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IPHA MAHARASHTRA BRANCH

NEWSLETTER

Volume 16 Issue 01: JAN – MAR 2024



The Thousand and 96 Days!

It has been a privilege and pleasure to be the Editor of IPHA Maharashtra Newsletter (April'21 - March'24). Also, as a secretary of Maharashtra Branch during this period, I will say that giving new recognition to our branch Newsletter was on our agenda from Day 1. We had aimed at involvement of Community Medicine faculties from various medical colleges of Maharashtra, from officials of Public Health of Government of Maharashtra, the members of association, making it a face of branch communicating to you about topics of public health importance and branch activities. Hope, we have succeeded in our endeavour, and you have liked our efforts. With the new Editorial team taking over from April'24, I am sure that our Newsletter will reach to new heights.

Sinhavlokan:

The Vol.13 Issue 01 (April-June'21) was circulated only as a soft copy on social media. However, all subsequent issues till now have been circulated as both softcopy and hard copy with funding support from UNICEF Maharashtra Field Office. The hard copies of each issue are being couriered to all senior Public Health Officials, District Health Officers, Civil Surgeons and Dean, Library and HOD Medicine of Community Medical Colleges in Maharashtra.

Dr. Gajanan Velhal, President IPHA Maharashtra (21-24) has played major role in obtaining funding support and in reaching out to faculties and public health officials and motivating them to write for the

newsletter. Other than editorial work, I personally have done designing and desktop publishing of all the issues, which has been my liking since the ages. The EC Member, Dr Sarika Patil (Assistant Editor) and Major (Dr) Ashlesha Tawde Kelkar (Retd) assisted me in preparation and circulation of Newsletter and their inputs have always helped in raising the bar. Dr Muralidhar Tambe from whom I took the baton had been always supportive and appreciative.

The Editorials for the last 12 issues were written by eminent personalities in field of Public Health and Preventive Medicine. viz. Dr Prakash Doke (Covid-19 in India), Dr Pradeep Awate (Lessons from Covid-19 Pandemic), Dr Harshal Pandve (HIV Response Lessons for Covid-19 Control), Dr Karbhari Kharat (Urban Childhood Malnutrition), Dr Harshal Pandve (Hupertension Gajanan Velhal Control), Dr (Enriching Public Health Teaching Expertise), Dr Shyam Ashtekar (India's Health Care System), Dr Sanjeev Kamble (TB Free India), Dr Muralidhar Tambe (AI in Public Health). Dr Mrunal Pimparkar (Empowering Public Health through Technology), Dr Nisha Relwani (Research Frontier: Public Health Always), Dr Sudesh Gandham (Emerging & Reemerging diseases)

The Newsletter published the abstracts of UG & PG students who completed their research work with funding from IPHA Maharashtra Branch

Thanks to IPHA HQ, EC, all the IPHA Members and authors who contributed to take the issues of Public Health importance to masses, through this Newsletter.

- Dr. Prasad Waingankar

Navigating the Landscape of Emerging & Re-emerging Diseases



Dr. Sudesh Gandham

Prof. & Head, Community Medicine, RCSM Government Medical College, Kolhapur

Introduction:

In 1987 Joshua Lederberg, Robert B. Shope and Mary Wilson coined the term "emerging and re-emerging diseases".

These are infections that have newly appeared in a population or have existed previously but are rapidly increasing in incidence or geographic range. incidence of emerging and re-emerging diseases has increased and has the potential to cause morbidity and mortality on a global scale and demands collective action and innovation. The World has become a smaller place because of easy means of travel and increased exposure of humans to different environments & new diseases across the globe leading to the spread of diseases to faraway regions. To develop effective strategies against the emergence and spread of these diseases we need to be on the lookout by doing effective surveillance, understanding the modes of transmission, role of environmental and host factors.

Nipah Virus in Kerala, Tomato Flu in Kerala in 2022, the pandemic of COVID-19, and the recent cases of ZIKA virus in Maharashtra, Kerala, and Karnataka are examples of some emerging diseases in India, underlining the lack of preparedness of Indian Health infrastructure to handle these epidemics. Re-emerging diseases like **Tuberculosis** Dengue, Malaria, and threaten to increase despite years of experience in treating them and national health programs to control or eliminate these diseases.

1. List of Emerging Diseases1:

a. Virus

i. SARS

ii. COVID-19

iii. Swine flu 2019

iv. Hanta virus

v. Hendra virus

vi. Nipah virus

vii. Avian influenza

viii. MERS

b. Bacteria

i. E. Coli (O157:H7)

ii. Lyme Ds

iii. Bartonellosis

c. Fungi

i. Cryptococcus gattii

d. Parasite

i. Cyclosporiasis

e. Protein

i. Creutzfeldt-Jakob disease

2. Re-emerging diseases:

a. Virus

i. West Nile fever

ii. Dengue fever

iii. Zika virus disease

iv. Yellow fever

v. Japanese encephalitis

vi. Rift Valley fever

vii. Marburg haemorrhagic fever

viii. Ebola haemorrhagic fever

ix. Lassa fever

x. Tomato Flu (Kerala May 22)

xi. HIV

b. Bacteria

i. Typhoid fever

ii. Vancomycin-resistant Staphylococcus aureus infections

iii. Diphtheria

iv. Multidrug-resistant tuberculosis infections

v. Plague

vi. Cholera

c. Parasite

i. Drug-resistant malaria

The Epidemiological triad2:

The interaction between the Agent, the Host & the Environment decides the outcome of exposure to the disease agent. *The Agent factors* are mainly the development of new strains, the jumping of species, and antimicrobial resistance.

Research in vaccines is essential as it can prevent the emergence of new strains. It is vital to conduct surveillance for atypical clinical cases and collect environmental and animal samples to identify new stains. The development of advanced diagnostic tools to detect new strains is equally important. Hospital Infection Control is especially important as Nosocomial infections can be from new strains or usually from resistant strains.

Creating awareness about zoonotic diseases, vaccination of livestock, veterinary care, vaccination and parasite control of pets, surveillance systems & notification of atypical cases in animals, etc. are some of the important activities that need to be done to limit the spread of zoonotic diseases.

Antimicrobial resistance is specifically responsible for the reemergence of diseases. The GAP-AMR (Global Action Plan on Anti-Microbial Resistance) was endorsed by the World Health Assembly in

May 2015, highlighting the need for the responsible use of antibiotics. GAP-AMR has several strategic objectives which understanding, include awareness, Surveillance, Research, reducing infections, optimizing the use antimicrobials, and ensuring sustainable investment in countering AMR. In 2017 India aligned the National Action Plan on Antimicrobial Resistance (NAP-AMR) according to this approach.

Sustained transmission of a vector-borne disease involves the "critical density of vectors," representing the minimal number of vectors needed for continuous pathogen circulation. Factors determining this threshold include vector competence, longevity, behaviour towards seeking hosts, reproductive rates, and human host densities. Maintaining vector numbers under this limit by pesticides, habitat alterations, and educational campaigns helps reduce risks associated with vector-borne diseases.

The Host factors are aspects related to individuals themselves that influence their vulnerability to infections. Genetic predisposition to diseases, age (younger children and older adults), pre-existing health conditions, mental health, limited access to healthcare, travel to new regions, overcrowding, occupational exposure to hazards, and addictions are some of the factors that increase vulnerability infections. Ensuring widespread vaccination coverage, improving nutritional status, and encouraging healthy lifestyle choices, along with treatment of chronic diseases and avoidance of exposure to risk factors is crucial for the prevention of infectious diseases.

An integrated approach towards managing environmental factors essential. Effective collaboration among various stakeholders such as public health officials, environmental agencies, local groups, and policymakers is crucial for controlling preventing and diseases influenced by these factors. Key actions include improving access to clean water, ensuring proper sanitation and hygiene, minimizing air pollution, maintaining food safety, preserving nature's equilibrium, mitigating climate change impacts, employing strategic urban design principles, safeguarding water resources, limiting chemical exposures, educating communities about environmental risks, establishing surveillance networks detecting disease carriers, understanding the consequences of deforestation, and being aware of potential transmissions via medical procedures or processed foods from industries. These efforts aim

creating healthy environments conducive to better population well-being while balancing economic growth and sustainability goals.

Communicable Emerging & Reemerging diseases: These infectious diseases can be caused by Bacteria, Virus, Fungi, etc.

The Non-communicable Emerging and Re-emerging diseases:

- 1. Obesity: 39.6% of Women and 11.9% of Men have abdominal obesity based on the NFHS-5 survey. The emerging trend in Obesity is attributed to a sedentary lifestyle, Stress, unhealthy eating habits, inadequate sleep, etc. Obesity is a risk factor for Type II Diabetes.
- 2. Diabetes: It is a significant health concern that is on the rise due to various contributing lifestyle factors.
- 3. Mental health disorders such as depression, anxiety, etc. are on the rise due to an increase in stress.
- 4. Neuro-degenerative diseases like Alzheimer's and Parkinson's are on the rise as the number of elderly population grows.
- 5. Chronic respiratory diseases like COPD and Asthma are on the rise due to environmental factors.
- 6. Addictions are on the rise and are emerging as a major health problem. The prevention of emerging noncommunicable is dependent on host factors. Lifestyle and behaviour modifications, awareness campaigns, and IEC activities need to be implemented to control these epidemics of non-communicable diseases.

Bioterrorism: Biological agents are used as a weapon because they lead to mass casualties, are difficult to detect, create widespread panic, and are easy and relatively inexpensive to produce. The readiness and effectiveness of surveillance and healthcare are put to the test in such situations.

Notifiable diseases: It is mandatory to notify the notifiable diseases as per the list issued by MOHFW. Emerging threats might not be identified just by monitoring notifiable diseases. Syndromic surveillance and notification of atypical presentation of diseases is essential. "The eye cannot see what the mind does not know" Keeping abreast with the latest diseases and propagating knowledge, involving oneself in research, and helping contain the spread of contagion... a responsible doctor is the key to identifying and containing Emerging diseases.

Prevention: Public health strategies for controlling and preventing diseases aim at disrupting any part of the infection cycle to halt its propagation. The sequence involves an Infectious Agent, a Reservoir, a Portal of Exit, a Mode of Transmission, a Portal of ultimately reaching and Susceptible Host – whereupon it can restart as another infectious agent. By targeting these interconnected elements in the public pathogenic process, health measures strive to break chain that enables illnesses to proliferate within populations.

1. Surveillance and swift recognition of new pathogens.

2. Robust diagnostic capacities and accessible testing.

3. Research investments focused on therapies and vaccines.

4. IEC surrounding self-care, symptom recognition & seeking professional advice.

5. Environmental modifications to limit vector breeding grounds.

6. Reduction of cross-species interaction (or taking appropriate protective measures), notably in agriculture and livestock farming.

7. Travel advisories and quarantine requirements aligned with real-time data sharing.

Implementing straightforward actions like handwashing, consuming thoroughly cooked hygienic foods, wearing face masks in public places, getting appropriate vaccinations, avoiding highrisk habits, and promptly accessing healthcare services whenever necessary can effectively prevent many communicable These simple yet impactful diseases. significantly practices contribute maintaining personal and collective health. Implementation of health-related Legislation, regulatory measures, and national health programs can effectively control the spread and re-emergence of diseases. In India, The Epidemic Diseases Act, of 1897, The Disaster Management Act, of 2005, National Health Policy, of 2017 help implement disease control measures, disaster prevention, and mitigation.

International Health Regulations revised in 2005 serve by preventing, against, controlling, protecting providing a public health response to the international spread of diseases. Countries are required to notify the WHO of any events that may constitute a public health emergency of international concern The Weekly Epidemiological Record (WER) is an essential tool for rapid dissemination accurate epidemiological information on diseases and outbreaks subject to international health regulations. WER is available on the WHO website every Friday.

Surveillance: Surveillance is crucial to identify new diseases, outbreaks, and atypical presentations of diseases. These activities should be carried out in Humans and animals alike. Surveillance can be active, passive, syndromic, sentinel, eventbased, environmental, serological, and laboratory surveillance. In India, the Integrated Disease Surveillance Programme (IDSP)³ is a national initiative aimed at enhancing and maintaining a decentralized, lab-based, robust. enabled disease surveillance system for infectious diseases across the country. It collects data in 3 reporting formats: "Syndromic (S form), Presumptive (P form), and Laboratory confirmed (L form)" from various government and private health institutions of rural and urban areas. This system collects health information on time and can be used to analyse disease distribution and emerging trends.

Setback: Re-emergence of diseases can threaten the success of elimination India programs. has successfully eliminated smallpox, polio, Guinea worm disease and Yaws. India is trying to replicate this success with various other diseases like measles, leprosy, tuberculosis, malaria, filaria etc. The COVID pandemic has adversely affected Measles vaccination in India. 12,773 cases of measles with at least 40 fatalities were confirmed in India in 2022. This threatens India's of achieving goal measles elimination4.

Conclusion: Combating emerging and rediseases necessitates emerging collaborations multifaceted involving healthcare professionals, public health authorities, governments, researchers, and communities worldwide. Our response to past epidemics demonstrates our capacity to overcome challenges posed by evolving microbes. However, vigilance and adaptive responses based scientific advancements must continue. Critical ongoing elements of success entail surveillance, robust reporting structures, innovative diagnostics, efficient containment protocols, and proactive engagement with diverse sectors, particularly considering the genetics. lifestyle, occupation, and environmental interactions in modulating disease outcomes. Global cooperation and preparedness cornerstones are confronting current and future health crises presented by emerging and reemerging diseases.

(Acknowledgement: Assistance by Dr. Abhijit Shinde in Document Preparation)

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Padavidhar (UG) Sanshodhan Prakalp Anudan - 2024

In order to promote interest for research among undergraduate medical students, there is a need to encourage research aptitude among undergraduate medical students to undertake small research projects. The students aspire recognition and may need some financial support to pursue these small research projects. As a response to this need, Indian Public Health Association, Maharashtra Branch is offering last few years financial support to deserving research proposals from under-graduate students from Medical Colleges located in Maharashtra State. Since last year there is funding support from UNICEF Maharashtra Office for this activity.

- Research project proposal should be submitted through IPHA Maharashtra website only, on or before 31st May 2024
- The proposals will be scrutinized by panel of experts and five best projects will be awarded funding of Rs. 10,000/- each.
- The list of accepted proposals will be communicated by end of June 2024.
- Students should prepare & complete project under guidance of IPHA Member Community Medicine faculty.
- Selected student should submit Project Report on or before 31st Dec 2024.
- Please note: Research proposal should be accompanied by
 - Institution Ethics Committee (IEC) approval letter
 - Forwarding letter from Head of Community Medicine Department

For Details Visit: www.iphamaha.org
Email: iphamaha@gmail.com for any query/ difficulty

Padvyuttar (PG) Sanshodhan Prakalp Anudan – 2024

The post graduate students of Community Medicine/ Public Health have to learn the research methodology and conduct the research activity and submit dissertation/ thesis to obtain postgraduate degree. Many students develop interest in research during the process and wish to conduct more research studies during their post graduate period. One of the obstacles in conducting good quality research, especially for a student, is lack of funding. As a response to this need, Indian Public Health Association, Maharashtra Branch had started a scheme in 2021, 'Padvyuttar Sanshodhan Prakalp Anudan', offering financial support to deserving research proposals from postgraduate students of Public Health/ Community Medicine from Medical Colleges located in Maharashtra State with funding support from UNICEF Maharashtra Office.

Eligibility

- 1. Applicant should be a post-graduate student of Community Medicine OR master's in public health OR Community Nursing OR Community Dentistry.
- 2. Either the applicant or Guide of the applicant should be member of Indian Public Health Association.
- 3. Research study proposed should be community based original research and should be distinctly different from student's dissertation topic.

Guidelines for submission of Research Proposal

- Topic of research project should contribute to Public Health knowledge base.
- The student should be the Principal Investigator and Guide should be Co-Investigator. ONE teacher can guide only ONE student and ONE student can submit only ONE research proposal. Only the students from Colleges of Maharashtra can apply.
- The project proposal should be submitted through IPHA Maharashtra website only, on or before 31st May 2024.
- The proposal will be scrutinized by panel of experts and acceptance of proposal will be communicated by end of June 2024.
- The FIVE best projects will be awarded funding of Rs. 15,000/- each.
- Selected Student should complete project & submit report before 31st December 24.

For Details Visit: www.iphamaha.org
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Report of 25th Annual Maharashtra State Joint Conference of IAPSM & IPHA: MHIAPSMIPHACON 2024 Research Frontier: Public Health Always By Organizing Chairperson: Dr. Prasad Waingankar

The 25th Joint State Conference of Indian Association of Preventive & Social Medicine (IAPSM) Maharashtra Chapter & Indian Public Health Association (IPHA) Maharashtra Branch was successfully conducted on 5th & 6th January 2024 with Pre-Conference workshops on 4th January at Mahatma Gandhi Missions Medical College, Kamothe, Navi Mumbai. The theme of the conference was "Research Frontier: Public Health Always".



The total number of 329 delegates from various cities of Maharashtra registered for the conference. Maharashtra Medical Council awarded 4 Credit Points for the delegates attending the conference.

Pre-Conference Workshops

Four full-day workshops were conducted on 4th January as follows –

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Workshop Faculty				
Sample Size Calculations in Health Research	Dr Pradeep Deshmukh Dr Sachin Mumbare Dr Madhavi Mankar			
Qualitative Methods in Health Research	Dr Amol Dongre Dr Gajanan Velhal Dr Prasad Waingankar			
Operational Research & Implementation Research	Dr Shrikala Acharya Dr Maninder Setia Dr Mrunal Pimparkar			
Economic Evaluation of Health Programs in India	Dr Dhanajay Mankar Dr Ratnaprabha Pedhambkar Dr Shraddha Kulkarni Dr Montu Bose Dr Ashlesha Tawde			

There were 63 participants registered for workshops. The participants of workshops

were postgraduate students and faculty from Community Medicine departments and MPH students from various institutes all over Maharashtra.

The sample size calculation in health research is a complex topic for health researchers for deciding a sample size for any health-related study. The workshop included sessions on the importance of sample size calculations, and sample size calculations for cross-sectional, case-control and cohort studies.



Hands-on training for calculating sample size for superiority, equivalence, and non-inferiority trials and also calculation of ANOVA, Chi-Square test, correlation, and regression test. All students and faculty equally participated in calculating the exercises & successfully found solutions.

The Qualitative Methods in Health Research workshop included introduction to the methods and theories of qualitative research. Types of qualitative research designs such as Grounded theory, phenomenal, historical, ethnographic, and narrative research were explained to the participants. Differences between qualitative and quantitative methods were explained. The sampling significance, and advantages of qualitative



research studies were taught to the participants. Methods like focus group discussions, casework and analysis of qualitative research studies were explained. Case studies of qualitative research were practiced and analysed by participants. The sessions were interactive and informative.

The Operational and Implementation research workshop included Introduction to

Implementation and Operational Research, Terminology, definitions, conceptual clarity and detailed examples. Study designs in implementation and operational research including data management and analysis.



Advantages and Disadvantages of various designs. Application of Implementation research in National programmes with examples. In one Case study, participants worked in small groups to develop research proposals for implementation/operational research. In the second Case Study, participants worked in small groups to discuss the design/ethics/implementation of research findings. The session on stakeholder Engagement & Social Marketing was an important aspect of the workshop. Practical implementation research findings of stakeholder including advocacy, engagement, and social marketing was discussed with participants.

The Economic Evaluation of Health Programs in India workshop was Introduction to National Health Programs in India and Need for Economic Evaluation, the different health programs and the planning of the programs were described. Methods of Economic Evaluation of Health Programs such as partial and full evaluation methods, cost-effective, costbenefit, and cost minimization were explained. QALYs, Cost analysis of disease treatment and comparative cost analysis calculation for different disease treatments shown. The advantages disadvantages of different methods economic evaluation were presented in detail. The role of Economic Evaluation in Public Health Interventions in India topic



included identifying relevant costs of a health program, opportunity and accounting costs, Sensitivity analysis, and decision-making in public health programs. Steps of economic evaluation. Challenges in the Economic Evaluation of Health Programs. Casework and economic analysis of the disease and survival rates were explained and discussed with the participants by the economist.

participants A11 the actively interacted with the faculty and practical applications of the research methods were discussed at length. The workshop shared presentations were with participants. The workshops concluded with feedback from the participants and participants felicitation of the certificates. Each workshop was awarded 2 Credit points by Maharashtra Medical Council.

DAY 1: MHIAPSMIPHACON2024

The first day, 5th January started with Registration of delegates for the conference and providing Delegate Kit. Scientific Paper presentations started early in the morning.

The inauguration ceremony was held from 10 am to 12 pm. The dignitaries present for the Inauguration were Dr. Shashank Dalvi (Hon'ble Vice Chancellor, MGMIHS), Dr. Sudhir Kadam (Medical Director), IAPSM & IPHA Maharashtra State office Bearers viz. Dr. Lalit Sankhe (President IAPSM MH), Dr. Purushottam Giri (Secretary IAPSM MH & Secretary General IAPSM), Dr. Gajanan Velhal (President, **IPHA** MH), Waingankar (Secretary IPHA MH & Organizing Chairperson - MHIAPSMIPHACON2024), Dr. Prakash Doke Ex-President IPHA MH), Dr. Madhavi Mankar (Organizing Secretary).

Dr Subhash Salunkhe (Ex-Director General Health Services Maharashtra State) was the Chief Guest of the ceremony. Dr. Sanghmitra Ghosh (President IPHA), Dr. Kaushik Mitra (Secretary General, IPHA), Dr. Surjit Ghosh (President IPHA, West Bengal) & Padmashree Raman Gangakhedkar (Ex-Director, ICMR) graced the occasion as Guest of Honour.

Hon'ble Chief Minister, Maharashtra State, Shri Eknathji Shinde, sent a video message conveying his best wishes for the conference highlighting the importance of role of Research in Public Health.



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After the lamp lighting and declaration of inauguration of conference by the chief guest, conference e-souvenir containing messages of dignitaries and details of scientific program was released.

After the inaugural speeches, the keynote address on the conference theme was delivered by Dr. Subhash Salunke. He highlighted the role of Public Health Experts with examples and reiterated the need of practical and need based research by Public Health Professionals. The session was chaired by Dr. Raman Gangakhedkar and Dr Prakash Doke.



Dr. Sulabha Akarte was conferred the prestigious **Padma Bhushan Dr. Banoo Coyaji Oration** by IPHA. She spoke on "Political Economy and Women's Health in India" The Oration was chaired by Dr. Sanghmitra Ghosh and Dr. Gajanan Velhal.

Following lunch break, there were various sessions by Serum Institute, Pune, highlighting the recent advances in vaccination which was moderated by Col. Dr. A. L. Sharma and Dr. Balkrishna Adsul.

Dr. Chetanraj Bhamare spoke on "Monoclonal Antibodies in Rabies PEP-Rabishield: Latest update". Dr. Vijay Kamale addressed "Changing the HPV landscape with an indigenous vaccine: CERVAVAC". Dr. Anirudha Potey spoke on "Bivalent Typhoid Paratyphoid A Conjugate vaccine- Update on clinical development".

Dr. Muralidhar Tambe spoke on "Vaccine Research for Public Health Progress".



This was followed by discussion on "Research in Public Health". The panel discussion was chaired by Dr. Shashank Dalvi, Hon'ble Vice Chancellor, MGMIHS. Navi Mumbai and Moderated by Dr. Madhavi Mankar and Dr. Nisha Relwani. The Panellists included speakers - Padmashree esteemed Raman Gangakhedkar, Dr. Prakash Doke, Dr. Surjit Ghosh, Dr. Shyam Ashtekar and Dr. Harshad Thakur. The delegates found that the interactive panel discussion was very informative.





The session by CEHAT was on "Gender in Medical Education", which was moderated by Dr. Mrunal Pimparkar. The session was taken by well-known speakers-Dr. Arjun Jakasania, Amruta Bavdekar and Dr. Priya Prabhu.



The prestigious **Padmashree Dr D N Pai Memorial Oration** was conferred to Dr
Shobha Salve by IAPSM and was chaired by
Dr. Lalitkumar Sankhe and Dr. Dinesh
Samel. She enlightened on "Family
Adoption Program (FAP) - Opportunity to
Learn, Serve and Research" which was
appreciated by the delegates.

The last session of Day 1 was by State TB Cell on "Tuberculosis Update" which was taken by WHO Co-ordinator Dr. Rajabhau Yeole and District TB Officer Dr. Sachin Jadhav and was chaired by Dr. Sanjeev Kamble and Dr. Swati Deshpande.



After the scientific sessions, General Body Meeting of both the associations was conducted which was attended by several members of IPHA and IAPSM. The day ended with Banquet at Hotel Devanshi. The delegates enjoyed the warm hospitality, dinner and musical performance of student's band of MGM Medical College.

DAY 2: MHIAPSMIPHACON2024

The second day of the conference started with session on "Public Health Research Beyond Borders" by international speaker Dr. Graciela Jaschek, Professor Epidemiology & Biostatistics, College of Public Health, Temple University, Philadelphia, USA sharing her experience. The session was chaired by Dr. Shrivalli Natrajan and Dr. Vaibhav Thakkar. It was a very interactive session.



This was followed by Panel Discussion on "Public Health approach to Occupational Health". The Panellists included renowned speakers- Dr. R Rajesh, Dr Vijay Singh and Dr. Vandana Shinde.

The Panel discussion was chaired by Dr. Ratnaprabha Pedhambkar and moderated by Dr. Ashish Mishra.



Dr. Nitin Ambadekar was conferred the prestigious IPHA **Padmashree Dr Suhaschandra V Mapuskar Oration**, and he spoke on "Navigating Public Health Realities: Insights from the Field". The Oration was chaired by Dr. Kaushik Mitra and Dr. Prasad Waingankar. The daughter of Dr. Mapuskar, Dr Shilpa Narayanan shared the memories of her father's pioneering work.





The oration was followed by session by CIPLA on "Research in Respiratory Diseases in India" by Dr Sundeep Salvi and was chaired by Dr. Sachin Jadhav and Dr. Chandramani Pathak.





Dr. Seema Bansode Gokhe was conferred the prestigious IAPSM **Dr PSN Reddy Oration**. She spoke on "Role of Department of Community Medicine in the Management & Control of COVID-19 Disease Pandemic in Mumbai City-Our Experiences". The Oration was chaired by Dr. Purushottam Giri & Dr Pradeep Sawardekar.



Dr. Subodh Gupta and Team spoke on "Learnings from Aarambh". The session was chaired by Dr Malangori Parande and Dr Harshal Pandve.



After Lunch, Dr. Abhay Gaidhane was conferred the prestigious IAPSM **Dr D K Ramadwar Memorial Oration**, and he enlightened on "Community Engagement in Public Health Research & Practice: Learnings from the Stepping Stones Program". The session was moderated by Dr Muralidhar Tambe & Dr Prakash Doke.



The oration was followed by session on "Community Benefits of Ayurvedic Research" by Dr. Gurudutt Anand Amin representing Madhavbag Centre of Dr Sane. The session was chaired by Dr Shekhar Padhyegurjar & Dr. Shyam Ashtekar.



The prestigious IAPSM **Dr Mrunalini Pathak Memorial Oration** was conferred to Dr Muralidhar Tambe and was chaired by Col Dr PS Chawla and Col Saibal Adhya. He enlightened on "Artificial Intelligence in Public Health", which was appreciated by the delegates.



This was followed by session on "Quasi Experimental Studies" taken by Dr. Pradeep Deshmukh and chaired by Dr. Dipak Patil and Dr. Varsha Vaidya.



Dr. Sharmila Patil and Dr. Gauravi Mishra conducted a session on "Cervical Cancer Screening: Evidence & Opportunities" which was moderated by Dr. Mrunal Pimparkar and Dr. Priya Kulkarni. The delegates found the session informative and interactive.



Poster & Paper Presentation:

MHIAPSMIPHACON2024 featured an array of scientific sessions, including oral paper and e-poster presentations. This featured session presentations and scholars on various researchers subtopics within the conference theme. Topics covered included maternal and childcare, occupational health, disease surveillance, health education, primary healthcare delivery, social determinants of health & community-based participatory research.

The Scientific Committee oversaw the submission and review process, receiving a total of 175 abstracts, comprising 142 for Oral Papers and 33 for e-Posters. To recognize outstanding contributions, the conference introduced a new category - the "Best Paper Award for UG Students." A total of 136 oral papers and 32 e-Posters were presented during the sessions scheduled from 9-11 am and 2-4 pm on both days.

Presenters included various researchers and academics from across the state. They shared their latest findings, methodologies, and implications, sparking stimulating discussions and intellectual exchanges among the attendees. The presentations were well-organized with clear structures as communicated to all the delegates in advance.

Each session was efficiently managed by a team consisting of a session a resident/intern, and two Manager, Volunteers. dedicated Two judges/ chairpersons per session were selected to evaluate the presentations. To express gratitude for their invaluable contribution, all of them were felicitated with a bouquet, certificate, and memento during respective sessions. Audience engagement was notable, with attendees actively participating in Q&A sessions and engaging in constructive dialogue with presenters.

The paper presentations at the state conference showcased a diverse range of research topics and fostered stimulating discussions among attendees. Presenters demonstrated a high level of expertise in their respective fields and effectively communicated their research findings to the audience.

Delegates who presented papers or posters received certificates from the judges in recognition of their participation.

The conference also acknowledged excellence through awards, including eight awards and one judge's choice award for oral papers, as well as best female and best male presenter awards for e-Poster presentations.

List of Winners for Paper Oral/ Poster Presentation: MHIAPSMIPHACON2024

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SN	Prize	Name of Delegate	Title of Paper	Institute's Name	
1	IPHA Best Paper (UG Student) Prize	DR GAIKWAD ROSHANI RAJESH	PREVALENCE OF INTERNET ADDICTION AND ITS ASSOCIATION WITH ACADEMIC PERFORMANCE AMONG THE UNDERGRADUATE MEDICAL STUDENTS OF A MEDICAL COLLEGE.	DR. SHANKARRAO CHAVAN GOVERNMENT MEDICAL COLLEGE AND HOSPITAL, NANDED	
2	Dr Khergaonkar Prize (IAPSM)	DR BASVARAJ SANGNATH LOHARE	A RETROSPECTIVE STUDY OF TRENDS OF MALARIA CASES ADMITTED IN TERTIARY CARE HOSPITAL IN A METROPOLITAN CITY	GOVERNMENT MEDICAL COLLEGE & HOSPITAL, BARAMATI	
3	Dr M V Kulkarni Prize (IAPSM)	DR ZAINAB WARISHA	TRANSPORTATION USED FOR ACCESSING CHILDBIRTH SERVICES BY PREGNANT WOMEN DELIVERING AT A TERTIARY CARE CENTER IN MUMBAI: A CROSS-SECTIONAL STUDY.	GRANT GOVERNMENT MEDICAL COLLEGE & SIR J.J. GROUP OF HOSPITAL, MUMBAI	
4	Dr Vijaya Bhalerao Prize (IAPSM)	DR ROHINI DESAI	INSIGHTS INTO MENSTRUATION: A QUALITATIVE EXPLORATION AMONG ADOLESCENT BOYS	GOVERNMENT MEDICAL COLLEGE, NAGPUR	
5	Dr Saroj Jha Prize (IAPSM)	DR PRACHI BHARAT RAUT	AWARENESS AND ATTITUDE AMONG MEDICAL STUDENTS TOWARDS PREMARITAL SCREENING AND GENETIC COUNSELLING WITH SPECIAL FOCUS ON SICKLE CELL DISEASE.	GOVERNMENT MEDICAL COLLEGE, NAGPUR	
6	Dr Sonaji Jogdand Prize (IAPSM)	DR ANJU GEORGE	A CROSS-SECTIONAL STUDY ON SOCIAL-ANXIETY DISORDER AND SELF-ESTEEM AMONG UNDERGRADUATE MEDICAL STUDENTS OF A TERTIARY HEALTH CARE INSTITUTE IN CENTRAL-INDIA	INDIRA GANDHI GOVERNMENT MEDICAL COLLEGE, NAGPUR	
7	Dr Sharangdhar Kanhere Prize (IAPSM)	DR MANDAR PADMAKAR BAVISKAR	TEACHING UTILIZATION OF SPATIAL ANALYSIS TOOLS (EPICOLLECT 5 AND GOOGLE MYMAPS) WHILE CONDUCTING FAMILY ADOPTION AND SURVEY TRAINING [TOOLS-FAST]	PRAVARA INSTITUTE OF MEDICAL SCIENCES, LONI	
8	IPHA Best Poster - Female Presenter	DR WAFA SHAMIM MOHAMMED SHAMIM KHAN	EVALUATION OF MENTAL HEALTH STATUS OF ADOLESCENTS LIVING IN ORPHAN HOMES OF LUCKNOW CITY - A CROSS-SECTIONAL STUDY.	ERA'S LUCKNOW MEDICAL COLLEGE & HOSPITAL, UP	
9	IPHA Best Poster - Male Presenter	DR ANAND BHIDE	A CONVERGENT MIXED METHOD STUDY TO ASSESS LONELINESS, COPING MECHANISMS AND GENERAL WELLBEING AND THEIR CORRELATION IN ADOLESCENT ORPHANS	DR VASANTRAO PAWAR MEDICAL COLLEGE, NASHIK	
10	Best Free Paper - Judge's Award (Organizing Committee)	DR ASHISH MATHEW JOHNSON	PERCEIVED SOCIAL SUPPORT AND BURDEN AMONG CAREGIVERS OF CANCER PATIENTS IN A TERTIARY CARE HOSPITAL AURANGABAD: A CROSS-SECTIONAL STUDY.	GOVERNMENT MEDICAL COLLEGE, CHHATRAPATI SAMBHAJI NAGAR	

PATH NATYA SPARDHA

(Street Play Competition)

As a new initiative of this year's conference MHIAPSMIPHACON 2024, a Street Play Competition (Path Natya Spardha) was held on 3rd of January 2024, prior to the commencement of the main conference as an innovative prelude to the academic feast.

The team of judges constituted famous veteran theatre and screen actors, who are popular in both Hindi and Marathi Film Industry - Mr. Pradeep Velankar and Mrs. Rajni Velankar and Professor and Head of Community Medicine Department of K J Somaiya Medical College, Dr Padmayathy Dyavarishetty.



The 'Path Natya' essentially means play performed on the street to create social awareness. It is said that street theatre started in 1940s in India and since been utilized as an effective means of generating national consciousness, health, and social awareness on variety of important topics.

The program provided a platform for talented students and faculties to showcase their creativity and academic and theatrical skills. The competition witnessed enthusiastic participation from various students and faculties of medical colleges and nursing college of Mumbai, Pune and Navi Mumbai. Total 9 teams participated in the competition. The competition began at 10 am in morning and continued till 4 pm, with each team getting not more than 20 minutes to present their skit. Each team consisted of around 15 participants.



A wide range of themes were explored during the competition, like violence against doctors, adolescent mental health, Universal Health coverage, Health Insurance schemes, De-addiction, Health awareness of non-communicable diseases, etc. The street play was judged on the criteria of-theme, content, acting,

performance, continuity, stage utilization, direction, and overall impact of the skit.



All the performances were characterized by their creativity, relevance, and impactful storytelling. Each street play captured the audience's attention through its dynamic performances, thought provoking narrative and innovative use of



The props settings. artists and demonstrated exceptional talent conveying complex messages in a concise and engaging manner, utilizing the power of theatre to evoke emotions and provoke reflection. The judges gave their expert remarks and critique on the performances, they explained nuances of acting, stage utilization skills as also on the essence and importance of Path Natya as an effective building skill activity for especially for those working in healthcare delivery sector for bringing about behaviour change in the common population.



The Path Natya competition at the State Conference was a resounding success, highlighting the power of theatre as a medium for social transformation and artistic expression. The event not only entertained but also educated and inspired audiences, reaffirming the importance of cultural initiatives in addressing contemporary challenges and promoting positive change in society.



We recommend that to build on the success of the event, we need to organize similar competitions and cultural events on a regular basis to sustain momentum and engagement. Incorporating feedback from participants and audience members to enhance future editions of the competition and ensure continued relevance & impact.



Overall, the Path Natya competition was an was a vibrant and engaging event held during the State Conference, aimed at promoting social awareness and artistic expression through the medium of street theatre. It served as an innovative start to the Conference which left a lasting impression on all those who participated and attended.



The team from Topiwala National Medical College and B Y L Nair Ch. Hospital, Mumbai won the competition for presenting skit titled 'Sanghat' on Violence against doctors. Rujuta Hadye, Dr Professor & Head Community Medicine, TNMC who had written the script won the award of Best Scriptwriter. Team from Grant Government Medical College & JJ Group of Hospitals, Mumbai was runner up who presented the topic of Universal Health Coverage. The Director of this Path Natya Dr. Swapnil Sangle won the Best Director award. The judges suggested a special award for the team from Terana Medical College who presented the topic of Skin grafting as a Best Concept Award.





Dr. Swapnil Sangle, Dr. Vishal Chaudhary, Dr. Quincely Pareira and Mrs. Ujwala Chorghe won the individual awards for Best Acting Performance.

The winning team performed again on the second day of the conference before the valedictory function, in front of conference delegates and esteemed guest Dr Harivansh Chopra, a public health expert who has an expertise in Path Natya skills and has conducted many workshops for students on Path Natya all over India.

The judges of the contest sent video message and congratulated winners and all participants.

Valedictory Function:

Valedictory function was graced by Dr. Harivansh Chopra, immediate past president of IAPSM as Che



IPHA Maharashtra Branch Padavidhar & Padvyuttar Sanshodhan Prakalp Anudan Awardees present in the audience as delegate were felicitated on this occasion.



The winners of Path Natya Spardha and winners of Oral Paper and Poster Presentation were awarded with cash prizes, medals and certificates and books of community medicine.

















Dr Madhavi Mankar, Secretary, MHIAPSMIPHACON2024 recognized efforts and role of various members of various committees in organizing the conference successfully and thanked all advertisers of e-souvenir and participants of scientific exhibition, stalls in which, were visited enthusiastically by all the delegates.

Dr Harivansh Chopra in his speech appreciated the innovative and unique approaches in conduction of the conference declaring it as a grand success. He congratulated and wished best to the state units of IAPSM and IPHA. The event ended with National Anthem.





Report prepared by:

Dr. Prasad Waingankar, Professor & Head

Dr. Mrunal Pimparkar, Professor

Dr. Nisha Relwani, Associate Professor

Dr. Ratnaprabha Pedhambkar, Assoc. Professor

Dr. Ashlesha Tawde, Associate Professor

Dr. Noopur Kulkarni, Assistant Professor

Community Medicine, MGM Medical College, Kamothe, Navi Mumbai.

Respectful Maternity Care – Field experiences in villages in Konkan area

Dr. Pranav Pol

Junior Resident, Community Medicine, BKL Walawalkar Rural Medical College, Sawarde, Tal - Chiplun, District - Ratnagiri

Respectful Maternity Care (RMC) encompasses respect for women's basic human rights that includes respect for women's autonomy, dignity, feelings, choices, and preferences, including companionship during maternity care.

Respectful Maternity Care is a crucial aspect of healthcare that focuses on ensuring the dignity, rights, and well-being of pregnant ladies during the childbirth process. This approach seeks to create a positive and empowering experience for both the birthing person and healthcare providers. Women's memories of their childbearing experiences stay with them for a lifetime and are often shared with other women, contributing to a climate of confidence or doubt around childbearing.

Here, I will be sharing some of the field experiences which came into my view in a time span of 2.5 years while I was working as a Government Medical Officer at Primary Health Centre *Chauke*, Taluka Malvan, District Sindhudurg.

Firstly, it is important to understand the various types of treatment given to a woman as a part of disrespect and abuse during childbirth. Normalized disrespect and abuse is a kind of behaviour that a woman considers to be disrespect and abuse, but the providers do not. And sometimes such a behaviour is considered to be normal or acceptable by the woman, but others consider it as a disrespect and abuse. Poor treatment or conditions caused by system deficiencies are deemed to be disrespect and abuse by women and providers. Sometimes poor treatment or conditions caused are by system deficiencies but are considered to be normal or acceptable by the society. Deviations from national standards of good quality care and deviations from human rights standards as a part of policy advocacy are also considered as a part of disrespect and abuse during childbirth.

Non-consented care, non-confidential care, non-dignified care, physical abuse, discrimination, and detention in facilities are the various categories of disrespect and abuse. RMC prioritizes treating pregnant ladies with dignity and respect. This includes recognizing and valuing their autonomy, choices & cultural preferences.

The administrative working area of my PHC included nearby rural areas as well as far away coastal areas of *Tarkarli* and *Devbag*. So, there was a vast difference in the health seeking behaviour, eating habits and lifestyle of the people, especially pregnant ladies living in coastal areas as compared to pregnant ladies living in nearby rural areas of PHC.

Effective communication healthcare providers such as ASHA, ANM and Community Health Officers should comprehensive clear and information to pregnant ladies, ensuring they understand their options and are involved in decision making. Sometimes language barrier is a major problem which restricts effective communication. Majority of registered ANCs in my PHCs belonged to labour groups involved in mining of stone quarries. ANCs from such labour groups were mainly migrated from Karnataka which only spoke and knew their local language i.e., Kannada.

RMC upholds the principle of autonomy, allowing individuals to make informed choices about their Informed consent is crucial, ensuring that pregnant ladies understand implications of medical procedures and interventions. RMC advocates for nondiscriminatory care, irrespective of a person's background, ethnicity, socioeconomic status, or other factors. Equality in healthcare is essential to promote positive outcomes.

Protecting the confidentiality of medical information is a fundamental aspect of RMC. Healthcare providers must ensure that sensitive information is kept private, fostering trust between patients and providers. RMC promotes the provision of evidence based, culturally sensitive and appropriate care throughout the maternity journey. This includes prenatal, intrapartum, and postpartum care.

RMC begins with prenatal care, focusing on building a trusting relationship between the pregnant lady and the healthcare provider. This involves discussing the birth plan, addressing concerns and ensuring informed decision making. During labor and childbirth, RMC emphasizes supportive and respectful

practices. This includes involving the pregnant lady in decision making, providing emotional support and minimizing unnecessary medical interventions. certain activities are considered disrespect such as slapping on the legs/ thighs, forcing into position, withholding information and failing to obtain consent, no privacy during exposure, verbal abusing shouting, giving unnecessary medication, multiple transfer for referral and discrimination based on clothes/ Whereas welcoming appearance. addressing individual's by name, maintaining proper records and reports, to explain procedures and what to be expected, obtaining informed consent, encouragement to ask question, to break bad news in a gentle and emphatic manner, encouraging the women to wear down at appropriate time are some of the activities which are considered as respectful.

RMC extends into the postpartum period recognizing the importance of continued support, education and monitoring for both the mother and the newborn. This includes addressing any physical or emotional challenges that may Understanding and respecting cultural differences is a crucial component of RMC. Healthcare providers should be culturally competent, acknowledging diverse beliefs and practices related to childbirth.

While implementing RMC various challenges arise such as cultural and societal norms, healthcare provider training, overburdened healthcare systems, lack of standardized policies, gender inequality, informed decision- making barriers, stigma and discrimination, resource constraints, resistance to change and lack of community engagement.

Cultural practices and societal norms can influence attitudes towards childbirth, making it challenging to shift towards more respectful and patient-centred care. Inadequate training of healthcare providers in RMC principles hinder their ability to provide respectful care, including effective communication and understanding of patient rights. In order to overcome this problem, the Public Health Department of Government of Maharashtra is taking significant steps to train the Medical Officers, Community Health Officers and ANMs to successfully conduct deliveries at their designated workplace.

I had participated and completed the 6 days 'SKILLS LAB TRAINING' in

September 2022 at District Hospital Aundh, Pune. In settings with limited sources and high patient loads, healthcare providers may face challenges in allocating sufficient time and attention to each individual, impacting the quality of care. Absence of standardized policies and guidelines for RMC at the institutional and national levels can contribute to inconsistent implementation and varying levels of respectful care.

Establishing robust systems for collecting data on maternity experiences and monitoring compliance with RMC standards is essential. Without proper monitoring, it is challenging to identify areas for improvement. Hence the ambitious program LaQshya was launched on 11th December 2017 by the Ministry of Health & Family Welfare, Government of India. The aim of LaQshya programme is to reduce the preventable maternal and mortality, morbidity stillbirths associated with the care around delivery in the Labour Room and Maternal Operation Theatre and to Respectful Maternity Care.

On 10th October 2019 during the 13th Conference of Central Council of Health and Family Welfare in New Delhi, the central government launched the Surakshit Matrutva Aashwasan (SUMAN) scheme. The aim of SUMAN is to provide dignified and quality health care at no cost and zero tolerance for denial of services to every woman and newborn visiting a public health facility in order to end preventable maternal and newborn deaths and morbidities and provide a positive, stress - free birthing experience. In addition to the routine ANC checkup at the health facility, the Government of India has launched the Pradhan Mantri Surakshit Matrutva Abhiyan (PMSMA), a fixed day ANC service given on 9th day of every month across the country. Pradhan Mantri Surakshit Matrutva Abhiyan envisages to improve the quality and coverage Antenatal Care (ANC), Diagnostics and Counselling services as part of the Reproductive Maternal Neonatal Child and Adolescent Health (RMNCH+A) Strategy. Other schemes under National Health Mission (NHM) such as JSY, JSSK, PMMVY are successfully implemented at PHC level.

Gender disparities in healthcare settings may contribute to disrespect and discrimination during maternity care, affecting the quality of care provided to pregnant individuals. Limited access to information and lack of support for informed decision making may impede

pregnant individuals' ability to actively participate in their care. Stigmatization related to certain aspects of pregnancy such as unmarried status or HIV status can lead to discrimination and disrespect, creating barriers to implementing RMC.

Insufficient resources including staffing, facilities and equipment may hinder the provision of optimal care making it challenging to uphold RMC principles. changing Resistance to traditional practices within healthcare systems or among healthcare providers can impede the adoption of RMC principles. Involving process communities in the implementing RMC is vital. Lack community awareness and engagement may hinder the acceptance and success of respectful maternity care initiatives. Addressing these challenges requires a comprehensive and collaborative approach providers, healthcare policymakers, communities & individuals to create a supportive environment for respectful maternity care.

There are various benefits Respectful Maternity Care. RMC definitely helps in achieving Sustainable Development Goals, namely good health, well-being, and reduced inequalities. RMC contributes to improved maternal satisfaction fostering a positive childbirth experience. Providing respectful maternal care is associated with better birth outcomes including reduced rates of interventions and complications. RMC strengthens the relationship between providers healthcare and patients, fostering trust and open communication.

By minimizing traumatic experiences during childbirth, RMC can contribute to lower rates of postpartum depression and psychological stress. Implementing RMC builds trust within the community, encouraging more individuals to seek and trust maternity care services. Therefore, by upholding dignity, clear communication and addressing individual preferences we can enhance the overall well-being of ANCs ensuring a more compassionate and respectful maternity care environment.

There is a scope for improvement in the quality of care provided by health care providers especially for different elements of Respectful Maternity Care. There is a need to promote RMC standards in public health care facilities. RMC practice can be promoted through systematic, context-specific planning, monitoring, and supervision mechanism as well as tools to assess disrespectful maternity care practices.

Woman-centric maternal care should be kept in mind. Designing and assessing effectiveness of a comprehensive behavioural training intervention that addresses root causes and promote RMC would be worthy. By long-term, sustained investment in infrastructure, work culture and research, Respectful Maternity Care is possible at primary, secondary and tertiary level public health care facilities.

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Research Study Abstracts of Winners of IPHA Maharashtra Branch Scheme Padavidhar (UG) Sanshodhan Prakalp Anudan for M.B., B.S. Students from Medical Colleges of Maharashtra.

2022: Kumar Sharp* – Government Medical College, Jalgaon

Development and validation of diagnostic risk score for fatty liver grading among rural population visiting tertiary care hospital.

Background: Non-alcoholic fatty liver disease (NAFLD) has a global prevalence of approximately 25%. The 20-30% of patients suffering from either fatty liver disease will develop liver cirrhosis. To curb the problem in the initial stages to provide long-term benefits to the patient and the community at large, a risk scoring system for clinical correlations is required to improve outcome prediction. Therefore, we aimed to develop a new risk-scoring system that overcomes the limitations of the currently used scoring systems and aids in a better clinical diagnosis.

Objectives:

- 1. To develop and validate a risk-scoring system for the diagnosis of fatty liver disease among high-risk individuals (diabetes mellitus and obesity) using basic clinical history, laboratory investigations, and radiological examinations.
- 2. To formulate the risk score in various forms of presentation (nomogram, table, and equation) for ease of use by medical professionals.

Materials & Methods: A Cross-sectional Study conducted in a tertiary care teaching hospital. The study was designed according to the guidelines of the Transparent Reporting of a multivariable prediction model for Individual Prognosis or Diagnosis (TRIPOD) statement. Therefore, the sample size for the developmental model was 250. The model was to be validated using temporal validation. A patient case form was designed for this study, which includes all relevant information. Patients who have a known medical history of diabetes mellitus and/or body mass index (BMI) more than or equal to 25 were included in this study. Personal history of alcohol consumption in standard units was recorded. Blood samples were collected for laboratory investigations like random blood sugar, HbA1c, LDL, HDL, triglycerides, total cholesterol, SGOT, SGPT, ALP, total bilirubin, direct bilirubin, albumin, and total protein. Ultrasonography of the liver was performed, and the grading of the fatty liver was noted.

Results: Total number of patients were 164. Loss of follow-up with radiology report on fatty liver grading was noted as the major cause. Other causes include failure to report laboratory values and loss of samples collected for testing. Mean age of participants was 52.7 ± 11.9 years. The total sample under consideration comprised of 88 males (53.7%) and 76 females (46.3%). Average BMI of study populace was 27 ± 4.46 kg/m2. Fatty score grading showed significant positive univariate correlation with weight, BMI and triglycerides levels of the patients. Patients additionally presented with fibrosis grading and LSM score which were found to be positively correlated significantly with fatty liver grading. Fibrosis score and LDL level showed a significant negative correlation with a factor of 0.23 (p<0.005). All significant univariate factors were found to produce an insignificant multivariate regression model. ROC curve and cut-off scores could not be determined. Therefore, the study was not able to develop and validate a multivariable scoring system.

Conclusion: Since the objectives of this study could not be fulfilled due to lack of sufficient correlations being found between the variables in the study, it is imperative to enlist the improvements necessary to produce successful results in subsequent studies. The problems identified and improvements suggested are categorized according to the stages of the study conducted.

Keywords: Fatty Liver Disease, Screening, Risk Assessment

* Guide: Dr. Yogita Bavaskar, Associate Professor, Government Medical College, Jalgaon

IPHA MAHARASHTRA EXECUTIVE COMMITTEE

(1st April 24 - 31st March 27)



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IMMEDIATE PAST PRESIDENT: **Dr. Gajanan Velhal** Professor & Head, Community Medicine, B. K. L. Walawalkar Rural Medical College, Sawarde, Tal – Chiplun, District – Ratnagiri. **E-mail:** vgajanan@rediffmail.com



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E-mail: drprashantsolanke@gmail.com



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JOINT SECRETATRY: **Dr. Varsha M. Vaidya** Professor, Department of Community Medicine, Bharati Vidyapeeth (DU) Medical College, Pune. **E-mail:** varshamvaidya@gmail.com



TREASURER: Dr. Nandkumar Salunke Assistant Professor, Community Medicine, B. J. Government Medical College, Pune. E-mail: dr.nandusalunke1285@gmail.com



EXECUTIVE COMMITTEE MEMBER:

Dr. Reshma Patil, Professor & Head, Community Medicine, Symbiosis Women's Medical College, Pune E-mail: hod.commed@smcw.siu.edu.in



EXECUTIVE COMMITTEE MEMBER:

Dr. Vivekanand C. Giri, Joint Director & Dy PHO. Port Health Organization, Ministry of Health & Family Welfare, Govt of India, Colaba, Mumbai **E-mail:** drvivekgiri@gmail.com



EXECUTIVE COMMITTEE MEMBER:

Major (Dr.) Ashlesha Tawde Kelkar (Retd.) Associate Professor, Community Medicine, MGM Medical College, Kamothe, Navi Mumbai E-mail: ashlesha.t@gmail.com



EXECUTIVE COMMITTEE MEMBER:

Dr. Sujata Kapil Murarkar, Associate Professor, Department of Community Medicine, Bharati Vidyapeeth (DU) Medical College, Pune. **E-mail:** sujata.murarkar@gmail.com



EXECUTIVE COMMITTEE MEMBER:
Dr. Sudhanshu Ashok Mahajan, Associate professor,
Bharati Vidyapeeth (DU) Medical College, Pune.
E-mail: sudhanshu.mahajan@bharatividyapeeth.edu



EXECUTIVE COMMITTEE MEMBER:

Dr. Vikas Kshirsagar, Assistant Professor, Department of Community Medicine CSM GMC, Satara. **E-mail:** drvikasdrvikas87@gmail.com

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Major (Dr.) Ashlesha Tawde Kelkar Assistant Professor, Dept. of Community Medicine Mahatma Gandhi Mission Medical College, Navi Mumbai

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