	१०	२०
२	अनाज, सब्जी खरीदने की समस्याए	१३	२६
३	कामकाज बंद होने के कारण व्यवसायिक घाटा होने की समस्याए	१५	३०
४	अस्पताल का खर्चा करनेमें असफलता की समस्या	१२	२४
	एकूण	५०	१००

उपरोक्त सारणी कोरोना काल में आने वाली आर्थिक समस्याए प्रदर्शित करती है | कोणकोनसी आर्थिक समस्या का सामना करना पडा, पैसा न होने के

कारण कोनसी समस्या का सामना करना पडा इसकी जानकारी प्राप्त हुई | बेरोजगारी की समस्याओं का सामना करने वाले उत्तरदाता जादा पैमानेमें दर्शाया गया | व्यवसाय करने वाले लोगोंको आर्थिक जबरदस्त घाटे का सामना करना पडा | इस कारण प्राथमिक आवश्यकताओं की असफलता, आर्थिक समस्या का सामना करना पडा |

**तालिका क्र. : ३ कोरोना कालमें समस्या कि जानकारी दर्शक तालिका**

अ. क्र.	समस्या का प्रकार	वारंवारिता	प्रतिषत
१	स्वास्थ्य की समस्या	२३	४६
२	पैसे की समस्या	१७	३४
३	शिक्षा की समस्या	१०	२०
४	इतर	००	००
	एकूण	५०	१००

उपरोक्त सारणीसे दर्शित होता हैं की, स्वास्थ्य के बारेमें समस्या का जादा सामना करना पडा| इस महामारीमें स्वास्थ्य पर जादा पैसा खर्चा होने का प्रमाण जादा दिखाई दिया | बेरोजगारी के कारण जादातर जिंदा रहने की विविध समस्या का सामना करना पडा |

**तालिका क्र. : ४ कोरोना काल में समाज की वर्तन समस्या दर्शक  
सारणी**

अ. क्र.	सामाजिक वर्तन का प्रकार	वारंवारिता	प्रतिशत
१	किसी के घरमे प्रवेश न देणे की समस्या	११	२२
२	किसी के घर में सदस्य की तबियत बिघडने पर उनको कोई मदत न करना	१०	२०
३	छुर से ही बात करना	०८	१६
४	रिश्तो में दुरी पैदा होणा	०५	१०
५	पडोसी बात करना छोड देते थे	०६	१२
६	कोई किसीसे संबंध नही रखते थे	१०	२०

**एकूण**

**५०**

**१००**

उपरोक्त सारणी पर से यह पता चलता है की, किसी घर के लोगो की तबियत खराब होने पर उनको मदत नही मिल पाती थी | कोई किसी से संबंध नाही रखते थे | रिश्तो में दूरिया पणपणे लगी थी | किसी का किसी से लेना देणा नही था | जीवन शैली में परिवर्तन दिखाई दिया अपने ही बारे मे सोच अपने ही बारे कर सामाजिक नितीमुल्य का त्याग होते हुए दिखाई दिया |

**तालिका क्र. : ५ कोरोना कालमें मानसिक समस्या दर्शक सारणी:**

<b>अ. क्र.</b>	<b>मानसिक समस्या का प्रकार</b>	<b>वारंवारिता</b>	<b>प्रतिशत</b>
१	अकेलापण की समस्या	१०	२०
२	कोरोना महामारी का डर	१८	३६
३	चिडचिडापण	१०	२०
४	कोरोना होणे के डर से मानसिक तणाव	१२	२४
	<b>एकूण</b>	<b>५०</b>	<b>१००</b>

कोरोना महामारी सांसर्गिक होणे के वजह से जीवन व्यथित करना मुश्कील हो गया था | घरमें ही रहने का आदेश निकलने से चिडचिडापण, अकेलापण, महामारी होणे का डर, चिंता, मानसिक ताणतणाव बढने से रक्तचाप, हार्टट्याक जैसे समस्याओं से जादातर मौत के कारण साबित हुए |

### **निष्कर्ष व विश्लेषण :**

यात्रा एव पर्यटन क्षेत्र पर बुरा असर पडा हैं | इस महामारी के कारण हर महिने मे एक अरब युरो का आर्थिक नुकसान वूआ है | कर्मचारीओं को घर रहने की सूचना मिलने के कारण आटो उद्योगपर भारी असर हुआ है | जहा जो पर काम करने वाले कर्मचारीयों के रोजगार बंद होणे के कारण उनकी भी आर्थिक मंदी का सामना करना पड रहा है |

टेक्सटाईल्स कंपनी, वस्त्र, चमडा, उध्योग बंद पडनेसे भारी नुकसान सहना पडा। कृषी व खाद्यसुरक्षा इस पर भी भारी असर हुआ है, कृषी और खाद्य सुरक्षा प्रभावित होणे के कारण बरी तरह प्रभावित हुई, चाय व्यापार पर बुरा असर पडा है | उनके खाणे का और स्वास्थ के बारेमें समष्य निर्माण होणे लगी है |

प्रत्यक्ष स्पर्श से निर्माण होने वाली भावनाओं का योग्य विकास नहीं हो पाया मित्रता के अभाव से सामाजिक समायोजनको चालना न मिलने के कारण विविध भावनाओंकी अनुभूती में असक्षम रहे । सामाजिक विकास असमायोजन कमतरता व न्यूनगंड का प्रमाण बढ़ता नजर आय । सर्वांगीण विकास उचित तरिके से नहीं हो गया ।

### **उपाय :**

- १) कार्यस्थल पार हि उनकी सुरक्षितता सुनिश्चित किया जाना चाहिए
- २) उद्योग, रोजगारो व आय को समर्थन उपलब्ध कराया जाए
- ३) अर्थव्यवस्था और रोजगार के साधनोको नई स्फुर्तता मिलन चाहिए
- ४) प्रभावित क्षेत्रोको उभारणे के लिए संवाद होणं चाहिए
- ५) आर्थिक सहायता पॅकेज कि उपलब्धता होनी चाहिए और आर्थिक नीतियों में सभी के हितों के बारे में ध्यान रखना चाहिए
- ६) टॅक्स भरणे में कुछ समय कि छुट मिलनी चाहिए ।



- ७) सामाजिक सुरक्षा करणे हेतू कर्मचारीयों के लिए अनुदान और कर्ज के लिए गारंटी मिलनी चाहिए ।
- ८) स्वास्थ्य प्रणाली और सेवाओं की रक्षा किए जानी चाहिए ।
- ९) सामाजिक संरक्षा को मजबूती कि प्रदान कि जानी चाहिए ।
- १०) रोजगार, लघु एवं मध्यम व्हावसायीक और असंघटित सैक्टर के कामगारों के संरक्षण के बारे मे प्रावधान होना चाहिए ।

### संदर्भग्रंथ सूची :

- जागतिकीकरणाची शेती समोरील आव्हाने प्रा. कराडे, सुजाता, डायमंड पब्लिकेशन्स शनिवारपेठ, पुणे, प्रथम आवृत्ती, १४ जानेवारी, २००८, पे. न. ९८,२१८
- जागतिकीकरणाची व अन्नधान्य उत्पादन, प्रा. जाधव, प्रविण, डायमंड पब्लिकेशन्स शनिवारपेठ, पुणे, प्रथम आवृत्ती, १४ जानेवारी, २००८, पे. न. १०५
- जागतिकीकरण आणि वित्तबाजारातील धोकादायक अस्थिरता, अभ्यंकर, अजित, डायमंड पब्लिकेशन्स शनिवारपेठ, पुणे, प्रथम आवृत्ती, १४ जानेवारी, २००८, पे. न. १६७
- Orfonline.org,R.V. Bhavani, dt, 23/04/2020
- <https://news.un.org>

- <https://www.downtoearth.org.in>
- [Ideasforindia.in](https://www.ideasforindia.in)
- <https://www.mycoaching.in> 2020

## Science of Indian Food for Women’s Health

**Dr. Vibha Kshirsagar**  
Assistant Professor  
C.P. & Berar E.S. College, Nagpur

---

‘Gruhashthashram’ is the most significant ashram among the four ashram system in India.

क्षेम्यंवदन्तिशरणंभवेऽस्मिन्न्यद्गृहस्थाश्रमः।<sup>1</sup>

यथावायुंसमाश्रित्यवर्तन्तेसर्वजन्तवः।

तथागृहमाश्रित्यवर्तन्तेसर्वाश्रमः॥<sup>2</sup>

गार्हस्थ्यंसर्वाश्रमाणामूलमुद्राहरन्ति।<sup>3</sup>

Both husband and wife have to fulfill this ashram.

**भार्यामधिगम्ययथोक्तान्गृहस्थधर्मान्प्रयुञ्जान्इमानिव्रतान्यनुर्षत्।<sup>4</sup>**

But in patriarchal Indian society, women have been neglected since very ancient times. Today, there is no sphere left where women have not entered. Women, by perfectly carrying out household responsibilities, are in shoulder to shoulder with men in office work. In this process of working out as well as taking care of home, women undergo lot of exertion and stress, as a result of which their health deteriorates gradually. Woman is the backbone of her family.

**जायेदस्तम्।<sup>5</sup>**

**स्त्रीहिब्रह्माबभूविथ।<sup>6</sup>**

**मातापत्नीगृहेषुगृहसम्पदः।<sup>7</sup>**

If fault occurs in the main support structure, the whole structure is bound to collapse. Ancient Sanskrit literature is the wealth of our nation. All life-essential knowledge is present in Sanskrit literature. Darshanshatra, Yogashastra, etc are given by India and is recognized by the entire world. It is considered that women by following the food habits mentioned in Sanskrit literature have improved their health and living disease free.

**शरीरमाद्यंखलुधर्मसाधनम्।<sup>8</sup>**

Body is a means to do work. That's why it is important to keep our body healthy. Women, while taking care of her family members, ignore their health.

**Aahar (Food)** – It is worth mentioning the fact that ancient Sanskrit literature has not only limited its food science to food items which can be consumed or not. It has also stated the effects of consumption of various food items on body.

Even after consuming a proper diet, when a woman is unhealthy, the importance of food science mentioned in Sanskrit literature is realized.

Sanskrit literature has told the function of five sense organs.

**श्रोत्रंत्वक्चक्षुषीजिह्वानासिका**

**बुद्धीन्द्रियाणिपञ्चैषांश्रोत्रादीन्यनुपूर्वशः।<sup>9</sup>**

**श्रोत्रंत्वग्घ्राणदृग्जिहवा।<sup>10</sup>**

### शब्दस्पर्शगन्धरूपरसगुणान्वितः।<sup>11</sup>

Sanskrit literature has thought of food science in a holistic way. The subject of the above mentioned five sense organs is food, because the satisfaction obtained from eating food item, the increase in energy, enthusiasm, in the same way the fulfillment obtained from touching and smelling is the food of sense organs. That's why listening, embracing, smelling, seeing should be pure like the food we eat.

Many times, a woman wants to talk to her parents through mobile, she wants to talk to her husband who is far away from her. She is eager to hear the voice of her loved ones, but her humble desire is not fulfilled many times. She desires to see good things; wants touch of her husband, but cannot do so. Many times, she doesn't get to eat food which she likes. In such unfavourable conditions, she has to crush her desires, and even if nutritious food is given to her, she still appears weak and disheartened.

Both body and mind are the abode of diseases as well as happiness. Our nutrition, thinking, attitude, behavior in combination is the recipe for happiness. Health is true wealth.

### नित्यंहिताहारविहारसेवीसमीक्ष्यकारीचभवत्यरोगः।<sup>12</sup>

युक्ताहारविहारस्ययुक्तचेष्टस्यकर्मसु।

युक्तस्वप्नावबोधस्ययोगोभवतिदुःखहा।।<sup>13</sup>

The above chants are extremely resourceful while thinking of women's health. Health depends on eating right food, positive thinking and taking adequate rest. Many women don't get adequate and nutritious food, they don't get to go where they want to go. They have to do things against their wishes. They have to stay awake even if they are feeling sleepy. All these things take a toll on their health.

Women, according to the food habits of her in-laws, make oily food and eat it. Also, she has to eat food which is very different from the food at her parents' house which she has been accustomed to. This sudden change of diet, often unhealthy, is not good for her health.

### स्नेहानां वर्जने युक्तो।<sup>14</sup>

In Mahabhartha, Bheeshmacharya has told to avoid eating oily food to maintain good health.

Many times, a woman eats left-over food at home in order to avoid food wastage, finishes the remaining food and often eats after all the family members have eaten. All these factors cause ill-health to her.

**नात्यश्नतस्तुनचैकान्तमनश्नतः।<sup>15</sup>**

Working women have to reach office on time. They do all the household chores in a hurry, eat breakfast in a hurry and rush out of their homes to reach office on time. These habits also put their health in danger. Actually, after meals, one must walk at least 100 steps, take some rest. These habits are good for health.

**नैवसंविष्टोनचैवान्यमना।<sup>16</sup>**

**भोजनानन्तरं वामकटिस्थो घटिकाद्वयम्।**

**शयीतनिद्रयाहीनं पूर्वपदशतं व्रजेत्॥<sup>17</sup>**

It is not good to eat remaining food to avoid food wastage. It leads to obesity. One should eat less than his hunger.

**मिताहारः कार्यः।<sup>18</sup>**

**यातयामंगतरसंपूतिपर्युशितंचयत्।**

**उच्छिष्टमपि चामेध्यं भोजनं तामसप्रियम्॥<sup>19</sup>**

In this way, by consuming unhealthy food, health deteriorates.

Dharma, Kama, Artha, all these things are obtained by a woman, whose health needs to be paid attention.

**तस्याः कामं न कः कुर्यात्सिद्धिस्त्रैवर्गिकी।<sup>20</sup>**

A woman is half of a man's body. She is power. By entrusting her all the household responsibilities, men do their work without any worry.

**यस्यां स्वधुरमध्यस्य पुमांश्चरति विज्वरः।<sup>21</sup>**

Ayurveda has guided us with food science. According to one's nature (prakriti), seasons and other factors, being taken into consideration, it has laid rule of proper

food consumption and these rules are of great significance in medical science.

**धन्वन्तरिश्चभगवान्आयुश्च**

**वेदमनुशास्त्यवतीर्यलोके।<sup>22</sup>**

Many women do lot of work after taking meals, lift heavy items, some women sleep right after meals. All these things should be avoided to remain healthy.

**भारोत्क्षेपोपवेशनंनकुर्यात्।<sup>23</sup>**

The responsibility of a house lies on a woman. In reality, a woman is home.

**आयुःसत्त्वबलारोग्यसुखप्रीतिविवर्धनाः।**

**रस्याःस्निग्धाःस्थिराहृद्याआहाराःसात्त्विकप्रियाः।।<sup>24</sup>**

Women should get life increasing, brain-nourishing, power- enhancing food. Too much bitter, sour, salty food should be avoided as they have potential to cause diseases in body.

These days, everyone likes to eat outside food. But outside food is not good for health. Many people get unpleasant after effects of eating outside food. However, it is the taste which dominates over health and as result, people fall sick. Outside food is devoid of nutrition. The food is stale sometimes. This deteriorates our mind and body.

**कट्वम्ललवणात्युष्णतीक्ष्णरूक्षविदाहिनः।**

**आहाराराजस्येष्टादुःखशोकामयप्रदाः।।<sup>25</sup>**

There is not much awareness today also regarding women's health. Women are also contributors in the nation's development. At least for the sake of nation's progress, women's health is of utmost importance.

Thus from the above mentioned facts, it has come to notice that the food habits followed by our ancestors are good for women and should be practiced by them.

**संदर्भसूचिः**

1. श्रीमद्भागवत 4.25.40

2. मनुस्मृती 3.77
3. महाभारत, शान्तिपर्व 191.10
4. गौतमधर्मसूत्र 9.1
5. ऋग्वेद 8.33.19
6. ऋग्वेद 8.33.19
7. भागवत 4.26.15
8. कुमारसम्भवम् 5.33
9. मनुस्मृती 2.89,90
10. भागवत 2.5.31
11. भागवत 2.5.29
12. अष्टांगहृदय 4.36
13. श्रीमद्भगवद्गीता 6.17
14. महाभारत, शान्तिपर्व 300
15. श्रीमद्भगवद्गीता 6.16
16. मार्कण्डेयपुराण 34.59,60
17. विवेकविलास 3.61
18. विवेकविलास 4.3
19. गीता 17.10
20. भागवत 3.14.16
21. भागवत 3.14.18
22. भागवत 2.7.21
23. विवेकविलास 3.62

24. गीता 17.8

25. गीता 17.17

---

## **Adoption, Application and Impact of Artificial Intelligence (AI) on the Indian Industry**

Dr. Vinod W. Dongarwar  
Assistant Professor  
C.P. & Berar E.S. College, Nagpur

---

### **Abstract -**

The rapid development of artificial intelligence (AI) is not only a scientific breakthrough but also impacts on human society and economy as well as the development of economics. Research on AI economics is new and growing fast, with a current focus on the productivity and employment effects of AI on Indian economic. The current paper reviews the key AI-relevant research studies, mainly from the recent years, which address the Economic development of AI with the help of Econometric Estimation. This paper reviews recent literature in order to answer same key questions. What is adoption and application of AI on Indian economy? What impact of AI on Indian industry? This paper examines the



adoption, application and impact of Artificial Intelligence on Indian industry with the help of secondary data.

**Keywords** - Artificial Intelligence, Economic, Growth, Adoption, Application

---

## **Introduction –**

The rapid development of artificial intelligence (AI) is not only a scientific breakthrough but also impacts on human society and economy as well as the development of economics. Artificial intelligence can be defined as “The capability of a machine to imitate intelligent human behaviour” or “an agent’s ability to achieve goals in a wide range of environments.” These definition immediately evoke fundamental economic issues. A.I. may be deployed in the ordinary production of goods and services, potentially impacting economic growth and income shares. But A.I. may also change the process by which we create new ideas and technologies, helping to solve complex problems and scaling creative effort.

Research on AI economics is new and growing fast, with a current focus on the Economic Development, Economic Growth, job and employment impact of Indian economic. This paper reviews recent literature in order to answer some key questions. What is adoption and application of AI on Indian economy? What impact of AI on Indian industry? In this paper, we speculate on Adoption, application and Impact of industry. Our primary goal is to help shape an agenda for future research.

## **Review of Literature-**

The current paper reviews the key AI-relevant research studies, mainly from the recent five years, which address the various issues of AI economics and find gaps for future research.

**Rekha M. Menan, Madhu Vazirani, Pradeep Roy (2017)** describe in his study, artificial intelligence has reached a tipping point. The combination of the technology, data and talent that make intelligent systems possible has reached critical mass, driving extraordinary growth in AI investment. The power of AI starts with people and intelligent technologies working together within and across company boundaries to create better outcomes for customers and society. But India is not fully prepared to size the enormous opportunities that AI presents.

According to their analysis, AI has the potential to add US\$957 billion or 15 percent of current gross value added to India's economy in 2035. To avoid missing out on this opportunity, policy makers and business leaders must prepare for, and work toward, the AI revolution.

**Rajat Kathuria, Mansi Kedia and Sashank Kapilavai (2020)** describe in their study the impact of artificial intelligence on economic growth with the help of Econometric Estimation as well as case study analysis and they find AI applications spread across multiple sectors of the Indian economy. The results show a significant and positive relation between firms that use AI and their TFP growth. Moreover, TFP growth is found to increase with increasing intensity of AI such that a unit increase in AI intensity will increase TFP growth by 0.05%.

**Lei Wang, Provash Kumer Sarker, Kausar Alam, Shahneoj Sumon (2021)** describe in their study that artificial intelligence can affect economic growth and employment. The influence is assumed to be substantial because the adoption of AI technology may lead to increased productivity, lower wages, prices, and labour substitution. Artificial intelligence can affect global economic growth with its widespread adoption and diffusion. They explain the models show that AI capital lowers capital prices, increases wages and augments productivity. Besides, AI capital positively affects the labour share and vice versa provided that AI and labour are complementary.

**Yugang HE (2019)** describe the importance of artificial intelligence to economic growth by using neoclassical growth model or task-based model. In his theoretical and empirical studies, he describes that artificial intelligence has a positive effect on economic growth. Governments should distribute more expenditure in the development of artificial intelligence so that it can fully promote the economic growth.

### **Objective of Research-**

- 1) To understand adoption of artificial intelligence on the Indian industry.
- 2) To understand application of artificial intelligence on the Indian industry.
- 3) To study the impact of artificial intelligence on the Indian industry.

### **Research Methodology-**

The study is based on secondary data. Data of the paper has been collected from the various Secondary sources such as website, Research paper, reports and journal.

### **Foundations of AI in India-**

AI research in India had its sporadic beginnings in the 1960s when Prof. H. N. Mahabala, upon returning from Massachusetts Institute of Technology (MIT), introduced a course in Artificial Intelligence at IIT Kanpur. It may be stated that Artificial Intelligence in India took off in the 1980s when the Indian Government, in association with the United Nations Development Programme (UNDP) launched the Knowledge Based Computing System (KBCS) program, as a part of Indian Fifth Generation Computer Systems (FGCS) research program to develop a state-of-the-art AI programming environment upon which R&D efforts could be carried out.

Indian Institute of Science (IISc), IIT Madras, Indian Statistical Institute (ISI) Kolkata and the Tata Institute of Fundamental Research (TIFR) were set up as nodal agencies leading the front on developing critical aspects of AI in India. Between 1986 and 1995, such nodal canter received INR 15 million, with each canter producing approximately 15 PhDs, and employing 20 to 35 full-time researchers. Several AI-based applications emerged from these efforts, including, IIT Madras’ ‘Eklavya’, a knowledge-based program designed to support community health workers in dealing with symptoms of illness in toddlers, CDAC’s ‘Sarani’ a flight scheduling expert system and IISc ‘s Computer Vision based image processing facility. India’s R&D capabilities in AI has since been growing steadily. Between 2010 and 2016, national institutes of importance such as the IISc, IIT Bombay, IIT Delhi, IIT Madras, IIIT Hyderabad, IIT Kanpur, IIT Kharagpur and ISI Kolkata feature among the top universities/research institutes for AI in India. India ranks 10th globally in terms of number of PhDs in AI, and 13th in terms of presentations in top AI research conferences.

### **Adaption & Application of artificial Intelligence for Industry-**

The automotive industry for instance deploys AI extensively across different operations. A central aspect of industrial engineering i.e. quality control is greatly enhanced by the predictive powers of AI. The automobile company Audi uses Computer Vision equipped cameras to detect tiny cracks in sheet metal hitherto

invisible to the human eye. AI machines can detect defects up to 90% more accurately than humans. Banks are also recognising the potential of AI for a range of applications that are transforming consumer experience and the way in which they operate. For instance using data from past payment patterns AI can predict and prompt the user’s preferred mode of payment. Such applications of AI that are personalising banking experience for users is also creating significant helping retain customers. The healthcare sector is leveraging AI’s predictive capabilities to detect for instance breast cancer at early stages using Machine Learning techniques and screen for diabetic retinopathy using Deep Neural Net based algorithms. It is reported that, AI has the adopted all sector of Indian economy and improve outcome costs by 40 to 50 percent.

Following table provides examples of current applications of AI across different sectors in India and their impacts on process efficiency, cost, quality of products and welfare outcomes etc.

**Table 1: Examples of AI Applications across Industries in India**

<b>Study</b>	<b>Application</b>	<b>Impact</b>
Agriculture	Image processing and Machine Learning enabled Crop and soil monitoring and predicting impact of weather on crop output	Efficiency in allocation of farm inputs such as pesticides; efficiency in crop cycle management
Manufacture	Computer vision enabled Quality control monitoring, predictive analytics, Machine Learning enabled supply chain management	High defection detection rates in quality control; productivity and efficiency gains from automation
Healthcare	Predictive analysis to detect early stage diseases; Deep Neural Nets to interpret medical scans, pathology slides, skin lesion, retinal image, endoscopy, etc.	Rapid and accurate image interpretation that is enhancing diagnosis, improving workflow for health systems and reducing physician’s errors, enabling patients to process own data
Banking	Natural Language Processing for conversational bots, Image recognition and Deep Learning based fraud detection applications	Enhanced and personalised customer experience, increased accuracy in detecting credit-card anomalies and money laundering, enhanced risk analysis and early detection of security breaches.
Retail	Machine Learning powered personalised recommendations and inventory management, Natural Language Processing powered ‘conversational’ commerce, computer vision powered smart shopping	Enhanced and personalised customer experience, efficiency gains from accurate pricing and seamless shopping, efficiency in inventory management
Education	Machine Learning powered learning diagnostics for students, Deep Learning based super-charged videos and learning platform	Personalised learning methods, Enhanced assessment of students and learning outcomes, enhanced support outside classroom
Transport	Machine Learning, Deep Learning and Advanced Neural Net based driver	Efficiency through decreasing costs of labour, enhanced driver safety,

	assistance, semi autonomous vehicle programs and traffic management systems	efficient routing systems and decreasing incidence of traffic jams, second-order energy saving effects
Tourism	AI powered robotics for hospitality services, Natural Language Processing based interface with guests, Machine learning driven data analytics	Enhanced personalisation of consumer experience, efficient and empathetic hospitality design
Media	Image recognition, speech-to-text transcription, metadata tagging as drivers of content monetisation strategies, automated media operations, Machine Learning based content-demand forecasting and management	Enhanced personalisation of media consumption, cost saving for media houses from optimal content monetisation strategies and demand forecasting

**Source:** Rajat Kathuria, Mansi Kedia & Sashank Kapilavai, Implication of AI on the Indian Economic, Indian Council for Research on International Economic Relations (July, 2020).

### **AI for Governance and Social Development-**

National governments and international governance agencies around the world are deploying AI-based solutions for a wide range of issues that are central to public policy and welfare. The predictive powers of AI and its flexibility lends AI solutions to a range of challenges facing society. Governments can reach the underserved and deliver more efficiently by judiciously fusing AI into its operations. A task-based analysis finds that, AI can speed up governance tasks by 20 percent, freeing up to 96.7 million hours and consequently saving 3.3 billion dollar for governments.

Other concrete instances of AI’s capabilities can be observed in the area of public utilities. In India, AI is demonstrating its potential to enhance law enforcement capabilities through Deep Learning based applications such as facial recognition systems which are being used by law enforcement agencies to efficiently track missing children. Delhi Police has partnered with ISRO to develop an analytical system called Crime Mapping Analytics and Predictive Systems (CAMPS) which helps them ensure internal security also controlling crime. Similar programs are being adopted in other states such as Jharkhand and Karnataka. Dubai police has signed an MoU with the Indian start up for its predictive policing solutions which were already piloted and adopted by states such as Rajasthan, Punjab and Uttarakhand. Defence Services in India use AI for intelligence, surveillance, etc, though several of these projects are still in the pilot or testing phase.

The International Telecommunications Union (ITU) published a report on the United Nations’ activities on AI, which compiles how different UN agencies are deploying solutions to achieve various Sustainable Development Goals (SDGs).

For instance the International Labour Organization (ILO) initiated a project that uses Big Data based AI algorithms to monitor incidence of child labour in Kyrgyzstan. The United Nations Children’s Fund (UNICEF) is using AI to generate insights on the spread of an epidemic and Deep Learning methods to increase empathy for victims of natural disasters. In India we find innumerable AI applications focusing on developmental outcomes. A recent media report stated that 11% of AI start ups in India were focused on the education sector. These include Toppr, Edu Gorilla, Embibe etc. Other critical areas of application include `securing lives of the disabled, healthcare, child nutrition, etc. IIT Kharagpur has developed a solution that filters fake news and alerts users during disasters. GnoSys a smartphone application developed for the deaf and mute uses natural language processing neural networks and computer vision to translate gestures and sign language into speech. The app is expected to change the life of an estimated 18 million people in India who are hearing impaired.

AI is claimed to have become critical to governance in the 21st century. In the era of Big Data, AI technologies such as sensors and Machine Learning can provide real time insight on the efficacy of government regulations and lapses in regulatory oversight. The government in India has publicly acknowledged the role of AI in enforcing good governance and proper regulations in India.

### **Artificial Intelligent Market in India-**

- The Indian Artificial Intelligence market is valued at 7.8 Bn Dollar as of July – August 2021. This represents a 22 percent increase in size of market over 2020.
- After the adoption of AI services in 2020 to ensure contactless payments and virtual banking services the BFSI sector’s contribution to the AI industry has remained more or less constant.
- The market size covers revenues from all AI operations originating from India regardless of stakeholder or client type of firm providing AI services and geography of client.
- The AI market share and size in relation to the types of Companies is the highest across the broad MNC IT / Technology / Electronic category which includes high end software and hardware technology, IT services, semi-conductor and

electronics firms. The combined market share is 32 percent down from a market size of 36.2 percent in 2020.

- The market size by Industries Sectors is the highest across the IT Services sector followed by the Technology sector (including Software and Hardware firms) with a market share of 35 and 23.3 percent respectively.
- Apart from the IT and Technology sectors the BFSI sector has a market share of AI services at 9.6 percent.
- There are close to 109000 Artificial Intelligence personnel working in India across enterprises and sectors, this represents a 20 percent jump in personnel from last year. The median salary of the AI personnel is INR 14.3 Lakhs.
- 14500 open positions related to AI are currently available to be filled in India, as of July – August 2021. Bengaluru, just as it does for other Data Science and IT services roles, tops the location for the highest proportion of open jobs.
- The 2<sup>nd</sup> wave of the devastating pandemic has affected the AI sector overall while contactless services are driving the need for AI services in sectors such as eCommerce and Healthcare, the effect of the pandemic continues to pull down the AI services in the Travel & Hospitality.

### **Artificial Intelligence impact on industry -**

Artificial Intelligence impact on industry and productivity are striking research has also established the destructive impact of AI on jobs and employment. A report by McKinsey Global Institute suggested that, intelligent agents and robots could eliminate as much as 30 percent of the world’s human labour by 2030. As per the study, automation would displace between 400 and 800 million jobs by 2030, requiring as many as 375 million people to switch job categories entirely. Similarly, a PWC study stated that 30 percent of the existing jobs could be automatable by mid 2030s. The financial services sector was noted to be vulnerable to automation in the short term, while transport was likely to get impacted in the longer run. An optimistic line of reasoning suggests that the countervailing effects are expected to become stronger and fully compensate the initial decline in labour with a reorganisation of businesses. According to the

World Economic Forum report machines and algorithms in the workplace are expected to create 133 million new roles, and displace 75 million jobs by 2022. Similar findings from the report by Bloomberg (2019) stated that “more than 120 million workers globally would need retraining in the next three years due to AI impact on jobs” (Bloomberg, 2019). While these predictions do highlight the unemployment risks associated with AI, it is also argued that the relationship between AI driven automation and job losses will depend on the level of demand in the sector prone to automation.

### **Conclusion-**

Artificial intelligence plays an increasingly important role in our lives and economy and is already having an impact on our world in many different ways. A lot of benefits for the adoption of AI in the industrial Sector in India. In Indian context after adopting Artificial Intelligence technology the automotive industry for instance deploys AI extensively across different operations. AI has to more improve and tragical changes in health outcome, automobile technology, Banking system, education system, transport, Manufacture Retail Sector, Legal Services, Travel tourism, Media. The market size by industrial sector in India is highest. 109000 Artificial Intelligence personnel working in India across enterprises and sectors. This figure is more improve every year. It means Artificial Intelligence has the adopted all sector of Indian economy and improve outcome costs by 40 to 50 percent. But cost of new technology, lack of talent and the baggage of legacy infrastructure are some of the new common deterrents.

### **References-**

- D. Thangam, A. Sathish, “Transforming Indian industries through artificial intelligence and robotics industry 4.0”, International Journal of Mechanical Engineering and Technology (IJMET), Volume 9, Issue 10, (2018), pp. 835–845.
- Geethanjali Jujjavarapu, Elonnai Hickok and Amber Sinha, “AI and the Manufacturing and Services Industry in India”, The Centre for Internet and Society, India,(2017) pp.15-30.
- Lei Wang, Provash Kumer Sarker, Kausar Alam and Shahneoaj Sumon, “Artificial Intelligence and Economic Growth: A Theoretical Framework”, Scientific Annals of Economics and Business, 68 (4), (2021), pp. 421-443.



Mansi Kedia and Richa Sekhani, “Potential Impact of Artificial Intelligence on the Indian Economy”, 36th IARIW Virtual General Conference, August 23-27, (2021), pp.1-27.

Rajat Kathuria, Mansi Kedia and Sashank Kapilavai, “Implications of AI on the Indian Economy”, Indian Council for Research on International Economic Relations, (2020), pp.1-58.

Rekha M. Menan, Madhu Vazirani and Pradeep Roy, “Review of Success Boosting india’s IAQ,” Accenture, (2017), pp. 1-15.

Philippe Aghion, Benjamin F. Jones, and Charles I. Jones, “Artificial Intelligence and Economic Growth”, National Bureau of Economics Research, pp. 237-240.

Philippe Aghion, Benjamin F. Jones, Charles I. Jones, “Artificial intelligence and economics growth”, NBER Working Paper No. 23928, (2017), pp.1-5.

Yingying Lu and Zhou Yixiao, “A Short Review on the Economics of Artificial Intelligence”, CAMA working paper 54/2019, The Australian national university, (2019), pp.1-20.

Yugang HE, “The Importance of Artificial Intelligence to Economic Growth”, Korean Journal of Artificial Intelligence, 7(1), (2019) pp.17-22.

[https://www.researchgate.net/publication/356557042\\_Artificial\\_Intelligence\\_and\\_Economic\\_Growth\\_A\\_Theoretical\\_Framework/link/61ab97cf50e22929cd47e5a8/download](https://www.researchgate.net/publication/356557042_Artificial_Intelligence_and_Economic_Growth_A_Theoretical_Framework/link/61ab97cf50e22929cd47e5a8/download)

<https://www.koreascience.or.kr/article/JAKO201934651404424.pdf>

<https://ideas.repec.org/p/een/camaaa/2019-54.html>

[https://iariw.org/wp-content/uploads/2021/07/Sekhania\\_Kedia\\_Paper.pdf](https://iariw.org/wp-content/uploads/2021/07/Sekhania_Kedia_Paper.pdf)

<https://analyticsindiamag.com/report-state-of-artificial-intelligence-in-india-2020/>

<https://analyticsindiamag.com/study-state-of-artificial-intelligence-in-india-2021-by-aim-research-tapmi/>

-----

## **Role of Artificial Intelligence (AI) in ERP for Education Institutions**

**Vishwas Patil**

MBA, Research Scholar, CP & Berar College, Nagpur

---

**Abstract:** Artificial Intelligence (AI) is changing the world at a pace never seen. It has a widespread influence in our day-to-day life. From traffic signals to self-driving cars, or mobiles to vacuum cleaners AI has touched every part of the human aspect. The Education Sector and software and technologies related to it are also highly influenced by AI. The ERP software for educational Institutions is using AI to automate and streamline all the processes taking place within an institution and greatly upgrades the efficiency of operating and allocating academic resources better. Educations institutes and industry has seen a paradigm shift in recent years. The world is no more the same as it used to be two years earlier. The Covid 19 pandemic’s name will be taken in infamy for years to come and the world will be judged with new parameters that are before Covid and After Covid. The Education still continued and will remain so hence we can easily assume that the future of ERP is bright and ERP is here to stay and so is AI.

**Keywords:** AI, ERP, Education Institutes, APP, iGuru

---

### **INTRODUCTION**

#### **Definition-**

Intelligence can be defined as, the ability to acquire and apply knowledge and skills.

It can be found in all species developed over the period of evolution.

#### **What is Artificial Intelligence?**

Artificial intelligence (AI) is the ability of a computer or a robot controlled by a computer to do tasks that are usually done by humans because they require human intelligence and discernment.

## **There are 4 types of Artificial Intelligence**

- 1. Reactive Machines.** - This is the first stage of an A.I. system
- 2. Limited Memory.** - A.I.'s ability to store previous data and/or predictions, using that data to make better predictions.
- 3. Theory of Mind.** - To make better predictions through many cycles of trial and error. Ex. Teaching Computer to learn to play chess
- 4. Self-Aware.** - A.I. begins to interact with the thoughts and emotions of humans.

## **5 Examples of AI In Our Everyday Lives**

1. Self-Driving and Parking Vehicles. Self-driving and parking cars use deep learning, a subset of AI, to recognize the space around a vehicle
2. Digital Assistants. ... Alexa, Google Voice search, etc.
3. Vehicle Recognition Identification. ... Cameras around our city use AI to read license plates.
4. Robots. ... Vacuum cleaners.
5. Transportation. ... Uber, Ola, etc.

## **What is artificial intelligence used for-**

Artificial intelligence is widely used to provide personalized references, recommendations, to people, based for example on their previous searches and purchases or other online behavior. AI is hugely important in commerce: optimizing products, planning inventory, logistics, etc.

## **Who founded Artificial Intelligence (AI)-**

John McCarthy, the father of AI, were to coin a new phrase for "artificial intelligence" today, he would probably use "computational intelligence." McCarthy is not just the father of AI, he is also the inventor of the Lisp (list processing) language.

## **ERP-**

### **• Definition-**

Enterprise resource planning (ERP) refers to a type of software that organizations use to manage day-to-day business activities such as accounting, procurement, project management, risk management and compliance, and supply chain operations.

### **• Education ERP-**

Education ERP, also known as School /College Enterprise Resource Planning System, is a software that takes care of various activities such as data storage and management, attendance management, fee management, automated communication updates, e-learning management, and various other school activities.

### **• NEED OF RESEARCH**

- To find out the role of Artificial Intelligence in ERP used in Educational Institutions
- To find out how AI can help solve complex problems of ERP used in Educational Institutions

## **HYPOTHESIS:**

1. H1: “Artificial Intelligence can play a major role in increasing the efficiency and accuracy of ERP
2. H2: ERP helps educational organizations to run and perform better.”
3. H3: AI-enabled ERP can help solve complex problems of educational institutions using the ERP

## **RESEARCH METHODOLOGY**

- Exploratory & Descriptive research design is adopted for the study.
- Methods of data collection

### **Secondary data**

Secondary data was collected through the following Primary sources-

- Reference books on related topics

- Trade journals, Magazines
- Articles published in periodicals
- Related journals
- Internet / websites
- Dedicated research websites like Shodhganga.com and research.com
- Blogs & Articles published on various ERP firms and organizations

## **DATA INTERPRETATION**

ERP which is used in educational institutions can be of different types. ERP is really the software to manage & Streamline any business. This is not a fixed software such as Windows operating system or any animation software such as Adobe Photoshop, or the famous accounting software Tally which is itself an ERP for accounting only. That software has to be used as it is designed. However, ERP can be designed or modified as per the requirements and need. There are many types of business and ERP is designed according to the requirement of each business.

Educational institutions can also be of many types such as schools, colleges, tuition classes, etc. But every educational institution has some things in common such as teachers and students. Classroom and Book Store. Teaching and Learning, etc. Teachers or educational institutions also communicate with students in many ways such as lectures, notes, homework, exams, notices, fees, certificates, etc. In the same way, students also interact with teachers or educational institutions in many ways such as answering books, fees, books, examinations, etc.

ERP used in education institutes can also be designed and used according to the need. Many ERP providing organizations recognize these requirements and provide ready to use platforms to their customers such as Attendance, Fee collection, Timetable, ID cards, MIS Reports, Library, Transport Management, Exam Management, Hostel Management, Certificates, Such as Transfer Certificates, Bonafide Certificates, Tuition Fee Certificates, Online Admissions, etc.

Now we have to see what, is or can be the role of Artificial Intelligence in the ERP used in education institutes. We have to remember that a computer or computing machine cannot give any result without data. That is, be it any intelligence, human, or computer, all the results, permutations, or combinations can only be derived by input. Even AI cannot work without input. The job of AI is to process the given input and get the desired result with its computing power. It can give us various results which we can use as per our requirement.

**Let us understand it with a few examples-**

Creating legends- Assume that there is a school that has provided fees payment facility to its parents using their APP (ERP). Now, the APP has multiple payment gateways to collect the school Fees. Parents are continuously complaining about failed payments. Here AI can come to the rescue. It will collect and track the patterns of payment and suggest the best Payment gateway ex. If there are more failed transactions because of any particular payment gateway, or at any particular time or Bank, the ERP AI can identify the pattern, and based on its analysis it can provide suggestions like correct payment gateway(Less failure rate), correct time or downtime, and most successful bank with least failure rate, etc., This will help the user by reducing the risk of payment failures, saving Parents time and School’s reputation.

AI systems work by combining large sets of data with intelligent, iterative processing algorithms to learn from patterns and features in the data that they analyze. Each time an AI system runs a round of data processing, it tests and measures its own performance and develops additional expertise.

**Let us see another example-**

Exam management is an important part of ERP used in education institutes. Almost all the companies that provide Education ERP solutions provide this module. Through this module, educational institutions conduct exams on their premises or virtually. The examinations conducted by this module are based on multiple-choice questions only. For descriptive answers, especially such subjects as art, essay, language, etc., where the constructive answer is expected, the examination of it by the examiner is still done manually i.e. only human intellect is being used.

Here AI can overcome this deficiency to some extent, such as checking the answers of questions can also be automated by providing inputs of important keywords, references, names of thinkers and authors related to the topic, etc. But whether it will work completely is a matter of discussion.

Though a leading, Hyderabad Based Educational ERP Service provider called iGuru Portal Services PVT. LTD has its own way of dealing with this issue. **iGuru** has developed a unique way of sharing and examining descriptive questions and answers using the Image upload and download feature which they call “**Worksheet Test**” which is a time-bound, “pen & Paper” test. In the worksheet test, teachers can create and upload the question Papers or tests using an Image in Jpeg or PDF format in their APP. Students download these question papers and in return upload their answer sheets Images or PDF files in their APP. These uploaded answer sheets by students are visible to the teacher of their respective class and they can again download the student’s answer sheet, evaluate it and provide the marks immediately. This feature covers all tests for any subject.

## **Findings**

- There are numerous avenues where AI can help the Educational ERP software industry and it is widely used in European countries but in India, it is still in the incubation stage. There are many national and International Educational ERP services providers who are working relentlessly to get their fair share.
- There are a few key departments where AI expands the usefulness of the ERP system, like data management, customer service, and financial and human resource planning.
- ERP supported by AI is proficient in executing self-learning algorithms that can detect past incident reports to predict future problems and alert the organization for the same.
- AI-enabled ERP can read and interpret the legends (Past trends) and predict or forecast the future trends, for example, It can predict Sudden rise or fall in the performance of the students or specific students or specific subject, that can be challenging for the organization to predict.

**Here is a list of Leading ERP services providers and their features comparison –**

*Source: iGuru Portal Services PVT LTD*

S.No.	Modules	iGuru	R-Total	Tenno	Vawsum	Edu net	Jump soft	My Class Board	EDUNEXT
1	Enquiry Management	Yes	Yes	No	No	Yes	Yes	Yes	Yes
2	Admission module	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
3	Dynamic Time Table Management	Yes	No	No	No	No	Yes	No	Yes
4	Attendance	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	Homework	Yes	Yes	Yes	Yes	No	No	Yes	Yes
6	Notice Board	Yes	Yes	Yes	Yes	No	No	Yes	Yes
7	Notifications	Yes	No	No	No	Yes	No	Yes	Yes
8	Events	Yes	Yes	Yes	No	No	No	Yes	Yes
9	Gallery	Yes	Yes	Yes	Yes	No	No	Yes	Yes
10	Voice Calls	Yes	No	No	No	No	No	No	No
11	Bio metric attendance	Yes	No	No	No	No	No	Yes	Yes
12	QR Code Scanner	Yes	No	No	No	No	No	No	No
13	Geo fencing for attendance	Yes	No	No	No	No	No	No	No
14	RF ID integration	Yes	No	No	No	No	No	Yes	Yes
15	CC CAM Monitoring	Yes	No	No	No	No	No	Yes	No
16	Consent Module	Yes	Yes	No	No	No	No	No	Not Sure
17	Leave Management	Yes	No	No	Yes	No	No	Yes	Yes
18	Fee Module	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
19	Online Payment Gateway	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
20	Multiple payment gateway support	Yes	No	No	No	No	No	No	Not sure
21	Examination Module	Yes	No	No	No	No	No	Yes	Yes
22	Report Card generation	Yes	Yes	Yes	Yes	No	No	Yes	Yes
23	Students data management	Yes	Yes	Yes	Yes	No	No	Yes	Yes
24	Staff management	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
25	Payroll Module	Yes	No	No	No	No	No	Yes	Yes
26	Document Manager	Yes	Yes	No	No	Yes	Yes	Yes	Yes
32	Inventory Management	Yes	No	No	No	No	Yes	Yes	Yes
33	MIS Reports	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
34	Accounts Management	Yes	No	No	No	No	No	Yes	Yes
35	Group Tracking	Yes	No	No	No	No	No	Yes	Yes
36	Role Management	Yes	No	No	No	No	No	Yes	Yes
37	Permission Slip	Yes	No	No	No	No	No	No	Yes
38	Feedback	Yes	No	No	No	No	No	Yes	Yes
39	Live Chat	Yes	No	Yes	No	No	No	Yes	Yes
40	ID Card generation	Yes	No	No	No	No	Yes	No	No
41	SMS Service	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
42	Multiple printer support	Yes	No	No	No	No	No	Yes	Yes
43	Documents Printing	Yes	No	No	No	No	Yes	Yes	Yes
44	Profile	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
45	24x7 Customer Support	Yes	No	No	No	No	No	Yes	Not Sure
46	Birthday reminders	Yes	No				No	No	Yes
47	Talking School ERP (Alexa Enabled)	No	No	No	No	No	No	No	Yes
48	Staff Recruitment	No	No	No	No	No	No	No	Yes

## Conclusion-

Educations institutes and industry has seen a paradigm shift in recent years. The world is no more the same as it used to be two years earlier. The Covid 19 pandemic’s name will be taken in infamy for years to come and the world will be judged with new parameters that are before Covid and After Covid. The Education still continued and will remain so hence we can easily assume that the future of ERP is bright and ERP is here to stay and so is AI.

## REFERENCES

Abramovich Giselle,” 5 Examples Of AI In Our Everyday Lives”, ” Online article on www. <https://business.adobe.com/>, July 1, 2018. (<https://business.adobe.com/blog/perspectives/5-examples-of-ai-in-our-everyday-lives>)



AM8ZE.COM, “use of artificial intelligence in ERP”,” Online article on [www.am8ze.com](https://www.am8ze.com/2021/07/27/use-of-artificial-intelligence-in-erp/), July 27, 2021.( <https://www.am8ze.com/2021/07/27/use-of-artificial-intelligence-in-erp/>)

Colorado State University Global (CSU Global),” How Does AI Actually Work?”, August 9th, 2021 (<https://csuglobal.edu/blog/how-does-artificial-intelligence-actually-work#:~:text=AI%20systems%20work%20by%20combining,performance%20and%20develops%20additional%20expertise.>)

Johnson Jonathan, “Machine Learning & Big Data Blog 4 Types of Artificial Intelligence” Online article on [www.bmc.com](https://www.bmc.com/blogs/artificial-intelligence-types/), June 8, 2020. (<https://www.bmc.com/blogs/artificial-intelligence-types/>)

---

## “Impacts & Benefits of Technology on Sports Science”

Dr. Ramesh Ashok Gaikwad  
Director of Physical Education and Sports  
B. J. S. College, Wagholi, Dist. Pune (MS)

---

### ABSTRACT

Today we are living in a technologically advanced world. Technology has impacted all the human activities and sports science is not an exception to it. Technology has a positive impact on all the stakeholders say: sportsmen, coaches, referees, trainers, groundsmen etc. Through various TV sports channels the games are not only been popularized but also has created awareness of rules of games amongst the viewers. Use of technology in the sports has brought in accuracy in results, speed, new avenues for ensuring physical fitness. Now several mobile apps are available for various sports making instant guidelines for preparation of various events. The sports event organizers have also been benefitted by the latest technology to attract renowned players from all over the world. Technology use has given rise for changing some rules of every game and also helped in creating awareness of these changes in the sports persons. Advancement in technology is a continuous process and it will help in making the games speedy to match the current dynamic lifestyle.

**Key words:** Sports, Technology, accuracy, speed, training tool, transparency

---

### Introduction

Today, the sports world over are using latest technology. In all the sports apart from the talent, artificial intelligence is being extensively used thereby increased accuracy in time measurements of sport performance. It enables the referees, umpires and sport officials to make accurate and better decisions when rules are breached. The technology has touched all aspects of the games be it design of sport equipment or apparel. Even the sports spectators are also benefitted in getting clear vision of the sports performances.

Today because of the number of sports channels screening various sports events, it has helped the general public to understand the rules of the games.

During the commentary of the matches even the commentators also discuss various rules of the games and educate the viewers. It has been observed that the viewers might not have played the game but merely by viewing the on the television set there is awareness about the rules of the game. This has helped popularization of the games amongst youngsters.

Undoubtedly technology is advancing in sports field in a big way. Internet of Things and Artificial Intelligence have immensely impacted the sports and fitness. There are number of mobile apps for sports activities. Smart goggles for swimmers and cyclists, Sensor-enabled shoes for football players and runners track speed, force, motion, traction, etc. are commonly witnessed impacts.

In the urban and metropolitan set up we now see number of Gyms where equipment based on latest technology are available for ensuring physical fitness.

In the field of development of sports talent, the technology has made wonders. In a vast populous country like India, when the hidden talent in sports is spread over across the length and breadth of the country spotting the hidden talent in sports has been possible now. These players who are playing in the rural area with outstanding performance can view the actual performances of the Olympics and national player’s videos and they can improve upon their performance.

**Training:** A modern training aid is motion capture software. This is where the movement of a performer is recorded in detail. This gives the coach vital information on the performer as it can highlight any weaknesses that could be changed to enhance performance. Motion capture software is used in many sports such as, tennis, football, cricket sprinting.

Even, now virtual training courses are also available to the sports persons. In this context, this author would like to suggest that being a developing country it has relatively small budgetary outlay for sports. Now the government can get prepared videos from the national and international coaches of various sports events and such videos be made available at the Districts Sports Office. This office in turn will arrange the video screening for the potential sports persons from the specific field. Thus, at a low-cost coaching for the deserving sports person can be had at their door steps. Currently all the high schools are well equipped with the computers as well as projectors for running the videos and films.

With the introduction of the technology to sports even the rules of each sport are now re-written because of the facilities offered by the technology. E.g., the umpire’s decisions when questioned can be subjected to appeal to get the correct decision using the technology. For such appeals rules are to be given a fresh look and wherever necessary amendments are needed. Sports which are recognized at the international level, their international associations have been amending the rules from time to time on achieving consensus. In the following paragraphs I have brought out how technology has helped each game in improving the decisions which will help the reader to understand the impact of technology on the sport science.

It will be appropriate to find out how technology is used to enhance the sport performance:

- 1) Physical fitness: Body fat monitors and heart rate monitors ensure physical fitness.
- 2) Training aids: software to review performance simulators to practice skills in controlled environment.
- 3) Equipment: Equipment with inbuilt advanced technology.
- 4) Apparel and footwear: Game wise apparel and footwear as per the need are used.
- 5) Prevention of injury: Medicines for fast relief are available. Pain killer sprays etc.

### **Team Games Played on the Ground:**

**Cricket:** Before the use and application of the technology at times there used to be doubts raised by the aggrieved teams about the umpire’s decision about leg before wicket. However, now with the use of advanced technology the replay of the game can be seen by a third umpire and even after viewing the delivered ball from various angles and also using hock eye most accurate decision can be taken and then there is no room for doubting the correctness of the decision. After careful study of the technology the International Cricket Council has framed the rule regarding Decision Review System. So also, with the invention of balling machine the batsmen can practice on fast balls.

**Kabaddi:** This game was being played on the normal earthen ground but now with the introduction of the technology Kabaddi is now being played on the mat.

While the game is on, at times it is not possible for the necked eyes to decide whether the sportsman has touched the other sportsman. Now, with the use of technology third umpire can give accurate decision by reviewing the said move on the television set. The replay of the entire game can help the players to introspect and find out their lapses and to take remedial measures in the subsequent games.

**Hockey:** It is a very fast game and spotting the foul is a very tricky task for the umpires and which is often challenged by the aggrieved team. The new technology as stated in the above two cases enable the referee to dispose off the appeal by reviewing the particular moment on the screen. Now hocky is being played on the poly-grass turn as a result of which the game has become very fast. The player’s control over the ball has improved.

**Lawn Tennis:** While serving whether there was a foul or otherwise can well be detected using the technology. Sensors are being used for this purpose and within a fraction of a second the umpires can announce the foul. Thus, accuracy has increased leaving no doubt for the aggrieved team.

### **Individual Events:**

#### **Track and field events:**

**1) Running:** Due to introduction of technology it has now been possible to accurately spot the foul by the runner. So also, now the winner can be most accurately spotted even accounting the late touching the winning mark by a fraction of a second. Now instead of clay track synthetic tracks introduced. This has immensely benefitted the participants. Speed has increased.

**2) Boxing:** Now with the use of technology the umpires can immediately detect whether the bout has hit the right place or not. This can be seen by the coach and the umpires on the computer and correctness can be ensured.

**3) Cycling:** With the use of technology now the sport cycles are manufactured with scientific approach. The racing cycles are very light, designed specially to arrest the wind force from the opposite direction. Now the cycle race participants use helmet and protect themselves from eventual head injury.

**4) Shooting:** Using the technology the rifles used in the shooting competition have been built differently to ensure more accuracy. Of course, the competition has also become very severe.

**5) Wrestling:** Now the wrestling competitions are held on the mats. Time has been limited as a result of which speed has increased. Using the cameras accurate decisions have become possible and thereby transparency has increased. All this is possible because of the technology advancement.

**6) Swimming:** Swimmers often High technology swimsuits when competing to reduce drag when swimming in the water. Besides at the time of competition digital techniques help in most accurate result.

**7) Fencing:** Now this game is totally based on the electronic equipment. The apparel used by the sportsman is fixed with electronic sensors and when the opponents fence touches the specific body spot automatically points awarded are shown on the display. Hence the human element has been left out.

Apart from the accuracy and transparency brought in by the technology in sports field, it has also helped the players in improving their performances. Now they can compete with themselves for improving their performances. As has been stated technology can be effectively used in giving coaching to the players thereby their performance can be improved.

### **Conclusion:**

Thus, it can be seen that the use of technology has totally changed face of the sports activities. It has helped the sports person to ensure their physical fitness as well as to understand the latest techniques which can bring success. Due to technology use the training methodology has also undergone a sea change. The technology use has brought in total transparency in the results as accuracy in time, measurements, photo finish character of the competitions. The games have become fast and use of mats / turf etc, injuries have been minimized. Needless to say, that the technology in sports science has immensely benefited all the stakeholders say, sportsmen, trainers, coaches, referees / umpires etc. Technology improvement is a continuous process and we look forward for new inventions in use of technology in sports. It will help the upcoming sportsmen to show better performance.

### **References:**

Franz Konstantin, Fuss, Aleksandar Subic, Sadayuki Ujihashi, “The Impact of Technology on Sport II” (2007).

Technology in Sports, (R046), Cambridge National Sport Science Revision Guide available on <https://www.cleevepark-tkat.org/assets/Documents/Year-11-Study-Packs/SPORT-SCIENCE-Technology-in-Sport-Revision-Guide-Complete.pdf>

Jennifer Swanson, “The Secret Science of Sports: The Math, Physics, and Mechanical Engineering Behind Every Grand Slam, Triple Axel, and Penalty Kick”

Matthew, Annis, “The Impact of Technology in Sports”

---

## **Women Health and Challenges**

**Dr.Surekha Bhaguji Bhingardive**

K.J.Somaiya College of Arts, Commerce & Science, Kopargaon

Email.ID: bhingardive.surekha@gmail.com

---

### **Abstract:**

Health is an important factor that not only contributes to human well being but also aids in economic growth. Women are an important pillar of society and they are the primary caretakers in every country or the world, but still they suffer many problems. Women’s health concerns are numerous and influenced by various factors like gender disparities, heart disease, diabetes, maternal health issue, sexual health, breast cancer ect.

Improving healthcare services along with education can be the most important to make women aware of their right’s and also prevent from becoming easy prey to severe emotional and mental disturbances providing employment opportunities for women. Health care providers can play an important role in society.

**Keywords:** Women health, Challenges, Healthcare services

---

### **Introduction:**

Health is an important factor that not only contributes to human well being but also aids in economic growth. Women represent the cornerstone of overall health of a family, ensuring they have to take care which can lead to improved health for children and families. The health of families and communities are no doubt, tied to the health of women. Being a man or a woman has a significant impact on health, as a result of both biological and gender-related differences.



The health of women and girls is of particular concern because, in many societies, they are disadvantaged by discrimination rooted in socio cultural factors.

Women health refers to the branch of medicine that focuses on the treatment and diagnosis of diseases and conditions that affect a women’s physical and emotional well being. Women’s health concerns are influenced by various factors like gender disparities, early marriage domestic violence, sexual abuse, malnutrition, poverty illiteracy and no access to quality health care which is a major concern today.

Women form an important pillar of society and they are the primary caretakers in every country or the world, but still they suffer many problems. Poor health and society status affect women and adolescent girls around the world making accessibility and affordability difficult regarding health care services a challenge in 21st century India. Women are generally vulnerable to poor nutrition in all phases of life, globally about 500 women die every day due to cause’s pregnancy and childbirth and 20 per cent of these women are from India die because of heart attacks. India anemia burden among women is widespread with 53.1% of non pregnant women. India carries the higher burden of anemia despite having various programmes and policies for the 50 years since the launch of national nutritional anemia prophylaxis programme in 1970.

### **Objectives:**

To Study the women’s health in India

To study the challenges of women health in India.

### **Research Methodology:**

The research paper is based on the secondary data source.

### **Challenges of Women health in India**

Women health refers to the branch of medicine regarding the treatment and diagnosis of diseases and condition that affect a women physical and emotional well being. Women in India face issues like malnutrition lack of maternal health, diseases like malnutrition, lack of maternal health, diseases like AIDs, breast cancer, domestic violence and many more ,Some major issues are as l follows

### **Heart diseases:**

Heart disease is the cause of death for women Symptoms of a heart attack includes chest pain shortness of breath and weakness.

### **Stroke:**

Each year's stroke affects 1500 more women than men. Two types of stroke hemorrhagic or bleeding in the brain and the blockage of a blood that causes impaired blood flow.

### **Diabetes:**

Although diabetes is certainly, not exclusive to women does increase the risk for heart diseases by four times in women. Women are also more susceptible to diabetes related complications such as blindness, kidney disease and depression.

### **Mental health issues:**

From iron deficiency, anemia to high blood pressure, the changes women experience during pregnancy can impact a women's health.

### **Urinary tract infections:**

Urinary tract infections occur when germs get into the urethra and start to multiply. They are particularly common in women as they have a shorter urethra than a man does.

### **Sexual Health:**

There are more than 30 types of sexually transmitted infections, one of the most common about 80 % of sexually active men and women will be infected with HIV cervical cancer was once the most common causes of death in women.

### **Breast cancer:**

Second only to skin cancer, breast cancer is the most common cancer in women.

### **Osteoporosis:**

Osteoporosis is a disease that causes your bones to weaken, making them susceptible to fractures; Postmenopausal women are at higher risk for fractures associated with osteoporosis.

Women Poor health are more likely to give birth to low weight infants .They also are less likely to be able to provide food and adequate affects the household economics well- being As a women in poor health will be less productive in the labor force.

## **Conclusion:**

Women form an important pillar of society and they are the primary care taker in every country or the world, but still they suffer many more problems health issues.

Improving healthcare services along with education can be the most important to make women aware of their rights and also it prevent would I from becoming easy prey to sever emotional and mental disturbances providing employment opportunities’ for women, which will also create a positive impact on women health concerns. Female health care providers can play an important role in education. Society should recognize their health and nutrition needs as well. Empowering women at all level would help them to serve productive members or society and

develop healthy generations. Addressing the gender class or ethic disparities that exist in health care and improving the health outcomes can contribute to economics gain through the creation of quality human capital and increased levels of saving and investment.

## **References:**

**Women And Health Issues And Barriers** Editor: Dr. Poonam Kumria

<https://www.statista.com>

<https://www.sensus.gov>

<https://www.healthcareradius.in>

<https://www.nm.org>

---

## "Effect of technology on women investors psychology"

Dunal Harishankar Bagde  
Dr. prafulla w. sudame  
C.P.& Berar College

---

### **Abstract**

This study aims to explore the investment behavior of women investors as the new competitors in the investment field and to determine the factors that influence their investment attitude. The study revealed that women investors are not inclined to take risk in their business for investment decision, they are somewhat conversation and risk averse. This research also asserts that if they spend quality time and get better training about the stock market. These study outcomes would help the women investors' psychology to develop their investment, knowledge and confidence. Women's are now an essential and integrated part of the global economy. Their strength and expounding upon their skills and experience women will continue to realize success and create value. As it turns out women investors have a slight edge over men when it comes to long term gains. It is fact that women have more patience than men. Therefore, they can be great investors. Women are taking more responsibility such as managing family life, household work, children, and education. Before she invest in stock asked a series of questions: - is the company more established, does it have advantages, it is profitable.

**Key words:-** Explore, Investment, Behaviour, Women Investors, Psychology, Knowledge, Confidence.

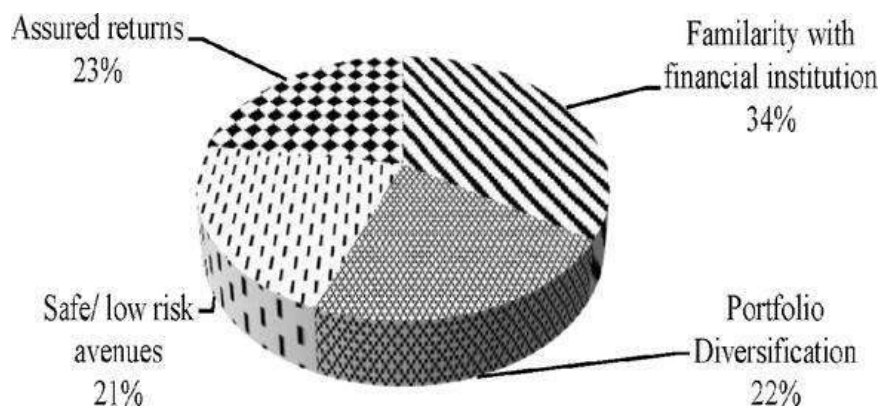
---

### **Introduction:-**

The role of financial decision maker in a household has evolved over time. Decades ago, women held traditional roles of housekeeper and wife's. Today, more women are pursuing higher education and female professional are making great in business.

Women’s are taking one more responsibility such as managing family life, career education. But women need not be working to invest in market. If you are a women who stays at home to take care of her family. If you are someone who feels unsure about investing about investing. As women become self-sufficient and own the narrative of your finances. As women the power to patiently, smartly and efficiently invest their money which will not only help financial goal but also lead you down a path of growth and opportunity.

All investing involves risk. It can be hard for people to accept risk in their own portfolio during times of economics. Research found that women believe risk taking had benefits may not continue into the future. As the same time most women understand and agree with the idea that reaching goals requires take some degree of risk.



Men and women both are considered important for the creation of development of family. When womens move forward the family moves the village moves and the nations moves. Is also expressed the importance of women. But even that time they used to save to meet their future needs. Security for the family as well as to spend the life. Female literacy as a medium for overall performance. The opportunity available to women leads to economics independence.

### Review of literature:-

- Investment behaviors of men and women vary in several ways. Thus, this difference in investment behavior has augmented the scope of research in the

context of behavioral finance. Similarly, Kappal and Rastogi (2020) also argued that individual investment behavior is affected by personality, gender difference, socio-economic environment, attitudes, myths, and other demographic info. The prevailing literature separately identifies female entrepreneur behavioral and psychological attributes that influence investment attitude in the context of Pakistan. This will ultimately help the financial service industry to offer adequate investment opportunities

- To determine the investment attitude of an individual, it is essential to understand that this behavior is determined through their financial knowledge and mathematics expertise. Thus, Khresna Brahmana et al. (2012) recommended modern finance-theory which demonstrates market efficiency is determined not only through the gen adjusted acceleration but through the existing information in the market. This suggests that asset prices include all information and estimations of the true-value through the passage of time.
- Personal attributes are highly influenced while making decisions for investments. Comprehensive studies have taken place to comprehend the association between the type of personality and the investment attitude of an entrepreneur. Scholars have employed distinct traits of personality and have discovered the association between personal style and the ability to tolerate risk. The renowned inventories employed are from the big five model (Mayfield et al. 2008; Brown and Taylor 2014; Bucciol and Zarri 2017;
- Akhtar et al. 2018; Filbeck et al. 2005). Hence, a discrepancy in the personality type of the investor and the selected portfolio can unfavorably affect an individual’s wealth. Therefore, the financial consultant must understand the psychology of the potential investor before providing their respective investment proposal (Kannadhasan et al. 2016).
- Tripathi (2014) has conducted a study to investigate the perception towards Derivative Trading. Derivative trading was introduced in India in the year 2000 on NSE and BSE. The study has conducted a survey through structured questionnaire of 100 retail investors of Delhi/NCR region to understand the awareness and attractiveness of different derivatives securities for different purpose. Derivatives products provide risk management. Non probabilistic judgmental sampling has been applied for gathered the data. Statistical tools such

as descriptive statistics, chi square test, standard deviation, and T test has been applied for analysis. This research also discovered the preference of Indian investors for invest in real estate and insurance schemes. The present research indicated that the derivative market was dominated by male investors than female. This study suggested that SEBI have to take steps to create awareness among investors about the derivatives and spot market

### **Research Objectives:-**

1. To know the investment behaviour of women investor.
2. To check the level of knowledge of female investors psychology.
3. To study the psychology of women investors.
4. To know the women perception about stock market.

### **Sample Area:-**

The population selected for the research is working women and who reside in Nagpur city.

### **Sample Size:-**

The total sample size for the study is 400.

### **Sample Unit:-**

The respondents selected for the study are the women investors of Nagpur city and who are willing to invest in stock market. Researcher has collected 400 respondents. Those working women shows interest in knowing their financial requirement and psychology has considered for data collection and providing questionnaire.

### **Findings**

Major findings of study reveal that most of women investors are taking decision independently. While few of them are still depend upon another investment follow their personal financial plan, rest of the women investors lack in the same. It has shown up in this research that women investors have basic understanding of investment and some of them have prior investment. Very few women investors

has investment decision based on own gut feelings or with the help of financial advisor.

### **Future Recommendation:-**

From the findings we can say that most of the women want to invest in safe investment. Most of respondents have investment objectives. In investment decision making they always look for from family and others.

### **Limitation Of Study:-**

Present research study is focused on women investor psychology only, conducted in Nagpur city only. Most of the women are not interested to invest their money in stock they think that it is risky and a type of gambling. Effect of technology causes blurred vision, dry eyes, headaches, neck and shoulder pain.

### **Conclusion :-**

As per the study it can be concluded that most of women does not want to take risk and this tendency make risk- averse investors. Which is significant and helps them to eliminate risk in their long term investment. It has been found that most of women investors cannot take any financial and investment decision. Women investors are more conservation than man . large percentage of women like to invest in secured funds even if return is less . married women is also referred to less risk them marries man . they manage their household budget also arrange for rainy day different from male investors take risk to get more and more.

### **References :-**

<https://www.researchgate.net/publication/351130889>

<https://ijcrt.org/papers/IJCRT2003180.pdf>

<https://www.google.com/search?q=effect+of+technony+on+women+investor+psychology&oq=&aqs=chrome.2.69i59i45018.12635285j0j15&sourceid=chrome&ie=UTF-8>



[https://www.ripublication.com/ijaer18/ijaerv13n11\\_127.pdf](https://www.ripublication.com/ijaer18/ijaerv13n11_127.pdf)

<https://www.frontiersin.org/articles/10.3389/fpsyg.2020.588121/full>

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2981662](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2981662)

---

# INFLUENCE OF COMBINED POSITIVE BIORHYTHM ON THE PERFORMANCE OF SPORTS PERSONS

**Mr. Nilesh S. Ingole<sup>1</sup>**

Ph.D. Scholar, PGTD of Physical Education,  
Sant Gadge Baba Amravati University, Amravati, Maharashtra  
*e-mail: [nilesh.ingole.1991@gmail.com](mailto:nilesh.ingole.1991@gmail.com)*

**Dr. Tanuja S. Raut<sup>2</sup>**

Professor, PGTD of Physical Education,  
Sant Gadge Baba Amravati University, Amravati, Maharashtra

*e-mail: [tanujaraut13@gmail.com](mailto:tanujaraut13@gmail.com)*

---

## ABSTRACT

The influence of positive biorhythm cycles on Sant Gadge Baba Amravati University player's performance is investigated in this article. In this study, the sample volume was computed using the Korjsi and Morgan table, and categorised random sampling was utilised on 80 sports persons from Sant Gadge Baba Amravati University. Their biorhythm was generated using biorhythm software for presenting graphs of sample group exam days, concerned exam date, and their birthday. The biorhythms composition cycles were separated into three groups, and the scores of each player assigned to each group were recorded. The exam scores and composition cycles for each exam were then examined using MS-excel software. 't' test were used to address the study. The findings of the data analysis suggest that subject in the A situation (intellectual, emotional) is the best combination of biorhythm cycles and C situation (physical and emotional) is the best combination. But Also situation B (Intellectual & physical), is the poor combination for performance as a result of lack of these two together.

**Keyword:** Negative phase, Positive phase, Biorhythm, Performance of sports persons, physical cycle, Emotional cycle, Intellectual cycle.

---

## **INTRODUCTION**

The term biorhythm is a combination of two Greek terms, bios and rhythmos, which implies life and a continuous or periodic beat, respectively. The theory of biorhythms identifies and quantifies three basic and significant life cycles in man: physical, emotional, and intellectual (Biorhythm Calculator and Plotter, 2013). In 1890, Wilhelm Fliess began a groundbreaking study on biorhythms. He appeared to come up with a similar theory: the body went through 23-day physical and 28-day emotional cycles. He communicated his results with Sigmund Freud, a friend. Hermanna Swoboda was another early biorhythm researcher. Swoboda and his colleagues discovered a 23-day physical cycle and a 28-day emotional cycle in their patients. Friedrich Teltscher also conducted trials on 5,000 pupils to investigate biorhythms. In 1939, Hans Swing found that 401 accidents and 197 deaths were related to unfavorable biorhythms. This resulted in the identification of a new biorhythm: the intellectual cycle. Through efficiency and accident prevention trials involving railway workers, Lexford Hersey proved the occurrence of all three of these biorhythm cycles. (Citation Excel 2013)

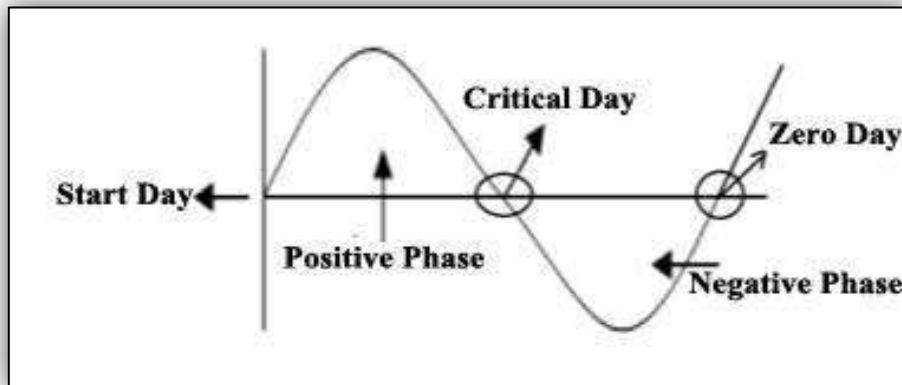
Biorhythm is a strong tool with a wide range of uses. It can assist us in making the most of our daily lives, and it can assist professionals of all Sport in continuously performing to the best of their skills. Biorhythm can be utilised in player selection and training, scheduling also used in dangerous treatments such as surgery, and scheduling flights for pilots in an effort to reduce human error.

### **Biorhythm cycles**

Biorhythm adherents think that a person's life is influenced by rhythmic biological cycles that affect one's aptitude in numerous disciplines. We may classify rhythmic biological cycles into two categories: main and secondary. Primary rhythms have an impact on physical, emotional, intellectual, and intuitive realms. Secondary rhythms have an impact on domains such as mastery, passion, and wisdom. These cycles begin at birth and continue to fluctuate in a sine wave pattern throughout life.

The physical rhythm is the shortest 23 days biorhythm. This cycle monitors your physical strength, health, stamina, and vitality. 28 days Emotional cycle examines your psyche's stability and positive energy. Intellectual cycle 33 days

cycle, this rhythm describes not just academic competence, but also a mental condition shown in self-confidence or a way of thinking.



### **Positive and Negative Phases**

The positive phase, as you might think, is when a biorhythm is greater than zero. This is the moment when we are at our best in terms of the cycle in question, but it is not without consequences. And when a biorhythm swings below zero, it enters a negative phase. These, however, do not always leave us at our lowest. They're more of a recharging phase, if you will.

### **METHODOLOGY**

The target population included all sports persons of Sant Gadge Baba Amravati University who were 20-25 year of age. The Korjsi and Morgan table has been used for estimating the sample size. The sample was 80 male were selected by the classified random sampling. Also for statistical finding birthdays of sample collected. Using biorhythm software to construct graphs of the sample group's performance time and birthdate, their biorhythm graphs were made, the cycles of biorhythm composition were separated into 6 groups, and the score of each player matched to each group was recorded.

**Situation (A):** intellectual and emotional graphs in positive phase.

**Situation (B):** intellectual and physical graphs in positive phase.

**Situation (C):** physical and emotional graphs in positive phase.

**Tools:**

Sr no	Graph in Positive Phase	Test
1	Physical	12 min Run & Walk
2	Emotional	Emotional Intelligence Scale by Sushma Talesara
3	Intellectual	Wechsler Adult Intelligence Scale (WAIS)

All these three test are conducted on the subjects in 3 different situations.

**HYPOTHESIS:**

**H1:** There is significant difference between various combination situations.

**H2:** Sports performance is the same when biorhythm cycles are combined.

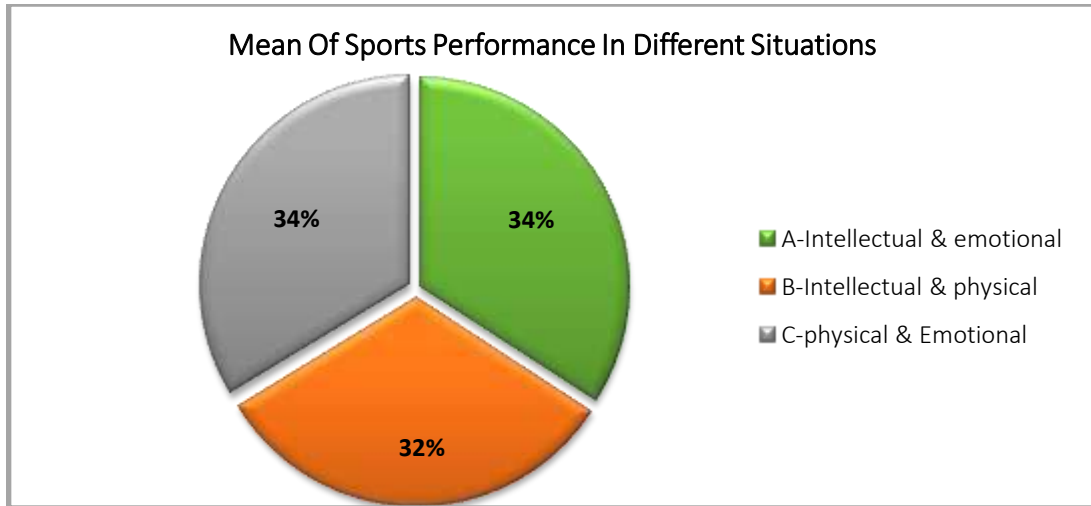
**H3:** Sports performance differs depending on the mix of biorhythm cycles.

**RESULTS**

**Table 1: Statistical Descriptive Of Sports Performance In Different Situations**

Situations	Mean	N=80	Sd
Intellectual & emotional graphs are in positive phase.	71.6	26	3.84
Intellectual & physical graphs are in positive phase.	67.4	27	3.78
physical & Emotional graphs are in positive phase.	70.6	27	2.07

Table 1 shows statistical description of sports performance in different situations. Kolmogorov–Smirnov test showed that the performance variable is normally and also situations are independent. ‘t’ test is a set of statistical models used to compare the means of different groups.



**Table 2: ‘t’Test For The Equal Performance In A&B Situations**

Situations	mean	SD	SE	MD	Df	CT	TT
<b>A</b>	71.6	3.84	1.047	4.2	51	4.0124*	1.67528
<b>B</b>	67.4	3.78					

Significance of 0.05 with Df 51, the calculated t (4.0124) is greater than tabulated t (1.67528) in the Table2 shows that the hypothesis 2 is rejected and the hypothesis1 &3 is confirmed, that is, sports performance in the combination situations of biorhythm cycles is not the same.

**Table 3: ‘t’ Test For The Equal Performance In B & C Situations**

Situations	mean	SD	SE	MD	Df	CT	TT
<b>B</b>	67.4	3.78	0.829	3.2	52	3.8582*	1.67469
<b>C</b>	70.6	2.07					

significance of 0.05 with df 52 and calculated t (3.8582) is greater than tabulated t (1.67469) in the Table2 shows that the hypothesis 2 is rejected and the hypothesis 1 & 3 is confirmed, that is, sports performance in the combination situations of biorhythm cycles is not the same.

**Table 4: ‘t’ Test For The Equal Performance In A & C Situations**

Situations	mean	SD	SE	MD	Df	CT	TT
<b>A</b>	71.6	3.84	0.843	1	51	1.1862	1.67528

C	70.6	2.07					
---	------	------	--	--	--	--	--

significance of 0.05 with df of 51, the calculated t (1.1862) is smaller than tabulated t (1.67528) in the Table2 shows that the hypothesis 2 is accepted but the hypothesis 1 & 3 is rejected, that is, Sports performance is the same when biorhythm cycles are combined.

## CONCLUSION

The overall, A situation (intellectual, emotional) is the best combination of biorhythm cycles and C situation (physical and emotional) is the very next. But Also situation B (Intellectual & physical) is the poor combination of biorhythm cycles for sports performance.

## DISCUSSION

As the efficiency of biorhythm is one of the modern sciences utilised in the field of physical education, it is one of the modern sciences used in the field of physical education. Work varies for individuals if it is performed at specific stages of a day, and in the sports field, we must describe the importance of biorhythm, where high sports results in terms of numbers and levels of performance during national, international tournaments and Olympic Games show us the need to use scientific research to search for a new reserve for work. To improve the efficacy of sports training techniques and to create new trends relating to the nature of specialised sports activity.

## REFERENCES

1. Astrology and Biorhythms (2021), <http://astrologyandbiorhythms.webs.com/>.
2. Biorhythms for windows (2021), <http://www.halloran.com/whatarebiorhythms.htm>.
3. Bodycalculator.com (2021), <http://www.bodycalc.com/biorhythm/>.
4. Biorhythms-Crystalinks (2021), <http://www.crystalinks.com/biorhythms.html>
5. Biorhythm Calculator and Plotter (2021), <http://www.procato.com/biorhythm>

6. Citation Excel (2021), [http://www.ce560xl.com/files/Biorhythm\\_Awareness.pdf](http://www.ce560xl.com/files/Biorhythm_Awareness.pdf)
  7. Martin Fery, (1978). Biorhythms and law school performance. *Journal of Legal Education*, Vol. 29, No. 4, 470-481.
  8. Zareian, E., Rabbani, V., &Saeedi, F. (2014). The effect of physical biorhythm cycle on some physical fitness factors of adolescent volleyball players. *Annals of Applied Sport Science*, 2(1), 11-20.
  9. MohammadfamIraj, NikoomaramHanieh, GhaffariFarhadAndMahmoudiShahram (2013), “Study of Biorhythms Effect on the Incidence of Lost Time Accidents and Their Severity: The Case of a Manufacturing Industry”. *International Journal of Engineering Research and Applications*. 3(4), Jul-Aug, 479-483
  10. Singh Ranjit, Sharma Rohit., (2011). The influence of "Biorhythm" on the incidence of injuries among Agra foundry workers, *International Journal of Bioinformatics Research*, 3(2), 236-240.
  11. Parikh, Rajesh Harsadrai, Askhedkar, R.D. and Singh, M.P. (2010).Biorhythms for accident prevention. *International Journal of Multidisciplinary Research and Advances in Engineering*. 2(1), 217-232.
-



# **WOMEN'S HEALTH AND THE RISE OF DOMESTIC VIOLENCE IN COVID-19**

**Ishita Mahajan**

Student of Maharashtra National Law University, Nagpur

Email: ishitamahajanngp@gmail.com

---

## **Abstract:**

Covid-19 has created a situation of uncertainty during the lockdowns which were coupled with lots of financial difficulties as people lost their jobs and emotional frustration as there was a completely disturbed routine and no social interaction. To settle this state, the abusers released all their frustration on the female member of their family. This frustration can be of various forms i.e physical, mental as well as sexual, and included treatment like a servant, insulting, beating, playing mind games, displaying weapons, threatening to leave, threatening to harm the loved ones, and defining and enforcing rules any many more. Consumption of alcohol made it even more harsher. A lot of women lost their jobs during covid-19 which made them completely dependent on their partners. Economic dependency was one of the main reasons why women continue to suffer the abuse as they had no other financial backup with them. There was no support from society as people were very cautious about the spread of the virus and didn't want to take the risk of losing their lives. Courts all across the country were shut which made it even more difficult for victims to get justice, especially at the time when their abuser is always around limiting and controlling her activities. Moreover, the psychological trauma impacts the mental state of the woman in such a devastating way that those violent incidents remain somewhere in the dark corner of her mind for the rest entirety of her life even when she is in a completely new environment.

**Keywords:** domestic violence, women's health in Covid-19, sexual abuse, justice to women in Covid-19, psychological impacts on women

## **Introduction:**

Domestic violence is prevalent in our society even before the augmentation of Covid-19, since the difference of status was present between men and women. However, it came into light only after the attainment of Covid-19, and the reason for this being, all the women were forced to stay home when their home might not be safe. For all these women who may be already suffering from domestic abuse, Covid-19 made it worse because of isolation which was a terrifying prospect and significantly increased the risk of harm. Akshara, a Mumbai-based non-governmental organisation working for women’s empowerment, has brought out a report on domestic violence during the nationwide lockdown in 2020. According to this report, around 243 million women and girls between the ages of 15-49 years were at the receiving end of violence during the first year of the pandemic.

There are lots and lots of facts and figures that prove the rise of domestic violence during Covid-19 however, the worst part is that for these women there was a pandemic within a pandemic. The pandemic within included behaviors such as treating them like a servant, insulting them, controlling who they see or talk to limiting their involvement, displaying weapons, threatening to leave or threatening to harm themselves or others if they leave, playing mind games, and being the only one who can define and enforce rules, etc. Such conduct not only harmed the physical health of women but also deeply traumatized her psychology and abused her sexually. In this research, I have mentioned various factors that led to the rise of domestic violence during covid-19 and how it impacted women’s health. I have also discussed how the shutdown of courts has deprived the women seeking justice against this heinous crime during Covid-19.

## **Factors giving rise to domestic violence in COVID-19:**

Job losses in COVID-19 – With stringent lockdowns in the country, the early phase of covid-19 was of great hardship to many people. Economists suggested that tens of millions of people working in the unorganized sector lost their jobs during this period. Many women lost their jobs during this period and completely become dependent on their husbands. Cases were worst when both the man and woman or the only working man in the family lost their/his job. This is the worst

case because it caused economic stress in the family. Studies have revealed that there is a direct connection between economic stress and domestic violence. In fact, there are more chances of domestic abuse of women when the family is in some kind of financial instability because it creates pressure on the male member of the family to manage for food, look after the dependents like wife and children, and arrange for other necessary requirements. This creates frustration in the husband and all that is released in the form of a violent attack on the female. Most of the time this is aggravated by the consumption of alcohol.

Dependency on the spouse – In many cases, the female is dependent on the male member of the family. She just forcefully has to stay with her partner because she has no financial backup with herself. All these economic constraints along with the lack of self-worth and empowerment leave her with no option other than to live in that hell.

Lack of social support – During covid-19 people restricted themselves only to their houses due to fear of the spread of the virus. In such a situation when a victim of domestic abuse reaches out for help from others no one could be available to her. Instead, if it would have been normal circumstances, the victims could flee and find shelter elsewhere but under strict lockdowns, it is practically impossible. Moreover, our society is one where the dominant and violent act of a husband over his wife is considered normal. Since its inception, our society has taught us how a man is always superior to a woman and she should always obey him without any questions then it doesn't matter whether he is right in his doings or not. It is considered that marriage gives the husband every right over his wife.

### **Access to justice in COVID-19:**

We all are well aware of how difficult it is for women to seek justice under normal conditions and for some it is completely unavailable. Hence during the covid-19, it was even more challenging to avoid coercive and controlling behavior and to find the justice someone affected by domestic abuse might need especially at the time when your abuser is always around you keeping an eye. We needed a mechanism that would re-affirm these women that staying home doesn't mean staying silent, however, we have failed to do that. The rising number of domestic violence cases during lockdown is evidence of this.

Courts all over the country were physically shut and were in search of finding new innovative ways of handling cases such as rape, domestic violence, sexual assault, marital rape, divorce, and other related cases. In such situations, it was even more difficult for those women to solve their cases efficiently and speedily who lacked access to such technological advancement and who were not well versed with such technological aspects. Moreover, the courts were in a direction to take extremely urgent cases on hand. Unfortunately, it has been observed that the courts did not consider domestic violence cases as extremely argent. The courts also directed to decongest public spaces like prisons and rehabilitation centers for drug and alcohol addict persons to contain the spread of the virus in such areas however failed to address how they are going to protect the society when such people are returned to home.

### **Psychological impacts on women's health:**

Generally, when we talk about domestic violence we focus more attention on the physical sufferings of the women. The truth is that its mental impacts and the way it affects the psychology of a woman are far more scarring than physical injuries. A very common symptom of psychological impacts of domestic abuse is PTSD (Post Traumatic Stress Disorder). Some other symptoms of domestic abuse are depression, and lack of self-worth and self-love. When such behavior is repeated again and again it gives her the feeling that nothing is going to change in her life, it is the ultimate truth and sooner or later she loses all her hope and this gives rise to thoughts like committing suicide.

There were various NGOs and helpline numbers to help the victims of domestic violence in the period of lockdown and many of them were even saved however, even if they are rehabilitated and shifted to a new shelter the impact the emotional stigma leaves on them is so devastating that they cannot forget it in the entirety of their life. They are accompanied by nightmares and sadness which also causes them negativity even though they are in a completely new environment than their previous one.

### **Conclusion:**

Covid-19 has intensified and exaggerated fault lines in contemporary societies revealing back to us how the financial stresses, uncertainty, and all this emotional frustration have once again laid their hands on the women of our society. The prevalence of this heinous crime has a vast history, but now the difference was no fear of being punished. All of us were locked in our own spaces isolated from each other and there was no one to keep watch on what is happening inside our house. Not only the executive but the judiciary mechanism of our country too was not fully operational. It was an unfortunate and very shameful part of us that we failed to protect these women from being repeatedly abused and we failed to provide these women the instant justice they needed the most. More or less, it is the truth and a jarring reality that such instances of domestic violence have tightly deepened their roots in our society and will remain there until the status difference between men and women persists. However, I would like to thank Covid-19 because in some way or the other it has shed light on this issue. What is most horrifying is that we consider such acts as normal and say it is ok. But people should accept that the current situation is alarming and it is time to say no to such horrendous acts which they consider to be normal just because they used to follow them without questioning back for ages.

### **References:**

<https://www.unodc.org/dohadeclaration/en/news/2020/04/gendered-face-of-covid19-women-and-access-to-justice.html>

<https://www.alliance.edu.in/ijls/ijls-2021/assets/documents/COVID19-Lockdown.pdf>

<https://www.economist.com/graphic-detail/2020/04/22/domestic-violence-has-increased-during-coronavirus-lockdowns>

<https://www.economist.com/graphic-detail/2021/07/09/domestic-violence-surges-after-a-football-match-ends>

<https://www.economist.com/china/2020/03/07/covid-19-has-revealed-widespread-sexism-in-china>

<https://www.economist.com/international/2020/05/09/the-pandemic-may-be-making-domestic-abuse-worse>

<https://www.hindustantimes.com/india-news/domestic-violence-complaints-against-women-spiked-in-year-of-lockdown-ncw-data-101616665002984.html>

<https://frontline.thehindu.com/social-issues/gender/domestic-violence-during-covid-lockdown/article38034608.ece>

<https://bmcwomenshealth.biomedcentral.com/articles/10.1186/s12905-017-0441-8>

<https://www.cbpp.org/research/poverty-and-inequality/tracking-the-covid-19-economys-effects-on-food-housing-and>

<https://www.femina.in/trending/actagainstabuse/beware-of-the-psychological-effects-of-domestic-violence-during-lockdown->

[157763.html#:~:text=%E2%80%9CThere%20can%20be%20a%20loss,Hospital%20Vashi%20Mumbai%20agrees](https://www.femina.in/trending/actagainstabuse/beware-of-the-psychological-effects-of-domestic-violence-during-lockdown-157763.html#:~:text=%E2%80%9CThere%20can%20be%20a%20loss,Hospital%20Vashi%20Mumbai%20agrees)

-----

## Digital Impressions: A New Paradigm In Dentistry

Jaykumar R Gade<sup>1</sup>, Megha J Agrawal<sup>2</sup> and Vandana J Gade<sup>3</sup>

<sup>1</sup>MDS, Professor and Head, Department of Prosthodontics and Crown and Bridge, Swargiya Dadasaheb Kalmegh Smruti Dental College and Hospital, Nagpur, India

<sup>2</sup>PG Student (MDS), Department of Prosthodontics and Crown and Bridge, Swargiya Dadasaheb Kalmegh Smruti Dental College and Hospital, Nagpur, India

<sup>3</sup>MDS, Professor, Department of Conservative Dentistry and Endodontics, Swargiya Dadasaheb Kalmegh Smruti Dental College and Hospital, Nagpur, India

<sup>1</sup>Email - [jaykumar.gade@sdk-dentalcollege.edu.in](mailto:jaykumar.gade@sdk-dentalcollege.edu.in)

Contact number- +919921425443

<sup>2</sup>Email – [meghaagraval566@gmail.com](mailto:meghaagraval566@gmail.com)

Contact number- +917666159003, +917798158646

<sup>3</sup>Email- [gade.vandana@gmail.com](mailto:gade.vandana@gmail.com)

**Corresponding Author:** \*Dr. Megha Agrawal, Department of Prosthodontics and Crown and Bridge, Swargiya Dadasaheb Kalmegh Smruti Dental College and Hospital, Nagpur, India

Contact number- +917666159003, +917798158646

Email address– [meghaagraval566@gmail.com](mailto:meghaagraval566@gmail.com)

---

### Abstract:

Digital impressions delineate the high-tech technology that permit dentists to create a virtual, computer-generated replica of the hard and soft tissues in the patients mouth using lasers and other optical scanning devices. Some patients find conventional technique messy and discomforting. The digital technology captures clear and highly accurate impression data in mere minutes. Acquiring digital impressions is easier and more comfortable procedure to the patient's as the conventional impression materials and techniques are avoided. Then the

information of the digital impression is used to create restoration digitally only without the need of stone cast further. This review article will elucidate about digital impressions technology in detail, various scanners and their application in dentistry to deliver better services to patient.

**Keywords:** Digital impressions, optical impression, intraoral scanner, extraoral scanner.

---

## INTRODUCTION

One of the goals of fixed prosthodontic treatment is to achieve an accurately fitting fixed prosthesis on the prepared tooth as it is of paramount importance for the success of the restoration. This can be achieved by accurate impression making which is an integral step in Prosthetic Dentistry. The accuracy of impression influences the fit of the restorations and ultimately to the longevity of the final restoration.<sup>1-3</sup>

Today the gold standard impression technique is the physical impression with elastomeric impression material and metal stock tray. Several limitations are related to the conventional impressions which are incorrect choice of impression tray, deformation of the impression during its removal from the patient's mouth, improper casting of the working model, distortion of impression due to limited suitability for storage, error of expansion, deficient dimensional stability, impression making is still uncomfortable for the patient and time consuming process for the clinician.<sup>4-7</sup> To overcome such errors computer-aided design and computer-aided manufacturing (CAD/CAM) technologies have been introduced with the aim of easing the approach and accelerating the manufacturing process.<sup>5</sup>

CAD/CAM systems involves three distinct steps: (1) An optical impression (created at this moment directly or indirectly) using a data acquisition unit, which collects the data from the region of the prepared teeth and neighboring structures and then converts them to virtual impressions; (2) Software for designing virtual restorations (3) A computerized milling device for manufacturing the restoration. The first two parts of the system plays role in the CAD phase, while the third is responsible for the CAM phase.<sup>8</sup> This review will throw light upon digital



impressions technology in detail, various scanners and their application in dentistry to deliver better services to patient.

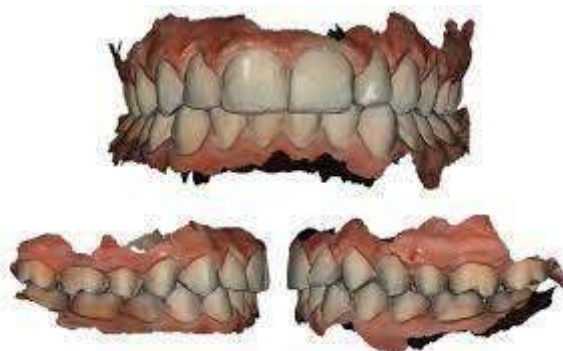


Fig. 1: Digital impression of the patient's dentition (Picture courtesy: Google)

## **HISTORY AND EVOLUTION OF DIGITAL IMPRESSIONS**

Data acquisition can be done by two methods: Indirect and Direct method. Indirect method involves extraoral scanning of the plaster models or casts, and direct method involves intraoral scanners.<sup>9</sup> The introduction of CAD/CAM concept into dental applications was the brainchild of Dr. Francois Duret in his thesis entitled “Empreinte Optique” (Optical Impression) in 1971.<sup>10</sup> The first digital intraoral scanner CEREC1, for restorative dentistry was introduced in the 1980s by a Swiss dentist, Dr. Werner Mörmann, and Marco Brandestini.<sup>10,11</sup>

## **EXTRAORAL SCANNING TECHNOLOGIES**

All scanning procedure is done on the master cast outside the oral cavity. Scanning can be done either with contact scanner or non-contact scanning systems.<sup>12</sup>

1. Contact Scanner: It is a mechanical scanner or non-active scanner. The procedure of digitizing basically skilled by moving a touch probe (ruby ball) through mechanical reading line-by-line around the object and then 3D structure is measured.<sup>12-14</sup> Only the outer surface data of the object is digitized and not the internal tissue structure is digitized.<sup>13</sup> It uses the technologies that prevent them from being used intraorally.<sup>15</sup>

2. **Non-contact Scanner:** It is also called as optical scanner or active scanner.<sup>16</sup> In this data capturing mechanism done by non-contact method. The source of illumination can be a ray of light (which is a combination of all colors) or a laser (which is single color light source). The collection of 3D structure in a triangulation procedure is the basis of this scanner.<sup>17</sup> White light or laser is used for surface data digitized by projecting them on the object, and a digital camera which is the receptor unit which registers the reflected patterns.<sup>18</sup>



Fig. 2: Extraoral scanning procedure

## **INTRAORAL SCANNING TECHNOLOGIES**

The intra oral scanner comprises of handheld camera, computer and software that uses STL digital format. Other formats include PLY files, Polygon File Format. The aim is to recording three-dimensional geometry of the object with precision. After identification of point of interest (POI) the individual images or videos recorded will be assembled by the software.<sup>19</sup>

There are two techniques for 3D reconstruction: Active and Passive. Active involves triangulation procedure and uses red, white or blue light for color and real texture of the tissue for 3D reconstruction of the object. Passive involves ambient light.<sup>20</sup>

There are three approaches for data acquisition:

1. Powder painting scanner: Based on triangulation procedure. Uses timed laser light. Uses contrast agent that is powder.
2. Active wave-front sampling scanner: Uses a lens instead of laser light with rotating aperture. Also uses contrast agent that is powder.
3. Parallel confocal laser scanner: Uses timed laser light and no need of contrast agent.



Fig. 3: Digital impression obtained using intraoral scanners (Picture courtesy: Google)

Following are the various intraoral and extraoral scanners available in market:

1. CEREC® – Omnicam®, Dentsply-Sirona, York, Pennsylvania, USA
2. iTero – by CADENT LTD (IL)
3. E4D – by D4D TECHNOLOGIES, LLC (US)
4. Lava™C.O.S. – by 3M ESPE (US)
5. IOS Fast Scan – by IOS TECHNOLOGIES, INC. (US)
6. DENSYS 3D – by DENSYS LTD. (IL)
7. DPI-3D – by DIMENSIONAL PHOTONICS INTERNATIONAL, INC. (US)
8. 3D Progress – by MHT S.p.A. (IT) and MHT Optic Research AG (CH)
9. Direct Scan – by HINT - ELS GMBH (DE)
10. Trios – by 3SHAPE A/S (DK)
11. CS 3600®, Carestream Dental, Atlanta, Georgia USA

12. CS 3500®, Carestream Dental, Atlanta, Georgia USA

13. 3Shape TRIOS , Copenhagen , Denmark.

14. MCX5 , Sirona Dentsply , Germany.

15. Ceramill MAP 400, AmannGirbach, Vorarlberg, Austria.

16. Hybrid Identica , Medit Corp , Germany

17. inEos X5, SIRONA

## **ADVANTAGES**

1. It will reduce patient’s discomfort: It will eliminate the use of impression material and trays into the patients mouth.
2. It is a time-saving procedure: Chairside time is reduced and eliminate time required for pouring of the cast.
3. Easier workflow: Procedure is easy for multiple implant cases, and severe undercuts and can be repeated multiple times without error.
4. Easy communication with laboratory personnel: Impression can be repeated in the same appointment after getting requirement from the laboratory when the impression is not correct.
5. Improved the relationship with the patient: It will increase the positive outcome of the treatment.<sup>21</sup>

## **DISADVANTAGES**

1. Difficulty in subgingival margins recording and deeply situated margins. It cannot record properly in bleeding situation and dynamic tissue recording is not possible.
2. Older clinician has less desire to learn the new technology.
3. Cost – effective procedure.
4. Learning skill of the technician also matters and software up gradation requirement is also there.<sup>21</sup>

## **CLINICAL IMPLICATION**

1. In Prosthodontics it is used to make impressions of prepared tooth for inlays, onlays, single crowns, a framework for fixed partial dentures, provisional restorations for fixed bridges and implants. Partial removable dentures, Post and Core, Digital Smile Design, Obturators, Surgical guide for placement of implants.
2. In Orthodontics: For diagnosis and treatment planning, aligner fabrication and in Invisalign system.<sup>21</sup>

## **CONCLUSION**

In the last few years, various type of new developments has taken place in the field of CAD-CAM technology. One of which is the development of scanners. Several scanners are introduced with the new technology and machining development. Some are fast scanning, easier to learn, accurate and precise and more reproducible and predictable. From the two scanning system that is intraoral and extraoral we will get the digital impressions which can be greatly used in the field of the Prosthodontics for various procedure. And the accuracy of the digital impressions is good compared to the conventional impressions.

**SOURCE OF FUNDING:** None

**CONFLICT OF INTEREST:** None

## **REFERENCES**

1. Ender A, Mehl A. Accuracy of complete-arch dental impressions: a new method of measuring trueness and precision. *J Prosthet Dent.* 2013;109(2):121-28.
2. Sason GK, Mistry G, Tabassum R, Shetty O. A comparative evaluation of intraoral and extraoral digital impressions: An in vivo study. *J Indian Prosthodont Soc.* 2018;18(2):108-16.
3. Ender A, Mehl A. In-vitro evaluation of the accuracy of conventional and digital methods of obtaining full-arch dental impressions. *Quintessence Int.* 2015;46(1):9-17.
4. Güth JF, Keul C, Stimmelmayer M, Beuer F, Edelhoff D. Accuracy of digital models obtained by direct and indirect data capturing. *Clin Oral Investig.* 2013;17(4):1201-8.

5. Patzelt SBM, Vonau S, Stampf S, Att W. Assessing the feasibility and accuracy of digitizing edentulous jaws. *J Am Dent Assoc.* 2013;144(8):914-20.
6. Patzelt SBM, Lamprinos C, Stampf S, Att W. The time efficiency of intraoral scanners: An in vitro comparative study. *J Am Dent Assoc.* 2014;145(6):542-51.
7. Patzelt SBM, Emmanouilidi A, Stampf S, Strub JR, Att W. Accuracy of full-arch scans using intraoral scanners. *Clin Oral Investig.* 2014;18(6):1687-94.
8. Galhano GA, Pellizzer EP, Mazaro JV. Optical impression systems for CAD-CAM restorations. *J Craniofac Surg.* 2012;23:e575-e579.
9. Sun L, Lee JS, Choo HH, Hwang HS, Lee KM. Reproducibility of an intraoral scanner: A comparison between in-vivo and ex-vivo scans. *Am J Orthod Dentofac Orthop.* 2018;154(2):305-10.
10. Duret F, Preston JD. CAD/CAM imaging in dentistry. *Curr Opin Dent.* 1991;1(2):150-4.
11. Syrek A, Reich G, Ranftl D, Klein C, Cerny B, Brodesser J. Clinical evaluation of all-ceramic crowns fabricated from intraoral digital impressions based on the principle of active wavefront sampling. *J Dent.* 2010;38(7):553-9.
12. Azari A, Nikzad S. The evolution of rapid prototyping in dentistry: A review. *Rapid Prototyp J.* 2009;15(3): 216-225.
13. Persson A, Andersson M, Oden A, Sandborgh-Englund G. A three-dimensional evaluation of a laser scanner and a touch-probe scanner. *J Prosthet Dent.* 2006 Mar;95(3):194-200.
14. Persson M, Andersson M, Bergman B. The accuracy of a high-precision digitizer for CAD/CAM of crowns. *J Prosthet Dent.* 1995 Sep;74(3):223-9.
15. Strub JR, Rekow ED, Witkowski S. Computer-aided design and fabrication of dental restorations: current systems and future possibilities. *J Am Dent Assoc.* 2006 Sep;137(9):1289-96.
16. 3D scanning. In Wikipedia, The Free Encyclopedia.
17. Budak I, Vukelić, D, Bracun D, Hodolić J, Sokovic M. Pre-Processing of Point-Data from Contact and Optical 3D Digitization Sensors. *Sensors.* 2012;12(1):1100-26.
18. Hollenbeck K., Allin T., van der Poel M. Dental Lab 3D Scanners-How they work and what works best. 3Shape Technology Research, Copenhagen, January, 2012.
19. Ryge G, Jendresen MD, Glantz PO, Mjör I. Standardization of clinical

- investigators for studies of restorative materials. *Swed Dent J.* 1981;5(5-6):235-9.
20. Watanabe, I., et al. “Effect of Pressure Difference on the Quality of Titanium Casting.” *Journal of Dental Research*, vol. 76, no. 3, Mar. 1997, pp. 773–779,
21. Abdullah O, Azari A. An introduction to dental digitizers in dentistry; systematic review. *J Chem and Pharm Res.* 2015;7(8):10-20.
-

## **IMPACT OF STABILITY TRAINING AND COMBINED TRAINING ON ANXIETY AMONG SENIOR RECURVE ARCHERS OF GADCHIROLI**

**Mr. Shyam B. Korde<sup>1</sup>**

Mahatma Jyotiba Fhule Sr. Arts College,  
Ashti, Gadchiroli, Maharashtra Gondwana University Gadchiroli 442707.(India)

Email: [siya2008shyam@gmail.com](mailto:siya2008shyam@gmail.com)

**Dr. Tanuja S. Raut<sup>2</sup>**

Head of Department,  
PG Department of physical Education,  
Sant Gadge Baba Amravati University, Amravati

### **ABSTRACT**

The present study was undertaken to analyze the impact of physical exercises, Stability training and combined training on anxiety among male trainee of Gadchiroli. The researcher selected 64 males trainee was from Gadchiroli. Their age ranged from 20 to 24 years. The subject chosen for the study divided into four equal groups and designed Stability training group (STG), Physical exercise group (PEG) and Stability training with physical exercise programme (STPEG) and control group (CG). The experimental groups participated in a twelve-week training regimen on alternate days. The data were chosen prior to and after the training phase. The gathered data was analysed using analysis of variance (ANOVA). The threshold of significance was set at 0.05. Wherever the F ratio was determined to be significant, Scheffe's post test has been applied to determine the significant differences between the adjusted paired means. The result of the study concluded that STG, PEG and STPEG are significantly improved anxiety level when compared with control group.

**KEYWORDS:** Stability training, Physical Exercises, Anxiety

### **BACK GROUND AND PURPOSE**

The archery is sports which need various fitness components. The archers are individuals enabled to uphold the bow, secure stability and lessen common issue. Their forces incorporate the legitimized utilization of power. The term stability is most generally connected with balance administrations of an express that are approved to practice the stability intensity of that state inside. Practice is an arranged and convenient movement whose essential objective is to enhance the



wellbeing and physical state of the members (Ostojic et al., 2009), and to dynamic the versatile procedure that will create certain positive changes in the human body (Tivanovic, 2000). This stability & physical exercise is the blend high-impact and anaerobic is cultivated in a changed pace kept heart rate high by interfering with consistent, nonstop running of short runs, one set up type of fluctuated pace preparing is known as Stability ( Hazeldine, 1985). "The person's conviction about himself or herself, including the individual's qualities and who and what oneself is" ( Baumeister, 1999).

## **HYPOTHESIS**

- **H1:** It was hypothesised that there will be significant improvement in anxiety level after the twelve weeks of Stability training group (STG), physical exercise group (PEG) and Stability training with physical exercise programme (STPEG) when compared with control group (CG).
- **H2:** It was hypothesised that Stability training with physical exercise programme (STPEG) will be significantly better than Stability training group (STG) and physical exercise group (PEG).

## **METHODOLOGY**

The purpose of the study was to find out the impact of physical exercises, Stability training and combined training on anxiety level among senior recurve Archers of Gadchiroli. The researcher selected 64 Archers from Gondwana University, Gadchiroli. Their age ranged from 20 to 24 years. The subject were chosen by purposive sampling method for the study divided into four equal groups and designated Stability training group (PEG), physical exercise group (PEG) and Stability training with physical exercise programme (STPEG) and control group (CG). Experimental groups underwent for twelve weeks of training program for 60 min per day. The data were collected by SCAT questionnaire.

## RESULT AND DISCUSSIONS

The analysis of variance had been used to analysis data on anxiety (ANOVA). The significance threshold was set at 0.05. If the F ratio was determined to be significant, Scheffe's post hoc test was used to determine if there will be significant differences between of adjusted paired means.

**Table-I** Analysis of covariance of pretest, posttest and adjusted posttest on anxiety of experimental groups and control group

	STG	PEG	STPEG	CG	Source of Variance	Sum of Square	df	Mean sq	F ratio
<b>Pre test Mean</b>	50.56	50.18	49.93	49.81	<b>B</b>	5.25	3	1.75	0.1077
<b>SD</b>	3.96	3.85	4.43	3.95	<b>W</b>	981.75	60	16.36	
<b>Post test mean</b>	47.31	46.87	46.68	50.05	<b>B</b>	118.92	3	39.64	3.27*
<b>SD</b>	3.23	3.22	3.89	3.51	<b>W</b>	725.56	60	12.09	
<b>Adjusted post test mean</b>	46.94	46.82	46.84	50.32	<b>B</b>	143.25	3	47.75	131.50*
					<b>W</b>	21.42	59	0.363	

\*Significant at 0.05 level, (The table value required for significance at 0.05 level with df 3 and 60 and 3 and 59 are 2.76)

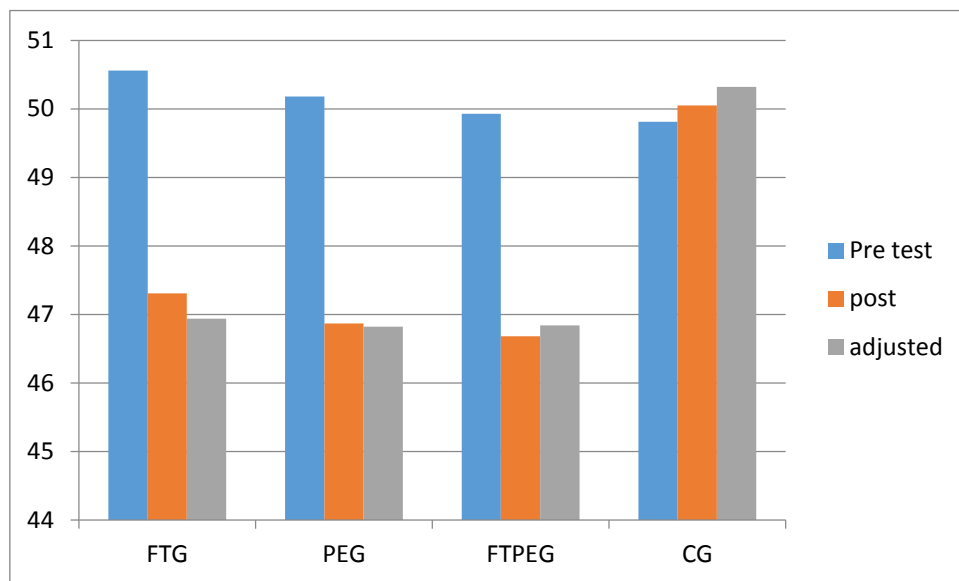
The table-1 shows that there is significant difference in anxiety among the four groups such as Stability training group (STG). Physical exercise group (PEG) and Stability training and physical exercise group (STPEG) and control group (CG). Since the calculated F value required being significant at 0.05 levels for 3.59 degree of freedom is 2.76, but the calculate values for anxiety of adjusted posttest F value is 131.50. This was higher than tabulated value. Since the obtain F ratio is found significant, Scheffe’s test is used as post hoc test.

**Table-II** The Scheffe’s test for the mean differences between paired mean of groups anxiety

Mean Value				Mean Diff.	C.I.
STG	PEG	STPEG	CG		
46.94	46.82	-	-	0.12	0.611
46.94	-	46.84	-	0.10	
46.94	-	-	50.32	3.38*	
-	46.82	46.84	-	0.02	
-	46.82	-	50.32	3.50*	
-	-	46.84	50.32	3.48*	

\*significant at 0.05 level of confidence

The table-II reveals that there is significant difference among pair adjusted post-test means between STG and CG, PEG and CG and STPEG and CG. The result of the study clearly showed that there is significant improvement in anxiety due to the influence of STG,PEG and STPEG when compared with control group.



**Figure 8:** Mean scores of pre test, post test and adjusted post test of anxiety

## **DISCUSSION ON HYPOTHESIS**

1. The first hypothesis says that there will be a significant improvement in anxiety after twelve weeks of STG, PEG and STPEG as compared with control group. The result of the study shows that there was significant, that mean anxiety level was decreased after twelve weeks of STG, PEG and STPEG as compared with control group. Hence the research hypothesis has been accepted.
2. The second hypothesis says that Stability training with physical exercise programme (STPEG) will be significantly better than Stability training group (STG) and physical exercise group (PEG). The result of the study shows that STPEG is not better than STG and PEG. Hence the research hypothesis has been rejected.

## **DISCUSSION AND FINDINGS**

The result of the study found significant decreased on anxiety level due to the effect of physical exercises, Stability training and combined training (physical exercise and Stability training). The following studies connected with the anxiety Alfermann and Stoll (2000) found that physical exercise improve anxiety and decrease psychosomatic problems. Legrand (2014) found significant improvement on anxiety due to the effect of physical exercise. Karen and Wendell (1994) suggested on the bases of literature that physical activity improves the anxiety level.

## **CONCLUSION**

1. Stability level significantly improved by three experimental groups when compared with control group.
2. Further it was concluded that there is no significant differences exists between Stability training group, physical exercise group and combined training group [STPEG] on anxiety.

## REFERENCES

1. Kocher K.C and Pratap V (1972) Anxiety level and Yogic practice, Yoga Mimosa. p.11. 2. Baumeister, R. F. (Ed.) (1999). *The self in social psychology* . Philadelphia, PA: Psychology Press (Taylor & Francis).
2. Jack H. Llewellyn and Judy A. Blucker (1982) Psychology of coaching theory and application. (New Delhi : Surjeet publications),p.44.
3. Karen J. Calfas and Wendell C. Taylor (1994). Effects of Physical Activity on Psychological Variables. *Pediatric Exercise Science*, pp. 406-423.
4. Pitney, W. A., & Ehlers, G. G. (2004). A Grounded Theory Study of the Mentoring Process Involved With Undergraduate Athletic Training Students. *Journal of athletic training*, 39(4), 344–351.
5. Tomor, N., & Shah, M. M. (2015). Comparison of competitive state anxiety among senior boys and senior girls Archery players in India.
6. Pitney WA, Ehlers GG. A Grounded Theory Study of the Mentoring Process Involved With Undergraduate Athletic Training Students. *J Athl Train*. 2004 Dec;39(4):344-351. PMID: 15592607
7. Leelanoi, J., & Khajornsilp, J. (2021). The Results Of Archery Balance With Stability And Accuracy Archery Recurve Bow Of Male Athletes Institute Of Physical Education Chon Buri Campus. *Academic Journal of Thailand National Sports University*, 13(1), 189-199.
8. Sarro, K. J., Viana, T. D. C., & De Barros, R. M. L. (2021). Relationship between bow stability and postural control in recurve archery. *European Journal of Sport Science*, 21(4), 515-520.

# **ASSESSMENT OF AEROBIC CAPACITY AMONG DIFFERENT FEMALE INDIVIDUAL GAME PLAYERS**

**Mrs. Shital S. Raut**  
Indira Mahavidyalay, Kalamb.  
District: Yavatmal (M.S.)  
Email.: [shital.raut123@gmail.com](mailto:shital.raut123@gmail.com)

---

## **ABSTRACT:**

The study's goal was to examine the aerobic capacity of various female individual game players. such as Judo, Taekwondo, Wrestling and Boxing. For this study investigator randomly selected forty (N=40) individual games female players (Judo=10, Taekwondo=10, Wrestling=10 and Boxing=10) were studying in colleges affiliated to Sant Gadge Baba, Amravati University those who have represented intercollegiate tournaments were randomly selected as subjects for this study. The age of the subjects were ranged from 18-25. The aerobic capacity was measured by applying Modified Queens College step test. The information was analyzed by applying descriptive statistics and one way analysis of variance (ANOVA) among different female individual game players. The level of confidence was fixed at 0.05 level of significance. Result: There was significant difference in judo, Taekwondo, wrestling and Boxing of aerobic capacity. As mean value is less than aerobic capacity is more and vice versa.

**Keywords:** aerobic capacity, Individual game

## **INTRODUCTION:**

The word aerobic means with oxygen. During aerobic exercise, the body uses oxygen for energy. The more oxygen the body uses, the harder the cardiovascular system will work. When the cardiovascular system works hard, it becomes more fit. Aerobic exercise increases cardiovascular fitness better than any other type of activity. Aerobic exercises, also called cardiovascular exercises, are continuous activities that use the large muscle groups of the body, especially in the lower body. The muscles need additional energy to keep working for an

extended period of time. The oxygen-rich blood provides energy or fuel to the muscles. Because of the increased need for oxygen-rich blood, the heart beats quicker and pumps more blood. Increasing your heart rate strengthens and trains your heart muscle. An excellent example of aerobic exercise is jogging for at least 15 minutes. Jogging propels you ahead by utilizing major muscle groups such as your leg and arm muscles. To replenish the energy expended by these muscles, fresh supplies of oxygen-rich blood are required. Your heart rate rises to fulfill these demands.

All activities that use the large muscle groups will raise your heart rate. However, some activities do not raise your heart rate enough to improve cardiovascular fitness. An activity must raise your heart rate to a level called the target heart rate zone. Aerobic workouts include activities such as running, walking, rope jumping, cycling, and Boxing. Aerobic activities include inline skating, step aerobics, aerobics programmes, and cross-country skiing. All of these workouts teach your body how to utilize oxygen more effectively. Anaerobic (no oxygen) activities are those that use oxygen quicker than the body can recover it.[1]

#### **METHODOLOGY:**

Study's aim was to compare the aerobic capacity of among different female individual game players such as Judo, Taekwondo, Wrestling and Boxing. For this study investigator randomly selected forty (N=40) individual games female players (Judo=10, Taekwondo=10, Wrestling=10 and Boxing=10) were studying in colleges affiliated to Sant Gadge Baba, Amravati University those who have represented intercollegiate tournaments were randomly selected as subjects for this study. The age of the subjects were ranged from 18-25. The aerobic capacity was measured by applying Modified Queens College step test.

#### **Data Analysis:**

The information was analyzed by applying descriptive statistics and one way analysis of variance (ANOVA) among different female individual game players. The level of confidence was fixed at 0.05 level of significance. Data was analyzed using the Microsoft Excel.

**Table 1:** Descriptive statistics of different individual game players

<b>Group</b>	<b>Mean</b>	<b>N</b>	<b>Standard Deviation</b>	<b>Standard Error</b>	<b>Minimum</b>	<b>Maximum</b>
<i>Judo</i>	158.20	10	10.45	3.31	143	170
<i>Taekwondo</i>	156.30	10	12.77	4.04	142	174
<i>Wrestling</i>	147.60	10	9.44	2.99	140	170
<i>Boxing</i>	145.00	10	6.31	1.99	139	160

**Table 2:** Analysis of Variance (ANOVA) of the means of different individual game players with compare to aerobic capacity

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>
Between Groups	1250.88	3	416.96	4.16*
Within Groups	3612.10	36	100.34	

\*significant at 0.05 level

F<sub>0.05 (3,36)</sub> = 2.866

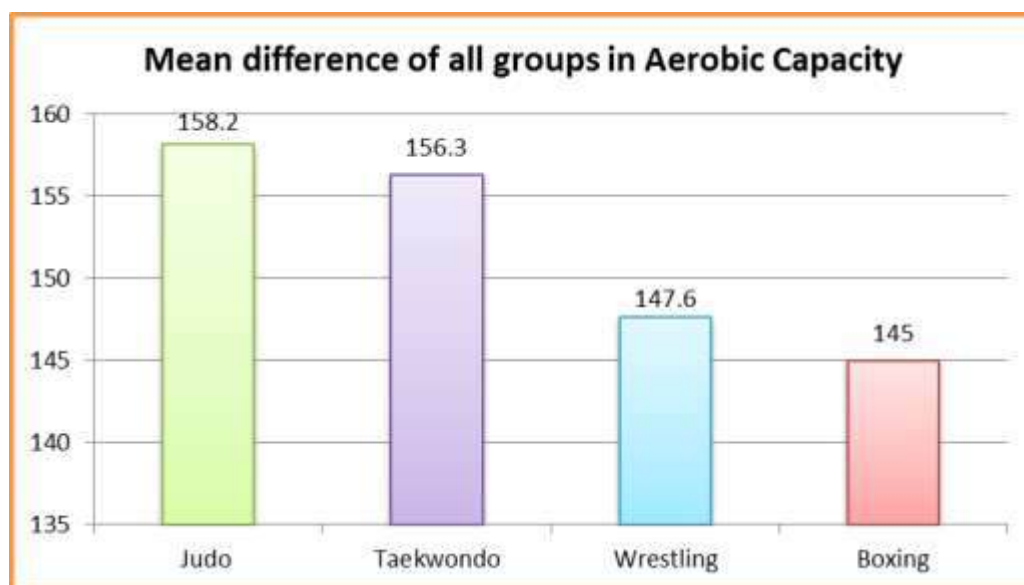
Table-2 reveals that there was significant difference between the means of judo, Taekwondo, wrestling and Boxing of aerobic capacity. The calculated ‘F’ was 4.16 where as tabulated ‘F’ was 2.866. Calculated ‘F’ greater than the tabulated ‘F’, which shows significance in judo, taekwondo, wrestling and Boxing of aerobic capacity. Therefore, there is need of post hoc test.

**Table-3:** Post hoc test table showing mean difference of all groups in aerobic capacity

<b>Judo</b>	<b>Taekwondo</b>	<b>Wrestling</b>	<b>Boxing</b>	<b>M.D.</b>	<b>C.D.</b>
158.20	156.30			1.90	9.23
158.20		147.60		10.60*	9.23
158.20			145.00	13.20*	9.23
	156.30	147.60		8.70	9.23
	156.30		145.00	11.30*	9.23
		147.60	145.00	2.60	9.23

Table-3 clearly revealed that significant difference was found between the means of judo and wrestling, judo and Boxing, taekwondo and Boxing as the mean difference of above tow was greater than the critical differences. Insignificant difference was found between the means of judo and taekwondo, taekwondo and wrestling, wrestling and Boxing as the mean difference was less than the critical difference. The sequence of aerobic capacity in all four groups was (158.20) judo > (156.30) Taekwondo > (147.60) wrestling > (145.00) Boxing. As mean value is less than aerobic capacity is more and vice versa.





**Graph-1: showing mean difference of all groups in aerobic capacity**

### **CONCLUSION:**

The following conclusions were reached based on the results obtained using the aforementioned methods. There was a substantial difference in aerobic capacity between judo, Taekwondo, wrestling, and boxing. When the mean value is lower, the aerobic capacity is higher, and vice versa.

### **REFERENCES:**

1. Jameson, Pam and Fresen, Sue. Personal Fitness. Bureau of Instructional Support and Community Services Florida Department of Education. 2002.
2. Lamb, K. L. et. al. Physical Fitness And Health-Related Fitness As Indicators Of A Positive Health State. Health Promote International, 3 (2), 2016.
3. Lehnhard, Holly R. et. al. Health-Related Physical Fitness Levels Of Elementary School Children Ages 5–9. SAGE Publications. 75 (3), 2000.
4. Lisboa, Salime Donida Chedid et. al. Health-Related Physical Fitness In Fefemale Models”, Health, 6, 2015.

5. Malik, Ashok. A Comparative Study Of Selected Physical Fitness Components And Physiological Variables Of Kho-Kho And Kabaddi female Players. ISPERYS. 2012.
  6. Namjoo, A. et. al. The Comparison Of Physical Related Readiness Factors With Health Between Urban And Rural Students Of Guidance And High-School. European Journal of Experimental Biology. 2 (5), 2012.
  7. Peters, D. M. et. al. An International Comparative Study Of Fitness And Skill In Elite Female U16 Basketball Players. European College of Sport Science Annual Congress. 24-27th June, Oslo, Norway. (2009).
  8. Rani, Geeta. A Comparative Of Health Related Physical Fitness Between Girls Of Government and Private School, ISPERYS, January 2012.
  9. Sehgal, Nitin. Comparison Between Physical Fitness Variables And Adjustment Of Handball, Volleyball And Hockey Female Players. Subscribe/Renew Journal, 3 (8), 2013.
  10. Sharma, Rajkumar. Assessment Of Motor Fitness, Physical Fitness And Body Composition Of Women Football Players At Different Levels Of Their Participation. American Journal of Sports Science and Medicine, 3 (2), 2015.
-

## **A STUDY OF LOWER LIMB POSTURAL DEFORMITIES OF SCHOOL GOING STUDENTS**

**Nikhil Sharma<sup>1</sup>**

Ph.D. Scholar, PGTD of Physical Education,  
Sant Gadge Baba Amravati University, Amravati  
*e-mail:* [nikhilsharma30sept@gmail.com](mailto:nikhilsharma30sept@gmail.com)

**Mob.9149425385**

**Dr. Tanuja S. Raut<sup>2</sup>**

Professor, PGTD of Physical Education,  
Sant Gadge Baba Amravati University, Amravati  
*e-mail:* [tanujaraut13@gmail.com](mailto:tanujaraut13@gmail.com)

**Mob.827506878**

---

### **Abstract:**

The purpose of this survey research is to find out the number of school going student suffering from lower limb deformities such as flat foot, knock knees, bowlegs in Sunderbani, Rajouri District, Jammu and Kashmir. The source of data for this study was school going children whose age ranged from 12-14 years studying in Std 6 to Std 8. 400 students were examined to find out the lower limb deformities i.e. knock knee, Flat Foot and bowleg. The subjects (both sexes) were selected by simple random sampling method. There were 240 boys and 160 girls students. Wet foot print test and plumb line test were used to detect the deformities cases. Percentile and Chi-square statistical technique was used for the study. Survey was conducted to identify lower limb deformities of boys as well as girls student. It is found that 75% of total boys and 72.5% of total girls were normal i.e. they had no deformity.

In knock knee category of deformities 14 boys (5.83%) and 18 girls (11.25%) were found deformed. Similarly, 39 boys (16.25%) and 19 girls (11.87%) were fall in the category of flat foot deformity. Besides that, 7 boys (2.91%) and 7 girls (4.37%) affected from bow leg deformity. To find out any significant difference between lower limb deformities (Flat Foot, Knock Knee and Bowleg) Researcher calculated chi-square test and found that there was significant difference in lower limb deformities among the boys as well as girls student and the researcher's hypothesis is accepted. To find out significant difference between boy's and girl's lower limb deformities researcher further

applied Two-fold Chi-square test and found there was no significant difference in various types of lower limb deformities between boys and girls student and thus, the researcher’s hypothesis is rejected.

**Key words:** Lower limb, Postural deformities, School students.

---

## **Introduction:**

When we sit, stand, or lie down, our posture relates to how our body is positioned. Our posture is the consequence of years of behaviors that we've developed. When standing or sitting, good posture refers to how our body is aligned. Correct placement is learning to hold our body against gravity while putting the least amount of strain and tension on supporting systems like our bones, muscles and ligaments. Proper posture keeps our bones and joints in the best possible position while also reducing wear and tear on our supporting systems.

The posture is of an aesthetic nature as well as being a reflection of the individual’s total being, his self –image, his physical state, and his concept of himself in relation to his environment. The evaluation of an individual’s posture should include the appraisal of his posture while walking running, standing. Moreover, the appraisal should be in accordance with the individual’s skeletal architecture and body build. Muscles will have to work harder to contract if posture is out of line. Soft tissue damage or excessive wear and tear on joints might result from this tension. In the short term, these injuries cause aches and pains; in the long run, they may expedite the onset of degenerative osteoarthritis.

The general characteristics of a good posture are erectness, balance alignment and ease. In good postural body alignment, the centre of gravity of all the segments such as head, neck and trunk will fall as nearly as possible, in a straight vertical line which passes through the approximate centre of the feet. There is definitely a relationship between the alignment of body segments and the integrity of joint structure. The human machine functions more efficient when the weight bearing segments are in proper alignment with a minimum of stress and strain on them.

The postural characteristics of human body can causes acquired, congenital, functional divergence, and structural divergence in all age group and lead to even more serious health problems. These deformities can also causes pains in the regions of the feet, calf, west, and backbone. They can affect daily activities such as working and remaining stand for a long time.

The childhood is very delicate age group in the means of all over development of an individual. So, it is very much important to identify deformities in proper time and make it corrected. Otherwise it will hamper the whole life of the individual i.e. physical, mental, emotional and ultimately social. So, researcher has undertaken the study entitled as, “A Study of Lower Limb Postural Deformities of School Going Students”.

### **Purpose:**

The purpose of the study was to find out lower limb deformities of school going students.

### **Hypothesis:**

On the basis of available literatures it was hypothesized by the researcher that, there will be significant difference between various lower limb deformities.

Also, there will be significant difference found in lower limb deformities of boys and girls.

### **Method:**

### **Source of Data:**

For the present study the data was collected from School students of Sunderbani, Rajouri District, Jammu & Kashmir. For this study, only those schools were considered that was affiliated to Jammu and Kashmir Board of School Education.

### **Selection of Subject:**

For the present study, a sample of 400 subjects (both sex, 240 boys and 160 girls) were selected at random from the schools of Sunderbani, Rajouri District, J & K, whose age ranging from 12-14 years.

### **Criterion Measures:**

Following variables will be selected for the purpose of the study:

1. Flat foot
2. Knock knee
3. Bowleg.

### **Tools Used for Study:**

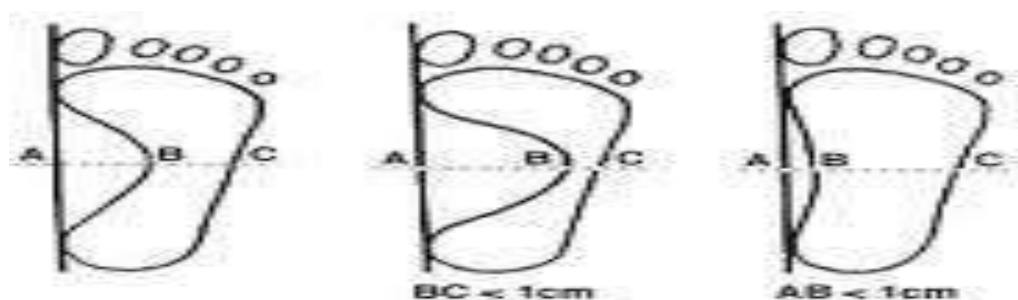
1. Measuring tape
2. Non stretchable scale
3. Marker
4. Plumb Line

### **Administration of the test:**

The following deformities tests were conducted on all 400 students and categorized:

### **Flat foot Diagnosis:**

The subject was asked to stand on a smooth level surface such as smooth concrete surface. The sole of the foot that make contact the flatter the foot In more extreme cases, known as a kinked flatfoot, the centre inn edge of the footprint may actually bulge outward, where in a normal to high arch this part of the sole of the foot does not make contact with the ground at all.



If the width of the instep (AB) at its widest part is less than 1 cm, the foot is considered as flat (right). If the width of the footprint at its narrowest part (BC) is less than 1 cm, the arch is considered high (center). All other footprints are considered “normal”(left)

### **Knock-knee Diagnosis**

Knock-Knee is observed when a child stand with the legs straight and the toes pointed forward. A researcher can determine the severity of knock-knee by observing the position of the child’s legs, knee, and ankles. For identification of knock knee, measure the distance between the child’s inner ankle bones. The greater the distance between the ankles the more severe condition. In the plumb line test the line lies inside the medial side of the foot.

### **Bow Leg Diagnosis**

Bow-leg is the opposite problem where the kneecaps pointed outwards. If the knees do not touch when standing with feet together, the individual has bow leg. Bow Leg is observed when a child stands with the legs straight and the toes pointed forward. A researcher can determine the severity of bow-leg by observing the position of the child’s legs, knee, and ankles. For identification of bow leg, measure the distance between the child’s inner knee bones. The greater the distance between the knees the more severe condition. In the plumb line test the line lies outside the lateral side of the foot.

### **Analysis and Interpretation of Data:**

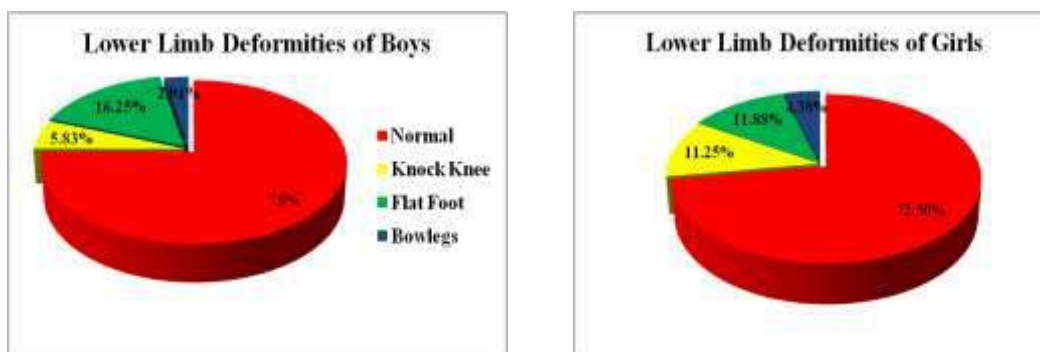
**Table no. 1**  
**Number and Percentage of Boys and Girls Suffering From Lower**  
**Limb Postural Deformities**

S. No.	Name of the Deformities	Boys		Girls	
		Number	Percentage	Number	Percentage
1.	Normal	180	75%	116	72.5%
2.	Knock Knee	14	5.83%	18	11.25%
3.	Flat Foot	39	16.25%	19	11.87%
4.	Bowlegs	07	2.91%	07	4.37%

This table showed that 180 out of 240 boys and 116 out of 160 girls were normal. In knock knee category of deformities 14 boys (5.83%) and 18 girls (11.25%) were found deformed. Similarly, 39 boys (16.25%) and 19 girls (11.87%) were fall in the category of flat foot deformity. Besides that, 7 boys (2.91%) and 7 girls (4.37%) affected from bow leg deformity. Different deformities of boys and girls are shown in following graph:

**Graph-1**

**Graphical Representation of Percentage of Boys and Girls Suffering From Lower Limb Postural Deformities**



On the basis of above table and graph data shows that there is a difference between lower limb postural deformities in boys as well as girls. To find out, is there any significant difference between lower limb deformities (Flat Foot, Knock Knee and Bowleg), researcher further calculated chi-square test. As well as to find out significant difference between boy’s and girl’s lower limb deformities researcher further applied Two-fold Chi-square test.

**Table 2**

**Showing Difference between Various Lower Limb Postural Deformities among Boys**

	Knock Knee	Flat Foot	Bow Leg
<b>F<sub>o</sub></b>	14	39	7
<b>F<sub>e</sub></b>	20	20	20
<b>F<sub>o</sub>-F<sub>e</sub></b>	-6	19	-13
<b>(F<sub>o</sub>-F<sub>e</sub>)<sup>2</sup></b>	36	361	169
<b>(F<sub>o</sub>-F<sub>e</sub>)<sup>2</sup>/ F<sub>e</sub></b>	1.8	18.05	8.45



<b>Chi-square (<math>\chi^2</math>)</b>	<b>28.3</b>
---	-------------

**Level of Significance 0.05 df = 2 Critical Value. 5.001**

The  $\chi^2$  of above section is 28.3. The tabulated value of Chi-square at level of significance 0.05 is 5.001(df = 2). Though, the obtained  $\chi^2$  is greater than the critical value of  $\chi^2$ , it is concluded that there is significant difference in various types of lower limb deformities among the boys student and the researcher’s hypothesis is accepted. Mean, boys students are significantly suffering from Flat foot deformity.

**Table 3**  
**Showing Difference between Various Lower Limb Postural Deformities among Girls**

	<b>Knock Knee</b>	<b>Flat Foot</b>	<b>Bow Leg</b>
<b>F<sub>o</sub></b>	<b>18</b>	<b>19</b>	<b>7</b>
<b>F<sub>e</sub></b>	<b>20</b>	<b>20</b>	<b>20</b>
<b>F<sub>o</sub>-F<sub>e</sub></b>	<b>-2</b>	<b>1</b>	<b>-13</b>
<b>(F<sub>o</sub>-F<sub>e</sub>)<sup>2</sup></b>	<b>4</b>	<b>1</b>	<b>169</b>
<b>(F<sub>o</sub>-F<sub>e</sub>)<sup>2</sup> / F<sub>e</sub></b>	<b>0.2</b>	<b>0.05</b>	<b>8.45</b>
<b>Chi-square (<math>\chi^2</math>)</b>	<b>8.7</b>		

**Level of Significance 0.0 df = 2 Critical Value. 5.001**

The  $\chi^2$  of above section is 8.7. The tabulated value of Chi-square at level of significance 0.05 is 5.001(df = 2). Though, the obtained  $\chi^2$  is greater than the critical value of  $\chi^2$ , it is concluded that, also there is significant difference in various types of lower limb deformities among the girls student and the researcher’s hypothesis is accepted. Mean, girls students are significantly suffering from bow leg deformity.

**Table no. 4**  
**Two fold Contingency Chi Square of Boys and girls having postural Deformities**

<b>Boys</b>	<b>Girls</b>	<b>Row total</b>
-------------	--------------	------------------

	<b>F<sub>o</sub></b>	<b>F<sub>e</sub></b>	<b>F<sub>o</sub></b>	<b>F<sub>e</sub></b>	
<b>Knock Knees</b>	14	23.39	18	22.61	32
<b>Flat Foot</b>	39	29.49	19	28.51	58
<b>Bow legs</b>	7	7.11	7	6.88	14
<b>Column Total</b>	60		44		104
<b>Total</b>	$\chi^2$			4.26	

**Level of Significance 0.05 df = Critical Value. 5.001**

The  $\chi^2$  of above section is 4.26. The tabulated value of Contingency Chi-square at level of significance 0.05 is 5.991(df = 2). Though, the obtained  $\chi^2$  is less than the critical value of  $\chi^2$ , it is concluded that, there is no significant difference in various types of lower limb deformities between boys and girls student and the researcher’s hypothesis is rejected.

### **Conclusion:**

The respective research work was conducted in selective postural deformities i.e. Knock Knee, Flat Foot and Bowlegs on 400 school going students in which 240 were boys and 160 were girls of 6<sup>th</sup> to 8<sup>th</sup> class of 12-14 years age group of Sunderbani area of Rajouri District, J & K. It was found that total 32, 58 and 14 students were having knock knee, flat foot and bowlegs respectively. Out of 32 knock knee students 14 were boys and 18 were girls student. Also out of 58 Flat foot students 39 were boys and 19 were girls students and out of 14 bowlegs students 07 were boys and 07 were girls.

There can be various causes for postural deformities. Most importantly found in rural areas are functional as well as structural divergence. Improper diet, lack of exercise and awareness are the causes of Postural deformities. If the deformities can be identified in early childhood it can be cured by different sets of exercises. Rising on the toes, climbing stairs on toes and by cycling they can be cured by maximum extent. Standing in one position and wearing heavy shoes should be avoided. Knock Knee is the major cause develop by obesity and it can be reduced by exercises also like Side lunges, Lying Abduction, Wall Squats can be helpful to reduce Knock Knee.

The children who has suffering from the mentioned deformities, researcher inform their parents as well as the physical education teacher to take special care of the deformed children and ask to follow the above set of exercises.

## **References:**

<https://www.barringtonortho.com/blog/the-importance-of-posture>.

<https://www.coastalorthoteam.com/blog/the-role-of-posture-and-health-good-vs-bad>.

Baldon, R. D. Serrao, F. B. Silva, R. S. and Piva. S.R. (2014). Effects of functional stabilization training on pain, function, and lower extremity biomechanics in females with patellofemoral pain: a randomized clinical trial. Department of Physical Therapy, Sao Carlos Federal University, Sao Carlos, Brazil.

Hill, S. Y. and Steinhauer, S. R. (1993). Postural sway in children from pedigrees exhibiting a high density of alcoholism. University of Pittsburgh School of Medicine, Department of Psychiatry, Western Psychiatric Institute.

Samaei, A. Bakhtiary, A. H. Elham, F. and Rezasoltani, A. (2012). Effects of genu varum deformity on postural stability. *International Journal of Sports Medicine*. 33(6), 469-73.

Simon, F. and Steger, F. (2011). Bow legged adjectives in ancient literature. *Journal of Sudhoffs Archive*. 95(2), 209-21.

Latalski, Michał et al. (2013). Risk factors of postural defects in children at school age. *Journal of Annals of Agricultural and Environmental Medicine*. 20(3), 583-7.

Binkley T., Specker B. (2016). The negative effect of sitting time on bone is mediated by lean mass in pubertal children. *Journal of Musculoskeletal and Neuronal Interactaction*. 16(1), 18–23.

- Negrini., S., Aulisa., L, C., Ferraro, Fracchini., et. al. (2005). Italian guidelines on rehabilitation treatment of adolescents with scoliosis or other spinal deformities. *Journal of Europa Medicophysica*. 41(2), 183–201.
- Mitova. B, Stamenka., S, (2015). Frequency and prevalence of postural disorders and spinal deformities in children of primary school age. *Journal of Research in Kinesiology*. 43(1), 21-24.
- Penha PJ, Joao SM, Casarotto RA, Amino CJ, Pentead DC (2005). Postural assessment of girls between 7 and 10 years of age. *Clinics, Sao Paulo*, 60(1), 9-16. doi: 10.1590/s1807-59322005000100004.
- Boulay., C., Tardieu C., Hecquet., J, C., Benaim, et al. (2006). Sagittal alignment of spine and pelvis regulated by pelvic incidence: standard values and prediction of lordosis. *Journal of European Spine*, 15(4), 415–22.
- Smith., A., O’Sullivan., P, StrakerL.,(2008). Classification of sagittal thoraco-lumbo-pelvic alignment of the adolescent spine in standing and its relationship to low back pain. *Spine. Journal of Voice Anthropological Soc Serbia*. 33(19), 2101–7.
- Jandial., S., Foster H., E.,(2008). Examination of the musculoskeletal system in children—a simple approach. *Journal of Paediatric Child Health*, 18(2),47–55.
- Kasson, J. F. (1990). Rudeness and Civility: Manners in Nineteenth- Century Urban America. New York: Hill and Wang. Documents Homepage: Encyclopaedia of Children and Childhood in History and Society.*
- Lerner, Z. F. Board, W. J. and Browning, R. C. (2013). *Effects of obesity on lower extremity muscle function during walking at two speeds*. School of Biomedical Engineering, Colorado State University, Fort Collins, CO, USA.
- Singh, A. Bains, j. Gill, J.S. and Brar,R.S. (2010), *Essential of Physical education. kalyani publishers,Ludhiana.*

- Steinberg, N. Nemet, D. Kohen-Raz, R. Zeev, A. Pantanowitz, M. and Eliakim, A. (2013). *Posturography characteristics of obese children with and without associated disorders*. Zinman College of Physical Education and Sport Sciences Wingate Institute, Netanya, Israel.
- Akhmedov, B. Sung, K. H. Chung, C. Y. Lee K. M. and Park. M. S. (2012). Reliability of lower-limb alignment measurements in patients with multiple epiphyseal dysplasia. *Clinical Orthopaedics and Related Research*, 470(12), 3566-76.
- Angin, S. İlçin, N. Yeşilyaprak, S. S. and Simşek, I. E. (2013). Prediction of postural sway velocity by foot posture index, foot size and plantar pressure values in unilateral stance. *Journal of Eklem Hastalik Cerrahisi*, 24(3), 144-48.
- Böhm, S. Krieg, A. H. Hefti, F. Brunner, R. Hasler, C. C. and Gaston, M. (2013). Growth guidance of angular lower limb deformities using a one-third two-hole tubular plate. *Journal of Child Orthopaedics*. 7(4), 289-94.
- Brown, S. R. Brughelli, M. Griffiths, P. C. and Cronin, J. B. (2014). Lower-extremity isokinetic strength profiling in professional rugby league and rugby union. *International Journal of Sports Physiology Performance*. 9(2), 358-361.
- Cobb, S. C. Bazett-Jones, D. M. Joshi, M. N. Earl-Boehm, J. E. and James, C. R. (2014). The relationship between foot posture, core and lower extremity muscle function, and postural stability. *Journal of Athletic Training*. 24(1), 213-22.
- Dhawale, A. Thacker, M. M. Belthur, M.V. Rogers, K. Bober, M. B. Mackenzie. W. J. (2012). The lower extremity in Morquio syndrome. [\*Journal of Paediatric Orthopedics\*](#). 32(5), 534-40.
- Fabry, G. (2010). Clinical practice. Static, axial, and rotational deformities of the lower extremities in children. *European Journal of Pediatric*. 169(5), 529-34.
- Fattah, A. Cypel, T. Donner, E. J. Wang, F. Alman, B. A. and Zuker. R. M. (2011) ”The first successful lower extremity transplantation: 6-year follow-up and implications for cortical plasticity”. [\*American Journal of Transplantation\*](#). 11(12), 2762-7.

- Fiebert, I. M. Roach, K. E. Fingerhut, B. Levy, J. and Schumacher, A. (1997). EMG activity of medial and lateral hamstrings at three positions of tibial rotation during low-force isometric knee flexion contractions. *Journal of Back and Musculoskeletal Rehabilitation*. 8(3), 215-22.
- Goldman, V. and Green, D. W. (2010). Advances in growth plate modulation for lower extremity malalignment (knock knees and bow legs). *Journal of [Current Opinion in Pediatric](#)*. 22(1), 47-53.
- Huang, P. Y. Chen, W. L. Lin. C. F. and Lee. H. J. (2014). Lower Extremity Biomechanics in Athletes With Ankle Instability After a 6-Week Integrated Training Program. *Journal of Athletic Training*. 31(2), 84-91.
- A. Samaei, A. Bakhtiary, A. H. Elham, F. and Rezasoltani, A. (2012). Effects of genu varum deformity on postural stability. *[International Journal of Sports Medicine](#)*. 33(6), 469-73.
- Oyarzo, C. A. Villagrán, C. R. Silvestre, R. E. Carpintero, P. and Berral, F. J. (2013). Postural control and low back pain in elite athletes comparison of static balance in elite athletes with and without low back pain. *Journal of Back and Musculoskeletal Rehabilitation*. 37(3), 174-81.
- Sabharwal, S. Zhao, C. and Edgar, M. (2008). Lower limb alignment in children: reference values based on a full-length standing radiograph. *Journal of Paediatric Orthopedics*. 28(7), 740-6.

## **Women Health and Nutrition During Pregnancy**

**Nilima P. Mahore**

H.O.D.(Home-Economics Dept.)

Yuvashakti Arts & Science College, Amravati.

### **Introduction:**

Developed nations on taint and Sweat of its people identically families development in physical and mental direction i through nutrition . House women nutritional knowledge plays significant role in family nutrition. Good maternal nutritional stand helps in never coming the scourge of low birth weight babies. Pregnancy is the period in life on a women when fetus grows in her body; certain physiological changes take place in women baby along with fetus growth. The changes necessitate an increase in the nutrient requirement. The goal of pregnancy is not merely to carry on the species, but also to give birth to healthy and happy baby.

Mothers nutritional status at the onset of pregnancy is an important factor in determining the condition of infant at birth. Additional maternal requirement during pregnancy and physical exercise.

Physically and mentally fit mother can give birth to intelligent and healthy child. Child health totally depends on mothers health during pregnancy. Therefore pregnant women should keep herself physically and mentally fit physical. Fitness can be achieved through regular exercises like walking, Pranayam, Yoga. Mental fitness is responsibility of family members.

Conducted with following objectives;

- 1) To study the diet of pregnant women during pregnancy.
- 2) To study the nature of exercises performed during pregnancy.

### **Hypothesis :**

- 1) Pregnant women diet is not as per Recommended dietary allowances.
- 2) Time spent on physical exercises is less than 2 hrs. perday.

## **Limitations’ of the Study :**

The present study is conducted in Amravati City. Pregnant women with first or second pregnancy are included in the study. Data is collected through Google questionnaire during February 2022.

## **Review of Literature :**

**Asha Kumari (2001)** Appropriate education and counseling in health and nutrition prevents many nutritional deficiencies among pregnant women. The nutrition counseling has high significance in nutritional knowledge and health practices during pregnancy. **Kandalkar Lina (2011) :** Normal growth of infant depends on mothers diet. Every kg of infant weight requires additional 120 Kcal per day. In addition to it protein, Fat Calcium, Iron and Vitamins are also essential for normal growth.

**Thomas Lehap (2017) :** Pregnant women blood testing for Hemoglobin and Anuphides are not satisfactorily increased which are essential for infant proper growth.

**Upalkar Satish(2017) :** Negligence in diet, no physical exercises, Sitting life style are the reasons for obesity. Consumption of fast, junk food, fried products results in excess fat deposition. Therefore pregnant women should have diet and exercise as per weight and month of pregnancy. Minimum expected weight of pregnant women is 52-55kg.

## **Methodology :-**

Study on Health and nutrition during pregnancy was conducted in Amravati City. Pregnant women under first or second pregnancy were included in the study. A sample of 50 pregnant women was selected for the study. Data on dietary intake was recorded by 3 days recall method. Physical exercises performed and daily time given in house was also recorded. Average dietary intake was worked out on the basis of 3 days recall method. Nature of physical exercise and time given was also recorded. Sampled pregnant women are in the age group of 25 yrs to 31 yrs with average age 27 yrs 3 months. Respondent



women age educated up to graduate level. Belonging to middle class family with annual income 12 lakhs to 15 lakhs .

Data was subjected to simple tabular analysis and ‘Z’ test data recorded during January-February 2022.

### **Result and Discussion :**

Data connected through Google questionnaire from 50 pregnant women list of pregnant women was taken from private gynecologist practicing in Amravati City. In all 83 Google forms were received. However 33 forms were not considered because of incomplete information furnished. Data on regular exercises, times dietary intake and body measurements was record.

The following table presents information on walking, yoga and pranayam

**Table No. 1**  
**Exercise details of Pregnant women**

<b>Sr. No</b>	<b>Particulars</b>	<b>Yes</b>	<b>%</b>	<b>No</b>	<b>%</b>
1	Regular Yoga	02	4	48	96
2	Pranayam	09	18	41	82
3	Morning Walk	39	78	11	22
4	10-15 minutes walk after lunch & dinner	48	96	02	04

On going through the table following observations are recorded. Yoga and pranayam are preferred by 4% and 18% pregnant women only. 78% pregnant women prefer morning walking for 40 minutes to 50 minutes. 96% pregnant women walk for 10-50 minutes after lunch and dinner. However total time for physical exercises per day is about one and half hour. Expected that pregnant women should have all above four exercises per day. Online data recorded for diet includes morning Tea, Breakfast , Lunch, Snacks and Dinner.

The items included are normally consumed in Hindu families no special efforts are taken for food preparation. It is observed that pregnant women prefer 150ml. Milk at night

**Table NO. 2**  
**Dietary intake of Pregnant Women**

Sr. No	Particulars	Standard intake	Actual intake	Z value
1	Energy (K cal)	2200	1680 ±21.42	24.27**
2	Protein (gms)	100	110 ±1.80	5.56**
3	Fat (gms)	30	38 ±0.65	12.31**
4	Calcium (mg)	100	91.20 ±3.45	2.55**
5	Iron (mg)	40	2450 ±0.48	32.29**
6	Vitamin A (mcg)	3000	2782 ±32.96	6.61**
7	Vitamin C (mg)	40mg	23.76 ±3.67	4.42***
8	Vitamin B12 (mg)	1.	0.93 ±0.14	0.50 <sup>NS</sup>

The data collected by three days recall method was analyze for workout intake in the form of energy protein, fat calcium, Iron and vitamins. The average intake along with standard intake presented above on going through the calculated ‘Z’ values is observed that energy, calcium, iron, vit-A and Vit-C intake was significantly lower than recommended. On the other hand protein, fat intake was significantly higher than recommended. Vitamin B12 intake was up to recommendation.

Concluding recommended diet intake is not observed by pregnant women  
The body measure meats reported age presented in the following table

**Table No. 3**  
**Body Measurement of Pregnant Women**

Sr. No	Pregnancy Stage Months	Arm Circumference cm.	Stomach Cir cm.	Wt. Kg.	Height cm.	BMI
1	-	-	-	-	-	-
2	2 (3)	34.00	114.30	54	152.50	23.22
3	3 (7)	34.17	123.72	55.46	152.60	23.82

4	4 (5)	34.65	127.25	57.85	155.24	24.01
5	5 (5)	35.06	129.87	58.98	154.85	24.60
6	6 (6)	35.37	130.43	59.90	154.20	25.20
7	7 (9)	35.56	131.65	60.80	154.90	25.34
8	8 (7)	35.92	136.12	61.68	156.50	25.18
9	9 (8)	37.30	146.23	62.60	154.80	26.12

Arm circumference was increased by 3.30cm. Over 7 months stomach circumference by 32cm. and B.M.I 2.90 units concluded body figures of pregnant women exhibited change of 9.71% in Arm circumference, 28% in stomach circumference and 12.49 percent in B.M.I. The Hypothesis stated are accepted.

### **Conclusions :-**

- 1) Time spent for physical exercises is up to one and half hour.
- 2) Morning walk for 45-50 minutes is most preferred exercise.
- 3) Low intake of energy, calcium, iron, vit-A and vit-C
- 4) High intake of protein and fat.
- 5) Arm circumferences increased by 9.71 percent stomach circumference 28percent and B.M.I. 12.49 percent.
- 6) Two hypothesis stated are accepted.

### **Bibliography :-**

**Asha Kumari (2001) :-**Impact of Nutrition Counseling on the Nutritional condition of pregnant women. Nutrition society of India vol XXXIV Dec. 2001 page 41.

**Thomas Lehap (2017) :-** ‘Health diet P.P.4-5’ upalkar satish (2017) Balanced Diet ‘Vaidya publication p.p. 38-39

**Kandalkar Lina (201) :-** “Human Development” Manohar Pimplapuge publication p.p. 21-30

**Upalkar Satish (2017) :-** “Balanced Diet” Viadya publication p.p. 38-39

-----

# **ROLE OF TECHNOLOGY TO IMPROVE WOMEN’S HEALTH CARE**

PROF. ANJALI DIGAMBAR BARDE

S.K.N. GOENKA COLLEGE, KARANJA

---

## **Abstract**

The number one purpose of drugs has usually been to offer the best first-rate affected person care. The technique of turning in care has developed from physicians making residence calls to seeing sufferers in brick and mortar clinics, and care transport will hold to extrade as different strategies are discovered. Technology is being invented, repurposed, and optimized in each subject of drugs, consisting of obstetrics and gynecology, and girls’s fitness care is immediately prompted with the aid of using those technologies. We assessment methods that generation is affecting loads of fields pertinent to girls’s fitness, consisting of affected person communique, doctor education, and fitness care performance.

---

## **Introduction**

Electronic fitness information (EHRs) are digitalized databases of affected person notes, goal measurements (eg, height, weight, essential signs), laboratory assessments, images, and different fitness-associated information, all centrally saved and available from the internet. Implementation of EHRs has been big due to the fact maximum coverage companies, consisting of Medicare and Medicaid, mandate the usage of digital information for companies to get hold of complete compensation.<sup>1</sup> A key advantage of the EHR is the cappotential to retrieve information approximately unique affected person populations in an included way. For example, information units may be created and stratified with the aid of using classes inclusive of race, age, diagnosis, and surgery, permitting companies

to become aware of sufferers with sure troubles for audit and evaluation. This functionality is particularly beneficial in girls's fitness. For instance, sufferers with atypical Pap smear or mammogram findings may be flagged to alert the doctor to make sure right control is followed. However, at the side of the advantages of the EHR are drawbacks. In a 2013 listing of risks posted with the aid of using the ECRI, four of the pinnacle 10 risks had been associated with the usage of EHRs: alert fatigue; accelerated ordering time; rigid ordering formats; and automated/self-populating templates, main to inaccuracies in clinical information.

Furthermore, reporting clinical mistakes associated with EHR structures isn't always mandatory. EHRs have contributed to the consolidation of fitness care at massive monolithic centers. Although consolidated information and EHRs can boom affected person safety, waft of information, and pace of report sharing,three imposing this generation incorporates a giant burden. To internally manipulate each EHR and exercise control generation, a exercise wishes to have laptop programmers on body of workers in addition to body of workers liable for retaining up with converting rules and compliance.four Because of the funding required, many small practices have sought partnerships with large entities inclusive of hospitals or institution practices.

The converting panorama is likewise prompted with the aid of using skinny earnings margins and the want for accelerated performance. EHRs offer accelerated performance in every day information collection, information entry, information processing, and the processing of claims and reimbursement, bearing in mind accelerated profits. Accessibility to fitness care consists of receiving effects of health center and laboratory assessments in a well timed way, in addition to set off replies to affected person inquiries. A main advantage of the EHR is the cappotential to swiftly talk affected person information. Most EHRs have special affected person portals that permit sufferers to soundly log in and look at messages from their physicians and laboratory effects in actual time. The affected person portal additionally permits direct affected person-to-doctor communicate which could assist in clarifying diagnoses and prognoses and in answering standard fitness-associated questions. However, some other EHR-associated challenge recognized with the aid of using the ECRI is feasible Health

Insurance Portability and Accountability Act (HIPAA) violations associated with on line and cellular telecellsmartphone get right of entry to to affected person information. Failure to keep information in a secure, password-covered way can bring about privateness infractions and regulation violations, a chief challenge for plenty sufferers and companies.

## **MOBILE HEALTH**

Mobile fitness is the usage of cellular devices, inclusive of cellular phones, affected person tracking devices, and private virtual assistants, for clinical and public fitness exercise.<sup>6</sup> Mobile fitness programs are various and consist of software program for fitness, weight, nutrition, smoking cessation, diabetic care, and medicine use. Women’s fitness is an particularly appealing market for creators of cellular fitness programs; greater programs are to be had to aid being pregnant than every other clinical domain. Applications normally take 7 to three hundred and sixty five days to release publicly and fee a median of \$270,000. As of 2015, greater than 165,000 fitness-associated programs had been to be had withinside the Apple iTunes and Android utility stores, and 34% of cellular telecellsmartphone proprietors had at the least one fitness utility on their cellular devices.<sup>7</sup> The cappotential to create and make cash from cellular programs some distance outpaces the cappotential of the medical network to decide their efficacy and their impact at the development of measurable outcomes. The cellular programs immediately associated with girls’s fitness are large in subject matter and variety from birth control to fertility to being pregnant guides. In August 2018, the United States Food and Drug Administration (FDA) accepted advertising of the primary cellular clinical utility to be used in stopping being pregnant. The utility incorporates an set of rules that calculates the times of the month a girl is possibly to be fertile primarily based totally on every day frame temperature readings and menstrual cycle information, a way of birth control known as fertility awareness. eight On the opposite cease of the reproductive spectrum, Lopez et al brought on line-primarily based totally training for postpartum girls of various socioeconomic degrees at the advantages of breast feeding. Participants obtained a weekly textual content message and e-training for six months selling breastfeeding, and questionnaires had been used to quantify their progress. Fifty-seven percentage of individuals mentioned breastfeeding

subjectively greater from receiving every day textual content messages, and the price of moms solely breastfeeding accelerated from 48% to 57%.

## **MEDICAL EDUCATION AND PERFORMANCE**

Most current (2020) clinical college students and citizens had been born among 1977 and 1995 and belong to era Y, the so-referred to as Millennials. Their fashion of studying and character tendencies are exclusive from the ones of earlier generations. Their studying choices consist of simulation, interactive organization activities, workshops, and game-fashion shows of knowledge. Video seize structures utilized in surgical schooling of obstetrics and gynecology citizens were proven to enhance skillsets.<sup>17</sup> High-constancy simulations may be created to catch up on deficiencies in schooling. For instance, a birth control simulation evolved for obstetrics and gynecology citizens in Catholic hospitals blanketed intrauterine tool placement, Nexplanon implant, and Essure tool placement and led to a 30% boom in knowledge.<sup>18</sup> Auguste et al confirmed that for applications with out video seize structures or massive simulation centers, opportunity technology can offer equal teaching. The use of significant pc video games is a possible training opportunity, mainly for digital fetal tracking interpretation. The use of cell programs is simply as generic withinside the obstetrics and gynecology issuer populace as withinside the affected person populace. A survey of obstetrics and gynecology citizens in California confirmed that each respondent owned a cell tool (100% owned smartphones, and 74% owned tablets), and 95% of respondents used their cell gadgets in medical settings.<sup>20</sup> Commonly used programs had been being pregnant wheels, cervical most cancers screening guidelines, and contraceptive eligibility guidelines. The American College of Obstetricians and Gynecologists software turned into the maximum not unusualplace software used. Residents said that they selected which programs to apply primarily based totally normally on peer recommendation. Overall, 92% of respondents regarded cell programs as a beneficial medical tool, and they stepped forward efficiency. However, Patel et al said a generational distinction concerning consolation with cell gadgets. They proven that school had been much more likely to discover smartphone-associated behaviors withinside the medical placing unprofessional as compared to clinical college students.

## Conclusion

The development of generation holds the promise of good sized effect within the realm of women's fitness. Mobile generation and telemedicine can doubtlessly permit for fewer in-individual health center visits for wholesome patients, improving the accessibility of fitness care. Simulations and video-assisted comments can assist trainees broaden talent in uncommon illnesses and situations. Improvements in surgical generation could make methods as soon as concept to be operable handiest through open surgical treatment or laparotomy automatically executed through minimally invasive routes. However, sturdy and reproducible records are wanted as new technology are delivered in women's fitness.

## References

Committee on Patient Safety and Quality Improvement; Committee on Practice Management. Committee opinion no. 621: affected person protection and fitness data generation. *Obstet Gynecol.* 2015;125(1):282-283. doi: 10.1097/01.AOG.0000459867.14114.7a

Harkavy H. Greater than the sum of the parts. Eighteen New York doctor practices benefit centralized affected person data database with ASP-hosted system. *Health Manag Technol.* 2004;25(7):40-42.

Redd D. Flying solo isn't easy. Addressing the demanding situations of personal exercise. *Health Manag Technol.* 2013;34(5):12-13.

Tucker G. What works. All-round efficiency. Massachusetts OB/GYN exercise improves its monetary and administrative fitness with exercise control software. *Health Manag Technol.* 2003;24(5):44-46.

---



## **Study of Mental Health of Women during the Covid 19 Pandemic**

Prof. Sudhir Dnyaneshwarrao Pathare  
Shriram Kala Mahila Mahavidyalaya, Dhamangaon Rly. Dist. Amravati  
Email: spathare914@gmail.com

---

### **Abstract:**

The objective of the study was to study the mental health of women during the Covid 19 pandemic. A total of 47 women were taken in this study, who were in the age group of 25-30 years. All the women were selected from the city of Amravati. A self-constructed questionnaire was created by the researcher to conduct this study. For this study, the question paper was prepared, in which a total of 12 questions were included. This questionnaire was distributed among women through e-mail in August 2020. Questionnaires were distributed to a total of 100 women for this study, but only 47 women returned after completing the questionnaire. To study the mental health of women during the Covid 19 epidemic, data was collected from 47 women through questionnaire and statistical analysis was done by percentage. Based on the results obtained, it was concluded that during the Covid 19 pandemic, most of the women were suffering from health related problems and women had to do more household work than usual, which led to feeling more tired and irritable. Most of the women are leading their life in stressful environment, one of the reasons for which is the news running on the media. Most of the women were worried about their family members health and themselves and due to that they went through a state of depression and faced a lot of fear, due to which the quality of mental health was deteriorating.

**Keywords:** Mental Health, Women, Pandemic

---

### **Introduction:**

We know that for the last two years the whole world is facing a global health crisis, due to which the situation of the whole world has changed. Covid 19 This pandemic had become such a disaster for everyone never seen. Today, the impact of Covid has reduced to a great extent, but it is the situation we have never seen during the pandemic. This pandemic has affected every field, every person

whether it is poor or rich, male or female, old or children. This effect was positive as well as negative. The impact of Covid 19 has been tremendous on women. In today's era, many women have started doing about 60 to 70% job and some small business. These women work in the informal economy. They hold less secure jobs, earn less than men and save less space. This COVID pandemic has led to an increase in unemployment, whose economic crisis has also hit women, who earn and run their household, whose risk of falling into poverty has increased. It is not that mental stress has occur on only those women who earn, it has also occur on those women who stay at home, take care of their family, run their family, all schools and office have been closed due to the pandemic due to that all the members staying at home, the responsibility and care of everyone has increased rapidly. Due to the burden of domestic responsibilities, there has been physical and mental impact on women. Due to the day-to-day work, their physical tension is increasing, which is directly affecting their mental stability. She is feeling mentally exhausted. Those who are single parent or female dominated family, they are facing a lot of difficulty in maintaining themselves and their family. With the loss of this financial independence, it is starting to take a toll on their relationships as well. As it is said, the empty mind is the house of the devil, so it is beginning to affect the behaviour of women. With everyone at home, family members can use deliberate and negligent tactics to exercise power, including persistently finding fault with them, underestimating their effort, refusing to jointly owned money, and threats of harm. are also included. So it is also seen where women are helped by the members of the household in their daily work. Mental abuse often encourages physical and sexual violence in relationships, harming them, coercing them to have sex, etc. Women trapped in an increasing cycle of stress, power and control are unable and vulnerable to cope with various mental health concerns, including anxiety and trauma. Due to the outbreak of the disease, there is a state of lockdown in the whole country and all schools are closed. The work of women has increased in these pandemic conditions. Serving the elderly people of the house, taking care of the sick members of the family and due to the closure of the school, the workload of small children, siblings, etc. has increased in comparison to the daily tasks. During the pandemic of covid 19, the economic condition of many people was not good, the girl's life has changed. In which many girls are being married at a young age and also some of forcibly

married. Family violence, early pregnancy and increased sexual relations have led to physical and mental exhaustion. Due to severe economic crisis, women and young women doing business work are more likely to do work of high risk for their economic existence. Out of all the effects of covid 19, one of them has also affected the menstrual health of women. Menstrual cycles of women infected with covid have been badly affected. It has been seen that the one who recovered from covid, but there has been irregularity in their periods, some keep bleeding for several days, in some of them the evidence of pain has increased significantly. It is also becoming very common for many women to skip their periods. Sometime premature syndrome is getting worse. Evidence of stress among women has increased due to covid 19. Enzymes, stress, have increased and daily lifestyle has changed. The health of women has been affected by covid 19. The effect of a heart attack on them is three times more lethal than in men. Women have to go through twice as many situations of physical pain. Drugs given during the treatment of this Covid 19 have also resulted in an increase in the incidence of heart attack in women. In the case of a heart attack, the simple symptoms are chest pain, sweating, and pain in the left arm, but if women have, then any of these symptoms may appear, such as nausea and sweating. Covid 19 has had a variety of consequences on the lives of women.

### **Methodology:**

A total of 47 women were taken in this study, who were in the age group of 25-30 years. All the women were selected from the city of Amravati. A self-constructed questionnaire was created by the researcher to conduct this study. For this study, the question paper was prepared, in which a total of 12 questions were included. This questionnaire was distributed among women through e-mail in August 2020. Questionnaires were distributed to a total of 100 women for this study, but only 47 women returned after completing the questionnaire.

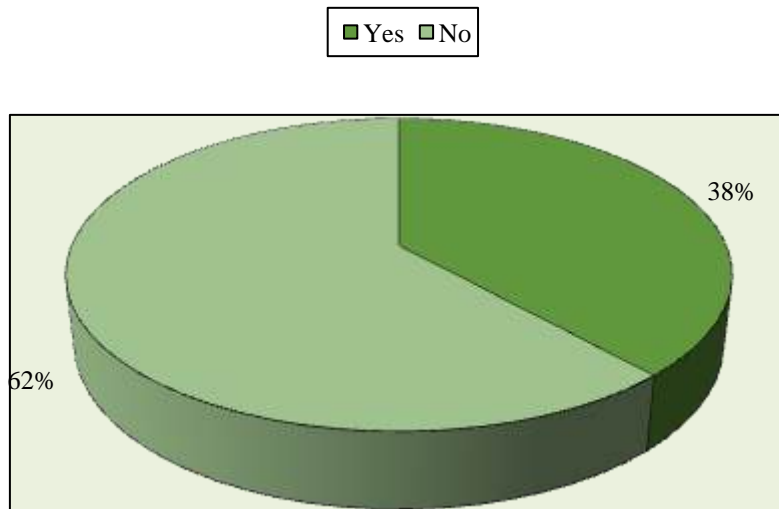
### **Statistical analysis:**

To study the mental health of women during the Covid 19 epidemic, data was collected from 47 women through questionnaire and statistical analysis was done by percentage and it is presented in the form of tables and graphs.

**Table-1:** Result of the question "During the Covid 19 pandemic, you used to feel yourself healthy"

Response				Total
Yes	%	No	%	
1	38.3		61.7	47
8	0	29	0	

Above table No. 1 shows that total 47 women's from that 32 (68.09%) women respond in ‘Yes’ and 15 (31.91%) women respond in ‘No’, From this we can say that most of the women could not feel healthy during the Covid 19 pandemic.

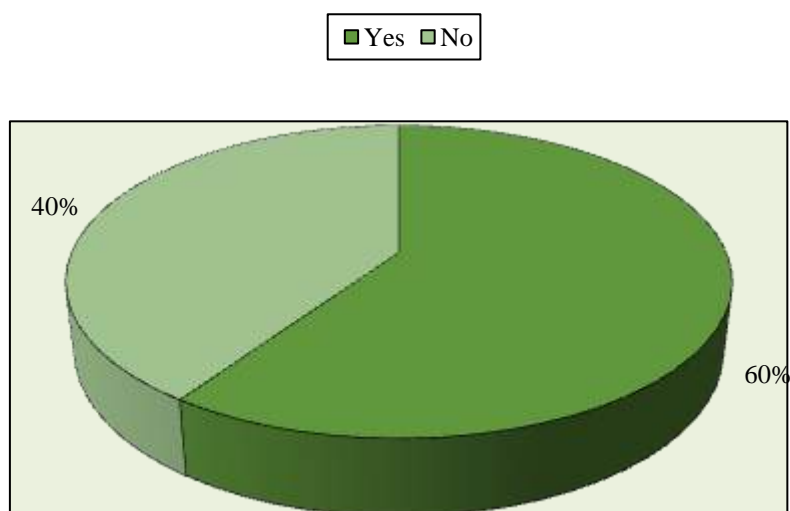


**Fig-1:** Showing response for the question "During the Covid 19 pandemic, you used to feel yourself healthy"

**Table-2:** Result of the question "During the Covid 19 pandemic, you used to feel hungry"

Response				Total
Yes	%	No	%	
28	59.57	19	40.43	47

Above table No. 2 shows that total 47 women's from that 28 (59.57%) women respond in ‘Yes’ and 19 (40.43%) women respond in ‘No’, From this we can say that during the Covid 19 pandemic, most of the women feel hungry.

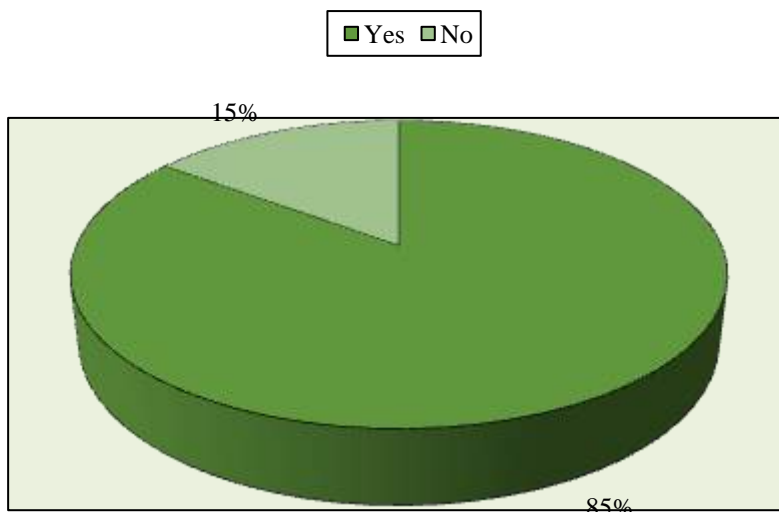


**Fig-2:** Showing response for the question "During the Covid 19 pandemic, you used to feel hungry"

**Table-3:** Result of the question "Your family responsibilities increased during the Covid 19 pandemic"

Response				Total
Yes	%	No	%	
40	85.11	7	14.89	47

Above table No. 3 shows that total 47 women's from that 40 (85.11%) women respond in 'Yes' and 7 (14.89%) women respond in 'No', From this we can say that during the Covid 19 pandemic, the family of most women were increased.

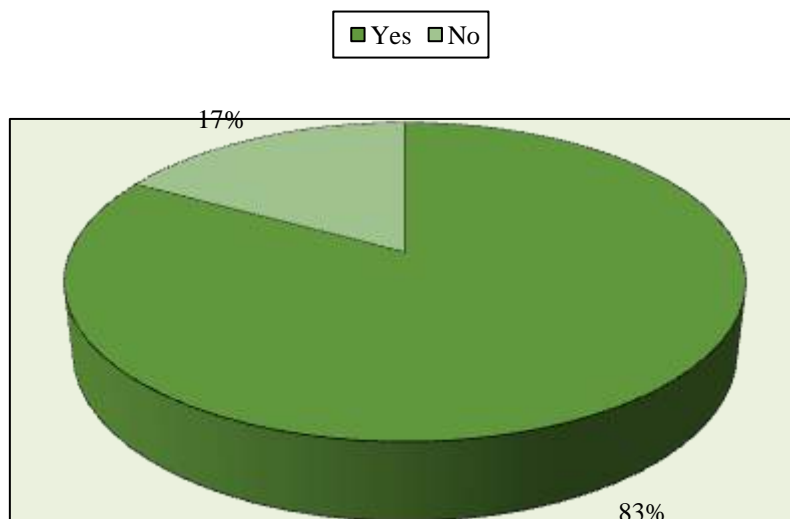


**Fig-3:** Showing response for the question "Your family responsibilities increased during the Covid 19 pandemic"

**Table-4:** Result of the question "During the Covid 19 pandemic, you had to do more household work than usual"

Response				Total
Yes	%	No	%	
3	82.9	8	17.0	47
9	8		2	

Above table No. 4 shows that total 47 women's from that 39 (82.98%) women respond in 'Yes' and 8 (17.02%) women respond in 'No', From this we can say that during the Covid 19 pandemic, women had to do more domestic work than usual.

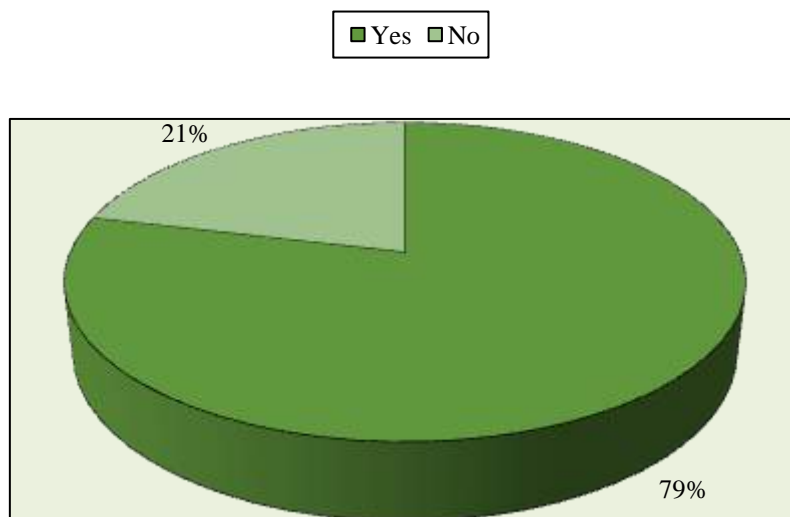


**Fig-4:** Showing response for the question "During the Covid 19 pandemic, you had to do more household work than usual"

**Table-5:** Result of the question " During the Covid 19 pandemic, you became more irritable than usual"

Response				Total
Yes	%	No	%	
3	78.7	10	21.2	47
7	2		8	

Above table No. 4 shows that total 47 women's from that 37 (78.72%) women respond in 'Yes' and 10 (21.28%) women respond in 'No', From this we can say that during the Covid 19 pandemic, women were more irritable than normal.



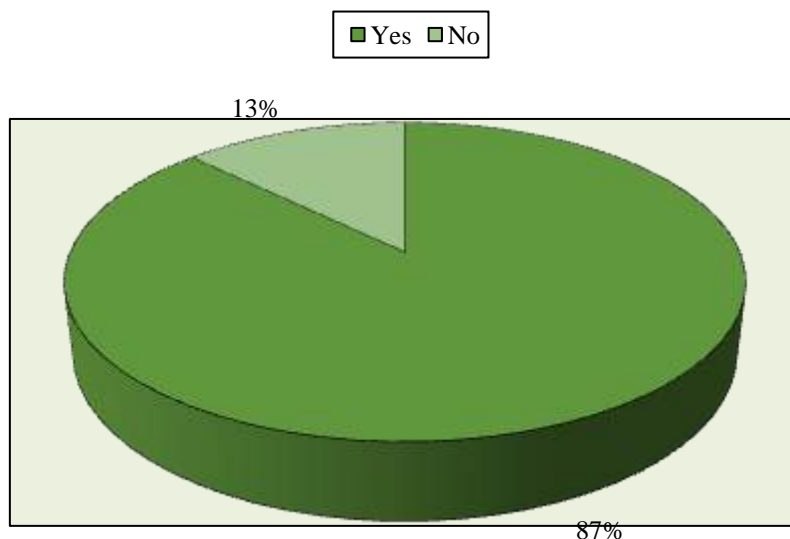
**Fig-5:** Showing response for the question "During the Covid 19 pandemic, you became more irritable than usual"

**Table-6:** Result of the question "During the Covid 19 pandemic, you used to feel more tired than usual"

Response				Total
Yes	%	No	%	
41	87.2	6	12.7	47
1	3		7	

Above table No. 6 shows that total 47 women's from that 41 (87.23%) women respond in 'Yes' and 6 (12.77%) women respond in 'No', From this we can say that during the Covid 19 pandemic, women used to feel more tired than usual.



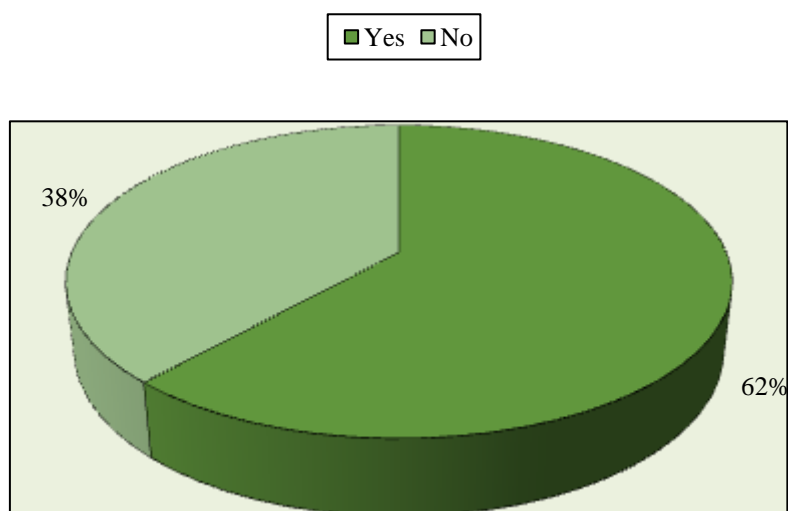


**Fig-6:** Showing response for the question "During the Covid 19 pandemic, you used to feel more tired than usual"

**Table-7:** Result of the question "Due to the Covid 19 pandemic, you were suffering from health related problems"

Response				Total
Yes	%	No	%	
2	61.7	18	38.3	47
9	0		0	

Above table No. 7 shows that total 47 women's from that 29 (61.70%) women respond in 'Yes' and 18 (38.30%) women respond in 'No', From this we can say that women were suffering from health problems during the Covid 19 pandemic.

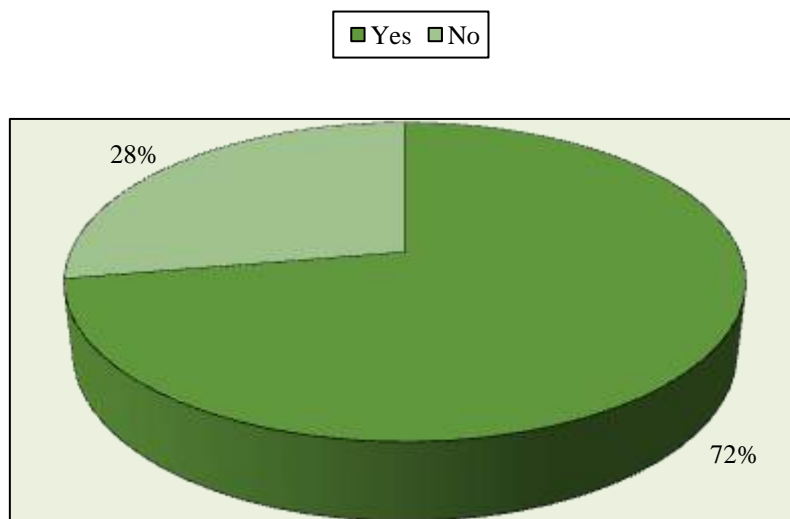


**Fig-7:** Showing response for the question "Due to the Covid 19 pandemic, you were suffering from health related problems"

**Table-8:** Result of the question "You were living in a stressful environment during the Covid 19 pandemic"

Response				Total
Yes	%	No	%	
34	72.34	13	27.66	47

Above table No. 8 shows that total 47 women's from that 34 (72.34%) women respond in 'Yes' and 13 (27.66%) women respond in 'No', From this we can say that during the Covid 19 pandemic, most of the women were leading their life in a stressful environment.

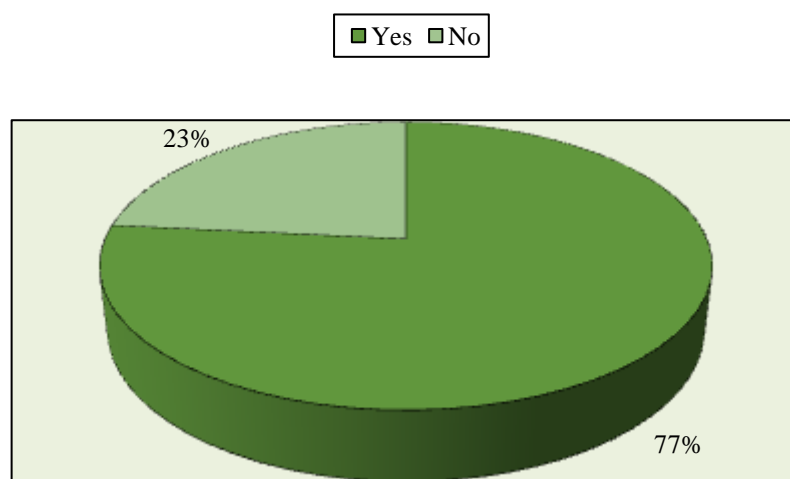


**Fig-8:** Showing response for the question "You were living in a stressful environment during the Covid 19 pandemic"

**Table-9:** Result of the question "During the Covid 19 pandemic, you used to feel stressed by the news running on the media"

Response				Total
Yes	%	No	%	
36	76.60	11	23.40	47

Above table No. 9 shows that total 47 women's from that 36 (76.60%) women respond in 'Yes' and 11 (23.40%) women respond in 'No', From this we can say that during the Covid 19 pandemic, most of the women used to feel stressed by the news going on in the media.

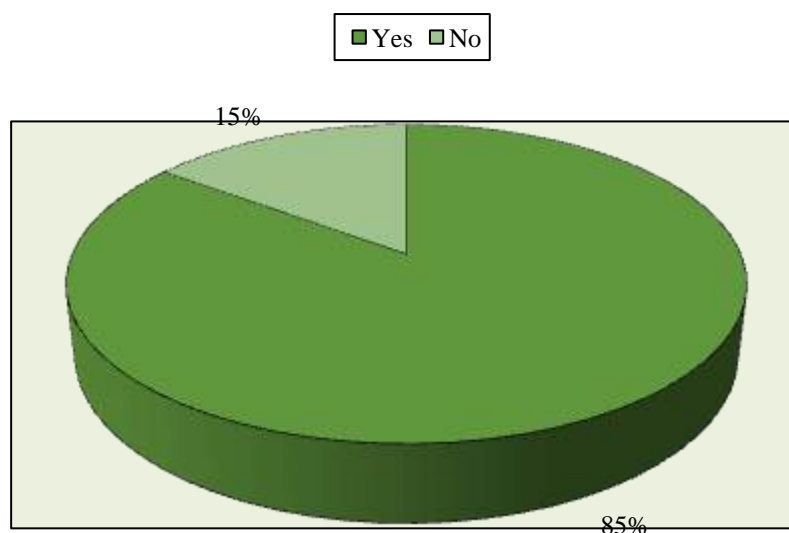


**Fig-9:** Showing response for the question "During the Covid 19 pandemic, you used to feel stressed by the news running on the media"

**Table-10:** Result of the question "During the Covid 19 pandemic, are you concerned about family members and yourselves?"

Response				Total
Yes	%	No	%	
40	85.1 1	7	14.8 9	47

Above table No. 10 shows that total 47 women's from that 40 (85.11%) women respond in 'Yes' and 7 (14.89%) women respond in 'No', From this we can say that during the Covid 19 pandemic, most of the women were worried about their family members and themselves.



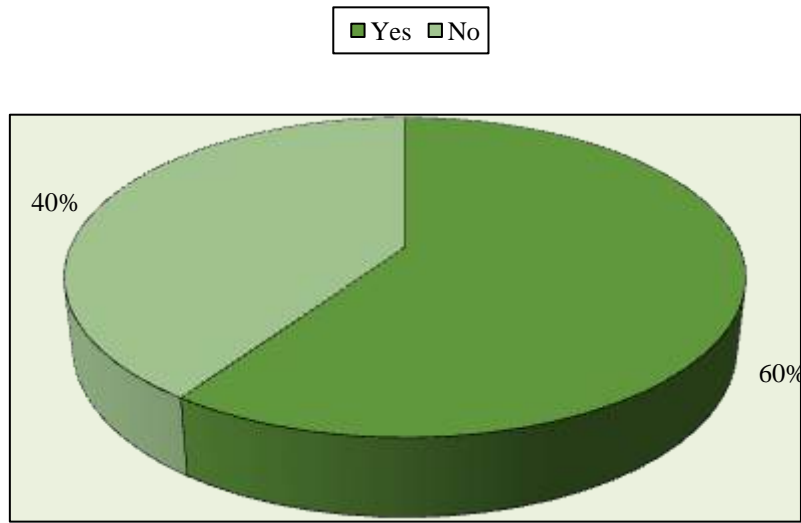
**Fig-10:** Showing response for the question "During the Covid 19 pandemic, are you concerned about family members and yourselves?"

**Table-11:** Result of the question "Had to go through a depression-like situation during the Covid 19 pandemic"

Response				Total
Yes	%	No	%	
28	59.57	19	40.43	47

Above table No. 11 shows that total 47 women's from that 28 (59.57%) women respond in 'Yes' and 19 (40.43%) women respond in 'No',

From this we can say that most of the women have had to go through a depression-like situation during the Covid 19 pandemic.

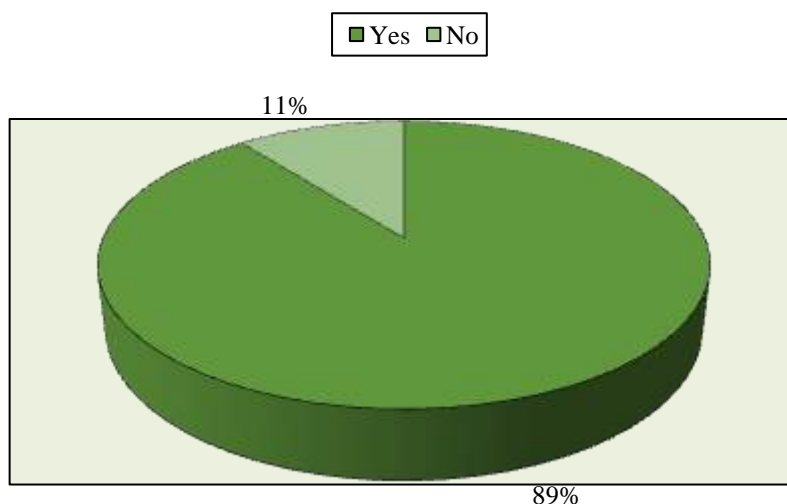


**Fig-11:** Showing response for the question "Had to go through a depression-like situation during the Covid 19 pandemic"

**Table-12:** Result of the question "During the Covid 19 pandemic, you were facing fear"

Response				Total
Yes	%	No	%	
42	89.36	5	10.64	47

Above table No. 12 shows that total 47 women's from that 42 (89.36%) women respond in ‘Yes’ and 5 (10.64%) women respond in ‘No’, From this we can say that most of the women were facing fear during the Covid 19 pandemic.



**Fig-12:** Showing response for the question "During the Covid 19 pandemic, you were facing fear"

### **Conclusion:**

Based on the results obtained, it was concluded that during the Covid 19 pandemic, most of the women were suffering from health related problems and women had to do more household work than usual, which led to feeling more tired and irritable. Most of the women are leading their life in stressful environment, one of the reasons for which is the news running on the media. Most of the women were worried about their family members health and themselves and due to that she went through a state of depression and faced a lot of fear, due to which the quality of mental health was deteriorating.

## Appendix-1 The Women's Mental Health Questionnaire

Please indicate how you were feeling during the Covid 19 pandemic by ticking the correct box for each of the following answers:

Sr. No.	Statements	Yes	No
1	During the Covid 19 pandemic, you used to feel yourself healthy.	<input type="checkbox"/>	<input type="checkbox"/>
2	During the Covid 19 pandemic, you used to feel hungry.	<input type="checkbox"/>	<input type="checkbox"/>
3	Your family responsibilities increased during the Covid 19 pandemic.	<input type="checkbox"/>	<input type="checkbox"/>
4	During the Covid 19 pandemic, you had to do more household work than usual.	<input type="checkbox"/>	<input type="checkbox"/>
5	During the Covid 19 pandemic, you became more irritable than usual.	<input type="checkbox"/>	<input type="checkbox"/>
6	During the Covid 19 pandemic, you used to feel more tired than usual.	<input type="checkbox"/>	<input type="checkbox"/>
7	Due to the Covid 19 pandemic, you were suffering from health related problems.	<input type="checkbox"/>	<input type="checkbox"/>
8	You were living in a stressful environment during the Covid 19 pandemic.	<input type="checkbox"/>	<input type="checkbox"/>
9	During the Covid 19 pandemic, you used to feel stressed by the news running on the media.	<input type="checkbox"/>	<input type="checkbox"/>
10	During the Covid 19 pandemic, are you concerned about family members and yourselves?.	<input type="checkbox"/>	<input type="checkbox"/>
11	Had to go through a depression-like situation during the Covid 19 pandemic.	<input type="checkbox"/>	<input type="checkbox"/>
12	During the Covid 19 pandemic, you were facing fear.	<input type="checkbox"/>	<input type="checkbox"/>

## References:

Asiml, S. S. et. al. (2021). Assessing Mental Health of Women Living in Karachi During the Covid-19 Pandemic. *Front. Glob. Womens Health*, 1, 594970. doi: 10.3389/fgwh.2020.594970.

Sagar, S. K. et. al. (2022). Mental health status of married women during COVID-19 pandemic in Bangladesh: A cross-sectional study, *Heliyon*, 8 (1), e08785.

Almeida M. et. al. (2020). The impact of the COVID-19 pandemic on women's mental health, *Arch Women's Mental Health*, 23(6), 741-748.

Alghamdi A. A. (2021). Impact of the COVID-19 pandemic on the social and educational aspects of Saudi university students' lives, *PLoS ONE*, 16 (4), e0250026.

Rodríguez-Rey, R. et. al. (2020). Psychological Impact and Associated Factors During the Initial Stage of the Coronavirus (COVID-19) Pandemic Among the General Population in Spain. *Frontiers in Psychology*, 11, 1540.

-----



## **Critical evaluation of online healthcare services and its significance for patients and professionals**

Prof. Sumant L. Wachasundar

Assistant Professor, Dr. Ambedkar Institute of Management & Research, Nagpur

Dr. Nirja Upadhye

Assistant Professor, School of commerce and management sciences, Sandip University, Nasik

---

### **ABSTRACT:**

The purpose of this study was to investigate the incentives and barriers that patients and healthcare professionals face when using social media in the field of medicine. Using social media for health-related purposes has become the new normal. This vocation, like others, is finding it suited for them, but only in certain circumstances. Not all diseases are being sought out through social media platforms. Patients and healthcare workers made up 52.9 percent of Facebook users, 19.4 percent of Twitter users, 9.4 percent of YouTube users, and 18.3 percent of LinkedIn users. Facebook has become a household social networking site during the last ten years, and users surged throughout COVID-19. LinkedIn was favoured by healthcare professionals due to its greater usage among patients (89%) and the fact that it is becoming an enlarged network of colleagues (95 percent). The findings demonstrated a considerable disparity in patient and healthcare professional incentives for using social media.

**KEYWORDS:** healthcare professionals, patients, Social media, social networking sites.

---

### **INTRODUCTION**

India is a densely populated country that necessitated extensive medical assistance up front. India intends to develop a strong healthcare services infrastructure as part of its social and financial assets. This is only possible if the Indian government gives citizens with open and equal access to all types of healthcare services. India has been attempting to improve the quality of its human services framework from the year 2000 in order to achieve this goal. The Internet and social networking sites have made complex healthcare information more

accessible. Individual wellbeing records or databases, as well as wellbeing and restorative records, are produced successfully. Anyone can look into the data and essential information of others using e-wellbeing frameworks. Social media can also be used to test online innovations and best practises in order to improve interpersonal communication, experiences, and perspectives. Furthermore, social media applications are low-cost advertising tools that help with network building, data diffusion, and, as a result, public trust and certainty. It can include text, graphics, sound, and video, among other structures. An increase in the number and types of medical problems requiring general society's attention, time limits, and an expansion in the number and types of communication channels, including the internet, are all challenges that social advertisers face. A multimodal strategy is the best way to reach out to the public about medical issues.

## **LITERATURE REVIEW**

A thorough literature review was undertaken to assist with data for the current investigation. Journals, books, and websites of health organisations and hospitals were accessed and evaluated for relevant data on the motives and barriers faced by patients and healthcare personnel. Because Indian intellectuals' literature is scarce, literature by foreign authors is used. A contextual study was undertaken to assess how social media contributed in the progress of social life and general well-being.

(Constantinides 2014; Kaplan & Haenlein 2009) The study looked into the influence of e-health policies in Thailand, which is grappling with a number of health-related difficulties and hurdles to medical services, including a lack of funding, a shortage of skilled doctors and healthcare professionals, and a lack of communication.

(Jantavongso 2015; Tyagi & Siddiqui 2017; Mitts: 2018) Previously, email communication was considered electronic media. There is an opportunity for one-on-one interaction between physicians and patients because social media platforms allow for enhanced connection. In addition, health-related data can be disseminated in unique ways. Prescriptions can be filled online, virtual consultations with doctors can be held, and lab findings can be viewed online

through portals such as patient site.org. Giving patients the ability to care for themselves is another method to empower them.

(Laranjo et al 2014; Uddin 2017) Digital technology have made communication and engagement more accessible all across the world. In addition, blogging platforms such as Facebook, Twitter, and LinkedIn are just a few instances of how knowledge is being altered and shared at an increasing rate. These tools have piqued the interest of individuals of all ages, but it's important to explore if these social media platforms can alter health care delivery, address disparities in healthcare, and embrace collaborative medicine. It is a basic fact that everyone has access to social media. Throughout the past decade, several health-related occurrences were chronicled on social media.

(Lupton: 2014) Google searches for health care accounted for 3.6-5.6 percent of all searches, according to statistics. This showed that people are increasingly relying on social media for health-related information. Virtual connections, as well as natural conversation and information sharing, are possible with the social media platform. Social media presents a massive market for health innovation, with millions of web-based clientele available for medical services organisations.

(Nielson Company May 2011) Social media is also an important (i.e. noteworthy endeavour of health promotion resource) and successful way to transmit health-related information to low-income parents in order to improve their children's health-related worries. It was discovered that health messages conveyed to low-wage parents must be written by professionals and adapted to their individual needs.

(Stroeve et al. 2011; Mohajan 2016) Better ways to attract customers and have a good influence on patients through improved healthcare practises have evolved (i.e., social network sites, web journals, mobile applications, and so forth.). Nonetheless, given its unique characteristics, there are a variety of opposing viewpoints that make it difficult to determine if such showcasing in human services is appropriate (i.e. sensitive data, protection issues, security issues, the requirement for an eye to eye meeting with the doctor, less control over social media than with customary showcasing, down to earth and moral worries about the responsibility for data transmitted, and so on).

(koumpouros et al. 2015; Morgan & Alcocer 2017) HIPAA regulations require physicians to keep medical information on file as part of their medical records, and conversations on social media would demand retaining it in order to make medical decisions upon admission to the hospital, posing a privacy issue. It would be costlier and inconvenient to do so.

(Santesteban Echarri et al. 2017; Mungwari 2018) Medical regulations also require physicians to enter into and sign agreements, as well as build the necessary number of networks to assure anonymity. Because this is done privately, physicians would have to effectively manage their compliance and EHRs to prevent being cybercrime victims. Clinicians and hospitals affiliated with larger organisations with resource management capabilities are the most likely to use social networking sites for healthcare purposes. It does not impose any additional workload on practitioners and, on the contrary, improves efficiency.

(Santesteban-Echarri et al. 2017) As a result, one of the barriers to e-health is the financial challenges that using technology tends to imply for practitioners. Previously, surgeons who posted video instances of patients or tweeted about unethical behaviour were accused of violating patient confidentiality and privacy and were therefore not recommended.

(Barlow et al. 2015) According to health care employers, health professionals in charge of hiring on social networking sites and health care professionals can only use networking sites for recruitment and hiring. According to a survey, 79 percent of employers search social media for new employees, while only 10% of candidates are aware of the practise. Prudence and discretion should be utilised before publishing online content to avoid the formation of negative professional judgement. This research is useful since it shows how people and healthcare professionals use social media. It also reveals which social media site is the most popular for seeking health-related information or advice.

It also discusses the difficulties that patients and healthcare providers have when using social media. In future studies, it will contribute in the creation of ways to adapt social media to meet the needs of patients and healthcare professionals.

## **OBJECTIVES OF THE STUDY**

- a) To ascertain why patients utilise social media to discuss health-related topics.
- b) To figure out why doctors utilise social media to talk about health issues.
- b) To determine the difficulties patients face when using social media to discuss health-related topics.
- d) To determine the difficulties physicians have while using social media to discuss health-related issues.

## **METHOD**

According to the study's aims, specific research questions were developed and data was collected. The poll was conducted in the Vidharbha area and included the general public as well as healthcare professionals from the middle to upper classes. The data was acquired from individuals on social media. A total of 200 persons were included in the study, with patients ranging in age from 20 to 50 years old and health professionals ranging in age from 25 to 66 years old. A total of 200 questionnaires were completed, with 100 patient questions and 100 healthcare professional questionnaires. The answers were kept absolutely private. Social media was used to locate the responders. Respondents were asked to share their experiences with social networking sites such as Facebook, Twitter, LinkedIn, and YouTube. The purpose was to learn about their motivations for using social media to achieve health goals, as well as the challenges they face. The researchers used a five-point Likert scale, with one denoting strong disagreement and five denoting strong agreement. This validated 28-item questionnaire, which included barriers and motives items, was produced from (Antheunis, Tate, & Nieboer 2013).

## **RESULT ANALYSIS**

The data was analysed using SPSS v.20. The majority of patients (99.3%) utilised one or more of the four social media platforms, according to the descriptive statistics: 83.5 percent used Facebook, 63.2 percent used Twitter, 40.2 percent used YouTube, and 38.2 percent used LinkedIn. Patients made up 31.7 percent of all respondents who used social media for health concerns, with Facebook accounting for the majority (62.9 percent), followed by Twitter (49.4 percent).

For health-related reasons, the other two social media outlets, YouTube (13.4%) and LinkedIn (5.6%), were assessed to be underutilised. 43.1 percent of health professionals used Facebook, 38.6 percent used YouTube, 35.9% used LinkedIn, and 22.9 percent used Twitter, according to the study. These healthcare professionals used social media for health purposes 26.8% of the time, with LinkedIn (70.7%) and Twitter (51.2%) being the most popular sites.

Patients identified a range of motivations for using social media platforms for health problems, including increased knowledge and familiarity, doctor-patient communication, social sustenance, seeking and sharing information, and self-care. Table 1 indicates how patients utilise two social media platforms: 23% use Twitter and 27% use Facebook for social sustenance, 25% use Twitter and 25% use Facebook for offering advice, 20% use Twitter and 16% use Facebook for increasing awareness and familiarity, and so on. Patients' statistics were not checked because they used Youtube and LinkedIn occasionally.

Particulars	Twitter (%)	Facebook (%)
Increasing awareness and familiarity	20	16
Doctor-patient interaction	15	12
Social Sustenance	23	27
Sharing advice	27	25
Self-care	15	20

Table 1: - Patients' primary categorical motivations for using social media for health-related purposes

Patients' top reason on Twitter was to stay up to date on health-care advancements (40 percent), followed by better awareness of illness and disease (25 percent), expressing thoughts and receiving feedback (20 percent), and making comparisons (20 percent) (15 percent). On the other hand, the Facebook statistics were slightly different. On Facebook, the majority of patients (33 percent) stated that their primary motivation was to express ideas and receive feedback, followed by improvements in health care (25 percent) and awareness of illness and disease (24 percent), with 18 percent stating that making comparisons was their primary motivation.

Particulars	Twitter (%)	Facebook (%)
Improvements in health care	40	25
Awareness of illness and disease	25	24
Expressing ideas and getting feedback	20	33
Creating comparisons	15	18

Table 2: - At the item level, patients' key motivations for using health-related social media

Expanding knowledge and awareness, doctor-patient contact, professional efficiency, promotion, and communication with peers were identified to be the top incentives for healthcare professionals, according to the study. As shown in Table 3, the highest motives on all social media networks were marketing and communication with colleagues. The primary motivation for healthcare professionals to use social media was to expand their social network via LinkedIn (45%) and Twitter (42%), followed by updating their professional networking via LinkedIn (25%) and Twitter (18%) and sharing workplace ideas with the outside world via LinkedIn (13%) and Twitter (28%) respectively.

	Twitter (%)	Facebook (%)	LinkedIn (%)	YouTube (%)
Expanding knowledge and awareness	8	5	1	46
Doctor-patient contact	15	19	6	2
Professional efficiency	13	15	5	0
Promotion	31	38	35	40
Communication with peers	33	23	53	12

Table 3: - The primary categorical incentives for health-related social media use among health professionals

Particulars	Twitter	Facebook
-------------	---------	----------

	(%)	(%)
Enhance the social network	45	42
Updating the professional network	25	18
Sharing workplace ideas	13	28
Sharing professional data with colleagues	17	12

Table 4: - At the item level, health professionals' key motivations for using health-related social media

The researchers looked at individual and categorised rates to identify what difficulties patients and healthcare providers face. According to the findings, patients experienced challenges such as privacy concerns, incorrect and untrustworthy information, and inefficiency when using social media platforms for health-related issues. Unreliable and untrustworthy information, as well as slowness on social media platforms, had the highest mean 4.32, SD=0.99.

	M	SD
Privacy issues	4.32	0.99
Unreliable and untrustworthy information	3.32	0.79
Inefficiency	1.90	0.76

Table 5: - Patients' objections to using social media for health-related purposes

Inefficiency, a lack of expertise, legal issues, and privacy concerns were among the most common challenges faced by health practitioners. The highest score (3.99, SD=0.81) was given to inefficiency, which was followed by a lack of competence, legal grounds, and privacy concerns.

	M	SD
Inefficiency	3.99	0.81
Lack of expertise	3.35	0.80
Legal grounds	2.90	0.94
Privacy issues	2.70	0.84

Table 5: - Obstacles that health professionals face when it comes to using social media for health purposes

The study's purpose was to examine the intentions and motivations of health professionals and people who use social media to discuss health issues. According to the researchers, both sectors of the study population were found to



be actively involved in the usage of social media for health care. In conclusion, the findings revealed a wide variety of outcomes, with no obvious dominance of any social medium or motives, and a preference for medium delayed in both health care workers and patients. In recent years, social media has had a tremendous impact on medicine by increasing the usage of communication among patients and the general public. Virtual patient groups, internet medical information, and emergency broadcasts during natural disasters are all examples of ways to educate and promote public awareness. The Practo app is a pre-existing platform that is adapted to clinicians' needs and allows for better communication.

In addition, the Dutch Medical Association created standards for the use of social media in the quest for health care, admitting its dominance. Nine recommendations for using social media were included in the guidelines, as well as encouragement to use specialists in each field to benefit from the role of social media. This study found that health professionals' use of social media surpassed that of other professionals, which is consistent with previous research. The initial purpose was to examine if social media was being utilised for health care and if any disparities existed across the groups studied. The researchers discovered that while health care professionals used LinkedIn and Twitter more than Facebook, patients utilised Twitter and Facebook more.

These findings are also consistent with previous research. Furthermore, social media platforms such as Facebook are increasingly being used as a social support platform, where patients and health professionals may discuss their experiences with a particular physician and offer recommendations to others. Twitter and Facebook, in contrast to LinkedIn and YouTube, represented informality in peer engagement. As a result, healthcare workers are increasingly using LinkedIn to connect. Previous research has also demonstrated that the usage of social media has increased, as seen by the formation of groups by people with similar interests.

The results are consistent, and groups on Facebook were located with a substantial number of followers from both the patient and non-patient populations who trusted other people's recommendations to join these groups. Despite the fact

that these forums were designed for a specific purpose, they were utilised to discuss general health care and doctors. The purpose was also to learn more about the motivations and motives that drive people to utilise social media sites like Facebook and Twitter. Communication, social engagement, delivering guidance, self-care, raising awareness and knowledge about the disease, expressing emotions about their health, and comparing oneself to other patients were all shown to be motivations for patients and health care providers.

The second purpose was to investigate in both cohorts the barriers to using social media for health-related issues. Patients who were concerned about privacy, confidentiality, and the accuracy of healthcare-related information faced varied challenges. Health care providers, on the other hand, were more concerned with the confusion that social media created in patients' minds regarding diagnosis and treatment, as well as the additional time and resources that resolving patients' problems through social media required of physicians. Because many lawsuits have been filed against clinicians around the world in the past, the researchers assume that physicians would be hesitant about communicating with patients via social media. Social media has a huge impact on health care because of technological improvements. Some teaching hospitals and private companies have already started using social media to enhance public awareness and provide medical education. As a result of the rising usage of social media and its influence, more health care institutions have established in India. According to the research, hospitals and medical institutions should use social media with prudence in order to maintain a healthy doctor-patient relationship in terms of health care.

## **CONCLUSION**

The outcomes of the study provide a detailed insight of why people use social media. Because the information was gathered through social media, it's possible that it'll be used to study a subset of the population that isn't necessarily representative of the entire population. More research is needed to generalise these findings, as evidenced by this. Furthermore, neither the patients nor the health-care providers' age or experience were considered by the researcher.

Further research based on this demographic data is necessary since young people are more interested in and engaged in the use of social media. Finally, the researcher has little insight into the motivations of the male population or their intentions in using social media because the respondents were 70% female. In order to gain a larger perspective, more research into the influence of social media on a gender basis in diverse health-care institutions is required.

## REFERENCES

- ANTHEUNIS, ML, TATES, K, & NIEBOER, TE (2013). “Patients’ and health professionals’ use of social media in health care: Motives & barriers”, in: Patient Education and Counseling, 92, pp. 426–431.
- BARLOW, CJ, MORRISON, S, STEPHENS, HO, JENKINS, E, BAILEY, MJ, & PILCHER, D (2015). “Unprofessional behaviour on social media by medical students”, in: Medical Journal of Australia, 203(11), pp. 439-449
- CONSTANTINIDES, E (2014). “Foundations of social media marketing”, in: Procedia-Social and behavioral sciences, 148, pp. 40-57.
- GUPTA, A, TYAGI, M, & SHARMA, D (2013). “Use of social media marketing in healthcare”, in: Journal of Health Management, 15(2), pp. 293-302.
- JANTAVONGSO, S (2013). Ethics and e-health in Thailand, in: Proceedings of the Thai Medical Informatics Association Annual Conference and the National Conference on Medical Informatics; Bangkok.
- JANTAVONGSO, S (2015). “Ethics, social media and e-health in Thailand”, in: Journal of the Thai Medical Informatics Association, 1(1), pp. 25-37
- JERMSITTIPARSERT, K, SUTDUEAN, J, & SRIYAKUL, T (2018). “Social Customer Relationship Management Capabilities and Customer Relationship Performance: Moderating Role of Social Media (Facebook) Usage among Indonesian Firms”, in: Opcion, 34(86), pp. 1257-1273
- KAPLAN, AM, & HAENLEIN, M (2009). “Consumer use and business potential of virtual worlds: the case of second life”, in: The International Journal on Media Management, 11(3), pp. 93-101.
- KOUMPOUROS, Y, TOULIAS, TL, & KOUMPOUROS, N (2015). “The importance of patient engagement and the use of social media marketing in healthcare”, in: Technology and Health Care, 23(4), pp. 495-507

- LARANJO, L, ARGUEL, A, NEVES, AL, GALLAGHER, AM., KAPLAN, R, MORTIMER, N, & LAU, AY (2014). “The influence of social networking sites on health behavior change: a systematic review and metaanalysis”, in: Journal of the American Medical Informatics Association, 22(1), pp. 243-256
- LUPTON, D (2014). “Health promotion in the digital era: a critical commentary”, in: Health promotion international, 30(1), pp. 174-183.
- MECHLER, HM, & MCCARROLL, E (2017). “Factors that Influence Parents’ Meta-Emotion Approaches: Implications for Families”, in: International Journal of Emerging Trends in Social Sciences, 1(2), pp. 46-52.
- MISHRA, R (2018). “Financial Literacy, Risk Tolerance and Stock Market Participation”, in: Asian Economic and Financial Review, 8(12), pp. 1457-1471.
- MITITS, L (2018). “Multilingual Students in Greek Schools: Teachers' Views and Teaching Practices”, in: Journal of Education and e-Learning Research, 5(1), pp. 28-36.
- MOHAJAN, HK (2016). “Knowledge is an Essential Element at Present World”, in: International Journal of Publication and Social Studies, 1(1), pp. 31-53.
- MORGAN, BM, & ALCOCER, LF (2017). “Descriptive Comparison of Hispanic Doctoral Students (2007-2014) with Carnegie Initiative of the Doctorate National Survey Results”, in: American Journal of Education and Learning, 2(1), pp. 14-22.
- MUNGWARI, T (2018). “Media framing of ZANU PF Internal Succession Struggles: Mnangagwa and the Military Factor”, in: American Journal of Social Sciences and Humanities, 3(1), pp. 1-21.
- PARIDA, V, MOSTAGHEL, R, & OGHAZI, P (2016). “Factors for Elderly Use of Social Media for Health- Related Activities”, in: Psychology & Marketing, 33(12), pp. 1134-1141.
- SANTESTEBAN-ECHARRI, O, RICE, S, WADLEY, G, LEDERMAN, R, D'ALFONSO, S, RUSSON, P, & MCGORRY, PD (2017). “A next-generation social media-based relapse prevention intervention for youth depression: qualitative data on user experience outcomes for social networking, safety, and clinical benefit”, in: Internet interventions, 9, pp. 65-73.

- SHAH, JR, MURTAZA, MB, & OPARA, E (2014). “Electronic health records: challenges and opportunities”, in: Journal of International Technology and Information Management, 23(3), p. 10.
  - STROEVER, SJ, MACKERT, MS, & MCALISTER, AL (2011). “Peer Reviewed: Using Social Media to Communicate Child Health Information to Low-Income Parents”, in: Preventing chronic disease, 8(6), p. 1.
  - SUBAIR, RE, & ORIUGU, CD (2016). “Still an Issue: The Use of Electronic Books in University Libraries in Nigeria”, in: American Journal of Social Sciences and Humanities, 1(2), pp. 67-72.
  - TYAGI, S, & SIDDIQUI, S (2017). “Yield Curve and Momentum Effects in Monthly US Equity Returns: Some Nonparametric Evidence”, in: Asian Journal of Economics and Empirical Research, 4(2), pp. 61-67.
  - UDDIN, SS (2017). “Existence of External Forces in Afghanistan: Pakistans Security Dilemma Since 9/11”, in: International Journal of Asian Social Science, 7(4), pp. 311-319.
- 
-

## **Obstacles In Implementing Technology In Women’s Healthcare**

**Roopam Bhattacharya**

Research scholar C.P. & Berar E.S. college Mahal, Nagpur

**Dr. Prafulla. W. Sudame**

Professor, C.P. & Berar E.S. college Mahal, Nagpur

---

### **Abstract**

In today’s busy life health has become an important question to be dealt with. With increasing standard of living and growth of the society even women’s are moving along with men’s to contribute their part in family and in the country’s development. But this comes with a cost as it sacrifices the health and brings along various healthcare problems. Technology being present in every part of human’s life today is playing a vital role in changing people’s perception towards healthcare and has moved way forward to improve the health care system.

Women being playing the most crucial part in family building can be termed as the caregivers of the society balancing both professional and personal life. Despite this, there is very less known or less research about the women’s health care as compared to men. Data regarding healthcare of women finding the most adequate and correct healthcare solution is still lagging behind as compared to the data present for men. Even in today’s date women find it difficult to access mental healthcare due various societal perception and ignorance. Problems like proper means to pay for the treatment, lack of awareness regarding various health issues, technology concentrated in some part of the country questions the accessibility of it physically, moreover there is still to find out more correct and reliable data that can lead to adoption of such technologies.

---

## **Introduction**

Good health of a mother is a blessing for the family. Mother being the central part of the family taking care of all the members of the family need to take good care of herself too and even the family should take care of her in return. Women’s leading from the front in both professional and personal chapters of their life have changed the perspective towards women’s but this change has come along with the poor health and low immunity. Healthcare system today has modernised and improved many folds, computers acquire data and can predict various health disorders that can take place in future. Within few years technology will play an indispensable part in the health care system in developed and developing countries. Gender based inequalities in healthcare, their proper data and practices is a problem that has questioned the reliability of technology in healthcare. Lack of efforts in women’s healthcare and inequalities in finding proper reliable and confidential data leads to lower belief towards the technology in healthcare system. The impact of technology in healthcare has its crucial role but in case of women’s the scenario is a bit different as there are problems like poverty, accessibility, reliability, awareness, infrastructure etc which disapproves the technological use for the healthcare.

### **Objectives of study**

1. To find the problems of women’s healthcare.
2. To identify the barriers of technology in women’s healthcare.
3. to provide suggestive measures to the obstacles in implementing technology in women’s healthcare.

### **Obstacles to implementing technology in women’s healthcare**

There are various obstacles in implementing technology in women’s healthcare which are as follows :-

#### **1. Awareness**

Technology being available has not reached every part of the country. The presence of technology in healthcare is definitely felt but still lacks behind in proper awareness to the people, specially women’s as awareness about latest

technology in healthcare is not there and effort to make them aware about it has not been taken prominently. Information available in the internet requires some basic understanding and the dependence on the older methods of healthcare is more prevalent and this may even lead to ignorance many times.

## **2. Accessibility:**

In any country which has huge geographical area may it be a developing country or a developed country has rural areas and these areas have problems like poor healthcare facilities, poor health status, death due to lack of medical infrastructure, poor transportation and network issues so technological advancement in such areas are very difficult. Technological updation is not possible every time at every place so even in cities it takes time to bring the best and provide it in public domain.

## **3. Poverty:**

Even though in today's date women's are leading from front and are independent enough there is a huge percentage of women's who are under poverty. Globally, for every 100 men aged between 25 -34 living in poverty, there are 122 women. This problem is unavoidable as poverty is always there in a developing economy and people lack in getting basic medical facilities. Women's having lack of finance will not get any help through the technology as it is not a cheaper and readily available for poor. Technology is a costly method of treatment and lack of government initiative towards implementing technology in women's healthcare for those below poverty line has made it barrier for technology in women's healthcare.

## **4. Lack of service providers:**

Technology operation require expertise to certain level, training of staff and updating their knowledge is very important, many countries do have skill service providers but they are not changing at the rate of change in technology, so this leads to underutilisation of resources and technology and increases the wastages.

## **5. Reliability:**

Data collected from various sources comes to different conclusions. Such data is not reliable to derive at a conclusion or to find a solution. Artificial intelligence



has moved a way forward but data present there is based on cases previously occurred and there may be different possibilities which may not be diagnosed by technology as it shows only those outcomes which are available previously. A fever or a cough may be symptoms of various diseases but it requires a professional advice to ensure the correct disease. So it lacks personal touch and often termed not reliable as information can be uploaded by any person not necessarily by the experts. People with no knowledge about the medical science will panic or may have no clue about the severity of the problems. As far as the part of women are concerned data collected and researched is less as compared to men, more research and conclusive evidences are required to be made to make the data more reliable and people to gain trust on the technology.

#### **6. Infrastructure:**

The country having huge geographical areas will always have to face the problems of infrastructure, technology reaching every part of the country is not possible. Some developed and metropolitan cities will have such facilities available but small cities, towns, and rural parts will lag behind and will require investment in developing infrastructure to make it possible. Women's have various issues regarding pregnancies and puberty and no proper facilities are available to make it a smoother process. Even today in countries like India we don't have facilities at government hospitals to make pregnancy at a best way and primitive methods are used to complete the procedure.

#### **Suggestions:**

1. Making people aware about the technology available by the means of Television, radio and newspaper so that it will bring awareness and people will be cautious about it and visit doctors to cure it at the right time.
2. Government initiative is very important as developing infrastructure and making people access it is very important. Availability of network, better source of data and proper execution of plans are required to be placed in this process, the human resources involved in this process should be civil servants so that they can take decisions and planning process becomes smoother.
3. Research and analysis should be promoted by the government and private entities as research for women's healthcare will help eradicate many problems. Sponsorship and grants should be given to the research centres to conduct

research on women’s healthcare and various seminars and conferences should be conducted to increase the interest about the topic.

4. Training and expertise of the staff according to the change in technology is very important and to do so the organisations involved in healthcare services should conduct various training programs of doctors and nurses, appoint a women expert to make the process understood according to the problems of women.

### **Conclusion:**

Research regarding women’s healthcare and inventions of technology has become a very important part of the future medical objectives and developing them to achieve it is very important. The problems like poverty, accessibility, reliability, training and infrastructure may lead to better tomorrow and healthcare and technology being interrelated today can solve a bigger problem for tomorrow.

### **References:**

Women and access to health by women’s forum for the economy and society

Breaking barriers – WHO

Analysis of gender perception in health technology: A call to action by Lynn denand, Stacey mcCutcheon and Dan Azagury.

---

## **Importance of Vitamin D in Women Athlete With Respect To Covid 19: A Review**

**Shweta M.Barhate**

Assistant Professor

Department Of Electronics & Computer Science,

RTM Nagpur University Nagpur.

[Shwetab73@yahoo.com](mailto:Shwetab73@yahoo.com)

---

### **Abstract:**

Indian women are mostly found deficient in Vitamin D in spite of the ample availability of sun light. Studies have shown an evident linkage of vitamin D hormone deficiency with COVID-19 severity. Sports fraternity around the world is very well aware of benefits of Vitamin D supplementation to athletes to enhance their athletic performance. It has been observed that COVID 19 causes temporary or even permanent damage to many organs. There has been an evident study which shows that SARS-CoV-2 infection has a very adverse effect on physical functioning and fitness which may prevail for more than a year. This study gives an exhaustive review of role of vitamin D especially for women athlete which seems to be an overlooked issue. The present work mainly considers the involvement Of machine learning algorithms currently being used for deficiency prediction of Vitamin D. The prediction algorithms which are best suited for the are discussed in the present work.

**Keywords:** Vitamin D, SARS-CoV-2, Machine Learning, Prediction algorithms

---

## **Introduction-**

The world is presently trying to heal from the aftermaths of COVID 19 severity. COVID 19 had tried to engulf every human being directly or indirectly exposed to it. This viral pandemic has knocked every home in the world giving either temporary or permanent damage to health, social or on economic front.

COVID-19 has shown its impact on each and every part of the human body causing damage to lungs, respiration regulation, and cardiovascular system and other organs too. Athletes to enhance their sports performance have to consider and track various anthropometric parameters like height, weight, head circumference, body mass index, body circumferences and skin fold thickness time to time. These parameters does not need any invasive procedure to measure. Apart from these measures the role player parameter for athlete stands out to be vitamin D which is fat soluble vitamin and a key affecting human physiology. It is important to maintain the appropriate levels of calcium and phosphate which are inturn necessary for bone mineralization, muscle contraction, nerve conduction and overall cell functioning in the body. The active form of this hormone helps in better absorption of calcium which are afterwards regulated by parathyroid gland. The major source of Vitamin D hormone is endogenous synthesis in skin on exposure to sunlight, namely, ultraviolet B (UV-B) radiation of wavelength 290–320 nm. Main dietary sources are fish, fortified food, and supplements. Vegetables and grains are poor sources. (Aparna P, 2018) Study shows that the Vitamin D deficiency can occur irrespective of age, sex and geography. This deficiency has been proved to be major problem in skeletal and extra skeletal complications which is a concerning issue for the athletes.

As COVID 19 emerged many factors were explored which would help the patients to recover from this deadly disease. There was no specific drug or treatment for the patients who suffer from this disease. Studies identified a unique connection of vitamin D deficiency and COVID -19 patients.

## **Literature Review-**

A systematic literature review has been done by the author taking in to consideration the following research questions:

Rq1 : Comparative study of effect of COVID 19 on men and women

Rq2: Effect of COVID 19 on women athletes

Rq3 : Correlation of Vitamin D and COVID 19

Rq3: Parameters taken in to consideration in women athletes with respect to COVID 19

Rq4: Machine learning algorithms used for deficiency detection

Shuyo Guo et al. in their paper (Shuyu Guo, 2013) have considered the importance of Vitamin D and its related diseases a human a have on deficiency. The study identified the problem of checking the status of Vitamin D in human body by invasive procedure under epidemiological conditions. The alternative way is to use machine learning algorithms for prediction of Vitamin D

Carmen Patino\_Alonso et.al. (Carmen Patino\_Alonso, 2022) in their paper have focused on the Vitamin D deficiency of elderly Europeans. This work compared different supervised learning algorithms and compared them while considering the anthropometric parameters and took out the most affected parameter with vitamin D deficiency. The study was done on 501 samples by considering random sampling method ranging from 35-75 years of age. The parameters considered were Waist circumference, Body Mass Index, waist to height ratio, body roundness index, visceral adiposity index, Clinical University of Navarra body adiposity estimator (CUN-BAE) for body fat percentage. The results showed that the anthropometric parameters to predict vitamin D deficiency differed according to sex. Also WC, BMI, WHtR, VAI, and BRI were most useful for prediction in males, while CUN-BAE was more useful in females. The naïve Bayes approach for machine learning showed the best area under the curve with WC, BMI, WHtR, and BRI, while the logistic regression model did so in VAI and CUN-BAE.

G.Sambasivam, J.Amudhavel, and G.Sathya (G.Sambasivam, 2017) in their paper have stressed upon the fact the Vitamin D deficiency is the issue of concern worldwide and also have underlined the need of non invasive prediction using machine learning. The study was done on 3044 college students up to 21 years age. Independent parameters like sex, weight, height, body mass index, waist circumference, body fat, bone mass, sun exposure, diet were used for the deficiency prediction of vitamin D. The work considered, compared and evaluated different machine learning algorithms for prediction. A statistical test named McNemar’s test was done to validate the experimental results. Classifiers

like K-Nearest Neighbor (KNN), Decision Tree (DT), Random Forest (RF), AdaBoost (AB), Bagging Classifier (BC), ExtraTrees (ET), Stochastic Gradient Descent (SGD), Gradient Boosting (GB), Support Vector Machine (SVM), and Multi-Layer Perceptron (MLP) were implemented to predict the severity of deficiency of Vitamin D. Results concluded that the Random Forest Classifier achieves better accuracy of 96 % and outperforms well on training and testing Vitamin D dataset. The McNemar’s statistical values also supports the conclusion that the Random forest classifier stands out to be the best classifiers.

Souad Bechrouri et al. (Souad Bechrouri, 2019) in their paper have done a comparative analysis of some statistical methods in order to predict the vitamin D levels based solely on biochemical parameters, age, and sex. The sample were 124 hospitalized patients varying from 8 to 97 years with values of Vitamin D and some biochemical parameters. A set of hospitalized patients from different departments of the University Hospital Centre of Oujda and having a valid value for vitamin D and various biochemical parameters were included. Linear regression, Multivariable Adaptive Regression Spline (MARS), Random Forest (RF) and Support Vector Regression (SVR) were used for vitamin D prediction. Two statistics were used to compare the different models: Root Mean Squared Error (RMSE) and the Mean Absolute Error (MAE). The studies concluded weak correlations between vitamin D and calcium and glucose. This study also concluded that SVR model performed better than random forests and MARS in the case of a small size database.

Georgie Brunveils et. al (Georgie Bruinvels, 2021) in their paper have considered recommendation and requirements of female athletes with physiological emphasis during and after COVID-19 pandemic. The study considered various physiological parameters before confirming return to play status of the female athletes. The factors under consideration were COVID-19 presence, exercise training and injury risk, mental health, menstrual cycle monitoring, and general health and well being. These were the major parameters considered. The athletes depending upon their negative test of COVID 19 were advised to maintain physical fitness as much as possible when circumstances allow. Further they were advised to avoid putting undue stress on the immune system and lower the chance

of injury during a period when sports medical support is severely limited. Individualize training routines based on strengths and shortcomings previously determined. It was recommended to use tele-health facility to expand access to sports medical care while lowering the risk of transmission. The athletes were advised to avoid putting undue stress on the immune system and lower the chance of injury during a period when sports medical support is severely limited.

Kahyan Gonoodi et al. (Kayhan Gonoodia, 2019) in their paper performed a study on 988 Iranian Adolescent girls of age 12-18. They considered serum biochemical factors, blood count parameters and traceable elements like zinc, copper, calcium and SOD were measured. Following input parameters were considered: age, academic attainment of their father, waist circumference, waist to hip ratio, zinc, copper, calcium, SOD, FBG, HDL-C, RBC, MCV, MCHC, HCT. 70% cases were considered for training data set and remaining for testing. The study concluded that serum levels of Zinc was the most important factor to identify the people with vitamin D deficiency.

Mengyuan Li et al. in their paper have (Mengyuan Li 1, 2021) worked on various novel factors associated with COVID 19 cases, fatality rates in 154 countries and 50 US states. Numerous critical factors like blood type were considered and associated with COVID 19. The study found various unique factors associated with COVID 19 like Blood group B and AB were safe from the impact of COVID 19 whereas A was high risk factor with respect to COVID 19.

Elham Jamshidi et al. in their paper (ICU, 2022) have used machine learning to predict the mortality for COVID 19 patients right on day of admission. In view of rising number of cases there was a need of to early predict the severity of disease in ICU to have a better strategy to deal with the disease. The study comprised of 797 diagnosed with COVID 19 in Iran and UK. Machine learning algorithms like random forest, logical regression, gradient descent classifier, support vector machine and artificial neural network algorithms were used to build a classifier model. The result analysis showed that out of the considered 66 documented parameters, 15 factors with the highest predictive values were identified as gender, age, blood urea nitrogen (BUN), creatinine, international normalized ratio (INR), albumin, mean corpuscular volume (MCV), white blood

cell count, segmented neutrophil count, lymphocyte count, red cell distribution width (RDW), and mean cell haemoglobin (MCH) along with a history of neurological, cardiovascular, and respiratory disorders. The performance of the models was confirmed by black box testing of the models in external dataset.

Jin-Chul Heo (Jin-Chul Heo, 2021) in their paper have focused on the importance of vitamin D3 correlated to many diseases. Predicting Vitamin D non-invasively was very difficult and hence there came the need of machine learning to do this. The aim of the study was to investigate the correlation between vitamin D levels, body information obtained by an InBody scan, and blood parameters obtained during health checkups, to determine the optimum frequency of vitamin D quantification in the skin and to propose a vitamin D measurement method based on impedance. Body composition, arm impedance, and blood vitamin D concentrations were assessed to determine the correlation between each element using multiple machine learning analyses. Linear Regression model analysis predicted the concentration of vitamin D in the body using the impedance value developed. Body fat percentage obtained from the InBody device and blood parameters albumin and lactate dehydrogenase correlated with vitamin D level. An impedance measurement frequency of 21.1 Hz was reflected in the blood vitamin D concentration at optimum levels, and a confidence level of about 75% for vitamin D in the body was confirmed. The proposed method can predict and monitor vitamin D-related diseases which can be incorporated in wearable health gadgets.

David Meltzer et al. in their paper (David O. Meltzer & Hui Zhang, 2020) have tried to correlate the level of Vitamin d3 and positivity of COVID 19 of 4314 patients tested positive for COVID 19. The patients were considered deficient of Vitamin D if the 25-hydroxycholecalciferol less than 20 ng/mL or 1,25-dihydroxycholecalciferol less than 18 pg/mL before COVID-19 testing. The considered 489 patients had tested Vitamin D level before a year of COVID 19 testing. The results were that out of 489, 124 were deficient 287 were sufficient and 78 were uncertain. Over 71 patients tested positive for COVID 19, multivariate analysis for COVID 19 showed that increase in age Vitamin D deficient patients were tested positive for COVID 19 more than the others.



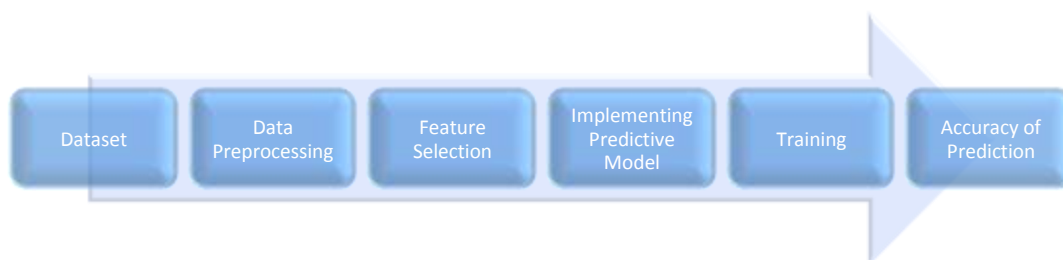
**Table 1 : Tabular Representation of Selected Literature Survey**

S.No	Title of the paper	Year	Prediction Model	Accuracy(%)
1.	A Novel Approach for Prediction of Vitamin D Status using support vector regression	2013	SVR model on Autoimmune Dataset	95%
2.	Association of adiposity, physical fitness Vitamin D levels & hemodynamic parameters in young Saudi Females	2017	Linear Regression on Anthropometric Data	82.5
3.	An assessment of the risk factors for vitamin D deficiency using a decision tree model	2019	Decision Tree Model On multidimensional Data	85%
4.	Performance of Statistical Models to Predict Vitamin D Levels	2019	Linear Regression, Random Forest, Multivariable Adaptive Regression	80%
5.	COVID 19 considerations for Female Athlete	2021	Review of Physiological parameters	----

### **Methodologies Used**

Artificial Intelligence is widely used in every field and especially medical field for its ease of use and high performance. AI technologies intervention in every field has been considered as a bliss in the gloomy situation of COVID 19 as it has the versatility to deal with virus understanding, drug research, detecting and diagnosing the virus, monitoring and recovery from the disease.

Even before the world got to know of the emergence of deadly corona virus Artificial Intelligence had detected the spread of unnamed virus induced pneumonia in China. After the virus was understood globally artificial Intelligence took charge of the situation right from prediction, diagnosis, mode of treatment and drug to be used. AI along with data mining algorithms are being used to tackle the issues related to COVID 19 and can be used further to track the birth and to decide the end of this pandemic correspondingly. As artificial intelligence took charge of COVID 19 situation, traditional reporting systems were less preferred looking at the potential of fast predicting algorithms. Machine Learning can be considered as a part of artificial intelligence where machines learn and take decisions under specific conditions. Machine learning has the ability to predict the future depending upon the training parameters it used for training.



**Figure 1: Vitamin D Prediction Model Using Machine Learning Algorithms**

Machine Learning predictive models used consist of different algorithms as follows :

1. **Random Forest** : This algorithm is the most powerful one which is used for classification and regression. This algorithm has the capability to work on large amount of data. Random forest as the name suggests is the combination of more than one decision trees. Each tree depends on the random vector modelled separately. The predictive algorithms make use of Boosting or Bagging techniques. Boosting is one where weights are adjusted depending upon last classification. Bagging involves creating subset of data from training sample chosen randomly with replacement. Random Forest makes use of bagging technique. If a large data set is available as a sample then a part of data can be used for training. So in random forest the data arranged in form of trees are trained parallelly. Random forest works on the basis that if a part of tree is weak

in learning bringing them together would make them strong. Random forest is very popular because of its capability to handle and give accurate results for large data set, the usage of multiple trees reduce the variance, it is resistant to overfitting, can be considered accurate even when a large sample of data is missing.

2. **Gradient Boosted Model:** This model is one of the best used for prediction especially considering the large and complex data. Gradient Boosting algorithm helps to reduce bias error of the model. It is a generalization of AdaBoosting model. It works on the basis that next possible best model when combined with previous model reduces the overall prediction error. The idea is to target the results in order to minimize the error. The results are set as per the gradient of the error in view of prediction.
3. **K-Means:** K-means is a high speed algorithm which works on unlabeled data in separate set taking into consideration their similarities. The main use of this algorithm is for clustering and is helpful when the data is very large and unlabeled.
4. **Naive Bayes:** This is a very powerful algorithm used for predictive modelling. The algorithm involves two probabilities which are designed from the training data which are probability of each class and conditional probability of each class given x value. After training the this model can be used for prediction using Bayes theorem. Bell curve is used to predict when the data is real time. Naive Bayes is called so because the variable under consideration are independent. If the data is complex and large then Naive Bayes is very good solution.
5. **Support Vector Machine:** SVM chooses a hyperplane to optimally segregate the points in the input variable space by their class. These can be either in class 0 or class 1. Both the dimensions can be visualised as a line and it may assumed that this line can entirely separate all input points. The SVM learning algorithm discovers the coefficients that produce the best hyperplane separation of the classes. The margin is defined as the distance between the hyperplane and the closest data points. The line with the widest margin is the best or optimal hyperplane for separating the two classes. Only these points matter when it comes to defining the hyperplane and building the classifier. The support vectors are the points that make up the support vectors. They help to define or sustain the

hyperplane. To discover the values for the coefficients that maximise the margin, an optimization technique is utilised.

6. **Linear Regression:** Predictive model primarily deals with having a target function that perfectly tries to match input X to output Y. Linear regression is a very popular algorithm best known to statistics or machine learning. In prediction modelling the principle which forms the base is by learning the earlier stages of a machine we predict the future y based on new x. The given an input x the linear regression works by the equation  $y=b_0 + b_1x$  where the algorithms works by finding the weights  $b_0$  and  $b_1$  appropriately which maps x to y. It works best when the noisy data is avoided or removed. This algorithm is very simple to use as a predictive algorithm. (Lubna Al Asoom, 2017)

## Conclusions

From the study reviewed it can be very well concluded that Vitamin D deficiency is directly related to high risk of Covid 19. Though the study cannot exactly conclude that Covid 19 directly is a cause of Vitamin D3 deficiency as there are other corresponding factors like age, sex, diabetes and other chronic illnesses. A very useful point which can be concluded on review is that vitamin D has a huge impact on all aspects of woman athletes life be it mental health, cardiopulmonary health, injury or risk of injury, menstrual cycle and hence needs to be focused upon first.

From the study it can a unique correlation comes in front that men are more affected by Covid 19 than women reason of which cannot be exactly proved.

Vitamin D3 is a dynamic hormone which affects many of our important body parameters. As far the women players are concerned it is very important to have an optimal level of Vitamin D3 as it has shown to affect the major body factors be it spine, bone wear and tear, brain functioning, its anti viral ability, ability to maintain hormonal balance thereby avoiding the major problems in women athlete like menstrual disturbance, PCOD, bone injury, spine injury and in long run avoiding many types of cancer. Hence it is very important for the female

athletes to maintain the desired level of Vitamin D3 and if at all deficient take the supplements which are not very costly and get strong immune support as a result.

The study shows that those admitted to ICU who were being supplemented with moderate dosage of Vitamin D3 have shown better results in recovering than the one who are deficient .

The pandemic of Covid 19 which made the world topsy turvy stressed upon the fact that physical distancing is one the most important measure to avoid this infection. The diagnostics arena was flooded with patient demands and hence there was a need of non-invasive prediction of Vitamin D3 deficiency and here came the machine learning to rescue. The top predictive algorithms like linear regression(LR), Gradient Boosted Model(GBM), Random Forest(RF), Naive Bayes(NB), k-means, and support vector machine(SVM) worked very well and could help the health care decision makers to take quick and accurate decisions. Hence it can be very well seen that Artificial intelligence in the form of machine learning has already knocked the doors of sports industry for many of its predicting, classification abilities like performance prediction, injury prediction and many more.

The blood test for Vitamin D3 is very costly and hence there was a need of machine learning algorithm which would predict the value of this vitamin without going for any invasive test which works in benefit of patient as well as the health care worker.

### **References:**

Aparna P, M. S. (2018). Vitamin D deficiency in India. *Journal Of Family Medicine and Primary Care* , 324-33.

Carmen Patino\_Alonso, M. G.-S.-O. (2022). Predictive Ability of Machine-Learning Methods for Vitamin D Deficiency Prediction by Anthropometric Parameters. *MDPI* , 10 (616), 1-16.

David O. Meltzer, T. J., & Hui Zhang, T. V. (2020). Association of Vitamin D Status and Other Clinical Characteristics with COVID 19 test results. *Infectious Diseases* , pp. 1-21.

- G.Sambasivam, J. a. (2017). A Predictive Performance Analysis of Vitamin D Deficiency Severity using Machine Learning Methods. *IEEE Access* , 20.
- Georgie Bruinvels, N. A. (2021). COVID-19–Considerations for female athlete. *Frontiers in Sports And Active Living* , 3 (606799), 1-8.
- ICU, U. M.-1. (2022). Elham Jamshidi, Amirhossein Asgary, Nader Tavakoli, Alireza Zali, Soroush Setareh. *Frontiers in Digital Health* , 3 (68108), 1-14.
- Jin-Chul Heo, D. K.-S. (2021). A Novel Biosensor and Algorithm to Predict Vitamin D Status by Measuring Skin Impedance. *MDPI sensors* , 8118, 1-12.
- Kayhan Gonoodia, M. T.-K. (2019). An assessment of the risk factors for vitamin D deficiency using a decision tree model. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews* , 13 (3), 1773-1777.
- Lubna Al Asoom, M. T. (2017). The association of adiposity, physical fitness, vitamin D levels and haemodynamic parameters in young Saudi females. *Journal Of Taibah University Of Medical Sciences* , 1-7.
- Mengyuan Li 1, Z. Z. (2021). Identifying novel factors associated with COVID-19 transmission and fatality using the machine learning approach. *Sci Total Environ.* 2021 Apr 10;764:142810. doi: 10.1016/j.scitotenv.2020.142810. Epub 2020 Oct 13. PMID: 33097268; PMCID: PMC7550892.
- Shuyu Guo, R. L. (2013). A Novel Approach for Prediction of Vitamin D Status using support vector regression. *PLOS one* , 8 (11), 1-9.
- Souad Bechrouri, A. M. (2019). Performance of Statistical Models to Predict Vitamin D Levels. *SMC '19: Proceedings of the New Challenges in Data Sciences: Acts of the Second Conference of the Moroccan Classification Society* Article No.: 2Pages 1–4.

## **Effect of Locomotor Activities Training Program on Manipulative Skill Abilities of Children**

**Saurav Tripathy<sup>1</sup>**

Ph.D. Scholar, PGTD of Physical Education,  
Sant Gadge Baba Amravati University, Amravati

**e-mail:** [sonaitripathy90@gmail.com](mailto:sonaitripathy90@gmail.com)

**Mob.** 9679375677

**Dr. Tanuja S. Raut<sup>2</sup>**

Professor & Head, PGTD of Physical Education,  
Sant Gadge Baba Amravati University, Amravati

**e-mail:** [tanujaraut13@gmail.com](mailto:tanujaraut13@gmail.com)

**Mob.**8275068780

### **Abstract:**

Locomotor skill works as a foundation of gross motor skill. It works as a platform for the activities child participates in, as they grow up. Less difficult skills serve as a platform for more difficult activities. Children acquire the most fundamental abilities first and progress increasingly to complicated tasks as they grow older. So, the researcher taken the study aims to view the effect of locomotor activities training program on manipulative skill ability of children. For fulfilling the purpose the researcher have taken 50 male students of Municipality Primary school of Amravati city, Maharashtra ageing from 8-10 years by simple random sampling and equally distributed in two homogeneous groups i.e. 25 subjects in each. The researcher pre-assumed that there Significant difference will be observed between pre and post locomotor activity training program, on manipulative skill. The researcher has collected the pre-test data from both groups. One group (Experimental group) had given 45 days locomotor training program maintaining a standard schedule and other (Control Group) with no treatment. After the training was completed the researcher has taken the data from both the groups. The researcher has taken the data by using five tests viz., Throw the balls in bucket, Alternate Hand Wall Toss Test, Kick for achieving the target, Catch the ball and Strike the ball with accuracy. The collected raw data is analyzed statistically by using the ‘t’ test. The level of significance was set at 0.05. The result of the study shows that there is significant effect of locomotor training program on manipulative skill ability. As the age group is active, they are

more agile in nature. So, besides the training program, their playing nature may support the study to improve the manipulative skill ability of the children.

**Key Words:** Locomotor activities, Training, Manipulative skill ability, Children.

---

## **Introduction:**

Playing is a fun and natural method for children to be active, healthy, and happy. Playing is a process using sensory tools that assists children's physical and psychological development. Active play is a way of teaching kids how to improve their muscles so they may grow stronger, quicker, and more agile, as well as have greater motion control (Sutapa et al. 2021).

The development of locomotor skills is aided by movement skills. A movement skill may be identified by the movement patterns that are employed to complete specific activities. A kid learns movement skills through doing, and a motor skill is a taught sequence of motions that combine to generate a smooth, efficient action in order to master a certain activity. Stability, Manipulative, and Locomotors or non-locomotors skills are the three categories of movement skills. (Priyanka, 2017)

Locomotor abilities begin to develop in newborns as early as 11–12 months. Gross motor abilities include locomotor skills, which should be cultivated from an early age. The importance of locomotor skills cannot be overstated because they are the foundation of all sports and leisure activities that a child participates in as he grows older. The basic techniques of movement and coordination that create the foundation for a child's physical health are known as locomotor skills. Walking is a baby's initial locomotor ability, and it is quickly followed by others. (Fernandes, 2020)

Children's locomotor skills allow them to move around in varied situations, shifting their bodies from one location to another. Walking, running, jumping, hopping, crawling, marching, climbing, galloping, sliding, leaping, hopping, and skipping are the main locomotor skills. In a word, locomotor skills are the abilities that allow us to move. Because locomotion skills are the



foundations of coordination, it's critical that youngsters have enough of experience with them. That is why activities such as indoor or outdoor playing are so crucial.

Manipulative skills are those that teach a person how to manipulate items with accuracy, speed, and control. Movement skills are that need the ability to manipulate an object or piece of equipment. Kicking, hitting, dribbling, and catching a ball are examples of these skills. 'Object control skills' is another term for it. These primarily entail physical tasks that need hand-eye coordination to complete a task. Manipulative skills emerge in children from an early age, and it is critical for parents or instructors to install it in them with a firm foundation. (Priyanka, 2017)

Individuals who learn to move safely effectively, and efficiently feel better and ease performing motor skills and are more likely to engage in health-promoting physical exercise throughout their lives. Participation in physical activities is built on a foundation of understanding core ideas connected to successful action execution. Gross bodily motions in which force is applied to or received from objects are known as manipulative abilities. Fundamental manipulating abilities include throwing, catching, kicking, trapping, striking, volleying, bouncing, and ball rolling. These abilities are necessary for interacting with items in our surroundings in a planned and controlled manner.

During early childhood development and primary school physical education program, locomotor movement of children should develop. According to studies, pupils are more inclined to continue active, if fundamental bodily movements are learned at that early age. When kids are unable to grasp basic bodily motions at a young age, they won't be able to participate in specific physical activities as they grow older, when the manipulative skills are more important to perform. So, the researcher wants to know the effect of locomotor activities training program on manipulative skill ability of children.

### **Objective:**

The aim of this investigation was to find out the effect of locomotor activities training program on manipulative skill abilities of Municipality Primary school students of Amravati city, Maharashtra.

### **Hypothesis:**

On the basis of available literatures it was hypothesized by the researcher that, “Significant difference will be observed between pre and post locomotor activity training program, on manipulative skill of Municipality primary school students of Amravati city, Maharashtra.

### **Methodology:**

#### **Source of Data:**

For the present study the data was collected from the Municipality Primary school students of Amravati city, Maharashtra.

#### **Selection of subjects:**

For the present study, 50 Primary school boys were selected, whose ages ranging from 8-10 years old by Simple random sampling technique. After that, divide them in two homogeneous groups of 25 members in each. One group is control group i.e. have not given the training program and another one is treated as an experimental group. 45 days Locomotor training program was given to the experimental group.

#### **Training Program:**

A ground is prepared with Marking cone and saucer cone and make the set up for the activities mentioned below:

<b>Sr. No.</b>	<b>Description</b>	<b>Schedule</b>
1.	Warming up including Stretching & General exercises	10 Mins
2.	Walking on tiptoe	10m X 2 Rep.

3.	Walking sideways	7m each side X 2 reps.
4.	Walking in Pace Variation	10 steps fast & 10 steps slow X 2 reps
5.	Walking Backward	10m X 2 Reps
6.	Walking on straight line	10m X 2 reps
7.	Hopping forward/backward/Sideward	5 hops each side X 2 reps
8.	Walk with Skipping	10m X 2 reps
9.	Walking on heel	10m X 2 reps
10.	Taking off on one foot and landing on the other	10 times X 2 reps
11.	Walk following wavy line	10m X 2 reps
12.	Cooling down	10 Mins

### **Administration of the tests:**

#### **Test 1: Throw the balls in bucket:**

A bucket was set 10ft ahead from the subject on the ground. Now, from behind the starting line the subject would try to throw the balls in the bucket one by one in underarm or over-arm action. Each subject was getting 10 chances. For each successful chance the subject was get 1 point. Thus, each subject can score maximum 10 and minimum 0 in this test.

#### **Test 2: Alternate Hand Wall Toss Test:**

The testee should stand 5ft away from a smooth and solid wall. Throw the ball with one arm, in underarm action at the wall. Catch it with the opposite hand as it return back to you. Throw it back at the wall with that hand and grip with the opposite. Repeat it. If the ball goes out of control, the testee should go to collect the ball and continue the process. The numbers of successful catches in 30 seconds is the score of the testee.

### **Test 3: Kick for achieving the target:**

From behind the starting line the subject should kick a football with right or left feet, to strike a 2ft wide target 10ft ahead. The kicked ball must be hit the target to obtain score. Each subject would get 10 chances. Balls that hit the target would get 1 point and the balls which were passed beside the target, there was no score. Thus, here also each subject can score maximum 10 and minimum 0.

### **Test 4: Catch the ball:**

The tester would throw a tennis ball to a sudden height towards the subject. The subject should catch the ball by using two or single hand. Each subject would get 10 chances. The number of catches they would capture properly was count as single score. Thus, each subject can score maximum 10 and minimum 0, also in this test.

### **Test 5: Strike the ball with accuracy:**

Place a hanging tennis ball with a rope at the height in between the shoulder and waist of the subject. The subject should stand at a suitable distance with a Fungo Bat (Baseball bat). Now strike the ball (Parallel of the floor) with two hand grip on the bat, by swing the whole body and taking required steps. The total number of strike in 30 sec will be counted. The number of strikes in 30sec. is the score.

### **Collection of data:**

After selecting the primary school of Amravati district, the researcher has taken permission from the Head master or Governing body of the school for conducting the training and tests on the selected students.

At first, the tester has made two groups i.e. control group and experimental group and explained them about the tests or the skills they have to perform; thereafter some trials of each test was done by the students for their better understanding. Then, the researcher has taken the pre-test data by applying the test on the selected boys one by one and the scores will be recorded. Now, the researcher has explained as well as demonstrates the training program to the subjects of experimental group.

As, it was quite difficult for the researcher to present in school regular basis, the researcher has requested the Physical Education teachers of the school to continue the training program and the researcher has visited in every 7-10 days. After the end of 45 days training, the researcher has collected the data again by applying the same tests from both the groups.

### Statistical Analysis:

**Table 1**  
**Comparison Performance during Pre and Post test of Control Group**

	Group	Mean	S. D.	M. D.	S. E.	df	Obtained 't'	P-Value
Test 1	Pre Test	2.52	1.33	0.12	0.34	24	0.56	0.287
	Post Test	2.64	1.07					
Test 2	Pre Test	12.88	2.08	0.16	0.56	24	0.44	0.329
	Post Test	13.04	1.90					
Test 3	Pre Test	4.2	1.55	0.6	0.43	24	1.36	0.092
	Post Test	4.8	1.5					
Test 4	Pre Test	5.32	1.49	0.04	0.45	24	0.44	0.446
	Post Test	5.36	1.70					
Test 5	Pre Test	15.04	2.41	0.08	0.72	24	0.30	0.382
	Post Test	15.12	2.66					

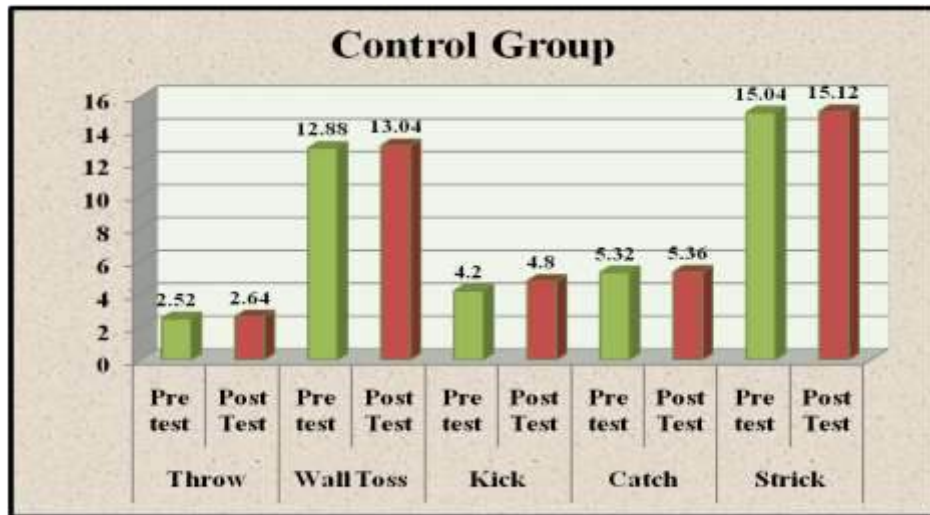
**Level of Significance=0.05**

**Tabulated' (24) =1.71**

Table No 1 reveals that there is difference between the mean of pre and post test of Test 1, Test 2, Test 3, Test 4 and Test 5. In Test 1 the of pre test is 2.52 which is less than the post test mean i.e. 2.64. Also, in Test 2, Test 3, Test 4 and Test 5 the pre test means are 12.88, 4.2, 5.32 and 15.04 respectively which are also less than the post test mean i.e. 13.04, 4.8, 5.36 and 15.12 accordingly. So, the mean differences are found 0.12, 0.16, 0.6, 0.04 and 0.08 accordingly. To check the significant difference of pre and post test of each tests of the Control group, the data is again analyzed by applying 't' test. Now, the calculated value of 't' of Test 1, 2, 3, 4 and 5 are 0.56 (p-value 0.87), 0.44 (p-value 0.329), 1.36

(p-value 0.092), 0.44 (p-value 0.446) and 0.30 (p-value 0.382) which all are less than the tabulated value 1.71 at 0.05 level of significance. This is presented graphically in Graph No. 1.

**Graph 1**  
**Graphical Representation of Performance during Pre and Post test of Control Group**



**Table 2**  
**Comparison of Performance during Pre and Post test of Experimental Group**

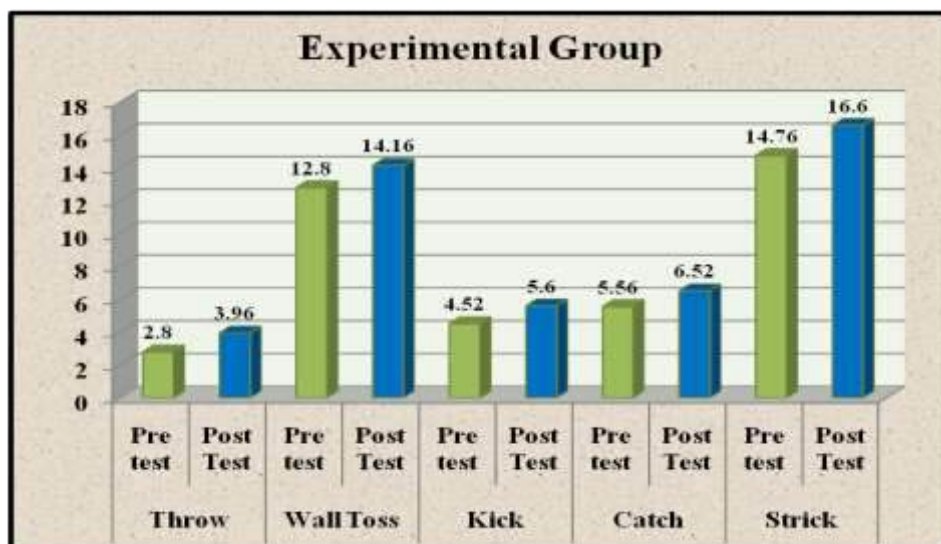
	Group	Mean	S. D.	M. D.	S. E.	df	Obtained 't'	P-Value
<b>Test 1</b>	<b>Pre Test</b>	2.8	1.60	1.16	0.43	24	3.41*	0.001
	<b>Post Test</b>	3.96	1.48					
<b>Test 2</b>	<b>Pre Test</b>	12.8	2.02	1.36	0.55	24	4.31*	0.0001
	<b>Post Test</b>	14.16	1.86					
<b>Test 3</b>	<b>Pre Test</b>	4.52	1.23	1.08	0.37	24	5.66*	0.0000039
	<b>Post Test</b>	5.6	1.41					
<b>Test 4</b>	<b>Pre Test</b>	5.56	1.47	0.96	0.40	24	4.09*	0.0002
	<b>Post Test</b>	6.52	1.36					
<b>Test 5</b>	<b>Pre Test</b>	14.76	2.22	1.84	0.56	24	6.41*	0.0000006
	<b>Post Test</b>	16.6	1.75					

**Level of Significance=0.05 \*Significant Tabulated’ (24) =1.71**

Table No 2 reveals that there is difference found between the mean of pre and post test of Test 1, Test 2, Test 3, Test 4 and Test 5. In Test 1 the of pre test is 2.8 which is less than the post test mean i.e. 3.96. Also, in Test 2, Test 3, Test 4 and Test 5 the pre test means are 12.8, 4.52, 5.56 and 14.76 which are less than the post test mean i.e. 14.16, 5.6, 6.52 and 16.6 accordingly. So, the mean differences are found 1.16, 1.36, 1.08, 0.96 and 1.84 accordingly. To check the significant difference of pre and post test of each tests of the Experimental group, the data is again analyzed by applying ‘t’ test. Now, the calculated value of ‘t’ of Test 1, 2, 3, 4 and 5 are 3.41 (p-value 0.001), 4.31 (p-value 0.0001), 5.66 (p-value 0.0000039), 4.09 (p-value 0.0002) and 6.41 (p-value 0.0000006) which all are greater than the tabulated value 1.71 at 0.05 level of significance. So the researchers pre assumed has been accepted. This is presented graphically in Graph No. 2.

**Graph 2**

**Graphical Representation of Performance during Pre and Post test of Experimental Group**



**Table 3**

**Comparison of Post Test between Control and Experimental Group**

Group	Mean	S. D.	M. D.	S. E.	df	Obtained ‘t’	P-Value

<b>Test 1</b>	<b>Control Gr. Post Test</b>	2.64	1.07	1.32	0.37	48	3.59*	0.0007
	<b>Experimental Gr. Post Test</b>	3.96	1.48					
<b>Test 2</b>	<b>Control Gr. Post Test</b>	13.04	1.90	1.12	0.53	48	2.10*	0.041
	<b>Experimental Gr. Post Test</b>	14.16	1.86					
<b>Test 3</b>	<b>Control Gr. Post Test</b>	4.8	1.5	0.8	0.41	48	1.94	0.058
	<b>Experimental Gr. Post Test</b>	5.6	1.41					
<b>Test 4</b>	<b>Control Gr. Post Test</b>	5.36	1.70	1.16	0.43	48	2.66*	0.010
	<b>Experimental Gr. Post Test</b>	6.52	1.36					
<b>Test 5</b>	<b>Control Gr. Post Test</b>	15.12	2.67	1.48	0.64	48	2.31*	0.025
	<b>Experimental Gr. Post Test</b>	16.6	1.75					

**Level of Significance=0.05 \*Significant Tabulated' (48) =2.011**

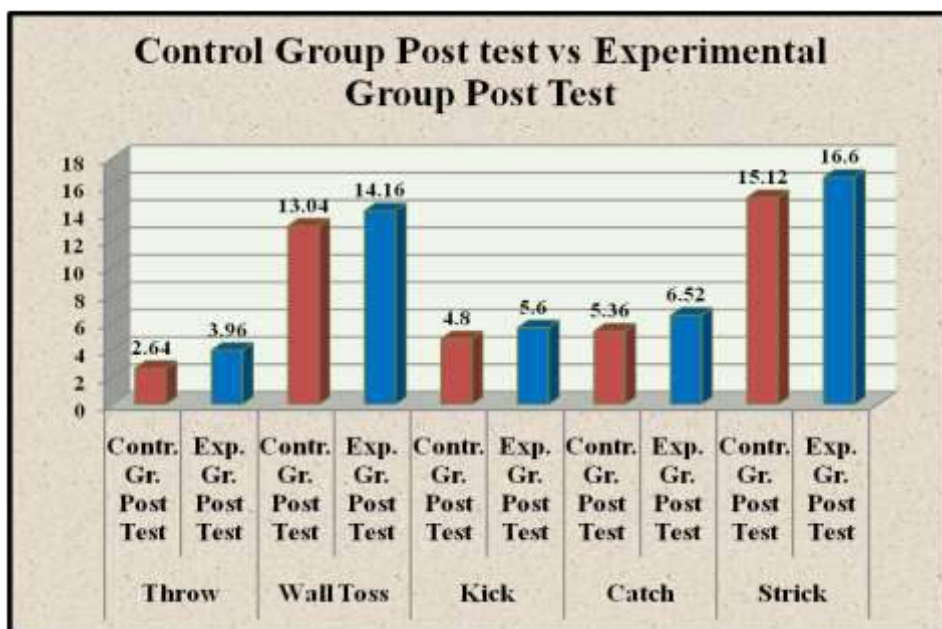
Table No 3 reveals that there is difference of the mean of Post test between control group and experimental group of Test 1, Test 2, Test 3, Test 4



and Test 5. In Test 1 the mean of post test of control group is 2.64 which is less than the mean of post test of experimental group i.e. 3.96. Also, in Test 2, Test 3, Test 4 and Test 5 the post test means of control group are 13.04, 4.8, 5.36 and 15.12 which are less than the post test mean of experimental group i.e. 14.16, 5.6, 6.52 and 16.6 accordingly. So, the mean differences are found 1.32, 1.12, 0.8, 1.16 and 1.48 accordingly. To check the significant difference of post test between control and experimental group of each test, the data is again analyzed by applying ‘t’ test. Now, the calculated value of ‘t’ of Test 1, 2, 4 and 5 are 3.59 (p-value 0.0007), 2.10 (p-value 0.041), 2.66 (p-value 0.010) and 2.31 (p-value 0.025) which all are greater than the tabulated value 2.011 at 0.05 level of significance, except test 3 where  $t=1.94$  (p-value 0.058), which is less than the tabulated value 2.011. As in major cases significant difference found, so the researcher’s pre assumed has been accepted. This is presented graphically in Graph No. 3.

**Graph 3**

**Graphical Representation of Post Tests of Control and Experimental Group**



**Conclusion:**

In this research age group of the subjects are 8-10 years. This age group is active and they have more adoptability in motor learning. But, object control skills are more complicated and tough for children to acquire than motor abilities

that do not involve objects. So, researcher thinks that there is significant effect of locomotor training program on manipulative skill ability. Once the locomotor skills are developed properly in child, they may able to handle objects faster and speedily. Thus, they develop other gross motor skills. Here, besides the training program, the playing nature of children may help to support the result of the study by improve their manipulative skill ability.

### **References:**

1. Akbari H, Abdoli B, Shafizadeh M, et al. (2009) “The effect of traditional games in fundamental motor skills development in 7–9 year-old boys”. *Iran J Pediatr.*19:123–9.
2. Bakhtiari, Sabah et al. (2011) “Effects of Selected Exercises on Elementary School Third Grade Girl Students’ Motor Development”, *Asian J Sports Med.*, 2(1): 51–56
3. Barrow, Harold M., *Man and Movement: Principle of Physical Education*, Philadelphia: Lea and Febigar, 1983.
4. Dana, Amir and Christodoulides, Efstathios (2020) The Effects of a Period of Selected Physical Activity on Improving Manipulative and Locomotors Skills of Children with Neuropsychological Learning Disabilities. *Journal of Rehabilitation Sciences and Research*, 7 (1). pp. 25-30. ISSN 2345-6167
5. Fernandes, Ruchelle, (2020) “How to Assist Your Child in Developing Locomotor Skills”, *Firstcry Parenting*, <https://parenting.firstcry.com/articles/how-to-assist-your-child-in-developing-locomotor-skills/>
6. [https://p10cdn4static.sharpschool.com/UserFiles/Servers/Server\\_69234/File/Curriculum/First%20Grade/Gr-1-PE-Unit-3.pdf](https://p10cdn4static.sharpschool.com/UserFiles/Servers/Server_69234/File/Curriculum/First%20Grade/Gr-1-PE-Unit-3.pdf)
7. <https://www.slideshare.net/PriyankaMoni1/manipulative-skills>
8. <https://www.twinkl.co.in/teaching-wiki/locomotor-skills>
9. <https://www.verywellfamily.com/manipulative-skills-1256926>
10. Kamlesh, M. L., *Foundation of Physical Education*, New Delhi: Metropolitan Book Corporate Private Ltd., 2002

11. Kilic, Zeynep et al. (2022) “Examining the Effects of Movement Activities of Coordinated Approach to Child Health (CATCH) Program on Locomotor and Manipulative Skills of 4-5 Years Old Children”, *Participatory Educational Research*, 9(1), 41-60.
12. Okely AD, Booth ML, Patterson JW.(2001) “Relationship of physical activity to fundamental movement skills among adolescent”, *Med Sci Sports Exerc.* 33:1899–904.
13. Piek JP, Dawson L, Smith LM, Gasson N. (2008) “The role of early fine and gross motor development on later motor and cognitive ability”, *Hum Mov Sci.*, 25:668–81.
14. Sutapa, P., et al. (2021) “Improving Motor Skills in Early Childhood through Goal-Oriented Play Activity.”*Children*, 8(11), 994  
<https://doi.org/10.3390/children8110994>

## Unveil the Mystery of Artificial Intelligence in Dentistry

Vandana Gade<sup>1</sup>, Reema Asani<sup>2</sup>, Jaykumar Gade<sup>3</sup>

Professor, Department of Conservative Dentistry and Endodontics

<sup>1</sup>Swargiya Dadasaheb Kalmegh Smruti Dental College and Hospital, Nagpur

[Postgraduate Student, Department of conservative Dentistry.](#)

[<sup>2</sup>Swargiya Dadasaheb Kalmegh Smruti Dental College and Hospital, Nagpur](#)

Professor, Prosthetic Dentistry and Implantology

<sup>3</sup>Swargiya Dadasaheb Kalmegh Smruti Dental College and Hospital, Nagpur

<sup>1</sup>Email Id : [gade.vandana@gmail.com](mailto:gade.vandana@gmail.com)

<sup>2</sup>Email Id : [asani.reema@gmail.com](mailto:asani.reema@gmail.com)

<sup>3</sup>Email Id : [jgadeprostho@gmail.com](mailto:jgadeprostho@gmail.com)

[Corresponding author: VandanaGade](#)

Professor, Department of Conservative Dentistry and Endodontics

SwargiyaDadasahebKalmeghSmruti Dental College and Hospital, Nagpur.

Email Id : [gade.vandana@gmail.com](mailto:gade.vandana@gmail.com)

Contact No.:9370327036

### **Abstract:**

Artificial intelligence (AI) encompasses a broad spectrum of emerging technologies that continue to influence daily life. AI technology has influenced the health care field because of the need for accurate diagnosis and superior patient care. Such technologies has upgraded the treatment and comfort delivered to patient. AI has revolutionised dentistry by innovations such as CAD-CAM, Robots, Humanoid etc providing more precise, superior and comfortable treatment. This paper discusses the various application, advancement and future scope of AI in the field of dentistry.

**Keywords:** Artificial intelligence, Robotics, Dentistry, Healthcare.

## Introduction

In health care, things that once seemed as science fiction have now become reality. Artificial intelligence (AI) is a fast-moving technology that allows machines to carry out tasks previously exclusive to humans.<sup>1</sup> AI is a branch of computer science that aims to understand and build intelligent entities, often instantiated as software programs.<sup>2</sup> John McCarthy was the first to coin Artificial intelligence which refers to the machine that can imitate human knowledge and behaviour.<sup>3</sup> This intelligent ability can be implemented by series of algorithms. This technology quantitatively enhance people’s lives and continuously guide the world. Artificial intelligence (AI) in varying forms and degrees has been used to evolve and facilitate a wide spectrum of fields, such as financial markets and banking, education, manufacturing, supply chains, retail and e-commerce, and healthcare.<sup>4</sup>

By using AI assistantsartificially intelligent systems are also being applied in the healthcare sector to improve patient care, patient experience, and provide support to physicians.Hundreds of companies in the field of technology, pharmacies and healthcare have performed research on artificially intelligent systems and their use in the healthcare industry. A broadly classification regarding the applications of artificially intelligent systems in healthcare is .<sup>4</sup>

1. Patient-oriented AI
2. Clinician-oriented AI and
3. Administrative and Operational-oriented AI.

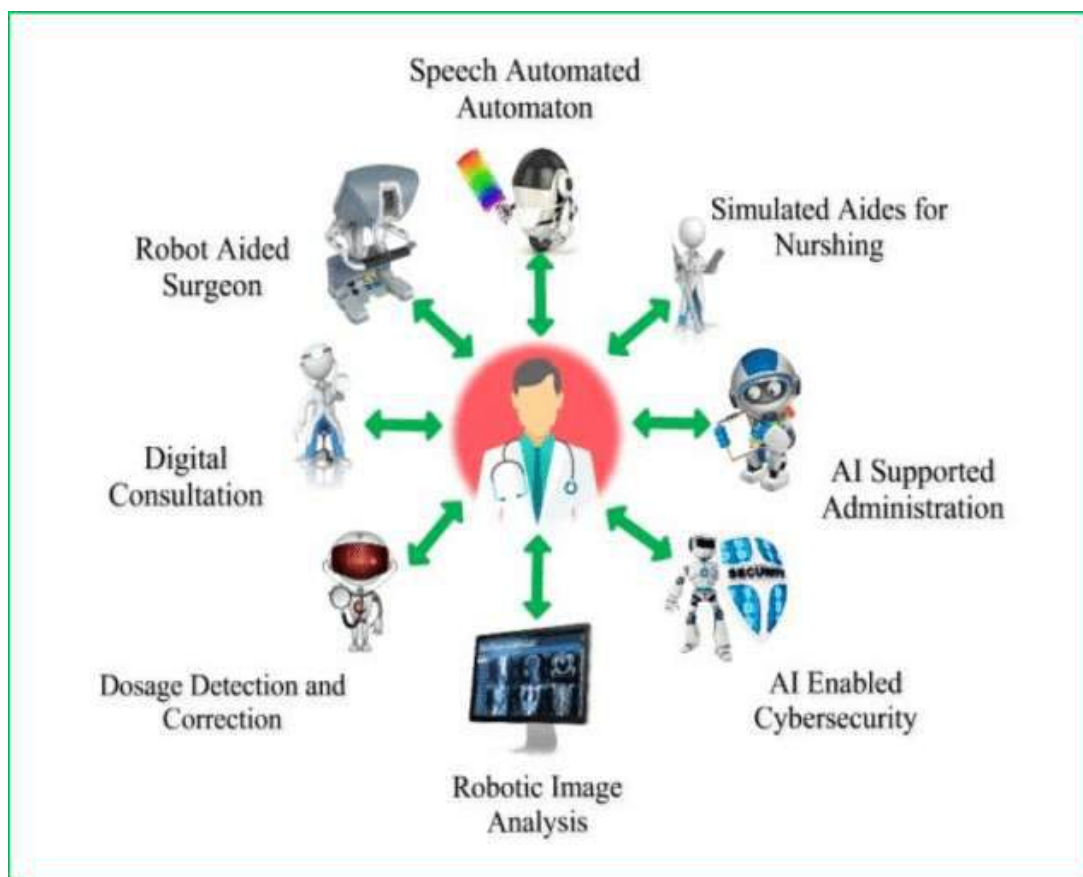


Fig 1. Application Areas of AI in Healthcare<sup>5</sup>

Recent application of AI in global healthcare is the forecasting of increasing hotspots using contact tracing, and flight traveller data to fight off the novel coronavirus (COVID-19) pandemic. Contact tracing is a disease control measure utilised by the government authorities to restrict spread of a disease.<sup>4</sup>

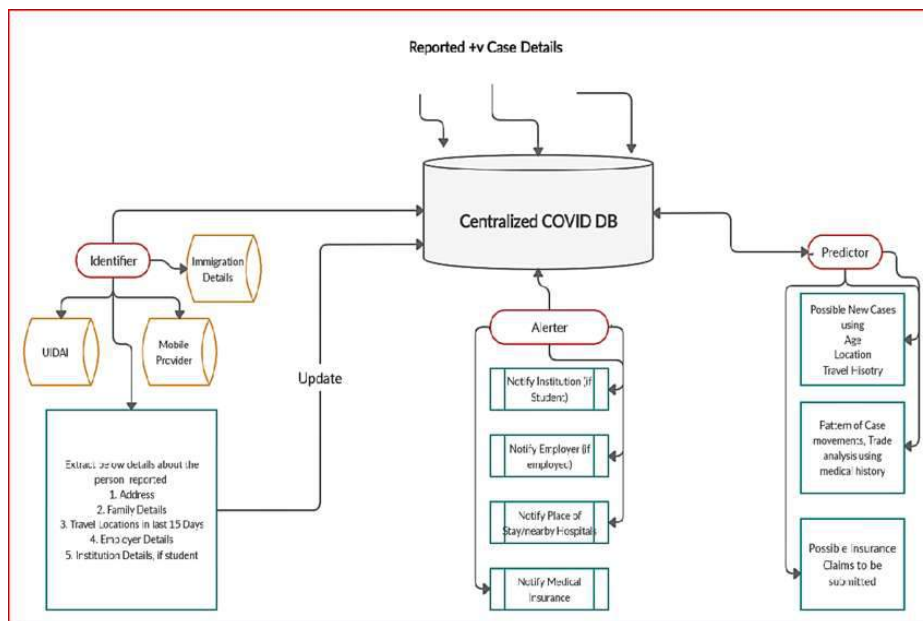


Fig 2.Schematic workflow of theproposed mobile app –BreakTheChain<sup>5</sup>

Certain areas such as image-based automatic detection of diseases diagnosis-support systems image segmentation for automatic detection of oral traits and resolution enhancement of dentistry related images are undergoing remarkable improvements thanks to the use of AI. Several advances are similarly enabling the use of robotic support in dentistry. This process of extracting information is normally referred to as machine learning (ML). Deep learning (DL) is a sub-branch of ML wherein systems attempt to learn, not only a pattern, but also a hierarchy of composable patterns that build on each other.<sup>6</sup>

Artificial Neural Network (ANN) is an extremely popular class of DL algorithms, a structure composed of many small communicating units called neurons organized in layers. One of the most commonly used subclasses of ANN is the convolutional neural network (CNN)in medicine and dentistry. A CNN uses a special neuron connection architecture and the mathematical operation, convolution, to process digital signals such as sound, image and video.<sup>7</sup>

## **Application of AI in dentistry**

### **Radiology:**

Since CNN's has the ability to identify and detect anatomical structures so promising results are seen regarding the use to label teeth from periapical radiographs. A precision rate of 95.8–99.45% has been demonstrated in identifying and detecting teeth by CNNs, almost rivalling the work of clinical experts, who has a precision rate of 99.98%. Detection and diagnosis of dental caries can also be carried out using CNNs .<sup>8,9</sup>

### **Orthodontics:**

Clinical decision-making process can be also be performed using ANNs. An ANN was used to determine the requirement for tooth extraction before orthodontic therapy in patients with malocclusion.<sup>10,11</sup>

### **Periodontics**

American Academy of Periodontology classifies periodontal disease into 2 clinical types of periodontitis: aggressive (AgP) and chronic (CP) forms. Because of the complex pathogenesis of the disease, no single microbiological, clinical, histopathological or genetic test or combination of them can distinguish between AgP from CP patients. 90–98% accuracy was seen with one ANN in classifying patients as AgP or CP.<sup>7,12</sup>

### **Endodontics**

Although, a similar root canal configuration is seen with mandibular molars, several atypical variations may occur. In order to minimize treatment failures which are related to morphological differences and to amend the clinical outcomes of endodontic therapy, cone-beam computed tomography (CBCT) has become the gold standard. However, one of the major drawback of CBCT is its radiation dose which is higher than conventional radiograph. To overcome this, AI has been introduced to classify the given data using a CNN to determine whether the distal root of the first mandibular molar has 1 or more extra canals.<sup>13</sup>



## Oral Pathology

Detection and diagnosis of oral lesions is of very important part in dental practices because an improvisation in prognosis can be encountered if there is early detection. Some oral lesions can be precancerous or cancerous in nature, it is important to make an accurate diagnosis and prescribe appropriate treatment of the patient.<sup>14,15</sup>

## Prosthodontics:

There is an increasing trend in the use of Computer-aided design/computer-aided manufacturing (CAD/CAM) in prosthetic dentistry. Combining AI with CAD/CAM improves its chairside application.<sup>16</sup>

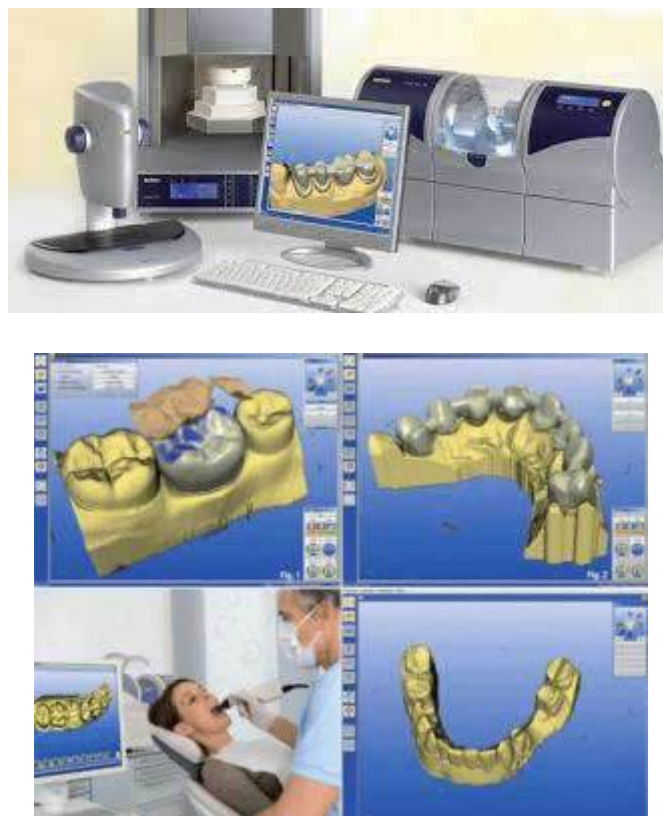


Fig 3. CAD/CAM, computer-aided design/computer-aided manufacturing<sup>16</sup>

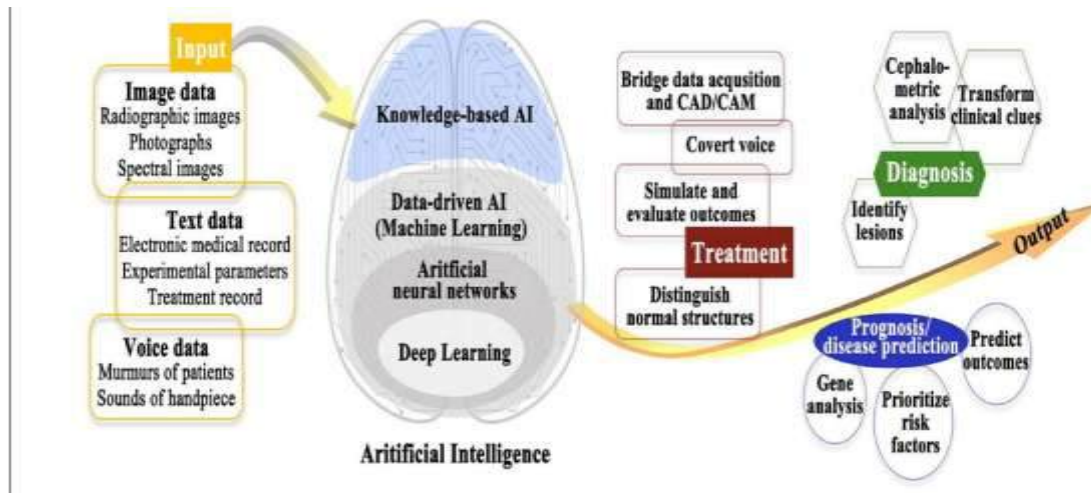


Fig. 4 Overview of the hierarchy and major dental applications of artificial intelligence (AI)<sup>17</sup>

### Robotics in Dentistry<sup>18</sup>



Fig 5 .Application of robots in field of dentistry

### Maxillofacial Surgery.

Some reviews describe possible scenarios and applications of AI and robotics in field of maxillofacial surgery with a special emphasis on the combination of

implant dentistry and prosthodontics or robot-assisted surgery in head and neck cancer.<sup>19,20</sup>



Fig 6. Robot for Implantology(Picture courtesy:google)

### **Tooth Preparation**

The concept of a robotic arm used for tooth preparation or preparation support for the dentist seems tempting and sensible. A system to support the dentist in drilling has been tested in vitro and showed positive results, however, it has not yet been validated in a clinical setting.<sup>21</sup>

#### Root canal treatment and plaque removal:

A robotic system for assistance during root canal treatment have been published by Nelson et al.It was called “vending machine” which was supposed to supply the dentist with the necessary instruments required during root canal treatment which helped to decrease the deflection from the operating site.<sup>22</sup>



Fig 7. The tooth preparation robot<sup>23</sup>

### **Orthodontics and jaw movement:**

One of the technological bases necessary to fully rethink and digitalize dental workflows are virtual articulators. They have the ability to simulate the occlusal changes in the digital world and can be greatly empowered by AI in the future.<sup>24</sup>

### **Material testing**

Robotic dental wear and mastication simulators are proposed to test tooth filling materials or dental implant materials.<sup>18</sup>

### **Tooth arrangement for full dentures:**

Robotic assistance may also be helpful in supporting the dental technician. A new system that recreates the dental arch has been developed. Full dentures can be fabricated with this system.<sup>18</sup>

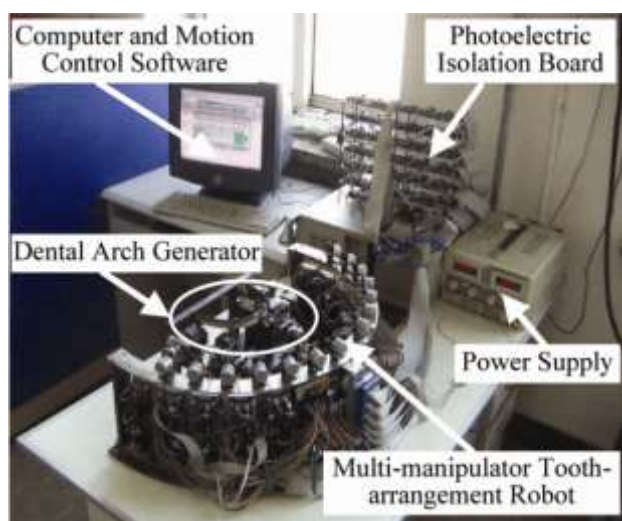


Fig. 8 Experimental System for teeth manipulation<sup>25</sup>

### **X-ray imaging radiography**

It was proposed to position film/sensor and the X-ray source using a 6 DoF robotic arm and was found to have no adverse effects. Superior results were found X with robotic system to the mechanical alignment approach, reason being its excellent accuracy and repeatability.<sup>26</sup>

### **Robot assistant:**

Robots can be used as assistance by handling of instruments via a multi-modal communication framework that will help the dentist during the treatment. It consists of touch display input, bilateral physical human–robot interaction, visual gestures and speech input.<sup>18</sup>

### **Robotic education.**

In 2017, testing for the application of a humanoid in dental education was performed. A full-body patient simulation system (SIMROID), was tested in a study among dental students to find out whether a robotic patient was more realistic for the students to familiarize with real patients than the usually used dummies. This tool was also helped the clinician to show tooth-cleaning techniques to patients. This robotic device help to demonstrate, train and show brushing techniques.<sup>27</sup>



Fig 9. Super realistic dental training humanoid “Simroid”(Picture courtesy : google)



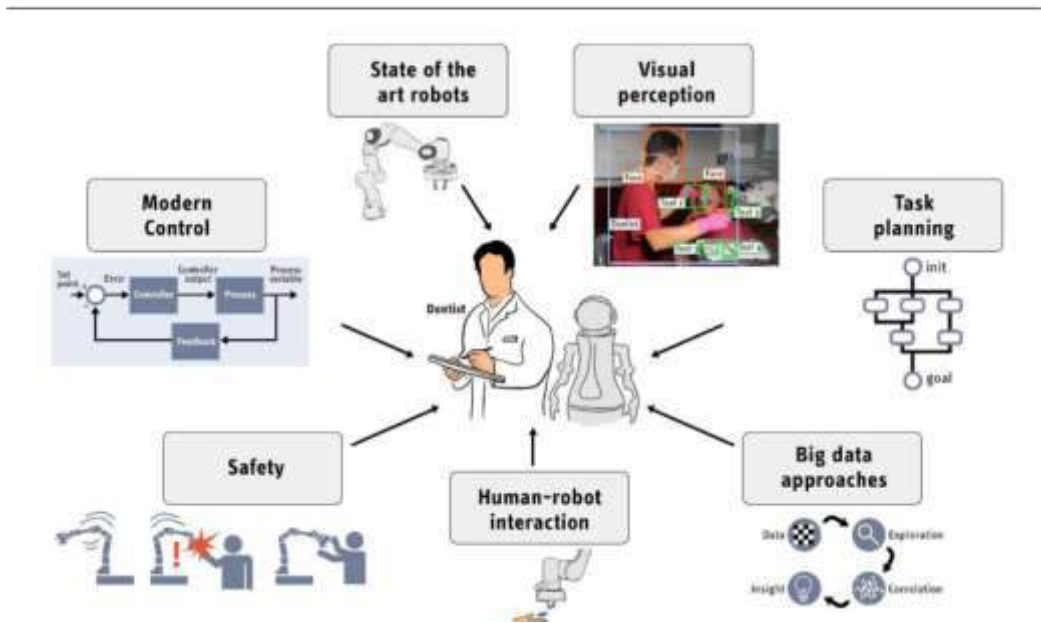


Fig 10. Vision of possible robots and artificial intelligence service network to support future dentistry<sup>18</sup>

## **Conclusion**

Multiple studies have shown encouraging applications of AI in dentistry, but these systems still cannot replace dental professionals. These systems can be seen as complementary asset, to assist dentists and specialists. AI are being used and are developing in various field of dentistry and a positive response has been received so, a future for AI in the health care system cannot be discouraged. AI systems can be a great aid to oral health professionals.

## **REFERENCES:**

1. Yu KH, Beam AL, Kohane IS. Artificial intelligence in healthcare. Nat Biomed En2018;2(10):719-31.
2. Russell SJ, Norvig P. Artificial intelligence: a modern approach. 3<sup>rd</sup> ed. Hoboken, N.J.: Prentice Hall; 2010
3. McCarthy J, Minsky M, Rochester N, Shannon C. A proposal for the Dartmouth summer research project on artificial intelligence 1956.

4. Basu K, Sinha R, Ong A, Basu T. Artificial Intelligence: How is It Changing Medical Sciences and Its Future?. *Indian J Dermatol.* 2020;65(5):365-370. doi:10.4103/ijd.IJD\_421\_20
5. J.Vanathi, G. SriPradha, “BreakTheChain: A Proposed AI powered Mobile Application Framework to handle COVID-19 Pandemic”, *Alochana Chakra Journal*, Volume IX, Issue IV, April 2020, pp. 108-114, 2020.
6. A Carrillo-Perez, F, Pecho, OE, Morales, JC, et al. Applications of artificial intelligence in dentistry: A comprehensive review. *J EsthetRestor Dent.* 2022; 34( 1): 259- 280.
7. Nguyen TT, Larrivéé N, Lee A, Bilaniuk O, Durand R. Use of Artificial Intelligence in Dentistry: Current Clinical Trends and Research Advances. *J Can Dent Assoc.* 2021;87:17.
8. Zhang K, Wu J, Chen H, Lyu P. An effective teeth recognition method using label tree with cascade network structure. *Comput Med Imaging Graph.* 2018;68:61-70.
9. Tuzoff DV, Tuzova LN, Bornstein MM, Krasnov AS, Kharchenko MA, Nikolenko SI, et al. Tooth detection and numbering in panoramic radiographs using convolutional neural networks. *DentomaxillofacRadiol.* 2019;48(4):20180051.
10. Bader JD, Shugars DA, Bonito AJ. Systematic reviews of selected dental caries diagnostic and management methods. *J Dent Educ.* 2001;65(10):960-8.
11. Xie X, Wang L, Wang A. Artificial neural network modeling for deciding if extractions are necessary prior to orthodontic treatment. *Angle Orthod.* 2010;80(2):262-6.
12. Papantonopoulos G, Takahashi K, Bountis T, Loos BG. Artificial neural networks for the diagnosis of aggressive periodontitis trained by immunologic parameters. *PLoS One.* 2014;9(3):e89757.
13. Zhang X, Xiong S, Ma Y, Han T, Chen X, Wan F, et al. A cone-beam computed tomographic study on mandibular first molars in a Chinese subpopulation. *PLoS One.* 2015;10(8):e0134919
14. Halicek M, Lu G, Little JV, Wang X, Patel M, Griffith CC, et al. Deep convolutional neural networks for classifying head and neck cancer using hyperspectral imaging. *J Biomed Opt.* 2017;22(6):60503

15. Poedjiastoeti W, Suebnukarn S. Application of convolutional neural network in the diagnosis of jaw tumors. *Healthc Inform Res*. 2018;24(3):236-41.
16. Susic I, Travar M, Susic M. The application of CAD/ CAM technology in dentistry. *2017OP Conf. Ser.: Mater. Sci. Eng*. 200 012020.
17. Shan, T., Tay, F. R., & Gu, L. Application of Artificial Intelligence in Dentistry. *Journal of Dental Research*, 2020 100(3), 232–244.
18. Grischke J, Johannsmeier L, Eich L, Griga L, Haddadin S. Dentronics: Towards robotics and artificial intelligence in dentistry. *Dent Mater*. 2020 Jun;36(6):765-778
19. Hassfeld S, Brief J, Raczkowsky J, Marmulla R, Mende U, Ziegler C. Computer-based approaches for maxillofacial interventions. *Minim Invas Ther Allied Technol* 2003;12:25–35
20. Du YF, Chen N, Li DQ. [Application of robot-assisted surgery in the surgical treatment of head and neck cancer]. *Zhonghua Kou Qiang Yi Xue Za Zhi*. 2019 Jan 9;54(1):58-61.
21. Ortiz Simon JL, Martinez AM, Espinoza DL, Romero Velazquez JG. Mechatronic assistant system for dental drill handling. *Int J Med Robot* 2011;7:22–6.
22. Nelson CA, Hossain SG, Al-Okaily A, Ong J. A novel vending machine for supplying root canal tools during surgery. *J Med Eng Technol* 2012;36:102–16.
23. Fusong Yuan & Peijun Lyu. A preliminary study on a tooth preparation robot, *Advances in Applied Ceramics*, 2020, 119:5-6, 332-337.
24. Lepidi L, Chen Z, Ravida A, Lan T, Wang HL, Li J. A full-digital technique to mount a maxillary arch scan on a virtual articulator. *J Prosthodont* 2019;28:335–8.
25. Nguyen TT, Larrivée N, Lee A, Bilaniuk O, Durand R. Use of Artificial Intelligence in Dentistry: Current Clinical Trends and Research Advances. *J Can Dent Assoc*. 2021;87:17
26. Burdea GC, Dunn SM, Levy G. Evaluation of robot-based registration for subtraction radiography. *Med Image Anal* 1999;3:265–74.
27. Ahire M, Dani N, Muttha R. Dental health education through the brushing ROBOTUTOR: a new learning experience. *J Indian Soc Periodontol* 2012;16:417–20.



## **Analysis of Current Status of Physical Education in High Schools of Jammu and Kashmir State**

**Vickey Kumar (Author)**  
Lecturer Physical Education  
Govt. of Jammu and Kashmir

**Sanjay Kumar (Co Author)**  
Physical Education Teacher  
Govt. of Jammu and Kashmir

---

### **Abstract**

The main objective of the present study is to know the current status of physical education in high schools of Jammu And Kashmir State. 40 teachers are served as sample of the present study. 20 govt. and 20 private schools of Jammu district are selected for this study by using simple random sampling. The self-made questionnaire will be made on the following five given variables related to the current status of physical education. After the development of self made questionnaire, it will be distributed to the following concerns of the government and private schools and take pilot study on the self made questionnaire for checking the validity that means whether it full fills the purpose for which it will be made. Lastly analysis the data by using statistical technique chi-square.

---

### **Introduction**

#### **Current status of physical education in India**

Physical Education Foundation of India (P.E.F.I.) is a registered non-governmental organization established in the year 2008 under the President ship of Dr. Sanjay Paswan, former Minister, (Govt. of India) with the aim to develop Physical Education and Sports at grass root level in India. It is the organization of young, energetic and dynamic Physical Educationist who has the vision to make this noble profession as the premier one.

The main aims and objectives of Physical Education Foundation of India are as:

1. To make Physical Education as a compulsory subject at primary level in the schools, colleges and universities.
2. To bring Healthy Environment, Create Fit and Healthy Culture.
3. To improve broad mass base for different Health, Fitness and Sports activities.

## Hypothesis

Researcher hypothesized that, current status of physical education in high schools of Jammu district will be better.

## Methodology:

The following methodological steps were taken to conduct the study:

### Source of Data

For the present study of high school physical education teachers of Jammu district were selected which were taken into consideration for the collection of data.

### Selection of the Subjects

The researcher selected 40 High schools physical education teacher for the collection of data. Among them 20 were government High schools physical education teachers and 20 were private High schools physical education teachers from Jammu district.

### Sampling Method

The High schools from Jammu district would be selected by using simple random sampling method.

### Equipments used for collection of data

1. The self development questionnaire was used for the present study for the collection of data.
2. This questionnaire was prepared and distributed among high school physical education teachers in order to know the current status of physical education.

### Result and discussion:

**Table No. 1**  
**Calculated value of  $\chi^2$  of all sections**  
**(Section A, B, C, D, and Section E)**

	Yes	No
<b>Fo</b>	62.4	37.6
<b>Fe</b>	50	5
<b>fo-fe</b>	12.4	-12.4
<b>(fo- fe)<sup>2</sup></b>	153.7	153.7
<b>(fo-</b>	6	6
<b>(fo-</b>	3.07	3.07

$(f_o - f_e)^2 / f_e$		
-----------------------	--	--

**Level of significance: 0.05**

$$\text{Chi-square} = \sum \left[ \frac{(f_o - f_e)^2}{f_e} \right]$$

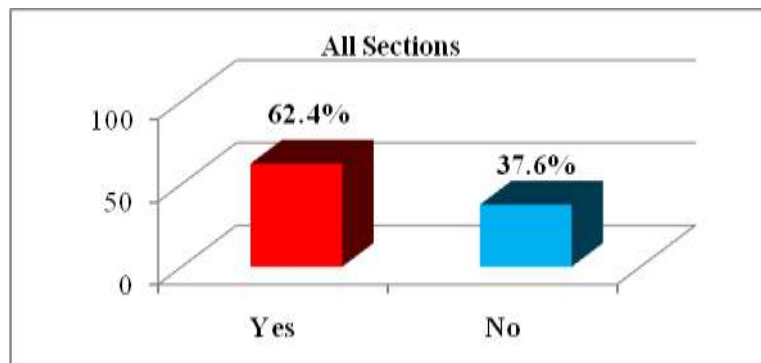
$$\text{Chi-square} = 3.07 + 3.07$$

$$\text{Chi-square} = 6.14$$

From the above table it is observed that the whole calculated value of “yes” from all sections (A, B, C, D and E) is 62.4% and whole value of “No” from all section is 37.6%. Near about 62.4% teachers are of the opinion that the current status of the schools is good and 37.6% are of the view that the current status of the school is not good. After that the researcher uses a statistical technique ‘chi-square’ for the justification of the collected data.

### Graph 1

**Graphical Representation Shows Current Status of All Sections Of High Schools Of Jammu district.**



### Conclusion:

Within the limitations of the present study and from statistical analysis, the following conclusion is drawn:

The current status of the physical education in high schools of Jammu district is better hence the hypothesis of the researcher was accepted.

**Reference:**

H.M. Barrow and R. McGee, A Practical Approach to Measurement in Physical Education, (Philadelphia: Lea and Febiger, 1979), P. 14.

C. A. Bucher, Foundation Of Physical Education, (Saint. Louis: The C. V. Mosby Co. 1960), p. 26.

Govindkast and A. J. Karmaker, “Professional Preparation In Physical Education And Sports”, (Amravati, Speed Publication, 2002), pp.7-8.

Rachna Jain, Physical Education , New Delhi : Sports Publication, p.48.

---



# **C.P. & Berar E.S. College**

## **Mahal, Nagpur**

**Ph.No 0712-2722329**

**Email :[info@cpberar.co.in](mailto:info@cpberar.co.in) | Website : [cpberarconference2021.com](http://cpberarconference2021.com)**