

Manav Rachna International Institute of Research and Studies

(Deemed to be University under section 3 of the UGC Act,1956)

**3 GOOD HEALTH
AND WELL-BEING**



Ensuring healthy lives and promoting well-being for all at all ages is essential for sustainable development



**PROGRESS
REPORT
2022-23**

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1. PREAMBLE

Manav Rachna International Institute of Research and Studies (MRIIRS) is deeply committed to advancing Sustainable Development Goal 3 (SDG 3) – ensuring healthy lives and promoting well-being for all at all ages. The institute places a premium on community health and well-being, both within the campus and in the larger community. Through a comprehensive strategy, MRIIRS actively contributes to the improvement of health and well-being, thereby aligning with the core mission of SDG 3.

One of the central objectives of SDG 3 is to make quality healthcare accessible to all individuals, regardless of their socioeconomic status. MRIIRS fully embraces this goal and works diligently to ensure that the local community members, students, faculty, and staff have access to the necessary health and counseling services. This commitment extends beyond the campus, promoting healthcare delivery and community health through information sharing and ongoing cooperation.

MRIIRS is dedicated to addressing the various facets of health as outlined in SDG 3. With a focus on community health, the institute's services cater to physical health, emotional well-being, and sexual and reproductive health. This holistic approach is essential to the fulfillment of SDG 3's multidimensional targets.

SDG 3 outlines a comprehensive agenda with 13 targets and 28 indicators to measure progress. MRIIRS actively contributes to these outcome targets. Notably, the institute engages in reducing maternal mortality, ensuring child health by preventing preventable child deaths, fighting communicable diseases, promoting mental health, and preventing substance abuse. MRIIRS also works towards reducing road injuries and deaths, providing universal access to sexual and reproductive care, family planning, and education, achieving universal health coverage, and reducing illnesses and deaths caused by hazardous chemicals and pollution.

In light of the ongoing COVID-19 pandemic, MRIIRS recognizes the urgency of prioritizing global health and well-being, underscoring the interdependence between the 2030 Agenda and public health. The institute's dedication to SDG 3 reflects the commitment to addressing the broader challenges posed by economic and social inequities, urbanization, climate change, infectious diseases, non-communicable diseases, and other emerging health threats.

Innovative and forward-thinking, MRIIRS continues to collaborate with the global community in support of SDG 3, working towards the common goal of achieving good health and well-being for all. The institute's multifaceted efforts not only reflect its commitment to SDG 3 but also underscore the critical role it plays in advancing sustainable development.

2. RESEARCH ON HEALTH AND WELL BEING

MRIIRS has published 130 papers focusing on good health and wellbeing, which makes 27.5% of total published papers in academic year 2022-23. The focus of the same was to improve the public health and to treat them with the help of new developed technologies and the same has been incorporated into clinical guidelines by many clinicians. Manav Rachna International Institute of Research and Studies is at the forefront of innovative research across multiple domains, addressing pressing issues that influence society. In our COVID research, we have unraveled the complex dynamics of pandemic management. Our geriatric research focuses on improving the well-being of the elderly, considering both physical and mental health aspects. Well-being research delves into various factors affecting an individual's quality of life. We are deeply committed to understanding the obesity epidemic, with studies exploring the causes, consequences, and interventions. Osteoarthritis research aims to alleviate the suffering of those affected by the condition through a personalized approach. In sports, our studies are revolutionizing athlete training and performance. In the nutrition and innovation domain, we're pioneers in the development of sustainable alternatives such as edible cutlery. Moreover, we are pioneering healthier snack options by incorporating nutritious ingredients. In addition to these, our institution actively engages in research in dental sciences and psychological well-being, further strengthening our commitment to advancing knowledge and improving the lives of individuals and communities.



A. Research Area - COVID:

Our research on COVID-19 has encompassed various facets of the pandemic. We have conducted a multitude of studies aimed at comprehending the effectiveness of public health measures such as social distancing, mask-wearing, and lockdowns. Furthermore, we have explored the intricacies of vaccine distribution strategies and their impact on combating the virus. In addition to these measures, we have delved into the psychological and social ramifications of the pandemic, addressing concerns related to mental health, anxiety, depression, and the societal consequences of prolonged lockdowns. Our institution has actively contributed to the global effort to understand and mitigate the effects of this unprecedented health crisis.

B. Research Area - Geriatric:

Our geriatric research endeavors have been dedicated to enhancing the well-being of the elderly population. We have embarked on a comprehensive examination of age-related health concerns, including chronic diseases, cognitive decline, and mobility limitations. The focus has been on emphasizing the significance of mental health within the elderly demographic and the role of social engagement in preserving a high quality of life for seniors. With the aim of enhancing the overall health and well-being of the aging population, we've developed strategies and interventions informed by our research findings.

In geriatric psychology, our institution is actively engaged in understanding and addressing the needs of senior citizens. Research encompasses models for affordable community living tailored to the Indian context, as well as assessing futuristic variables determining dignified community living for senior citizens. These studies are pivotal for ensuring the well-being of our elderly population.



C. Research Area - Well-being:

In the expansive domain of well-being research, we have explored a wide spectrum of factors that significantly influence an individual's overall quality of life. This encompassed research into physical health, mental health, the role of social support networks, and the impact of environmental factors on well-being. Our studies have probed the influence of lifestyle choices, effective stress management strategies, and the fostering of robust community engagement in augmenting overall well-being. Our research findings are geared towards providing valuable insights into facilitating holistic well-being for individuals in diverse contexts.

In the domain of digital parenting and child well-being, our research strives to delve into the psychosocial challenges intertwined with contemporary parenting in the digital age. A systematic review offers valuable insights from a psychological standpoint into the intricacies and issues parents encounter while raising children within the digital realm. This research serves as a vital instrument in acknowledging the influence of the digital environment on child development and overall well-being. Its ultimate goal is to provide guidance for parents and policymakers to foster healthy digital habits and facilitate positive outcomes for children.

D. Research Area Obesity:

Our comprehensive research into obesity has tackled the multifaceted nature of this global health challenge. Our studies have delved into the root causes of obesity, encompassing genetic predispositions, dietary habits, and sedentary lifestyles. Additionally, we have focused on the intricate web of consequences associated with obesity, which include cardiovascular diseases, diabetes, and the impact on mental health. Our research initiatives also comprise the development and assessment of strategies aimed at preventing obesity, promoting healthier lifestyles, and establishing effective obesity management protocols.

Within the realm of body image and social media, research has investigated the intricate connection between platforms like Instagram and individuals' body image internalization, while also considering their effects on the rising issue of obesity. This work offers crucial insights into the psychological consequences of modern digital trends on self-perception, overall well-being, and their potential impact on obesity trends.



E. Research Area - Osteoarthritis:

Within the domain of osteoarthritis research, our investigations have ventured into understanding the multitude of factors contributing to this debilitating condition. Our research has addressed genetic predispositions, lifestyle choices, and the role of environmental factors in the development of osteoarthritis. The emphasis has consistently been on the need for personalized approaches to osteoarthritis management, which include interventions such as physical therapy, weight management, and pharmacological treatments. Our research is designed to enhance the understanding and treatment of this prevalent condition, offering hope for affected individuals.



F. Research Area - Sports:

Research conducted in the sports domain at our institution encompasses various aspects of athletic performance. In the realm of cricket, we've undertaken a meticulous examination of the association between explosive power and agility among state-level cricketers. Furthermore, in badminton, our research has included a comparative analysis of the effects of plyometric training and electro myo-stimulation on players' agility, sprinting abilities, and jumping power. Our research findings stress the importance of evidence-based training methods that can have a transformative impact on athletes' performance in different sports.

Research in sports psychology centers on overcoming performance slumps among athletes. It investigates the role of metacognition, grit, and self-efficacy in enhancing athletic performance. These findings are crucial for athletes striving to reach their full potential in the sports arena.



G. Research Area - Nutrition and Innovation:

Our forays into nutrition and innovation have led us to explore innovative solutions to contemporary challenges. Our studies have been instrumental in evaluating sustainable alternatives to plastic cutlery, with a specific focus on edible cutlery as a promising replacement for conventional plastic options. We have meticulously analyzed aspects like biodegradability and the nutritional content of edible cutlery. In addition, we've been actively involved in the development of healthier snack foods by incorporating nutritious ingredients, such as beetgreens, into nachos. Our research is dedicated to fostering environmentally friendly and nutritionally sound solutions that are poised to address the pressing challenges of our times.



H. Research Area - Dental Sciences

Manav Rachna International Institute of Research and Studies (MRIIRS) is actively involved in research in the field of Dental Sciences. The institution has contributed significantly to dental research through various clinical studies and literature reviews. Several studies have focused on oral health, periodontal diseases, and dental treatments. Notably, MRIIRS has explored the role of gene polymorphism in periodontitis, dental trauma management, and the impact of various dental treatments. Furthermore, the institution has also examined the effects of novel technologies like laser-activated nanoparticles and diode lasers in dentistry. These research efforts are crucial for advancing dental care and improving oral health.

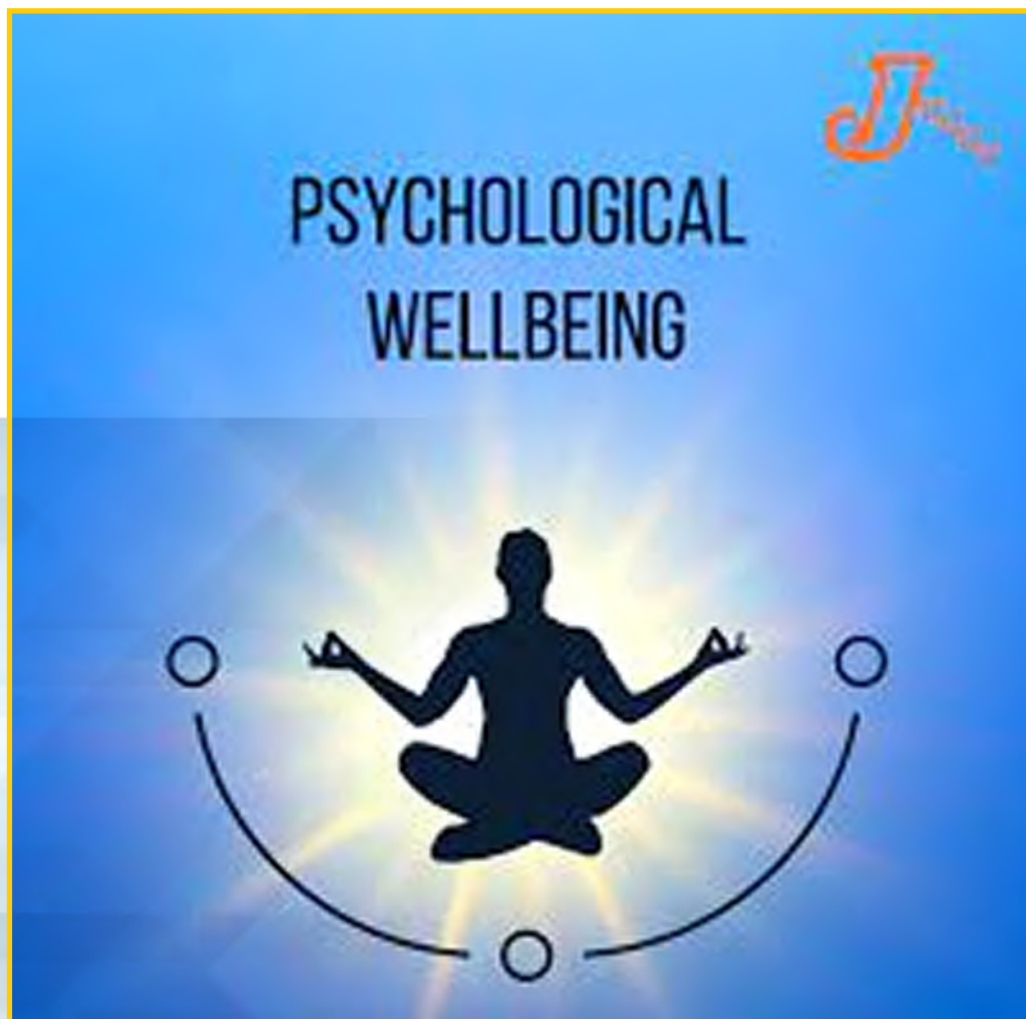


I. Research Area - Psychological Wellbeing

MRIIRS has shown a commitment to promoting psychological wellbeing through various studies and surveys. The institution recognizes the importance of mental health and has conducted research on topics like the impact of the COVID-19 pandemic on mental health, mental health awareness, and attitude towards mental health. By addressing these critical issues, MRIIRS contributes to enhancing psychological wellbeing and reducing stigma associated with mental health problems.

J. Research Area - Good Health and Well-being

MRIIRS is actively engaged in research that aligns with Sustainable Development Goal 3 (SDG 3) - "Good Health and Well-being." The institution acknowledges the significance of providing access to quality healthcare regardless of socioeconomic status. Research efforts at MRIIRS have focused on various aspects of healthcare and wellbeing, such as oral health, child abuse, awareness of COVID-19 vaccination, and the impact of the SARS-CoV-2 pandemic on mucormycosis. These research initiatives align with SDG 3's targets, including reducing child mortality, preventing and treating diseases, and ensuring access to healthcare services. MRIIRS' work in this area demonstrates a commitment to improving healthcare and overall wellbeing.



K. Research Area - Dental Health in Pediatric Population

MRIIRS has a particular interest in pediatric dental health. The institution has undertaken various studies involving pediatric populations to assess oral health, behavior, and related factors. These studies include topics such as dermatoglyphics and behavior, acupressure for children with a gag reflex, and child abuse and neglect awareness. By focusing on pediatric dental health, MRIIRS contributes to early intervention and better oral health outcomes in children.



L. Research area- Mental Health and Well-being:

Several studies address diverse aspects of mental health and well-being. These include research on the impact of music on mindfulness in employees, interventions using Raga Todi to manage state anxiety, systematic reviews on hypnotherapeutic interventions for psychological health, and assessments of sleep quality and anxiety levels among healthcare professionals during the COVID-19 pandemic. Furthermore, the advantages of art therapy for mental, physical, and emotional well-being are explored.

Manav Rachna International Institute of Research and Studies has emerged as a dynamic hub for research and innovation in these diverse areas. Our contributions are poised to expand the boundaries of knowledge, introduce innovative solutions, and significantly affect the well-being and progress of societies.

2.1 PROMINENT RESEARCH PUBLICATIONS ADDRESSING SDG 3

In the onward research journey at MRIIRS, efforts have been undertaken to not only seed the culture of research but also to achieve substantial momentum by achieving more than 2588 research publications in Scopus and Web of Science apart from several in PubMed, UGC care. The prominent research publications addressing SDG 3 are as listed below:

A comparison of body composition and blood lipid indices among Kho-Kho players based on water intake pattern. Water intake and its likely association with body composition are under exploration in recent years. However, studies done on athletes are scarce in this direction. The present study aimed to understand the difference between body composition and blood lipid indices of Kho-Kho players based on water intake pattern. Forty-five male Kho-Kho players aged between 18 and 30 years attending a national camp were recruited for the study. The players were cross-sectionally divided into two groups: (1) low water consumption (LWC; <1 ml/kcal) and (2) adequate water consumption (AWC; >1.0 ml/kcal) based on the water consumption recommendations (IOM, 2005) and evaluated the differences in anthropometric measurements, total water, energy and nutrient intakes, and blood lipid body composition, indices between groups using the t-test. We found a significant difference between LWC and AWC for total water intake ($P < 0.01$), body mass ($P < 0.01$), body fat % ($P < 0.01$), endomorphic somatotype ($P < 0.01$), girths ($P < 0.01$), serum triglycerides ($P < 0.01$), and very low-density lipoprotein ($P < 0.05$). Lower water intake may increase body mass and fat, endomorphism, and blood lipid indices. Hence, AWC could be useful in the maintenance of ideal body composition, physique, and blood lipid indices in Kho-Kho players.

- **A COMPREHENSIVE REVIEW ON NUTRITION DURING PREGNANCY : NUTRIENT REQUIREMENT AND GUIDELINES.**

This paper emphasizes the significance of providing adequate nutrition to both the mother and foetus during pregnancy to promote healthy development. It presents a detailed review of the current knowledge on nutrient requirements and guidelines for pregnant women, focusing on optimizing maternal and foetal health outcomes during this critical period of development. Expectant and breastfeeding women require a complete and nutritious diet that includes essential nutrients like protein, vitamins (A, C, B1, B2, and folate), iron, and fibre. The recommended nutrient intake during pregnancy varies based on the individual's nutritional status and eating habits. Eating healthy meals and exercising regularly can help control unnecessary weight gain during pregnancy. Inadequate nutrition during pregnancy has been linked to suboptimal foetal development, premature birth, and an increased risk of long-term illnesses. Therefore, it is crucial to ensure that pregnant women consume a balanced and wholesome diet to maintain adequate nourishment and minimize the possibility of adverse health effects for both the mother and new born.

The paper concluded by emphasizing the importance of proper nutrition during pregnancy and provides guidelines on nutrient requirements and best practices for achieving adequate nutrition. However, there is a need for further research on the potential risks associated with excessive nutrient supplementation during pregnancy.

- **A systematic review on the role of hypnotherapeutic intervention in promoting positive psychological health.**

In this world of fast moving day to day activities, it is of utmost importance that every individual is aware of their personal well-being and take steps towards improving these over the course of time (Al-Asmi et al., 2015; Amato et al., 2001). The state of well-being can be described as understanding the quality of life led by various individuals (Statham & Chase, 2010). The concept of wellbeing in humans is broadly classified into two aspects - the first one is associated with having life satisfaction and a positive effect in one's life. The study here is only focused towards the use of hypnotherapeutic interventions in the process of promoting a positive psychological health scenario all across. The study undertakes a systematic review approach with 51 articles and aims to put forward a summarised version of the literature in the aspect of hypnotherapeutic interventions. The result of the study identifies a total of three themes from the systematic literature review conducted. It is found that the three identified themes have been put forward by researchers as the most effective impact of hypnotherapeutic interventions. The themes include the effect of hypnotherapy on curing the psychological distress and insomnia, secondly its impact in curing various diseases by easing the psychological aspect using gut directed hypnotic therapy and lastly, the high effect of hypnotherapy on curing various psychological concerns in children.

- **A Two-Layered Model of Blood Flow for Stenosed Artery along with the Peripheral Layer**

The present investigation deals with the two-layered mathematical model of blood the peripheral Layer a stenosed artery in the presence of peripheral layer, provided with a cosine shaped construction. The model consists of peripheral plasma layer free from red cells and a core region. The geometry of the interface between the plasma layer and the core region has been determined and the result obtained in the analysis have been evaluated numerically and discussed briefly. The significance of the present model over the existing models has been pointed out by comparing the results numerical.

- **Affordable community living model for the senior citizens: An Indian Context**

The paper highlights existing elderly policies and implementation in India. Along with elderly policies, the paper also attempts to comprehend various senior citizens' community living models in India and other countries. Following the noble ideas of United Nations Principles for Older Persons, the paper aims to suggest housing facilities that may promote independence among senior citizens to take their own decisions, social participation, access to the educational, cultural, spiritual, and recreational resources of society, and a dignified living free from exploitation and physical or mental abuse. Thus, the paper proposes the most suitable community living model for senior citizens in India. The model highlights the provision of economical living space added with assisted and accessible features like 24 × 7 medical care, physiotherapy, yoga camps, and other recreational activities for emotional support and abatement of loneliness.

- **An Assessment of Futuristic Variables Determining Affordable and Dignified Community Living for Senior Citizens in India**

The Indian government reports projected the population increase of senior citizens from 13% in 2011 to 23% in 2036. In such a population expansion, it is a dire need to provide them with dignified, secure, happy, and affordable living. Further, physically, emotionally, and economically, senior citizens have a high dependency on their family members and friends. The primary data has been collected, constituting a sample size of 200 elderly people, who are above 60 years and belong to middle and high-income groups, residing in Delhi NCR. The key requirement that emerged from the study for the growing older population is the locational advantage of community living with full-fledged legal ownership of home along with affordability criteria.

- **An Overview of the role of media in communicating health messages**

The demand for health information has increased dramatically in recent years. The media has played a significant part in all public health cases. The demand for health information has increased dramatically in recent years. The media is an excellent collaborator in all public health cases. Domestic and international media, as well as contact between health care providers and the general public, play a critical role. Given that face-to-face contact networks consume a significant amount of human capital while reaching only a small number of people in vast rural areas, many media outlets assist health practitioners in expanding their viewership, which is a positive thing. The media plays an important role in facilitating dialogue between rural residents and disseminating important health information. They will keep the society revitalized without informing it about emerging diseases and where to seek support. The research is focused on secondary data gathered from various sources. The news feed is a file that contains all of the information you need on any contact item, at any time and from anywhere. The aim of this study is to look into the role of the media in spreading health information.

- **Application of fuzzy logic in Smart Agriculture to recognise tomato fruit ripeness**

The tomato is a fruit that is widely used in modern life for cooking. It is helpful not just in terms of the means of subsistence it offers for farmers, but also in terms of the health advantages it delivers. Tomatoes are also high in lycopene and vitamin C. Lycopene has been demonstrated in studies to reduce the hazard of osteoporosis, cancer, as well as treat male infertility. Smart agricultural technology allows for the making of tomato plant whether it is in period of season or not. This research focuses on the fruit's look since it is the most essential factor in determining how profitable a product will be as a commercial item. Only as the tomato matures will its beautiful beauty and high quality be revealed. Because surface colour is strongly related to maturity, visual identification is a valid approach to measure tomato maturity. Green, breakers, changing, pink, light red, and red stages are the six phases of tomato colour development. The scholars utilised the colour, size, and form of tomato fruit to estimate maturity using fuzzy logic in the context of smart farming.

- **Assessment of disordered eating attitude and mental health among Indian Kho-Khobplayers**

The potential problems of Kho-Kho players have been less studied. Considering eating disorders a public health problem, but also in particular for athletes, as it can cause serious health and performance decrements if left unmonitored. This study aims to determine the prevalence of disordered eating attitude and their relationship with mental health among Indian Kho-Khobplayers. Fifty-two male Kho-Kho players aged 16–31 years were assessed for disordered eating attitude using Eating Attitude Test (EAT)-26 and mental health using the Depression, Anxiety and Stress Scale (DASS- 21) questionnaire. Descriptive statistics and t-test were computed to know the difference between positive and negative disordered eating attitude. The disordered eating attitude was prevalent among 11.5% of players. The players with disordered eating attitudes showed a significantly ($p < 0.01$) higher score for EAT-26 subscales related to dieting and oral control. Players were involved in bingeing (21.2%), purging (5.8%), use of laxatives (1.9%), extra exercise (>1 h) (34.6%) and lost >20 pounds of body weight in the last six months (13.5%). Depression, anxiety and stress were higher in the group with a disordered eating attitude. However, a significant difference ($p < 0.01$) was found only for depression

Research limitations/implications. The disordered eating attitude was present among Kho-Kho Players and linked with depression. Health care service providers are encouraged to monitor and guide the players with disordered eating attitudes to take active measures to ensure optimum health and performance.

- **Association Of Sleep Quality with Dietary Diversity And BMI**

Adequate quality sleep is important for ideal health conditions. The recommended hours of sleep are 7-9 hours for children, adolescents, adults and elderly to maintain good health. Recent developments in the field of technology have changed the habits and lifestyles of students which causes sleep disorders among students. Sleep quality of the people is affected by several factors such as gender, age, occupation, psychological state but recently it has been recognized that dietary diversity and BMI are also implicated in sleep quality of people. Dietary diversity is the variety or the number of different food group's people eats over the time given. Studies done in the past have indicated that sleep duration is associated positively with fruits and vegetables intake while the consumption of sweet and snack food items including junk food would lead to lesser sleep duration. Also, short sleep duration and poor sleep were associated with an increase in BMI and fat mass. Another study indicate that poor sleep quality predict obesity and high body fat mass among adults. Several studies have argued that excessive introduction of food, which leads to an increased risk of obesity in people with short term sleep, is associated with changes in hormones responsible for hunger and appetite control especially leptin and ghrelin. Adults and children that sleep less, have an increase in obesity and overweight risk with dysfunctional eating behaviors, decreased physical activity and metabolic changes. The review aims to see how the sleep quality is associated with BMI and dietary diversity in different age group people.

- **COMBINED APPROACH FOR SYNTHESIS OF EDIBLE FILM BIODEGRADABLE ATTRIBUTES**

For decades, different form of plastic like polystyrene (PS), polyethylene (PE), polypropylene (PP), and polyethylene terephthalate (PET) have been widely dominating the food industry as a packaging material. These plastic packaging are non-biodegradable and of all the plastic generated for packaging only 5% is recycled, this causes serious problem as high-level plastic waste impact on environment by polluting it. This study emphasizes on developing biodegradable packaging using bio polymers that are found in plants and utilizing the fruit and vegetable waste. The film has been developed with the combination of 4% carrot waste, 4% banana peel, 4% starch and glycerol. The developed film has properties like biodegradable and edible. The film samples were analyzed on various parameter such as tensile strength, moisture analysis, FTIR analysis, SEM analysis and XRD analysis. Through analysis it was found that sample B has highest tensile strength which indicate that is has better bond formation, sample C has highest moisture content that can be correlated in decreasing the tensile strength of the film. FTIR analysis depict the various peaks of the starch, glycerol, dry carrot peel extract and banana peel. The SEM analysis showed the surface structure of the film sample in which sample A more smother surface and sample B and sample C are meshier and more fibrous. The XRD analysis describe the peak of the starch and banana peel extract.

- **Covid-19 analysis: A critique of a paper by Q. Lin**

COVID-19 has become a global concern as it has ended the lives of lakhs of people. The study done by . Lin proposed the results of an analysis of a theoretical computational model of epidemiology taking into account the crucial components such as response of an individual behavior, measures taken by government, rapid transmission and emigration of fever virus to a huge extent of human population. Simple model framework has been used by them to examine the requirements of essential elements. We claim the perfect validation of the assumptions stated for the purpose of modeling and its analysis, however, the analytical solution of the presented model is not discussed. And thus have a poor potential to make computational estimates. Methodology adopted: We have tried to present and validate the mathematical/analytic solution of the developed model, considering their assumptions. Conclusion: We have reached to the outcome that the work presented by Q. Lin should be demonstrated adequately with a cautionary advice of not to consider the results and analysis of such numerical models. The current study proposed the results of an analysis of a theoretical computational model of epidemiology taking into account the crucial components such as response of an individual behavior, measures taken by government, rapid transmission and emigration off ever virus to a huge extent of human population. Simple model framework has been used by them to examine the requirements of essential elements. We claim the perfect validation of the assumptions stated for the purpose of modeling and its analysis ,however, the analytical solution of the presented model is not discussed. The decision point of this work is to adequately demonstrate along with the cautionary advice of not to use the outcomes and analysis of such numerical models.

- **Detection of Parkinson's Disease in Alzheimer's Patients Utilizing Brain Imaging.**

Patients with Alzheimer's infection (AD) and Parkinson's sickness (PD) regularly have cover inclinal show and cognitive neuropathology proposing that these two illnesses share basic fundamental instruments. Parkinson sickness emerges from diminished dopamine creation in the mind. Patients with these two illnesses often cover in clinical introduction and cerebrum neuropathology proposing that they share basic common fundamental systems. Therefore it become important two find the presence of common affected brain region of interest. The paper proposes the technique to find out the relation between the common affected brain areas. The work with in carried in-depth analysis of brain functional MRI scans using statistical parametric mapping on both AD, PD patients (n=35), which comprises of 5 healthy participants with average age 83, 5 AD participants with average age 75, Early mild cognitive impairment (EMCI) participants whose average age is 65, Late mild cognitive impairment (EMCI) participants whose average age is 75 and PD participants with average age of 64. Using a two sample t-test the ROI (region of interest) was noted using Mars Bar plugin of SPM tool.

- **Development & Characterization of Nachos Incorporated with Beet Greens**
DOI - <https://doi.org/10.31032/IJBPAS/2023/12.4.7065>

Snack foods with desirable qualities including low fat, cholesterol, sugar and calorie content, are poised to register robust growth and support market expansion. Increasing health consciousness along with craving for snack foods is anticipated to result in dynamic demand for low-fat, no-fat, low-sugar, no- sugar, low- carbohydrate, no- carbohydrate, and low- calorie snack foods. The present study was conducted to develop nachos incorporated with beet greens, soybean flour and wheat flour. Beet greens is well known to have many nutritional properties which could be easily explored by incorporating it in food products. It is important as it has high content of iron, vitamin C, K, A and B6. Methods: The experimental nachos were made using beet greens alone and beet greens incorporated with dried fenugreek leaves (kasoori meth). All the samples were analyzed for their physiochemical characteristics and also analyzed sensorial. Chi-square test was used to determine the significant difference among samples wrt different parameters. Results: The results revealed a significant difference in taste between all three samples (p0.05), suggesting that the developed snack food could be brought to market shelf without any remarkable difference among different snack foods which are previously developed. Conclusion: Beet green leaves were however not explored before. This study envisaged to bring forth the idea of its incorporation into food products and thereby developing healthy snacks.

- **Domestic Violence and Abuse in Intimate Relationship from Public Health Perspective**

In this article we pay attention to the violence which, due to the fear of social stigma, could be hidden from the public eye for a long time but could have serious health consequences for the individual, family, and society – physical and psychological forms of domestic violence and abuse in male- female intimate relationship. Besides its nature and extent data in general population, we review also the surveys data about its theoretical basis, its risk factors and possible effects on mental and physical health, not only on in conflicts involved partners, but also on family as a whole, and especially on the children that growing up in such a problematic domestic circumstance.

- **Effect of Gender on the Quality of Life among Elderly Population**

The twenty-first century has shown a boost in the geriatric population. Looking at the trends, this group of population is expected to outnumber the other population groups, therefore has become one of the focus points for researchers these days. As the age of an individual increase, due to slowed metabolism and other biological reasons, the physical activity levels and body functioning tends to get affected, thereby also affecting their motor skills. This age group is also an age group which tends to face changes in psychological conditions. The kind of environment which they live in and their social status are also one of contributing factors to such changes in their lives and also how their perception of life and quality of life (QOL). Maintaining a good QOL has therefore become an important issue in the geriatric population so that they can lead a better life until senescence. QOL according to the World Health Organization depends on different factors and has been measured through four domains. The four domains include the physical state, psychological domain, social domain, and environmental domain. This article aims at studying the effect of the gender of an individual on the QOL, and what steps can betaken to improve the perception of life among the population by improvements in the QOL by assessing all the four domains of a group of 100 individuals, both male and female of 60 years and above through online survey. A standardized questionnaire developed by the WHO was adopted to measure the scores obtained by both males and females in the different domains. Data obtained through this survey were tested and validated ,and a comparison between the QOL scores of males and females was done using appropriate statistical tests.

- **Effect of Mindfulness on Self-Concept amongst Adolescents in Delhi & NCR**

Self-concept studied here is how an adolescent feels about himself or herself in their strengths and qualities and also how he/she feels what others think about them. An adolescent undergoes major physical, emotional and social changes during this period and hence developing a positive self-concept is important for overall development of an adolescent. Mindfulness is a state of awareness of the present moment as it is. Mindfulness helps in emotional regulation and better coping skills amongst adolescents.

This study explores how having more mindfulness can effect an adolescents' self-concept. Materials and Methods: Correlational research design was used to collect data electronically from 100 adolescents aged 16 < 18 years from Delhi & NCR. Self-concept in adolescents was studied here based on six dimensions – Physical, Social, Intellectual, Moral, Educational and Temperamental Self-Concept. Self-Concept Questionnaire by R. K. Saraswat was administered to find score on each dimension of self-concept. The Mindful Attention Awareness Scale (MAAS) was used to measures mindfulness amongst adolescents. Data was collected using google form and analysed using regression and correlation on SPSS version 25.

Results: Electronically collected data of 100 Adolescents of Delhi & NCR on Self-concept Questionnaire and MAAS was analysed. Correlation between Self-concept and mindfulness was $r(99) = .862, p < .001$ which showed high positive association between both variables. Analysis of Variance showed that the effect of Mindfulness on Self-concept was significant, $F(1, 97) = 281.719, p = .000$.

The above statistical analysis predicted that Adolescents who have more score on mindfulness have higher self-concept. Mindfulness has a positive effect on adolescent's Self-concept. Self-concept forms an important part of an adolescent's personality as it guides him/her in all areas and hence it is important to have positive self-concept. Mindfulness here would play a big role in increasing the self-concept since the adolescent will focus on the present and bringing all attention to present awareness about self in a non-judgmental way, thereby not depending on negative experiences of the past.

- **We Are What We Browse: Effects of Instagram Browsing on Appearance Internalization and use of beauty apps.**

The study is aimed to explore the recent upsurge in consumption of beauty editing apps amongst Young Indian women. The study seeks to explore the effect of Instagram browsing on internalization of appearance ideals and behaviour of editing one's pictures, using beauty apps or filters ,before uploading on social media. The study comprises of four Indian females who actively used social media and had accounts on Facebook ,Instagram and Snapchat. All the participants were from the NCR regionofIndia, aged between 18-26 years. The sampling used is Purposive sampling, where the samples were intentionally selected from different age groups, to understand the perspectives across the agerange. This was a qualitative study and used semi-structured interviews ,with open- ended questions to examine participant's attitudes towards appearance ideals, picture editing and beauty apps. Also , the content uploaded by these participants on their social media accounts was analysed .The data collected through interviews and analysis of social media content was analysed using thematic analysis, and broad themes were recognised. The results of the study will help in understanding the attitudes and experiences of the participants with regard to beauty editing apps and Appearance Internalisation.

- **Energy availability and RED-S risk assessment among Kho-Kho players in India.**

Energy availability (EA) is considered an important measure for athletes, particularly due to the possible health and performance outcomes defined under the RED-S. Low EA is reported to have far-reaching health consequences among female athletes, especially in weight-sensitive sport. However, it is less explored among male athletes, particularly in the traditional Indian tag sport called Kho-Kho. This cross-sectional observational study aimed to determine the prevalence of LEA and associated RED-S health and performance outcomes among Kho-Kho players. Fifty-two male national-level Kho-Kho players aged 16–31 years were assessed for energy availability, bone mineral density (BMD), sleep quality, disordered eating, selected metabolic (hemoglobin, blood glucose, etc.) and performance outcomes (agility, speed, and power) as per RED-S risk assessment tool. Differences across the low EA (≤ 25 kcal/ kg fat-free mass) and Optimal EA (> 25 kcal/ kg fat-free mass) groups were evaluated using the Independent Samples t test and the chi-square test. Low EA among athletes was associated with lower z-scores for BMD, sleep quality and agility, compared to athletes with optimal EA. At least one moderate-to-high RED-S risk outcome was prevalent among 98% of the Kho-Kho players, irrespective of EA. Most athletes exhibited a lower EAT score and disordered eating outcomes, with no significant differences across groups. The male Kho-Kho players showed a prevalence of low EA that can be due to higher training loads and unintentional under-eating, not related to an eating disorder. The players also exhibited higher RED-S risk outcomes; however, it was irrespective of low EA.

- **Expanding the Self Behind Closed Doors: Exploring the Role of the Lockdown in Self-Realization Among Young Adults.**

Self-realization or the path which involves the elaborate process of knowing oneself leads people to a meaningful and fulfilling life. The present study aims to examine how the COVID-19-led lockdown proved to be an opportunity for emerging adults to reflect on and eventually discover their true selves. This study particularly explores the factors that facilitated the self-realization process during the lockdown. An online survey was conducted on 1280 Indian university students. The age of participants ranged between 18 and 29 years. An eight-item scale was developed to measure self-realization during the lockdown, which was thereafter administered along with other study variables. The results showed that factors including family bonding, social comparison, self-image, and a positive orientation toward life help young adults in the process of self-realization. Furthermore, the participants who employed adaptive ways to cope with the COVID-19 stress reported higher levels of self-realization. The present study showed that the interaction of young adults with their significant others, solving their daily problems, and having a positive outlook toward themselves and the future, helped them during the COVID-19 imposed lockdown and led them on the path of self-realization.

- **Exploring Gender in Indian Diaspora: A Critical analysis of Meena Alexander's Selected Works**

The paper highlights existing elderly policies and implementation in India. Along with elderly policies, the paper also attempts to comprehend various senior citizens' community living models in India and other countries. Following the noble ideas of United Nations Principles for Older Persons, the paper aims to suggest housing facilities that may promote independence among senior citizens to take their own decisions, social participation, access to the educational, cultural, spiritual, and recreational resources of society, and a dignified living free from exploitation and physical or mental abuse. Thus, the paper proposes the most suitable community living model for senior citizens in India. The model highlights the provision of economical living space added with assisted and accessible features like 24 × 7 medical care, physiotherapy, yoga camps, and other recreational activities for emotional support and abatement of loneliness.

- **Gestational Diabetes Detection Using Machine Learning Algorithm: Research Challenges of Big Data and Data Mining**

The prevalence of gestating moms from various countries and ethnic groups worldwide who have gestational diabetes mellitus (GDM), a disorder characterized by abnormally high blood glucose levels, has rapidly increased. This research propose novel technique in gestational diabetes detection using machine learning technique in big data with data mining analytics. Here the input has been collected as data of pregnant women for diabetes prediction. This data has been processed for dimensionality reduction and normalization. Then it has been segmented and feature fused using attention mechanism based weighted convolutional neural networks. The experimental analysis has been carried out in terms of accuracy, precision, recall, F-1 score and AUC. Proposed technique attained accuracy of 96%, precision of 92%, recall of 85% and F_1 score of 89%, AUC of 71%.

- **Impact of Music on Mindfulness in Employees**

With the increase in various techniques of developing and increasing mindfulness, less has been tapped onto the role of music in increasing mindfulness. The purpose of the study was to compare music to the level of mindfulness among employees of both government and corporate sector. Using Mindfulness Attention and Awareness Scale data was collected from 15 employees who practice some form of music and 15 employees who do not know to perform any form of music. Findings suggest significant positive correlation between mindfulness and music practice among employees. Future studies could use various forms of music to see its effects on mindfulness among employees to increase their performances and also use robust research design and methodology for effect of music on mindfulness in longitudinal studies.

The importance for a healthy lifestyle and prevention and control of obesity is recognised in this review, which has been done with regard to the balance between Omega 6 and Omega 3. It is now recognized that the necessary fatty acids of both the – omega-6 series (particularly linoleic acid and [LA] and arachidonic acid [AA]) and the omega-3 series (the most significant of which are linolenic acid [LNA], eicosapentaenoic acid [EPA]) are required for development and growth. Today, in western diets the intake of omega-6 is very high and intake of omega-3 is much lower. The imbalanced omega-6/omega-3 ratios in today's diet is as high as 20:1 and goes up to 40:1 and is seen as the onset of many prevailing diseases. The most common disease that can be found due to this imbalance in the fatty acids is obesity which is also said to be the one of the reasons for the onset of many more diseases.

- **Influence of Nutrition Knowledge on the Association between Maternal Nutrition and Birth Outcomes**

DOI: <https://doi.org/10.6000/1929-4247.2023.12.02.3>

Maternal under nutrition is a complex condition that arises from various factors, including social, cultural, psycho-social, biological, and ecological factors. The intergenerational consequences of chronic malnutrition, starting with mothers and their children, account for a significant proportion of infant deaths, cognitive disability, and reduced productivity in adulthood. Therefore, having nutritional knowledge throughout pregnancy is crucial for better risk assessment of under nutrition and healthy pregnancy outcomes. The study examined whether trimester-specific nutrition education and awareness could significantly impact the relationship between maternal nutrition and birth outcomes and found that this association was stronger in women with higher levels of nutrition knowledge. As a result, a food-based approach that is both low-cost and high-nutrition can help meet the specific nutritional requirements of pregnancy, alter certain nutrients that target fetal metabolic vulnerabilities, or enhance fetal growth and development in the migrant population. The review explores recent research and discusses how nutrition literacy and knowledge influence pregnancy and birth outcomes, providing an overview of the current understanding of maternal nutritional trimester-specific needs and highlighting areas that still require further study. The findings emphasize the importance of considering diet diversity and peer support during pregnancy, considering the impact that nutrition knowledge has on pregnancy outcomes.

- **Internet of Medical Thing and FIS Evaluation for Selecting and Delivering the best Health Insurance Coverage.**

Smart city living and luxury lifestyles will undoubtedly look better in the future. However, there is a significant need to provide appropriate fitness-care services because the world's population is becoming more and more urban-centric. With the help of modern technologies, the need-gap could potentially be widened. According to the current study, providing medical care remotely could be a positive development .Continuous monitoring of numerous health markers is required for no-hit identification of health concerns. Devices that monitor your health are power-constrained and have limited communication capabilities.

This study uses the Internet of Mechanical Things (IoMT) and the Fuzzy Inference System (FIS) to determine the optimum human insurance plan. The IoMT devices are out fitted with regulating microchips that have the ability to demand thoughtful decisions by processing the supplied data. As a result of the transmission of unnecessary information being omitted, the present study projects the employment of assisted data collection and observant themes in health insurance services. In the current study, FIS with IoMT offers low risk and high benefit health plans to humans. It may also be utilised in the future to predict other health risks, such as actual and intellectual illness situations.

- **Intuitionistic Trapezoidal Fuzzy Based Aggregation Operator**

Since the inception of fuzzy sets given by Zadeh, uncertainty arises due to partial information or imprecise information has been measured. The generalized version of fuzzy sets has been introduced by Atanassov, known as intuitionistic fuzzy sets (IFSs), which have wide applications in decision making processes and consider both membership and non-membership functions. A generalized fuzzy based decision making method with aggregation operators has been discussed with application in medical diagnosis. In this paper, IF based methods have been discussed for the application of the diagnosis of the type of child cancer.

- **Lonely at Home: Exploring Factors Associated with Loneliness Among Female Students at Home During COVID-19 Lockdown in India**

The present study explores loneliness among female students who stayed at home during the COVID-19 lockdown. Recent research has shown a sharp rise in the self-reported incidences of loneliness, especially among females during the lockdown imposed in most regions around the globe. The studies have also shown that those with lower self-control and a negative self-image are more vulnerable to negative emotional and behavioral outcomes. Therefore, it would be interesting to see how these aspects are related to loneliness among young females that too in a patriarchal society such as India. Whether family dynamics have any impact on mitigating loneliness or not has also been investigated. For this purpose, an online survey was conducted on 1023 female students of various universities/colleges across India. The results show that loneliness is found less among the females who showed better self-control, positive self-image, and good family relationship. Though household work engagement can keep females busy, it has little to do with their feeling of loneliness. The study indicates that living with family members is not enough to deal with loneliness. Rather it requires a good relationship with family members, self-control, and a positive self-image. Hence, to deal with the loneliness issues that youth are facing at present, family connectedness and constructive self-view need to be (re)established to prevent loneliness from causing severe mental problems.

- **Mass Media Health Communication and Behavior Change: Theoretical Framework**

A technique for educating, influencing, and inspiring individuals, organizations, and the general public regarding important health problems is known as health communication. In health communication, the media plays an important role. The aim of this research is to look into the role of the media in health communication. A systematic study of various health campaigns for attitudinal and behavioral improvements was conducted using health communication theories and models. For this reason, peer-reviewed articles have been combed for research papers on health communication ideas and models for attitudinal and behavioral improvements. These research papers were found on INFLIBNET online libraries such as Jstor, Taylor and Francis, Willey Blackwell, and others, using key terms such as "health communication models," "television and HIV/AIDS," and "health communication for behavioral changes." According to the findings, mass media in developing countries are employing communication techniques such as infotainment/edutainment, as well as sitcoms and suspense thrillers, to raise health consciousness and effect attitudinal and behavioral shifts. The study also shows that television can be an effective tool for educating, influencing, and encouraging people to change their behavior, particularly when it comes to HIV/AIDS and other health-related issues that necessitate attitudinal and behavioral changes.

- **(VIKOR) Method: MCDM Approach for the Medical Diagnosis of Vector-Borne Diseases**

DOI: <https://doi.org/10.47852/bonviewJCCE3202484>

In dealing with the medical decision making with uncertainty, clinical diagnosis of diseases is very difficult without the intervention of domain experts. In this work, an approach has been developed that provides handheld support to the medical practitioners for the medical diagnosis of diseases. With the assistance of the three domain experts of Delhi based Government hospital, linguistic information of four patients has been collected under IF environment. VIKOR method, a MCDM technique is utilized to rank the diseases among the patients. It seems that the conclusive outcomes of the investigation are same as those diagnosed by medical specialists.

- **Music as a therapeutic approach in children with autism spectrum disorder.**

DOI - <https://doi.org/10.53730/ijhs.v6nS5.9344>

Music therapy is an alternative form of therapy that has positive impact in many areas of physical and mental health. The purpose of this study was to review researches systematically on the impact of music therapy in children with autism spectrum disorder. PRISMA model was followed including 17 researches out of 27 researches published in various journals related to music therapy from sources like PubMed and Scopus over 6 years and were analyzed in detail. Findings suggested that music therapy has positive outcomes as a treatment approach in children with autism with one study showing no significant relationship. Most of the studies were done on social skills and communication, stereotype behavior and motor coordination and less on other domains like social affect and responsiveness, understanding others gestures and perspective, resistance to change and echolalia. Future studies need to focus on the domains less studied on.

- **Overcoming the slumps in performance: Metacognition, Grit and Self-Efficacy in sports among athletes**

Predictably, millions of dollars get invested in sport science by the federation for impeccable performance of an athlete. However, there is a gap which exist to understand the nature of cognitive- motion nexus in sports with regard to performance. Hence, this systematic review synthesized evidence on the influence of metacognition, grit and self-efficacy on performance in sport domain using PRISMA guidelines. A search of Web of Science, PubMed, Google Scholar, PsycINFO and Scopus databases reaped 26 eligible studies. Findings were classified into three domains namely metacognitive inferences, feedback for grit and role of self- efficacy. Grit is positively correlated with metacognition and self-efficacy. We conclude by encouraging the sports system to foster the skills of these constructs.

- **Role of PSAs in raising awareness of sanitation among rural women**

The most significant barrier is open defecation (OD), practiced by over 600 million Indians. The absence of restrooms for women causes severe diarrhea, newborn mortality, sexual harassment, and societal indignity. OD is prevalent in portions of Haryana, including Faridabad, Palwal, Hodal, Hathin and Ballabgarh. Public Service Announcements on TV raise awareness and encourage certain behaviors (PSA). The main objective of an Advertisement is to raise consciousness. Women's ability to successfully implement changes in their homes multiplies the impact of media attempts to promote societal change. What effectiveness do these PSAs on sanitation have, in any case? Therefore, it is crucial to consider how PSAs contribute to sanitation awareness. This study examines how rural women in Faridabad are affected by PSA on cleanliness. This study used the ideas of behavior change communication, agenda framing, and multistage sampling.

- **Scrutinizing the Therapeutic Dyad of Digital Counselling: Mending or creating fissures.**

In the 21st century of digitalization, online counseling post pandemic had gained pertinent importance. The relationship between a therapist and client can be mended or evoke fissures as sessions shifted from offline to online mode. Thus, the objectives were twofold; to explore the reflections upon the experiences of the dyad through digital counseling and examine the themes found in the experiences of both the parties involved. The paper also documents certain factors responsible for the experiences such as asynchronous communication, privacy, lack of non-verbal cues, legal or ethical issues in the therapeutic dyad. This systematic review synthesized evidence using PRISMA guidelines conducted across Web of Science, PsycINFO and Scopus published between 2010- 2022. Digital counseling has ameliorating effects and should not be considered as a substitute for in-person counseling. It helps the clients to connect with the therapist without any hassle of geographical barriers. Inferences have shed light on the change observed in the relationship such as mental state of the therapist, body language of the client etc. Future implications have been drawn for the present study.

- **Sibling Relationships and Influences in Childhood and Adolescence.**

The authors review the literature on sibling relationships in childhood and adolescence, starting by tracing themes from foundational research and theory and then focusing on empirical research during the past 2 decades. This literature documents siblings' centrality in family life, sources of variation in sibling relationship qualities, and the significance of siblings for child and adolescent development and adjustment. Sibling influences emerge not only in the context of siblings' frequent and often emotionally intense interactions but also by virtue of siblings' role in larger family system dynamics. Although siblings are building blocks of family structure and key players in family dynamics, their role has been relatively neglected by family scholars and by those who study close relationships. Incorporating study of siblings into family research provides novel insights into the operation of families as social and socializing systems.

- **The Effect of Maternal Depression on Infant Attachment: A Systematic Review**

The aim of this systematic review was to summarize the key findings of empirical studies assessing the influence of maternal depression on child attachment security measured before 24 months after birth. Method: The study followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement guidelines. A literature search was conducted on the EBSCO (Academic Search Complete; Health Source: Nursing/Academic Edition; MEDLINE; Psych ARTICLES) and PubMed databases, with infant attachment AND depression as search terms with Boolean operators. Study design or sample size did not affect inclusion. After screening, 29 of the 1510 unique publications originally identified were included in the review. Results: The studies reveal an equivocal association between maternal depression and child attachment security. Our findings indicate that depression had a significant influence on the attachment style almost only when diagnosed by structured interview: Depression measured by self-descriptive questionnaires was unrelated to attachment style. Furthermore, postpartum depression was found to be significant only when measured up to six months after childbirth. Conclusion: The relationship between maternal depression and infant attachment is both complex and dynamic, and the possible negative effects of depression might be compensated by maternal involvement in childcare. Therefore, further studies in this area should employ a reliable methodology for diagnosing depression and a suitable time point for measuring it; they should also adopt a multifactorial and prospective approach. It is important to note that breast feeding/formula feeding was omitted as a factor in the majority of studies.

- **To study and develop the mathematical modelsto review the properties of synovial fluids**

In the healthcare sector especially in therapies, the use of computational dynamics is going to increase day by day. It helps in analyzing the therapies by using mathematical models. The present work represents the mathematical model of synovial fluid with specific conditions. The Navier-stokes equation is considered for representing the dynamical behavior of synovial fluid without any complication. The present study discusses the application of computational dynamics in joint therapy and investigates the flow pattern of synovial fluid in the joints, it can be introduced to a variety of joint therapies.

- **We are we browse effects of Instagram browsing on appearance internalisation and use of beauty apps**

The study is aimed to explore the recent upsurge in consumption of beauty editing apps amongst Young Indian women. The study seeks to explore the effect of Instagram browsing on internalisation of appearance ideals and behaviour of editing one's pictures, using beauty apps or filters ,before uploading on social media. The study comprises of four Indian females who actively used social media and had accounts on Facebook , Instagram and Snapchat. All the participants were from the NCR region of India, aged between 18-26 years. The sampling used is Purposive sampling, where the samples were intentionally selected from different age groups, to understand the perspectives across the age range. This was a qualitative study and used semi-structured interviews ,with open- ended questions to examine participant's attitudes towards appearance ideals, picture editing and beauty apps.Also, the content uploaded by these participants on their social media accounts was analysed .The data collected through interviews and analysis of social media content was analysed using thematic analysis.

- **What-If Analysis: Antecedents and Consequences Factors of Counterfactual Thinking**

The present study shows the relationship between counterfactual thinking and resilience, optimism, sense of coherence, hardiness, benign and malicious envy, rational and intuitive decision making, rumination. The sample for the study was 200 young adults (18-35 years). The assessment scales used for the present study were The Brief Resilience Scale (BRS), Sense of Coherence Scale(SoC), A Short Hardiness scale, The Benign and Malicious envy scale(BeMaS), Rumination Revised Scale(RSS), Decision Making Questionnaire(DMQ), Counterfactual Thought for Negative Events Scale (CTNES) and Life-Orientation Revised Scale(LOT- R).Correlation and regression analysis was done using SPSS(20.0) software. The findings of the study showed a significant inverse correlation between counterfactual thinking and optimism whereas a significant direct correlation was observed between counterfactual thinking and resilience, sense of coherence, hardiness, benign and malicious envy, rational and intuitive decision making and rumination. It was also found that rational and intuitive decision making and rumination were the best predictor of counterfactual thoughts respectively.

- **Applications of Deep Learning in Healthcare: A Systematic Analysis**

DOI - https://doi.org/10.1007/978-981-19-9876-8_29

Deep learning (DL) is a subfield of artificial intelligence (AI) that deals with the recognition of patterns. It learns from the input provided to it to predict an output according to the features it evaluates. With the extensive increase in unstructured data in the past few years, the ability to train machines to predict outcomes became much more difficult but the development of artificial neural networks (ANNs) and DL techniques changed that. One of the biggest advancements made with DL is in the field of healthcare.

The objective of this research is to provide a comprehensive analysis of the vast applications of DL techniques used in the health care system, specifically in the domains of drug discovery, medical imaging, and electronic health records (EHRs). Due to the past epidemics and the current situation of the ongoing pandemic disease, i.e., COVID-19, the application of AI, ML, and DL in this field has become even more critical. Such work has become even more significant, and these techniques can help make timely predictions to combat the situation. The result showed a lot of research is ongoing to continuously tackle the limitations and improve upon the advantages. Many important advancement have been made in the field and will continue to grow and make our quality of life more efficient, cost-effective and effortless.

- **Current Overview on Disease and Health**

DOI- <https://doi.org/10.9734/bpi/codh/v7/3699B>

The purpose of this study was to look at the relationship between physical activity and sleep among sports players. The current study was conducted in Faridabad with a sample size of 133 sports participants aged 18 to 25. Runners, shooters, and archers were the subjects. According to the study findings, all of the runners (100%) were engaging in intense activity. 72.7% of archers engaged in moderate activity, while 58.8% of shooters engaged in sedentary activity. The majority of sports participants had a fairly high quality of sleep ($P=0.65$). Around 30% of sports players engaged in moderate activity had poor sleep latency, while 17.5% engaged in vigorous activity had poor sleep length, however the differences were not statistically significant when compared to other groups ($P=0.303$; $P=0.32$ respectively). All of the sports players had good Habitual Sleep efficiency, and the majority of them slept well without interruptions. No one on the team was taking sleep medication. There was no link found between the subjects' Global Physical Activity Questionnaire Score and any Sleep Domain. The study concluded that different sports players who engaged in sedentary, moderate, or heavy physical activity were getting sufficient sleep. This means that even a small amount of physical activity can help you sleep better.

- **Detecting Keratoconus using Machine Learning Models.**

DOI- [10.1109/AIST55798.2022.10065321](https://doi.org/10.1109/AIST55798.2022.10065321)

One of the major progressing sectors due to the introduction of technology has been health care. Diagnosis of patients has improved by manifolds. Keratoconus is a rare disease where it affects the patient's cornea. There are ongoing researches around the world to find a solution that is accessible and practical. Our objective is to detect whether a person is suffering from Keratoconus or not. This huge volume of important data cannot be handled manually, hence use of concepts like machine learning, data analysis, data mining, etc. play an important role. To evaluate accuracy of Machine learning models like Inception V3, VGG16, Mobile Net V2, Res Net 50 using color coded corneal maps. The authors have implemented these models and compared their performances amongst each other and thus select the best fit model.

The training set contains of 1050 images and comprising of 1051 Normal eyes and 862 Suspect eyes. The models were implemented in python language on the Google Colab Platform. These models are providing a range of 75-95% accuracies depending on the different models. The highest accuracy was obtained by Inception V3 which was 95%. The dataset were corneal maps recorded using Scheimpflug imaging system. Based on the classification of the parameters of the corneal maps, the input data was sorted on the basis of severity and also predicting how likely the patient is to suffer from keratoconus.

2.2 RESEARCH PROJECT

MRIIRS has successfully secured research projects in various domains, reflecting our commitment to advancing knowledge and innovation.

In the field of Conservative Dentistry and Endodontics, the project titled "Development and Physical Characterization of a Novel Biodegradable Scaffold with Growth Factors and Nanoparticles" is driven by Dr. Alpa Gupta, along with Dr. Aditya Sharma. This project, funded by the Haryana State Council for Science, Innovation and Technology, concentrates on the development and physical characterization of a groundbreaking biodegradable scaffold. The scaffold incorporates growth factors and nanoparticles, with a primary aim of advancing tissue engineering in dentistry. This government-supported research, awarded in February 2023, has received significant funding, totaling 12,95,000, with 10,65,000 already received during the financial year.

In the same field of Conservative Dentistry and Endodontics, Dr. Dax Abraham leads a project titled "Salivary and GCF Levels of NLRP3 Inflammasome in Patients Diagnosed with Symptomatic Irreversible Pulpitis - A Case-Control Study." Collaborating with Dr. Arundeeep Singh and Dr. Anjana Goyal, this non-government funded project, sponsored by the Indian Endodontic Society, delves into the study of salivary and GCF (gingival crevicular fluid) levels of NLRP3 inflammasome in patients with symptomatic irreversible pulpitis. The research, initiated in March 2023, received a grant of 50,000, entirely utilized during the financial year.

Finally, the project "Ora Can App" helmed by Dr. Sumit Bhateja in the Oral Medicine & Radiology department is aimed at developing a mobile application called "Ora Can App." This government-funded initiative, supported by DST-NewGen IEDC, was initiated in October 2023. The project focuses on leveraging technology for oral health with a particular emphasis on oral cancer awareness and prevention. The grant provided amounts to 2,50,000, with 88,000 received in the same financial year. This endeavor highlights the growing role of technology in oral health management and education.

In the field of Biotechnology, Dr. Kanchan Bhardwaj, a female researcher, leads a notable research project titled "Reverse Genetics of Chikungunya Virus for Identification of Therapeutic Targets and Validation in Mouse Model." Although there are no listed Co-PIs, this project is funded by SERB-DST, a government agency, and was awarded in October 2022. The project focuses on unraveling the intricate mechanisms of the Chikungunya virus through the innovative approach of reverse genetics. By identifying therapeutic targets and validating them in a mouse model, this research contributes to our understanding of the virus and potential treatment strategies. The research project was awarded a substantial grant of 15 lakhs, with a focus on addressing Sustainable Development Goal 3 (SDG 3), which pertains to good health and well-being.

- **Research projects related to SDG-3**

https://docs.google.com/spreadsheets/d/1MxfmoKTVLGZzYSd98ECoMZiUok-W2GJp/edit?usp=share_link&ouid=103006830621701775453&rtpof=true&sd=true

3. ACADEMIC INITIATIVES PERTAINING TO SDG 3 IN MRIIRS

Aligned with the principles of Sustainable Development Goals (SDGs), MRIIRS boasts an exceptional pedagogical framework renowned for its excellence and comprehensiveness. At the core of our research endeavors, we champion the utilization of interdisciplinary approaches with a steadfast commitment to sustainability. MRIIRS offers undergraduate and postgraduate programs in physiotherapy, nutrition and dietetics, clinical psychology, and dental sciences. Our students embark on a dynamic journey enriched by internships and clinical rotations across a spectrum of specialized healthcare settings, facilitating the fulfillment of their clinical objectives.

3.1 COLLABORATION AND HEALTH SERVICES

The university aims to expand its global influence through strong partnerships. We've established agreements with various groups worldwide, from the global stage to our local community. Notably, we have an international partnership with the National University of Ukraine on Physical Education and Sports (Ukraine), Cahaya Padma Kumara Foundation (Indonesia), Asyiah Politechniq Pontianak (Indonesia), University as Sultan Ageng Tirtaya (Indonesia), Physiotherapy Academy YAB (Malaysia), and University Teknologi MARA (UiTM) (Malaysia).

The primary goal of these agreements is to create a framework for collaboration between our institutions. This framework encourages the exchange of faculty, students, and valuable information related to academics, clinical work, and research. Our collaborations include sharing professors, both undergraduate and graduate students, jointly supervising master's and Ph.D. students, designing study programs, swapping academic knowledge and materials, publications, and research resources in areas of shared interest. We're also engaged in joint research projects, hosting lectures, symposiums, and conferences, and exploring opportunities for internships and practical training programs. These partnerships open up exciting avenues for learning and growth on a global scale.

MRIIRS proudly partners with a range of esteemed national health organizations, including the Red Cross, Special Olympics Bharat, Fit India, Sports, Physical Education, Fitness & Leisure Skills Council-SPEFL-SC, Sports Next, Galactus Funware Technologies Pvt Ltd-MPL, ICAR-Indian Institute of Millets Research, Paras Hospitals in Gurugram, Nutra Supplements, and The National Institute of Food Technology, Entrepreneurship, and Management in Sonipat.

These national collaborations share a common objective: to promote health equity. Together, we harness the power of data, nurture the growth of leaders, and kindle collaborations among various sectors. Our shared responsibility is to build a society that is fairer and more equitable. In the field of dental sciences, we've also partnered with Balaji Dental and Craniofacial Hospital in Chennai to enhance the academic and clinical training of our students. These partnerships contribute to our mission of improving health and well-being for all.

The Psychology Department at MRIIRS has established a Memorandum of Understanding (MOU) with VIMHANS, a prominent mental health institute located in Delhi. This collaboration enhances opportunities for knowledge exchange, research partnerships, and clinical training in the field of psychology. Through this MOU, our students and faculty benefit from the expertise and resources offered by VIMHANS, further enriching the educational and research experiences within our psychology department. It also strengthens our commitment to providing high-quality education and contributing to advancements in mental health and psychological well-being.

Collaborations in year 2022-23: MOU'S PRETAINING TO SDG 3

Sno	Date	MOU First Party	MOU Second Party	National/International	Faculty	Scope
1	6/5/2021	MPIIRS	National University of Ukraine on Physical Education And Sports, Ukraine	International	FAHS	Faculty exchange, Research collaboration, Student Exchange for short term courses
2	6/5/2021	MPIIRS	Cahaya Padma Kumara Foundation, Indonesia	International	FAHS	Faculty exchange, Research collaboration, Student Exchange for short term courses
3	6/5/2021	MPIIRS	Asajah Politechnik Pontianak, Indonesia	International	FAHS	Faculty exchange, Research collaboration, Student Exchange for short term courses
4	8/8/2021	MPIIRS	Universitas Sultan Agung Tirtaya (UNITERTA)	International	FAHS	Faculty exchange, Research collaboration, Student Exchange for short term courses
5	8/8/2021	MPIIRS	Physiotherapy Academia YAB	International	FAHS	Faculty exchange, Research collaboration, Student Exchange for short term courses
6	8/8/2021	MPIIRS	Asajah Politechnik Pontianak, Indonesia [Research]	International	FAHS	Faculty exchange, Research collaboration, Student Exchange for short term courses
7	8/8/2021	MPIIRS	Universiti Malaya	International	FAHS	Faculty exchange, Research collaboration, Student Exchange for short term courses
8	8/19/2021	MPIIRS	Fellowship Program with Cahaya Padma Kumara Foundation	International	FAHS	Fellowship program, Dual degree program
9	8/28/2021	MPIIRS	Fit India, India	National	FAHS	Joint research project, Curriculum design, placement, Guest lectures, Industrial Training
10	08/11/2021	MPIIRS	Sports Physical Education, Fitness & Leisure Skills Council	National	FAHS	Joint research project, Curriculum design, placement, Guest lectures, Industrial Training
11	9/23/2021	MPIIRS	Sports New India	National	FAHS	Short term courses, workshop, Placements
12	10/24/2021	MPIIRS	Galactus Funware Technologies Pvt Ltd-MPL	National	FAHS	Faculty exchange, Research collaboration, Student Exchange for short term courses
13	4/2/2022	MPIIRS	ICAR-Indian Institute of Millets Research	National	FAHS	Faculty exchange, Research collaboration, Student Exchange for short term courses
14	4/28/2022	MPIIRS	Paras Hospital	National	FAHS	Clinical postings, Rotatory observership, Guest lectures
15	6/18/2022	MPIIRS	Nutra Supplements	National	FAHS	Faculty exchange, Research collaboration, Placements
16	3/23/2022	MPIIRS	NIFTM	National	FAHS	Faculty exchange, Research collaboration, Student Exchange for short term courses
17	2021	FDS	ESIC Medical College, Faridabad	National	FDS	Clinical Postings/Internship
18	2022	Orthodontics	Balaji Dental and Craniofacial Hospital, Chennai and Manav Raschna Dental College, FDS, MRIIRS	National	FDS	Clinical Postings/Internship
19	2022	Orthodontics	Investalpa	National	FDS	Clinical Postings/Internship
20	2022	FAHS	Sarvodaya Hospital, Faridabad	Local	FAHS	Clinical Postings/Internship
21	2022	FDS	Shweta Dental Clinic	Local	FDS	Clinical Postings/Internship
22	2022	FAHS	Asian Hospital, Faridabad	Local	FAHS	Clinical Postings/Internship
23	4/14/2022	Paras Hospital	Manav Raschna International Institute of Research and Studies	National	SAHS	INTERSHIP, CLINICAL TRAINING AND EXPERT LECTURE
24	7/29/2022	Research and	Manav Raschna International Institute of Research and Studies and Asian multispecialty Hospital	National	SAHS	INTERSHIP, CLINICAL TRAINING AND EXPERT LECTURE
25	7/29/2022	Research and	Manav Raschna International Institute of Research and Studies and Sarvodaya Hospital	National	SAHS	INTERSHIP, CLINICAL TRAINING AND EXPERT LECTURE
26	10/18/2022	Cahaya Physiotherapy	Manav Raschna International Institute of Research and Studies	International	SAHS	Sharing of Expert Faculty/Students and Resources of Fellowship
27	8/8/2022	Academy	Manav Raschna International Institute of Research and Studies	International	SAHS	Sharing of Expert Faculty/Students and Resources of Fellowship

4. ACCESS TO PHYSICAL HEALTH-CARE SERVICES INCLUDING INFORMATION AND EDUCATION SERVICES

MRIIRS is having in house facility of clinical Outpatient departments of physiotherapy, Nutrition and Dietetics, Dental and Psychology.

Physiotherapy OPD: The Physiotherapy Outpatient Department (OPD) at our facility offers specialized clinics dedicated to addressing various medical conditions, including the Cerebral Palsy Clinic, Stroke Clinic, Geriatric Clinic, Sports Injury Clinic, and Diet and Nutrition Clinic. Additionally, our department organizes specific clinical weeks to provide further specialized services. These clinics are well-equipped with state-of-the-art medical facilities to cater to the needs of both inpatients and outpatients.

These collaborations enhance our academic and clinical capabilities, enabling us to offer cutting-edge care to our patients. In the period from July 2022 to June 2023, our OPD successfully treated an impressive total of 3927 patients.



A. Diet and Nutrition clinic:

The primary objective of the Diet and Nutrition clinic is to offer comprehensive nutritional support, encompassing nutritional assessment, raising awareness about proper nutrition, providing guidelines to prevent both communicable and non-communicable diseases, and offering treatment for various metabolic disorders. This clinic has successfully catered to a diverse range of patients with different ailments, including conditions such as hypothyroidism, diabetes, kidney disorders, liver disorders, hyperlipidemia, hypertension, obesity, and weight management.



B. Dental OPD:

The Dental Department boasts a cutting-edge facility that represents a perfect blend of advanced technology and expertise. Our team comprises highly skilled and experienced doctors who excel in various specialized areas of dentistry, including orthodontics and Dentofacial orthopedics, periodontology, prosthodontics, oral pathology & microbiology, conservative dentistry and endodontics, pediatric and preventive dentistry, oral medicine and radiology, oral & maxillofacial surgery, and public health dentistry.

From July 2022 to June 2023, the Dental Outpatient Department (OPD) successfully treated an impressive 103,075 patients. This underscores our commitment to providing comprehensive dental care to our community and reflects our dedication to delivering high-quality dental services.



C. Dental Services Psychology OPD:

मनो व्रति Counselling and Wellness Centre, operated by the Department of Applied Psychology, serves as a focal point for providing guidance and counseling support to the MREI community. This center is dedicated to addressing the real-life challenges faced by our students, faculty, and staff. It is conveniently located in BG-15, B-Block, at the Manav Rachna International Institute of Research and Studies (MRIIRS).

The center offers a range of services designed to support and enhance the psychological well-being of its clients. These services include individual and group counseling, psychological testing, career exploration and counseling, hypnotherapy, and consultation services for family members and faculty regarding specific students, all conducted within the bounds of strict confidentiality. Additionally, the center provides training for competent students and para-professionals under appropriate supervision, ensuring that its services are both professional and effective.

5. HEALTH OUTREACH PROGRAMME

MRIIRS offers many programmes for health and wellness of students, staff members and for local community also. Using a comprehensive strategy, MRIIRS contributes to improving health and well-being by providing a range of health and counselling services on and off campus. The mission of university to improve the health of the community through imparting education, health services and free counselling etc. All students, faculty, and members of the local community can get the help they need with issues related to their physical health, emotional well-being, or sexual and reproductive health from the student health services.

At MRIIRS, we are committed to the well-being of our community, and as part of this commitment, we regularly organize a wide range of health camps. These health camps are designed to provide comprehensive care to our participants, and they often involve interdisciplinary teams of healthcare professionals. Our dedicated teams typically include dental experts, physiotherapists, nutritionists, psychologists, and collaborate with organizations such as the O P Bhalla Foundation. These camps offer a holistic approach to health and wellness, addressing various aspects of physical, mental, and emotional well-being. We believe that by providing access to this diverse range of healthcare specialists, we can make a meaningful impact on the health and quality of life of our participants, promoting a culture of holistic health and wellness within our community.

In addition to serving patients on-site, the clinic also conducts health camps at regular intervals, extending its services to various areas in Delhi and the National Capital Region (NCR). During the period from July 2022 to June 2023, a remarkable total of 373 camps were meticulously organized, leading to the screening and benefitting of 24,782 patients. This extensive outreach underscores our dedication to providing quality healthcare services to the community. These camps are essential in reaching individuals who may face barriers to visiting the clinic in person. During these health camps, we provide free consultations and assessments, offering guidance and recommendations to those in need. Patients are educated about their specific conditions and provided with valuable insights on dietary do's and don'ts, all from a nutrition perspective. This outreach program underscores our commitment to promoting better health and well-being within the community.

The organization conducts conferences, workshops, seminars, and training programs for various stakeholders, such as students, community people, and farmers. The focus of these activities is to create awareness among students regarding healthy food choices. A food fair is also held on campus from time to time to raise awareness.

The Department of Nutrition and Dietetics, in collaboration with various esteemed partners, organized a series of events and initiatives to promote nutrition, health, and wellness. These events ranged from Millet Fests to Ayurveda Day celebrations and Dietetics Day events. They aimed to raise awareness about the nutritional significance of millets, promote Ayurveda practices at the household level, and explore opportunities in the nutrition sector, particularly in the food and supplements industry. Through recipe competitions, demonstrations, and expert lectures, students and faculty engaged in insightful discussions about nutrition, food innovation, and the benefits of millets in daily diets. Such initiatives not only enriched the knowledge of students but also fostered a culture of healthy eating and wellness.

In addition to these, the department also celebrated International Millet Year 2023 with a Millet Recipes competition, emphasizing the importance of these "Wonder Grains" in promoting healthy eating. The students' innovative recipes and posters showcased the nutritional value of millet-based dishes. The competitions were judged by experts who provided valuable insights and encouraged students to further explore food entrepreneurship. These initiatives collectively contributed to raising awareness about healthier dietary choices and promoting the nutritional significance of millets. Students actively participated in these events, making them engaging and insightful learning experiences.

https://docs.google.com/spreadsheets/d/148srCEpp8yISJ4f_Eq0JXoMwqE9AeWgI/edit?usp=share_link&ouid=103006830621701775453&rtpof=true&sd=true

5.1 BLOOD DONATION CAMP

Blood donation camps are of paramount importance as they serve as a lifeline for countless individuals in need of blood transfusions due to medical emergencies, surgeries, or chronic illnesses. These camps play a vital role in ensuring a stable and readily available blood supply for hospitals and healthcare facilities. By voluntarily donating blood, individuals can save lives and make a significant contribution to their community's well-being. Additionally, blood donation promotes a sense of altruism and unity, fostering a culture of empathy and solidarity among people. A noble act highlights the power of human kindness and can make a profound difference in times of crisis.

It is worth noting that in 2022-23, MRIIRS faculty and students donated 1068 units of blood in blood donation camp at MRIIRS campus and from 2014 around 9079 units are collected till date.



Blood Donation camp

6. SHARED SPORTS FACILITIES

Promoting a healthy and active lifestyle from a young age is not just an opportunity but a foundation for lifelong well-being. As a young student, you have a world of possibilities to explore that can positively influence your health and fitness. Whether it is regular runs in the open air, energetic skipping sessions, or dedicated visits to the gym, the choices are endless. The beauty of physical activity is that it can become a habit, a lifestyle, and it sets you on a path to future success.

At Manav Rachna University, we understand the symbiotic relationship between physical activity and academic achievement. We have dedicated ourselves to provide world-class sporting facilities to ensure our students have every opportunity to flourish. With a rich array of sporting amenities, our goal is to encourage an active and balanced lifestyle for every individual.

Step into our sprawling 7,000 square foot Indoor Sports Arena, and you will find a wealth of exceptional facilities. This space houses a well-maintained badminton court, ensuring that enthusiasts can enjoy a spirited game. If you are a fan of table tennis or billiards, we have eight tables for table tennis, three billiards tables, and three pool tables to keep your competitive spirit alive. Additionally, we offer a fully equipped indoor gym, catering to those with fitness aspirations.

For precision sports aficionados, our Indoor Sports Arena includes an indoor shooting range located within MRIIRS. This facility boasts two 10-meter circuits, eight SIUS electronic targets, and two monitoring systems. To enhance the experience for both shooters and spectators, we have provided modern locker rooms, comfortable restrooms, and a dedicated fitness area, ensuring a holistic approach to your sporting journey.

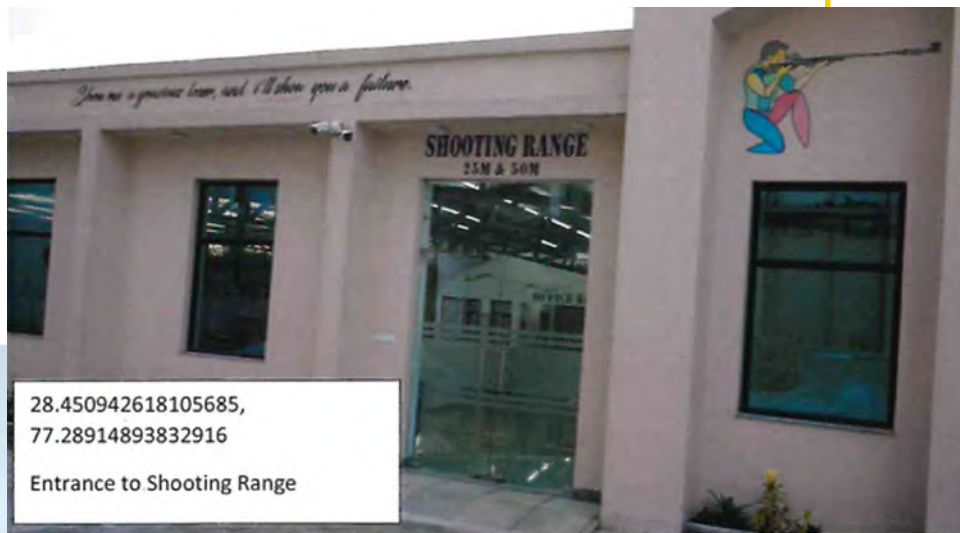
At the MRIIRS campus, we have taken our commitment to excellence further by offering newly laid 25-meter and 50-meter shooting range facilities. Two meticulously maintained turf pitches and a sprawling 40 x 40-meter cricket ground, complete with floodlights, are ready for students and faculty to engage in their favorite sports.

For lovers of squash, our top-notch squash court awaits, with dimensions of 9.75 meters in length, 6.4 meters in width, and 5.64 meters in height, providing the perfect space for an intense game. To add a touch of leisure and social bonding, we have included Carrom and Chess boards, as well as a Pool table.

Volleyball enthusiasts can enjoy games under floodlights at our dedicated court, accessible to all Manav Rachna students and hostellers from dawn until dusk. We have also ensured that basketball lovers have a haven for their games with three courts, equipped with floodlights and advanced facilities.



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77.28308479929339



28.450942618105685,
77.28914893832916

Entrance to Shooting Range



Our sprawling campus is also home to a soccer field, spanning a generous 80 meters in length and 50 meters in width, providing the perfect grounds for impromptu matches and regular practice sessions. Our commitment to holistic development through physical activity remains unwavering.

Sr. No.	Description	Size	Year of Establishment
1.	Indoor Sports arena with		2010
	• Badminton Courts(Two) ,	13.6m Long, 6.1m wide	2010
	• Table tennis ,	2.74m Long, 1.52m Wide	2010
	• Billiards , and 3 pool Tables	Std. Size	2010
2.	Four shooting ranges of		
	• 10 meters (manual)	10m	2016
	• 10 meters (digital).	10m	2016
	• 25 meters range(digital)	25m	2016
3.	Squash Court , The area houses additional sports facilities also such as carom and chess.	9.75m long, 6.4m wide, height 5.64m	2011
	4. VolleyBall Court	28m x 15m	2012
	• In front of B Block		
	• In front of E,F Blocks		
5.	BasketBall Court	27.99m long, 14.99m wide	2010
6.	Cricket ground with facility for day-night matches (Shared from Manav Rachna University)	40m x 40m	2011
7.	Soccer Ground	80m Long, 50m wide	2018
8.	Outdoor Gymnasium		2013



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77.28443441661175

In front of E,F-Blocks





6.1 SPORTS ACTIVITY IN 2022-23

Manav Rachna University is not merely a center of learning; it is a thriving hub of sports and physical activity. Over the past year, our commitment to sports culture on campus has been steadfast. It is no wonder that the President of India presented Manav Rachna with the Rashtriya Khel Protsahan Puruskar for its tireless efforts to promote sports on campus. In this report, we delve into the extensive sports-related activities and achievements from July 2022 to the present date that exemplify why we are sports dominant.

A. Promoting Inclusivity:

The university began this period with the Special Olympic Bharat National Coaching Camp (Table Tennis M&W) from July 15th to 20th, 2022, fostering inclusivity by nurturing the talents of special athletes. Following this, the National Coaching Camp Unified Football Female took place from July 20th to 30th, 2022, further promoting sports participation among different sections of the student body.

B. Professional Development:

In August, the university organized the Organ India Badminton Training Camp from August 2nd to 5th, 2022, emphasizing the holistic development of students through sports. The Sports Orientation Programme, held on August 23rd and 26th 2022, was a testament to our commitment to the professional development of our sports-minded students.

C. Fitness and Wellness:

Our emphasis on fitness and wellness was highlighted through the "FIT India Movement" workshop on September 6th, 2022, aimed at creating awareness about health and fitness issues among faculty members and students.

D. Celebrating Silver Jubilee:

As part of the Manav Rachna Silver Jubilee Celebration, the Sports Extravaganza (Sports event & Sports Activities) on September 5th 2022, celebrated sports as an integral part of our holistic development approach.

E. Selection Trials and Infrastructure Development:

The university organized Selection Trials for the Manav Rachna International Institute of Research and Studies Students for participation in various inter-university sports tournaments. The recent inauguration of a New Boxing Ring signifies our dedication to providing state-of-the-art sports facilities.

F.National and International Achievements:

We take pride in celebrating the achievements of our students on the national and international stages. Master AnishBhanwala's accomplishments in shooting and the remarkable achievements of students Tushar Soni and S. Suganya in various state and national championships are a testament to our commitment to nurturing talent.

G.Participation in BOSM 2022:

Our sports teams participated in BOSM 2022, displaying their skills in various sports and competing with universities and colleges from across India.

In conclusion, Manav Rachna University's commitment to sports and fitness is not just a commitment; it is a way of life. We are proud of our accomplishments and are committed to promoting sports culture on campus. With a focus on creating champions and promoting sports at the national and international levels, Manav Rachna University continues to make a significant impact in the world of sports.

Event	Date	Venue	Description
Special Olympic Bharat Coaching Camp	15th - 20th July	Indoor Sports Arena Q Block	Nurturing talents of special athletes, promoting inclusivity in sports.
National Coaching Camp Unified Football	20th - 30th July	Football Ground Near Q Block	Focused on Unified Football, promoting sports participation among different sections.
Organ India Badminton Training Camp	2nd - 5th August	MRIIRS & MRSA Sector 14, Faridabad	Enhancing skills and promoting organ donation awareness through sports.
Sports Orientation Programme	23rd & 26th August	Manav Rachna International Institute	Introduction to various sports activities and encouraging active participation.
FIT India Movement Workshop	6th September	I-Block Auditorium	Creating awareness about health and fitness among faculty and students.
Sports Extravaganza	5th September	Manav Rachna Cricket Ground	Celebrating sports as part of the university's holistic development approach.
Selection Trials	13th - 15th September	Manav Rachna University Sports Grounds	Identifying and preparing students for inter-university sports tournaments.
Inauguration of New Boxing Ring	17th September	Indoor Sports Arena Q Block	Enhancing sports infrastructure with a new boxing ring.
Achievements in Shooting	Throughout the year	Various	Celebrating students' accomplishments in shooting at national and international levels.
BOSM 2022 Participation	14th - 18th October	BITS Pilani Rajasthan	Competing in basketball, volleyball, cricket, table tennis, badminton, squash, and more.







7. SEXUAL AND REPRODUCTIVE HEALTH CARE SERVICE FOR STUDENTS

Sexual and reproductive health services play a vital role in enhancing the well-being of individuals of all genders. These services encompass a wide range of areas, such as sexual and reproductive health education, maternal and child health, client-centered counseling, as well as the provision of services related to sexually transmitted infection/HIV prevention, testing, and treatment, as well as cancer prevention, testing, and referrals for treatment.

Within our campus, we have established several facilities to support the holistic well-being of our students. This includes dedicated spaces like the Counseling Cell and Grievance Cell, and separate Common Rooms for both girls and boys to provide a comfortable and safe environment. Furthermore, all female restrooms are equipped with free sanitary pad dispensers and incinerators to ensure the convenience and hygiene of our female students. Additionally, our institution has taken the commendable step of distributing free sanitary pads to all female students as part of an initiative to promote female hygiene at MRIIRS.

A. Expert Talks and Health Sessions:

Several impactful events and activities have been organized at MRIIRS, including expert talks, panel discussions, and camps, which have addressed a range of critical topics. These include menstrual hygiene, breastfeeding, safety, and cervical cancer awareness. Furthermore, in celebration of International Women's Day, MRIIRS hosted events aimed at promoting gender equality and sustainable development, contributing to increased awareness.



The Center for Human Resources (CHR) consistently conducts workshops focused on general health, benefiting all associates at Manav Rachna. These workshops cover various aspects of health, including awareness about cervical cancer led by Dr. Ashima Kesri, an experienced Gynecologist and Laparoscopic Surgeon with a notable background. These sessions also incorporate ergonomic and postural

assessments, musculoskeletal evaluations, exercise prescriptions, body composition analysis (BMI), and individualized dietary counseling, further enhancing the well-being of all participants.

B. Breast feeding Week, 2023

Women should not have to choose between breast feeding their children and their work. World Breast feeding Week is celebrated in the first week of August every year, supported by WHO, UNICEF and many Ministries of Health and civil society partners. This year's theme is focusing on breast feeding and work, providing a strategic opportunity to advocate for essential maternity rights that support breast feeding, maternity leave for a minimum of 18 weeks, ideally more than 6 months, and workplace accommodations after this point. In view of this, School of Allied Health Sciences, Department of nutrition & Dietetics, MRIIRS has initiated awareness by conducting a webinar series (Zoom platform), poster competition and a panel discussion on various topics covering the breast feeding importance, rights of mother (working/non-working), disadvantages of non-breastfeeding to mother and infant, government initiatives to promote breast feeding etc. The experts from various fields such as nutritionist, pediatrician, gynecologist and ministry personnel had delivered the talk.

Breast feeding Week 2023

World Breast Feeding week (1st-7th August)

ENABLING BREASTFEEDING
Making a difference for working parents

Panel Discussion

Panel Experts: 7th August 2023 (1:00-3:00 PM)

Ms Purnima Thakur
Assistant Director, MWCD, New Delhi

Dr Divya Choudhary,
Chief Clinical Nutritionist, Rajiv Gandhi Cancer Institute & Research Centre, New Delhi
Life Time Member of IDA & IAPEN

Dr. Megha Consul,
MD (Paediatrics), DNB (Paediatrics), Clinical Fellowship Neonatal & Perinatal Medicine, Senior Consultant & Unit Head- Neonatology

Ms Rohini Saran
Lead - Nutrition (South Asia Hub)

Registration Link:
<https://forms.gle/9a2FdExDvNpG5F6g9>

MEETING LINK: Join Zoom Meeting
<https://mrvpl.zoom.us/j/94984948131>
Meeting ID: 949 8494 8131

World Breast Feeding week (1st-7th August)

ENABLING BREASTFEEDING
Making a difference for working parents

Experts

WEBINAR SERIES
1st-6th August 2023

Dr Anita Gupta,
CMO, UCMS & GTB, MIYCN-IAPSM

Ms Charu Dua Chief
Clinical nutritionist - Amrita hospital

Ms Deepti Kahtuja
Head Clinical Nutritionist

Dr Rashi S. Rustagi,
Paediatrician & Neonatologist, MBBS (Gold Medalist), MD (Paediatrics), Associate Consultant Jaipur Golden Hospital

Dr Megha Consul,
MD (Paediatrics), DNB (Paediatrics), Clinical Fellowship Neonatal & Perinatal Medicine, Senior Consultant & Unit Head-Neonatology

Ms Richa Jaiswal,
Registered Dietician, PhD Scholar Surgical Disciplines AIIMS, New Delhi

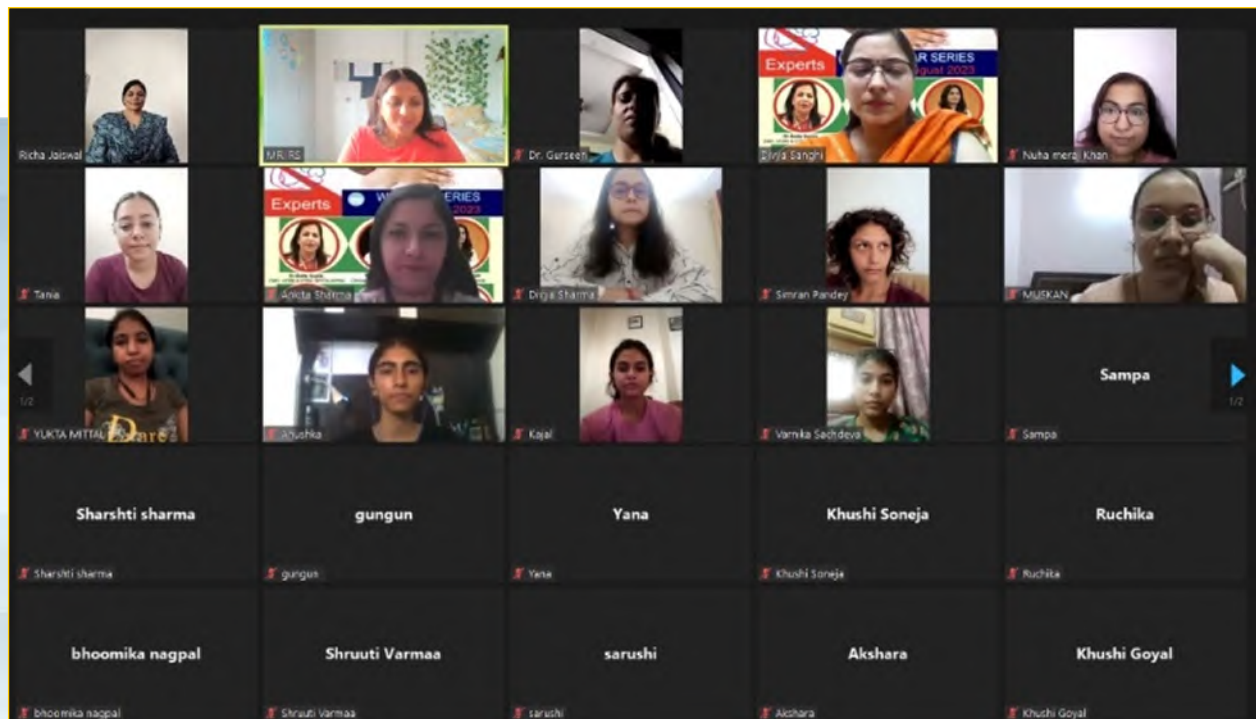
Poster competition-7th August 2023 (12-1pm)

Registration Link:
<https://forms.gle/9a2FdExDvNpG5F6g9>

MEETING LINK: Join Zoom Meeting
<https://mrvpl.zoom.us/j/94984948131>
Meeting ID: 949 8494 8131



**Participants
in the
event**



The distribution of free sanitary pads to all female students and the wider community represents a significant initiative aimed at promoting female hygiene at MRIIRS. This endeavor is made possible through the collaborative efforts of the OP Bhalla Foundation and the Allied Health Sciences department. It underscores our commitment to supporting the well-being and menstrual health of women both within our institution and the surrounding community.

C. Give her wings to fly

Menstrual Hygiene Awareness and Sanitary Pad Distribution Initiative in which Dr O P Bhalla Foundation aims to educate the populace from rural areas and underprivileged backgrounds about the importance of Menstrual Hygiene and normalize its discussion. Volunteers create awareness through NukkadNatak, workshops and discussions.



Date	Venue	Units
15.7.2022	Sneh Ashram	1200
18.7.2022	GSSS Dayalpur	800
07.1.2023	Slum Areas in NIT-3	2314
24.3.2023	Neb Sarai	2312

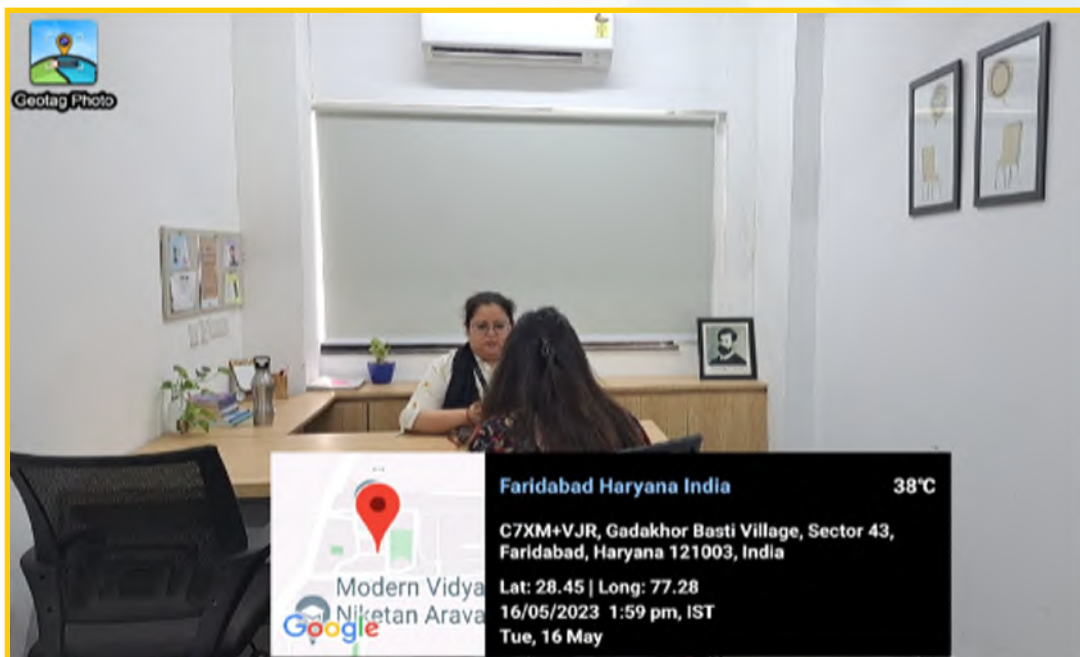


8. MENTAL HEALTH SUPPORT

Mental health encompasses emotional, psychological, and social well-being, influencing cognition, perception, and behavior. Mental directly affect the work efficiency of any individual.

It is a crucial element of health and well-being that supports both our individual and group capacity to decide, form connections, and influence the world we live in.

Manovriti (Psychology counselling center):The Department of Psychology provides guidance and counselling support to students, faculty, staff members of MREI and the community through the Manovriti center. The center through its objectives provided a safe space to discuss and find solutions of the difficulties faced.



Counselling session on Mental Health by Psychologist

There were health camps organised from MRIIRS in old age homes and in schools to address the psychological issues related to the mental health and wellbeing. Role of negative image and related health issues was addressed as an expert talk for the students of MRIIRS.

The Mental Health initiative 'SATHI' (Support & Assistance through Telephonic Helpline for Individuals) was launched in 2020 during the pandemic. Trained Clinical Psychologists spearheaded this initiative to provide emotional first aid and crisis management support to individuals who were grappling with stress and emotional challenges during difficult times. Over the years, 'SATHI' has continually evolved and expanded its services. This 24X7 helpline has been instrumental in assisting a significant number of individuals, including the elderly, students, working women, housewives, and others, who were primarily dealing with anxiety, fear, and depression. Through online counseling, 'SATHI' has been a vital source of support for those in need.

An annual mental health camp 'SPARSH' was launched to spread awareness about mental health and well-being through students.

A joint initiative by dental and engineering students has resulted in the launch of a mental and dental health application called 'SUKOON.' This app is designed to provide support for dental and mental health-related issues. SUKOON aims to assist individuals, particularly those experiencing mild anxiety, stress, and depression, in self-managing their challenges. It offers evidence-based mental health exercises, a journal for thoughts, relaxing sounds, and affirmations. This app is beneficial not only for individuals but also for corporate employees and students seeking to effectively manage the stresses of daily life. It offers various packages to address common life issues such as emotional distress, agitation, sleep problems, and stress.

A. Annual mental health camp 'SPARSH'

An exhaustive mental wellness campaign has been conducted in the campus by the department of Psychology to spread awareness about Mental Health.

From January 20th to January 27th, 2023, the center organized a series of sessions throughout Manav Rachna International Institute of Research and Studies (MRIIRS). The aim was to create awareness and sensitize students, faculty, and staff members about various aspects of wellness, common challenges affecting well-being, and the counseling services available at the center. These sessions collectively engaged 1,000 students from all seven faculties of MRIIRS.

In November 2022, the Department of Applied Psychology at Manav Rachna International Institute of Research and Studies celebrated "Kindness Month" in line with World Kindness Day's purpose, which is to highlight community good deeds and the unifying power of kindness. Students from all semesters engaged in acts of kindness daily and shared their experiences. Additionally, an industrial visit to the Red Cross Society was organized for 3rd-semester Master's in Applied Psychology students.

The visit aimed to familiarize students with the roles within Clinical and Counseling psychology and ethical considerations. They visited the Faridabad Zila Red Cross Society Pre-vocational and Vocational schools, where children and teenagers receive specialized training to enhance their skills and abilities for a brighter future. Both students and faculty actively participated in this enlightening and interactive initiative.



The Department of Applied Psychology at MRIIRS organized an enlightening industrial visit for third-semester MA Applied Psychology students. Accompanied by faculty members Dr. Azmat Jahan and Ms. Divyani, the visit aimed to provide students with insights into the workings of Clinical and Counseling Psychology and the diverse career opportunities within the field. The visit commenced with a comprehensive discussion with Mr. Naseem Ahmed, delving into professional aspects and ethical considerations for psychologists. Students first visited the Faridabad Zila Red Cross Society Pre-vocational school, which caters to children with Autism Spectrum Disorders, offering tailored behavioral, speech, and motor therapies. The following stop was the Vocational School, where older students, typically above 15 years of age, receive training in daily life tasks and skill development. The visit also included a trip to the Rehabilitation Centre, addressing alcohol and substance abuse cases. Students gained valuable exposure and interacted with the dedicated staff while learning about these critical aspects outside their regular curriculum. The visit was made possible thanks to the Department of Applied Psychology, the faculty, and Mr. Naseem Ahmed's warm hospitality and support. Students eagerly embraced this unique learning opportunity.

KINDNESS MONTH



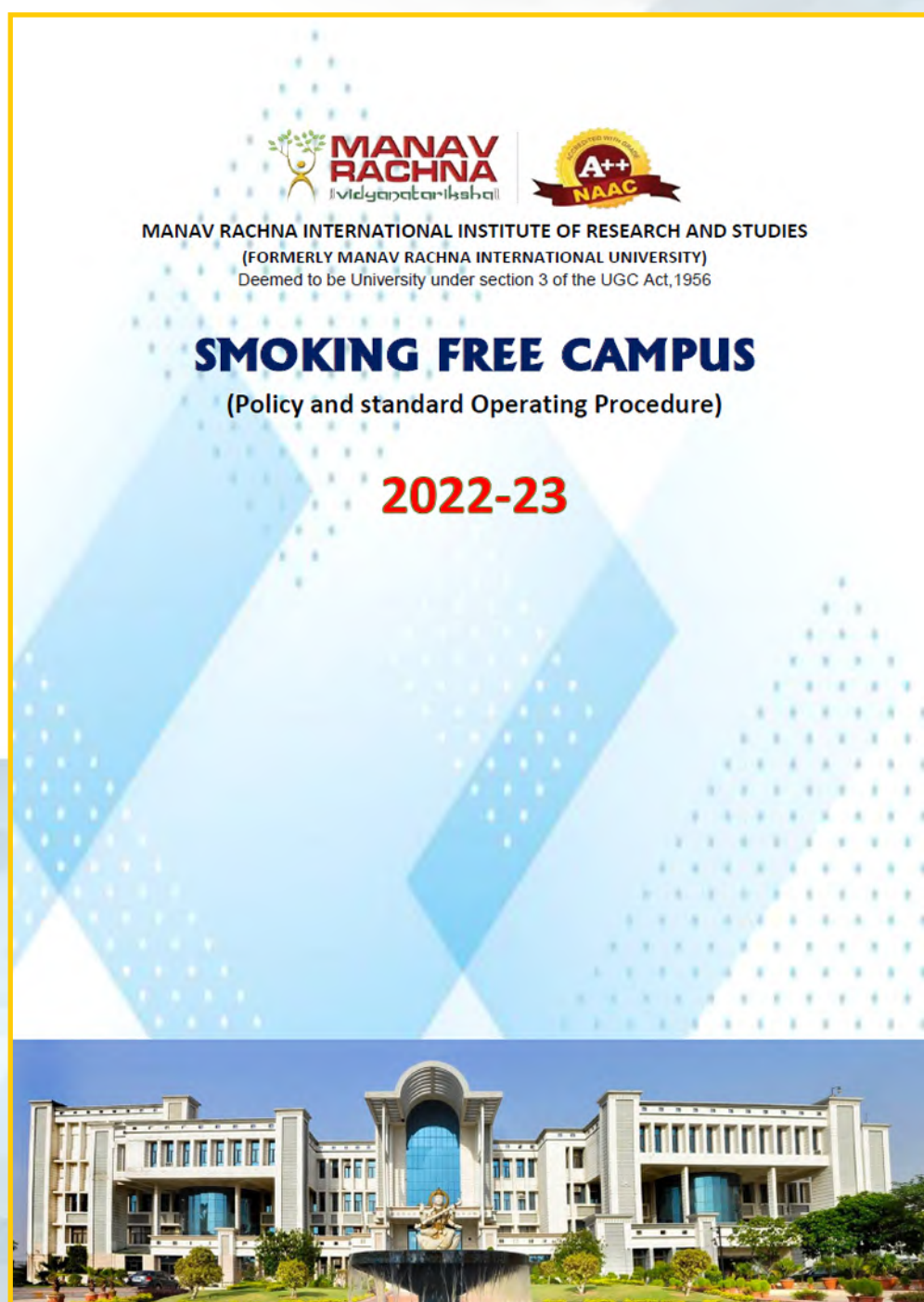
NOVEMBER 2022

The Department of Applied Psychology at MRIIRS marked Suicide Prevention Week from September 10th to 16th, 2022, with a series of activities aimed at raising awareness and offering support. The week began with an expert session on World Suicide Prevention, led by Ms. Garima Ramdev, a clinical psychologist from Gujarat Forensic Science University. Subsequent activities included the creation and display of awareness-raising postcards, a spirited NukkadNatak (street play), a rally, and a selfie point event. On the 15th of September, a comprehensive session was conducted by Dr. Azmat, focusing on the history, statistics, and prevention of suicide. The week concluded with a slogan writing competition on the 16th. The department extended gratitude to Dr. PriyankaTiwari, the HoD, faculty members, and enthusiastic students for their active participation and support in these meaningful initiatives.



9. SMOKE-FREE POLICY

MRIIRS recognizes that quitting smoking is a major challenge for many people due to the habit's addictive qualities and the difficulty associated with doing so. The MRIIRS is committed to helping its students kick the habit and will provide them with resources including smoking-cessation classes, easy access to nicotine replacement therapy, and professional guidance. The policy was framed in year 2019 and was again reviewed in year 2021. An awareness camp on world no tobacco day was organized by MRIIRS to promote smoke-free campus.





Health Risks of Smoking Clove Cigarettes

The illustration shows a hand holding a clove cigarette with smoke rising from it. Surrounding the hand are several circular icons representing health risks:

- Acute lung damage (lungs icon)
- Heart disease (heart icon)
- Nicotine addiction (cigarette pack icon)
- Nausea (person vomiting icon)
- Accelerated heartrate (heart rate line icon)
- Cancer (cell icon)



31st May – On the occasion of No Tobacco World Day, MRDC in association with Foundation conducted "Tobacco Free Manav Rachna" where in an initiative was taken to implement Sections 4 and 6 of the Cigarettes and Other Tobacco Products Act. A drive was conducted for installing Public notices and Sign boards highlighting Section 4 and 6 of COTPA across the MREI campus. Dr. Wadhwa applauded the initiative and highlighted the ill effects of tobacco usage amongst the younger generation. He also motivated the Faculty members to counsel Students regularly on this issue. In addition, numbers of Administrative and Housekeeping employees and other supporting staff was addressed and sensitized by Dr N C Wadhwa and Dr Sanjay Srivastava about ill effects of Smoking and use of Tobacco.

10. REGULAR SKILL SET ENHANCEMENT AT MRIIRS- CERTIFICATIONS EARNED BY STUDENTS AND FACULTY MEMBERS

Skill set development and enhancement are the important components of institutional development. The university is committed to conduct, through its competent constituent bodies, programs for the faculty and students for continuous skill set enhancement relevant to the recent technologies. Further, the faculty members and students are also encouraged to participate in Seminars/ Conferences/ Workshops/ Training Programs/ Short Term courses etc. within or outside the University. Sample certifications earned by faculty members and students in the relevant areas of SDG 3 are as appended below:



Ethics Review of Health Research:



Online Certification

MEENA JAIN

has successfully completed

Ethics Review of Health Research
(NIE-ICMR e-Certificate course: NleCer 102)

Dr. Manoj V Murhekar
Director and Scientist G
ICMR-National Institute of Epidemiology
Chennai, India

Dr. Rajiv Bahi
Secretary to Government of India,
Department of Health Research and Director General,
Indian Council of Medical Research
New Delhi, India

Dr. Sanjay Mehendale
Ex-Addl. Director General,
Indian Council of Medical Research
New Delhi, India

Dr. Madhur Gupta
Technical Officer- Pharmaceuticals
WHO Country office for India
New Delhi, India



June 2023

(Syllabus covered in overleaf)



International Conference on Advanced Research in Technology, Management, Social Science, Sustainable Development & Humanities:



DAV INSTITUTE OF MANAGEMENT
(Affiliated to MDU, Rohtak, Haryana)
CENTRE FOR TRAINING & DEVELOPMENT
(CTD INDIA, DELHI)

Ref. id: DAVIM-CTD/RC/2023/065



CERTIFICATE

This is to certify that Prof. / Dr. / Mr. / Ms. Kavita Arora of Manav Rachna International Institute of Research & Studies has presented a paper titled "Brain Computer Interfaces in Healthcare" in International Conference on "Advance Research in Technology, Management, Social Science, Sustainable Development & Humanities" organized by DAV Institute of Management, Faridabad in collaboration with Centre for Training and Development on 12-13 MAY 2023.

Mrs. Premlata Garg
Chairperson
Centre for Training Development

Dr. Satish Ahuja
Principal Director,
DAV Institute of Management, Faridabad

32nd Annual Convention of the National Academy of Psychology organized by NAOP and Ahmedabad University:




32nd Annual Convention of the National Academy of Psychology (NAOP)

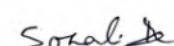
CERTIFICATE OF PRESENTATION


This certificate has been awarded to

Ms/Mr/Dr/Prof Divya Dhawan

for his/her/their **oral presentation** titled Hope, Resilience and Forgiveness in Practitioners and Non-Practitioners of Buddha's Lotus Sutra at the 32nd convention of the National Academy of Psychology (NAOP) held at Ahmedabad University from March 3-5, 2023.


Professor Urmí Nanda Biswas
Convenor, 32nd Convention of National Academy of Psychology (NAOP)


Professor Sonali De
General Secretary, National Academy of Psychology (NAOP)


Professor Saswata Narayan Biswas
President, National Academy of Psychology (NAOP)

International conference on role of counseling in dealing with mental health issues organized by Student Counseling Centre, Aligarh Muslim University:

**International Conference
on
Role of Counselling in Dealing with Mental Health Issues
Organized by**

Students' Counselling Centre, AMU

Certificate


This is to certify that Mr./Ms./Dr.

Khusboo

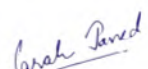
has presented a paper entitled

Post-Traumatic Growth After Covid-19

in the International Conference on "Role of Counselling in Dealing with Mental Health Issues" organized by Students' Counseling Centre, Aligarh Muslim University, Aligarh, held on September 23-24, 2022.


Dr. S. Reshma Jamal
Director
(ICCDMHT)


Dr. Asif Hasan
Organizing Secretary
(ICCDMHT)


Dr. Sarah Javed
Organizing Secretary
(ICCDMHT)

29th National conference IAOMP, Maxillofacial Infections - Evolving Paradigms organised by Himachal Institute of Dental Sciences and Subharti University:

Certificate of Paper Presentation

SUBHARTI UNIVERSITY
UCC Approved
Where Education is a Passion... Meerut
Subharti Dental College & Hospital, Meerut

Himachal Institute of Dental Sciences
Paonta Sahib, Distt Sirmour (H.P.)-173025-India

DEPARTMENT OF ORAL & MAXILLOFACIAL PATHOLOGY AND ORAL MICROBIOLOGY

29th National Conference
Indian Association of Oral and Maxillofacial Pathologists
MAXILLOFACIAL INFECTIONS - EVOLVING PARADIGMS

This Certificate is
Awarded to
Dr. MANISH BHARGAVA
for presenting Scientific Paper titled
Firing Blanks: Stressed Dental Graduate

.....
in the National Conference of IAOMP
held from 11th - 13th November 2022, at Dehradun, Uttarakhand.

Susmita Saxena
Dr. Susmita Saxena
(Hon. President, IAOMP)

Nadeem
Dr. Nadeem Jeddy
(Hon. Secretary, IAOMP)

Abhiney Puri
Dr. Abhiney Puri
(Organizing Chairman)

Vijay
Dr. Vijay Wadhwan
(Organizing Secretary)

Preeti Sharma
Dr. Preeti Sharma
(Scientific Convener)

4th International online conference, Health, Physical Education and Sports; Perspectives and best Practices organised by BorysGrinchenko Kyiv University:

Series ISC
№ 23-05003




BORYS GRINCHENKO KYIV UNIVERSITY

CERTIFICATE

This is to certify that

Anupama V Betigeri

has participated in the 4th International Online Conference
«HEALTH, PHYSICAL EDUCATION AND SPORT: PERSPECTIVES AND BEST PRACTICES»
May 16-17, 2023, Kyiv, Ukraine
Duration — 6 hours / 0.2 ECTS credit

Results:

- Enhancing of the Competencies in Multidisciplinary Approach to Physical Education, Elite Sports, and Implementation of the Innovative Health Technologies.

Vice-Rector for Research
Kyiv, May 16-17, 2023


Natalia VINNIKOVA



Management of Medical Emergencies in Dental Health:



NPTEL Online Certification

(Funded by the MoE, Govt. of India)



This certificate is awarded to
SURAJ NAIDU
for successfully completing the course

Management of Medical Emergencies in Dental Practice

with a consolidated score of **53** %

Online Assignments	12.08/25	Proctored Exam	41.25/75
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Total number of candidates certified in this course: **283**

Prof. Devendra Jalihal
Chairperson,
Centre for Outreach and Digital Education, IITM

Feb-Apr 2023
(8 week course)

Prof. Andrew Thangaraj
NPTEL, Coordinator
IIT Madras



Indian Institute of Technology Madras



Roll No: NPTEL23GE09S43442744

To validate the certificate



No. of credits recommended: 2 or 3

Psychology of Health and Well Being:



Elite NPTEL Online Certification

(Funded by the MoE, Govt. of India)



This certificate is awarded to
UNNATI SOMA
for successfully completing the course

Psychology of Stress, Health and Well-being

with a consolidated score of **66** %

Online Assignments	21.13/25	Proctored Exam	45/75
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Total number of candidates certified in this course: **2046**

Jan-Apr 2023
(12 week course)

Prof. T. V. Bharat
Head, Centre for Educational Technology
NPTEL Coordinator, IIT Guwahati



Indian Institute of Technology Guwahati



Roll No: NPTEL23HS71S53552469

To validate the certificate



No. of credits recommended: 3 or 4



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RACHNA**
॥vidyanatariksha॥



MRIIRS, Deemed to be University



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॥vidyanatariksha॥



MRIIRS, Deemed to be University

Manav Rachna International Institute of Research and Studies
(Deemed to be University under section 3 of the UGC Act,1956)

Manav Rachna Campus Rd, Gadakhor Basti Village, Sector 43, Faridabad, Haryana 121004