IPHA MAHARASHTRA BRANCH
Newsletter

IPHA MAHARASHTRA STATE BRANCH NEWSLETTER
APRIL – JUNE 2025 ISSUE

TABLE OF CONTENTS

Images of the April – June Quarter

President IPHA Maharashtra and Dr. Smita Chavan, Associate Editor presenting the IPHA Maharashtra Newsletter Archives to Shri. Prakash Abitkar, Hon. Minister, Public Health, Maharashtra. **(May 2025)**

President IPHA Maharashtra and Dr. Varsha Vaidya, Joint Secretary, IPHA MH EC, signed MoU with Spoken Tutorial, IIT Mumbai to roll out and promote 'Maternal & Child Nutrition Course' in Maharashtra. **(June 2025)**

President's Page

World Population Day

Global fertility rates are falling, prompting warnings about "population collapse." World Population Day 2025 highlights this challenge, focusing on the largest-ever generation of young people. The theme, **"Empowering young people to create the families they want in a fair and hopeful world,"** calls for ensuring youth have the rights, tools, and opportunities to shape their futures.

World Population Day, which seeks to focus attention on the urgency and importance of population issues, was established by the then Governing Council of the United Nations Development Programme in 1989, an outgrowth of the interest generated by the Day of Five Billion, which was observed on 11 July 1987. The dramatic growth of world's population has been driven largely by increasing numbers of people surviving to reproductive age, and has been accompanied by major changes in fertility rates, increasing urbanization & accelerating migration. These trends will have far-reaching implications for generations to come. It took hundreds of thousands of years for the world population to grow to 1 billion – then in just another 200 years or so, it grew sevenfold. In 2011, the global population reached the 7 billion mark, it stands at almost 7.9 billion in 2021, and it's expected to grow to around 8.5 billion in 2030, 9.7 billion in 2050, and 10.9 billion in 2100. The recent past has seen enormous changes in fertility rates and life expectancy. In the early 1970s women had on average 4.5 children each; by 2015, total fertility for the world had fallen to below 2.5 children per woman. Meanwhile, average global lifespans have risen, from 64.6 years in 1990s to 72.6 years in 2019. In addition, the world is seeing high levels of urbanization and accelerating the migration. 2007 was the first year in which more people lived in urban areas than in rural areas, and by 2050 about 66 per

INDIA

Total population in millions, 2025:	1,463.9
Population annual doubling time, years, 2025:	79
Population aged 0-14, per cent, 2025:	24
Population aged 10-19, per cent, 2025:	17
Population aged 10-24, per cent, 2025:	26
Population aged 15-64, per cent, 2025:	68
Population aged 65 and older, per cent, 2025:	7
Total fertility rate, per woman, 2025:	1.9
Life expectancy at birth, years, 2025, male:	71
Life expectancy at birth, years, 2025, female:	74

Sexual and Reproductive Health

Maternal mortality ratio (deaths per 100,000 live births)[a], 2023:	80
Births attended by skilled health personnel, per cent, 2004-2024:	89

cent of the world population will be living in cities. These megatrends have far reaching implications. They affect economic development, employment, income distribution, poverty and social protections. They also affect efforts to ensure universal access to health care, education, housing, sanitation, water, food and energy. To more sustainably address the needs of individuals, policymakers must understand how many people are living on the planet, where they are, how old they are, and how many people will come after them.

[Compiled from WHO & UN Websites]

Dr. Prasad Waingankar

> **"Let us stand with young people and build a future where every person can shape their destiny in a world that is fair, peaceful and full of hope."**
>
> **-** UN Secretary-General **António Guterres**

Maternal and Child Health – A Transformational Vision Towards a Healthier Tomorrow: India's Road to Maternal and Child Well-being by 2047

Editorial

Dr. Smita Chavhan[1], Dr. Harshal Pandve[2], Dr. Subhana Siyad[3]

[1] Professor (Addl.), [3] JR, Community Medicine, HBTMC & Dr RNCH, Mumbai
[2] Professor and Head, Community Medicine, PCMC PG Institute & YCM Hospital, Pimpri, Pune

As India completes 78 years of independence, it is crucial to look back and inspect its public health journey, which reflects a story of transformation shaped by political will, investments, social change, and medical innovation. One of the most important indicators that measures not just the efficiency of a nation's health system, but also the social, economic and gender dynamics of the country is Maternal and Child Health (MCH). Throughout the past decades, India has made considerable progress in improving maternal and child health outcomes. Transformative changes are expected in Maternal and child health (MCH), if current trends, innovations, and policy efforts continue and scale up.

Stepping out of the devastating years of colonialism, in 1947, the nation was faced with extremely poor health status, especially that of women and children. Maternal and infant deaths were rampant due to the non-existent public health infrastructure and minimal access to trained medical personnel, especially in rural areas. Maternal mortality was likely above 1,000 per 100,000 live births, infant mortality more than 150 per 1,000 live births and under-five mortality greater than 200 per 1,000 live births. As there was no organized antenatal care system, institutional deliveries were rare, and most births took place at home without skilled care. There were also no immunization programs or nutrition services targeting women and children. Infections, malnutrition, unsafe deliveries, and lack of clean water contributed significantly to these dismal outcomes.

In the years that followed, India began building a national health system from the ground up. The journey began in 1951 with the launch of the Family Planning Programme, which made India, the very first country in the world to implement a national population control strategy. This was followed by the launch of the Integrated Child Development Services (ICDS) scheme in 75, which provided health, nutrition, and education services to children under 6 years of age, pregnant and lactating women. Then came the landmark initiative in 92, the Child Survival and Safe Motherhood (CSSM) programme, which laid the groundwork for institutional deliveries and essential newborn care. This evolved into the first phase of Reproductive and Child Health (RCH) Programme. A major leap occurred in 2005 with the launch of the National Rural Health Mission (NRHM) integrating the second phase of RCH Programme, which aimed at strengthening rural healthcare infrastructure, particularly in high-focus states. Later, in 2013, the Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCH+A) strategy was adopted, emphasizing the continuum of care approach and integration across all life stages. The recent decade has seen quality-focused initiatives like LaQshya, SUMAN, and POSHAN Abhiyaan addressing systemic gaps in service delivery and malnutrition.

Today, India's strides in MCH have made remarkable progress. According to National Family Health Survey – 5 (2019 – 21), the maternal mortality ratio has dropped to 97 per 100,000 live births, the infant mortality rate is 28 per 1,000 live births and the under-five mortality rate has come down to 32 per 1,000 live births. Over 88.6% of deliveries now occur in health facilities, 58.1% of pregnant women receive at least four antenatal care visits and immunization coverage of children up to 2 years is 76.5%. However, malnutrition indicators remain concerning, with 35.5% of children under five years of age being stunted, 19.3% wasted, and more than half (52.2%) of pregnant women aged 15–49 years being anemic. This highlights the prevalence of poor dietary practices and social determinants such as poverty. Many women do not receive quality antenatal or postnatal care, especially in remote rural and tribal areas, mainly due to shortage of trained human resources, including obstetricians, pediatricians, and

nurse midwives. Inequity is also seen in urban areas where urban slums and underserved districts are hit hard. In addition, low male participation, socio-cultural barriers, and inadequate attention to maternal mental health further compound the problem.

Looking ahead to 2047, when India will celebrate 100 years of independence, there is both a need and an opportunity to redefine the national vision for maternal and child health. If India can achieve the targets of Sustainable Developmental Goals by 2030, i.e., MMR less than 70 per 1,00,000 and Under-five mortality rate less than 25 per 1,000 live births, India could aim for, a maternal mortality ratio under 20 per 100,000 live births, an under-five mortality rate of less than 10 per 1,000 live births, anemia prevalence among pregnant women below 20% and stunting among children below 10%. The crude birth rate, which was 45-47 per 1,000 in 1947 and 16.6 per 1,000 currently, could reach around 12 per 1,000 as the population stabilizes. Death rate which was 25-27 per 1000 in 1947 and 6.6 per 1,000 in the present day, would also see changes due to population ageing and may reach 8 per 1,000.

This can be reached by strengthening current infrastructure and adopting innovations to ensure universal access to quality MCH services. There is a need to build a digitally enabled healthcare ecosystem, integrating digital health records, telemedicine, and mobile health platforms for real-time tracking and follow-up of pregnant women and children. Artificial intelligence, being the future of the globe, can be leveraged for early risk prediction and targeted interventions. Gender equity must be woven into all MCH policies, and male involvement in reproductive and parenting responsibilities should be encouraged through community-based campaigns. Nutrition must be addressed holistically, moving beyond food supplements to the nutrition-sensitive interventions such as improved water and sanitation. Community participation must be strengthened by empowering women's health groups, self-help groups, and local governing bodies.

To enable this transformation, both the government and private sectors must play collaborative, complementary roles. The government must increase its public health spending to at least 2.5–3% of GDP, with greater focus on preventive and promotive health. Rural and tribal areas require special attention, including the establishment of midwifery-led birthing units and mobile health teams. Continued training and incentives for ASHAs, ANMs, and Community Health Officers are essential to maintain workforce motivation and quality. The government also has a crucial role in ensuring clean water, sanitation, universal girl education, and the food security. At the same time, the private sector can make a meaningful impact by investing in low-cost maternal hospitals and newborn care centres. Through public-private partnerships, private players can help scale telemedicine, digital apps for antenatal care tracking, and AI tools to detect high-risk pregnancies. The private sector can also play their part in training healthcare professionals through CSR-funded skilling initiatives. Start-ups and health-tech innovators can also contribute by producing cost-effective diagnostic kits, nutrition supplements, and mobile-based health education tools.

In conclusion, India's maternal and child health indicators in 1947 painted a grim picture of high mortality, poor nutrition, and systemic neglect. In the present day, while significant progress has been achieved, deep inequities and challenges remain. The next 25 years offer a unique window to consolidate past gains and embrace a holistic, equitable, and technology-enabled future for MCH. If India's policies remain focused, financing becomes more sustainable, and cross-sectoral partnerships are strengthened, then by 2047, the country can not only eliminate preventable maternal and child deaths but also become a global example of how to deliver inclusive, respectful, and high-quality care for every mother and child.

References

1. World Bank Data – Birth rate and death rate (1947–2021): https://data.worldbank.org
2. NFHS-5 (2019–21) – Key maternal and child health indicators: https://rchiips.org/nfhs/
3. Sample Registration System (SRS), Office of Registrar General of India: MMR Bulletin (2018–20), U5MR and IMR trends. https://censusindia.gov.in
4. NITI Aayog Vision 2047 (Viksit Bharat): Policy outlook and healthcare roadmap. https://niti.gov.in
5. UNICEF & WHO – MCH Goals and SDG targets. https://www.unicef.org/india

Safeguarding Healthcare: A Strategic Action Plan for Managing Disasters in Teaching Hospitals

Laqushvedhi Lekh

Dr. Sarika Patil[1] Dr. Amol Kinge[2] Dr. Sayaji Bhamare[3] Dr. Sushant Chavan[4] Dr. Vikrant Pagar[2]

[1] Professor & Head, [2] Assistant Professor, [4]Associate Professor, Department of Community Medicine,
[3] Dean, Shri Bhausaheb Hire Government Medical College, Dhule

INTRODUCTION

Hospitals function as the cornerstone of the healthcare delivery system, providing essential services to communities not only in times of normalcy but especially during emergencies. Their critical role makes them indispensable assets that must remain operational in times of crisis. Disasters—whether natural, technological, or man-made—pose unique challenges to hospital systems, often disrupting care delivery, damaging infrastructure, and overwhelming available resources.

The need for hospital-specific disaster planning has been tragically highlighted in recent times. Recent events have further underscored the vulnerability of hospital campuses to catastrophic external events. In a tragic and unprecedented incident, an Air India Dreamliner crashed shortly after takeoff from Ahmedabad in June 2025, directly hitting the residential quarters and boys' hostel of B.J. Medical College, Ahmedabad. The crash resulted in at least 265 fatalities, including several doctors and medical students, and left dozens injured and many missing. Eyewitnesses reported that students were having lunch in the hostel mess when the aircraft tore through the building [1].

This horrifying episode illustrates the unpredictable nature of disasters that can affect even the most secure institutional spaces and highlights the urgent need for robust disaster preparedness not only within hospitals but also across residential and academic zones of medical campuses. This unprecedented tragedy underscores that even medical facilities themselves can become primary victims during disasters, not just responders. Similarly, past catastrophes such as the 2001 Bhuj earthquake and the 2011 AMRI Hospital fire in Kolkata demonstrate how hospitals can transform into secondary disaster zones [2].

In the state of Maharashtra, such risks are further compounded by high population density, frequent monsoon flooding, and increasing incidents of public violence targeting healthcare institutions. Hospitals in Mumbai, Pune, and Nagpur have faced infrastructural breakdowns, power outages, and mob aggression during politically charged or emotionally volatile incidents [3]. These situations call for a multi-dimensional disaster management approach that is both hospital-specific and context-sensitive. The National Disaster Management Authority (NDMA) and the World Health Organization (WHO) have emphasized the need for health facilities to adopt all-hazard approaches that span preparedness, mitigation, response, and recovery [4][5][6]. This article proposes a comprehensive HDMAP specifically designed for medical college hospitals in Maharashtra. The plan includes actionable frameworks, administrative protocols, training strategies, security enhancements, and communication pathways to build a resilient healthcare institution.

Risk Categorization & Threat Assessment:

Hospitals can encounter a variety of disaster scenarios, and it is essential to classify these risks to design targeted interventions. The four major categories include:

1. **Natural Disasters:** Earthquakes, floods, cyclones, and landslides pose a severe risk to hospitals, especially those located in low-lying urban areas or near fault lines. Mumbai's coastal geography makes its hospitals particularly vulnerable to flooding, which can incapacitate emergency departments, ICUs, and electrical systems [7].
2. **Technological or Accidental Disasters:** These include fires due to electrical faults, gas cylinder explosions, oxygen line leaks, and malfunctioning life support equipment. Several fire incidents in Indian hospitals have been traced to poor wiring or non-functional smoke detectors [8].
3. **Mass Casualty Incidents (MCIs):** Road traffic accidents, train derailments, chemical spills, and industrial accidents are common in Maharashtra due to its industrialized and urbanized nature. Hospitals on highways often receive victims of high-speed vehicle collisions in large numbers, necessitating sudden surge capacity [9].
4. **Public Violence & Manmade Disasters:** Attacks on hospital staff, vandalism, hostage situations, and arson—often resulting from misinformation or dissatisfaction with care—are unfortunately common. Legal protection exists under Maharashtra Medicare Service Persons Act, but enforcement is variable [10].

PHASE I: PREPAREDNESS

1. **Hazard Vulnerability Assessment (HVA):** HVA is the foundation of hospital disaster preparedness. It identifies the unique risks a hospital faces and allows administrators to prioritize interventions. The assessment should consider location-specific risks, such as flooding in Mumbai or earthquake susceptibility in western Maharashtra [11]. It must also include internal vulnerabilities such as unsafe stairwells, lack of smoke detectors, poorly stored medical gas cylinders, and inadequate fire exits.

2. **Emergency Operations Plan (EOP):** The EOP must define clear organizational roles, communication channels, and operational procedures to be followed before, during, and after a disaster. Components include: Chain of command during disaster, List of emergency contact numbers, Inventory of critical supplies and their storage points, Evacuation plans with floor-wise route maps, Responsibilities for the ward in-charges, nursing officers, and security personnel [12][13]. Mock scenarios—such as a flood shutting down ground-floor wards or a fire in the ICU—must be documented with response protocols. Regular review and updating of the EOP ensure relevance in dynamic threat environments.

3. **Hospital Incident Command System (HICS):** HICS provides a structured, hierarchical framework for managing emergencies. The Incident Commander (typically the Dean or Superintendent) leads designated section chiefs—Logistics, Planning, Operations, and Finance—each managing a defined domain [14][15]. This structure ensures rapid information dissemination, resource allocation, and inter-agency coordination. To operationalize HICS effectively: Conduct periodic tabletop exercises, Designate deputies and alternates, Maintain contact logs and duty rosters, Keep pre-filled incident report forms and decision logs in necessary. [16][17][18].

4. **Training, Awareness & Mock Drills:** All the hospital personnel — from doctors to the housekeeping staff — must undergo regular training in basic disaster response, fire safety, psychological first aid, and handling violent situations. Interdisciplinary mock drills must simulate fire outbreaks, stampedes, and mob attacks to assess response capabilities [19][20]. Engagement of medical students in disaster simulations fosters a culture of preparedness from early in careers. Hospitals should maintain training videos, handbooks, & laminated SOPs across wards [21][22].

5. **Infrastructure, Supplies, and Resilience:** Hospitals must ensure that critical services (ICUs, OTs, emergency departments) have backup power systems including UPS and generators. Water storage tanks, oxygen cylinder banks, and diesel reserves must be maintained for a minimum 72-hour capacity [23][24]. Periodic structural audits and retrofitting — especially in older buildings — are crucial. Retaining walls for flood protection, reinforced window -panes, non-flammable construction material, and ventilated stairwells must be incorporated during renovations [25][26][27].

6. **Security Enhancement and Legal Readiness:** Security protocols must include: Identity-based entry control, Real-time CCTV surveillance, Presence of trained crowd control personnel, Barricading options during emergencies. The Maharashtra Medicare Act (2010) must be enforced rigorously. Legal notices should be displayed at entry gates, emergency wards, and casualty counters [28][29][30].

7. **Community Involvement & Stakeholder Mapping:** Hospitals must develop a stakeholder registry including NGOs, local politicians, media, blood banks, and emergency transport providers. This registry ensures prompt coordination during disasters [31][32]. Public awareness campaigns through radio, TV, or WhatsApp groups can reduce panic and increase community trust. Posters explaining emergency codes (Code Red for fire, Code Violet for violence) should be posted in public areas.

PHASE II: RESPONSE

1. **Emergency Code Activation:** As soon as a disaster is identified the Incident Commander activates the disaster code. This triggers: Public address announcements, Emergency call tree activation, Deployment of triage and evacuation teams, Conversion of classrooms/OPDs into surge wards. A command room must be established with communication lines to municipal corporations, fire brigades, and nearby hospitals [33][34].

2. **Triage and Patient Categorization:** Triage officers must wear visible IDs and use portable light systems for nighttime events [35][36][37]. Triage should follow the four-color system:

   - Red: Life-threatening, requires immediate surgery
   - Yellow: Serious, but can wait
   - Green: Minor injuries
   - Black: Deceased or non-salvageable

3. **Evacuation Management:** Evacuation should prioritize ICU, pediatric, and maternity wards. Lifts powered by emergency generators must be operated manually if needed. Patients should carry wristbands denoting triage status. Nursing staff should escort each patient with medical records and drug charts [38][39][40].

4. **Faculty Safety - Panic Alarm System:** In incidents of mob violence or riots:
   - Install panic buttons in all offices, consultation rooms, and critical units.
   - Each button should link wirelessly to a central dashboard in the security room and simultaneously notify local police.
   - Mobile-linked emergency apps should allow discreet alerts via vibration-only interfaces.
   - Visual dashboard monitors (color-coded alerts) assist responders in locating trapped personnel.
   - The system must support auto-recording of nearby conversations, which may assist in legal investigations [41][42][43].

5. **Internal and External Communication:** Daily press briefings by the hospital PRO must be conducted to reduce misinformation. Internal coordination should be ensured via: Intercom announcements, Mobile radios and walkie-talkies, WhatsApp groups with verified admins [44]. Social media handles should only be operated by authorized IT staff to ensure data confidentiality.

6. **Continuity of Operations & Support Services:** Non-critical procedures must be postponed, and staff reassigned to emergency duties. Emergency pharmacies, portable oxygen systems, and mobile X-ray units should be activated. Psychiatric support must be extended to all staff and admitted patients [45][46].
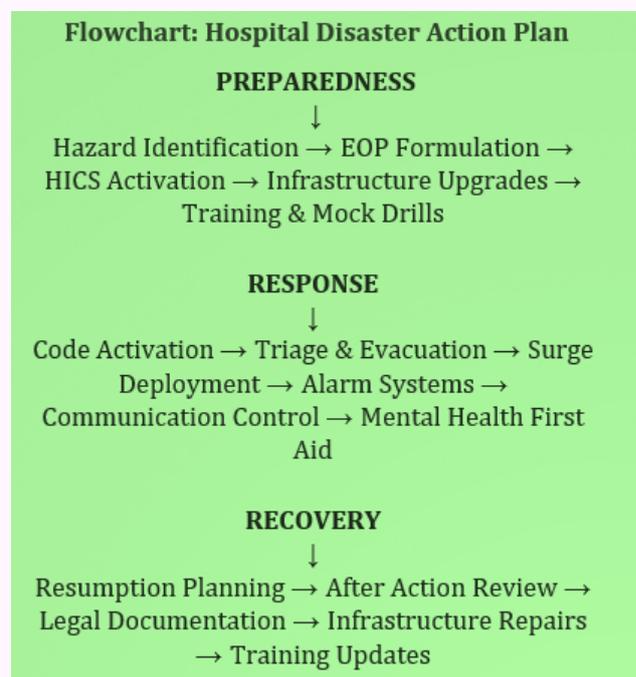
PHASE III: RECOVERY

1. **Deactivation and Service Resumption:** The all-clear signal should only be issued after a comprehensive site inspection. Partial reopening can begin with triage areas and outpatient services. Internal communication must clearly outline which services resume when, and which remain suspended [47].

2. **After Action Review (AAR):** A formal AAR meeting must: Be conducted within 7 days, includes heads of all departments, Review timeline, bottlenecks, innovations, and failures, Suggest actionable improvements. AARs must be archived and used as case studies for future training sessions [48][49].

3. **Documentation and Legal Compliance:** Hospitals must document: Injury and fatality reports, Resource depletion logs, External stakeholder involvement, financial expenditure with receipts, Legal testimonies from affected staff and patients [50][51]. Data privacy, insurance claims, and medical negligence accusations must be addressed per guidelines.

CONCLUSION

The increasing frequency and complexity of disasters necessitate a paradigm shift in how hospitals in Maharashtra approach emergency preparedness. A hospital cannot afford to be merely reactive; it must anticipate, prepare, and adapt. The proposed HDMAP emphasizes this shift by integrating risk analysis, hierarchical command systems, alarm technology, and stakeholder collaboration.

Flowchart: Hospital Disaster Action Plan

PREPAREDNESS
↓
Hazard Identification → EOP Formulation → HICS Activation → Infrastructure Upgrades → Training & Mock Drills

RESPONSE
↓
Code Activation → Triage & Evacuation → Surge Deployment → Alarm Systems → Communication Control → Mental Health First Aid

RECOVERY
↓
Resumption Planning → After Action Review → Legal Documentation → Infrastructure Repairs → Training Updates

Real resilience is demonstrated not just by surviving a disaster, but by continuing to serve amidst adversity. A well-prepared hospital protects not only its patients but also its staff, infrastructure, and reputation. Faculty safety via panic alarms, media transparency, surge management, and strong SOPs collectively ensure this resilience. Every administrator, clinician, and medical student must see disaster preparedness not as an additional responsibility, but as a core component of patient care and institutional integrity. Only then can we build hospitals that are safe, robust, and unwavering in their duty—even in the face of disaster.

REFERENCES

1. The Hindu. Ahmedabad plane crash: Giant plane tears through hostel; some students missing, 60 hurt. 2025 Jun 13 [Internet]. Available from: https://www.thehindu.com/news/national/-ahmedabad-plane-crash-hits-bjmc-hostel/article12345678. ece.
2. Fire accident at AMRI Hospital: 91 die as flames engulf Kolkata facility. The Hindu. 2011 Dec 10.

3. Singh R. Resident doctors strike over attacks by relatives: JJ Hospital, Dhule, Pune cases. Indian Express. 2017 Mar 22.

4. Biradar S, Bhandarkar P, Mishra S. Economic impact of disasters on hospitals and health systems: A review. Int J Healthc Manag. 2020;13(1):12–7.

5. Suryawanshi S, Jadhav P. Importance of hospital disaster preparedness in India: A cost-saving perspective. Indian J Public Health Res Dev. 2021;12(4):160–4.

6. National Disaster Management Authority. Guidelines: Hospital Safety. Government of India; 2016.

7. NDMA. Safe Hospitals: Framework for developing a hospital disaster management plan. 2nd ed. New Delhi: National Disaster Management Authority; 2021.

8. NDMA. Hospital Preparedness Guidelines for Emergencies. Ministry of Home Affairs, Govt. of India; 2016.

9. Sharma R, Kumar A, Gupta A, et al. Multi-hazard vulnerability assessment of hospitals: A literature-based study. Disaster Med Public Health Prep. 2018;12(5):594–602.

10. Maharashtra State Disaster Management Plan. Disaster Management Unit, Relief and Rehabilitation Department, Government of Maharashtra. 2022.

11. Bagchi S, Saha A, Datta S, et al. ICU fire safety in hospitals: Lessons from incidents in India. J Anaesthesiol Clin Pharmacol. 2019;35(2):142–6.

12. Ministry of Road Transport & Highways. Road Accidents in India 2018. Government of India. New Delhi: Transport Research Wing; 2019.

13. Times of India. Violence erupts at Pune hospital after patient death, police deployed. TOI City News. 2025 Mar 12.

14. NDMA. Hospital Safety Guidelines. New Delhi: National Disaster Management Authority; 2016. p. 42–47.

15. Acharya R, Rathi S, Banerjee R. Emergency Operations Planning in Indian hospitals: A practical framework. Indian J Public Health. 2020;64(3):210–4.

16. Rathi S, Doke P. Review of hospital disaster management plans in Maharashtra: Implementation status and gaps. J Commun Med Health Educ. 2019;9(5):678.

17. Ministry of Health and Family Welfare. Medical Preparedness for Mass Casualty Incidents. Directorate General of Health Services; 2017.

18. Khandelwal A, Gupta V, Katiyar R. Hospital Incident Command System: The cornerstone of disaster response. Natl Med J India. 2021;34(4):224–8.

19. Mohanty S, Shekhar M, Verma R. Implementation and challenges of HICS in tertiary care hospitals in India. Int J Disaster Risk Reduct. 2021;56:102093.

20. Chauhan A, Goel S. Interagency coordination and hospital preparedness for disaster response. Int J Health Syst Disaster Manag. 2020;8(3):131–6.

21. NDMA. Strengthening Medical Preparedness and Mass Casualty Management. Government of India; 2019.

22. Jain R, Sinha S, Pandey M. Area-wide network collaboration for disaster response: An Indian healthcare perspective. Asian J Public Health. 2018;7(2):60–6.

23. Sharma SK, Shukla A, Kumar S. Mock drills and staff training improve hospital preparedness for disasters: A meta-analysis. J Emerg Trauma Shock. 2023;16(1):19–25.

24. Wadhwani S, Patel N, Menon S. Capacity building of nurses and paramedics for hospital disaster management. Int J Nurs Educ. 2020;12(2):89–94.

25. Basu S, Ghosh S. Doctor-patient communication in emergency scenarios: Key to defusing violence. Indian J Med Ethics. 2021;6(3):162–5.

26. Goel A, Gupta AK, Dubey S. Alternate communication strategies in hospitals during disasters: Role of HAM radios and internal paging. J Clin Emerg Med. 2020;4(2):45–8.

27. IAPSM. Guidelines on blood bank preparedness for mass casualty events. Indian Assoc Prev Soc Med. 2019.

28. Bureau of Indian Standards. Criteria for earthquake-resistant design of structures: IS 1893. 2016.

29. Sharma B, Kapoor S. Functional testing of hospital systems for emergency readiness: A practical checklist. J Hosp Admin. 2019;8(4):67–72.

30. NDMA. Safer Hospitals Initiative. Guidelines for Safety Audits and Retrofits. Government of India; 2021.

31. Chatterjee S, Soman B. Integrating hospital security in disaster management plans. Indian J Sec Stud. 2021;9(1):55–60.

32. Munde S, Patil S, Jadhav R. Use of emergency codes in Indian hospitals: A multicenter review. J Health Manag. 2022;24(2):93–100.

33. Desai D, Bhalerao S. Crowd control strategies during hospital emergencies: Role of staff and SOPs. J Emerg Med Trauma Acute Care. 2020;10(1):11.

34. DCP South Zone. Hospital security audit protocols. Mumbai Police Department. 2023.

35. Maharashtra Government. The Maharashtra Medicare Service Persons and Medicare Service Institutions (Prevention of Violence and Damage or Loss to Property) Act, 2010.

36. IMA Blood Bank Guidelines. Indian Medical Association; 2020.

37. World Health Organization. Communicating risk in public health emergencies: A WHO guideline for emergency risk communication (ERC) policy and practice. WHO; 2018.

38. Government of Maharashtra. District Disaster Management Plan Template. State Disaster Management Authority; 2021.

39. Chopra A, Sen N. Hospital codes and escalation processes during mass casualty events. Indian J Crit Care Med. 2021;25(5):543–6.

40. Singhal A, Ray A. Triage systems in Indian hospitals: Development and validation. J Clin Diagn Res. 2017;11(3):OC01–5.

41. NDRF. Principles of Triage in Mass Casualty Incidents. Training Manual. National Disaster Response Force, India. 2020.

42. Jha S, Shah K. Resource mobilization in public hospitals during road traffic MCIs: Case series and solutions. Indian J Trauma Emerg Med. 2020;5(2):77–82.

43. Mehta H, Dhruv S. Inventory control and stockpile management in disaster scenarios. Indian J Hosp Pharm. 2021;10(2):89–93.

44. National Building Code of India. Fire and Life Safety Guidelines. Bureau of Indian Standards. 2016.

45. Patel R, Joshi A. Hospital evacuation protocols during structural damage: Best practices and case reviews. J Disaster Res. 2021;16(3):456–60.

46. WHO. Psychological First Aid: Guide for field workers. Geneva: World Health Organization; 2011.

47. Nath A, Sinha A. De-escalation techniques during hospital aggression: A practical guide. Indian J Psychiatry. 2020;62(Suppl 3):S418–22.

48. Gupta N, Kumar D. Communication gaps and triggers of violence in hospitals: Insights from qualitative studies. J Family Med Prim Care. 2021;10(6):2265–9.

49. Deshpande V. Hospital-police collaboration to reduce violence against healthcare workers. Indian Police J. 2022;69(3):55–61.

50. ICMR Media Cell. Guidelines on media communication during hospital crises. Indian Council of Medical Research. 2019.

51. WHO. Hospital Emergency Response Checklist: An All-Hazards Tool for Hospital Administrators and Emergency Managers. Geneva: WHO; 2011.

Ethical Complexities in Medical Research: The Indian Context

Dr. Nupur Goswami[1], Dr. Vasundhara Ghorpade[2]

**[1] JR3, [2] Professor & Head, Community Medicine,
Krishna Institute of Medical Sciences, Karad**

PG Corner

Introduction

Medical research has been a cornerstone of human advancement, unveiling cures, improving health systems and extending life expectancy. However, alongside this progress lies a history of ethical violations that have harmed individuals and communities in the name of science. These violations have underscored the critical need for bioethics: a field that safeguards the dignity, rights and welfare of research participants. According to WHO, research ethics ensure that scientists follow rules that protect the dignity, rights and well-being of research participants. In India, ethical practices stem from ancient systems like Ayurveda, which emphasized non-harm and the healer's moral duty. Values such as Dharma (duty), Karuna (compassion) and Satya (truth) resonate with modern research ethics. However, in the modern era, as research grows increasingly complex and global, the role of bioethics in medical research has never been more vital.

The evolution of bioethics in medicine

From time immemorial, all activity within healthcare was associated with certain moral behaviour and qualities. For many centuries, before the emergence of bioethics as a separate field, the physician's behaviour was guided by principles given to them from the religion that they practiced. In the 5th century BC, great Greek physician Hippocrates tried separating the science of medicine from religion and God. He also emphasized that patients should be treated with the utmost dignity and respect and introduced physicians to the medical oath, now famously known as the Hippocratic Oath.

The ethical foundations of medical research were laid in response to historical atrocities. The Nuremberg Code (1947) emerged after the Nazi trials, mandating voluntary informed consent and protection against unnecessary suffering. The Declaration of Helsinki (1964), issued by the World Medical Association, emphasized oversight by the independent/ institutional ethical committees and prioritization of patient welfare. The Belmont Report (1979), developed in the United States, further articulated three core principles: respect for persons, beneficence and justice. Following the Belmont Report, the Indian Council of Medical Research (ICMR) issued its first ethical guidelines in 1980, later updating them in 2000 and 2006. The most comprehensive revision came with the National Ethical Guidelines for Biomedical and Health Research Involving Human Participants released in 2017, marking a significant step toward safeguarding research ethics in the country.

Principles guiding ethical medical research

Ethics is based on core principles like autonomy, beneficence, non-maleficence and justice. Apart from these core principles; Informed consent, confidentiality, transparency and constant ethical monitoring also uphold research integrity. These elements often overlap with the principles, reinforcing each other throughout the research process.

Role of core principles of ethics:

The core principles of medical research ethics (autonomy, beneficence, non-maleficence and justice) serve as the foundation for protecting participants. Autonomy ensures that individuals freely decide to participate, based on complete and comprehensible information. Beneficence requires researchers to act in the best interest of participants by maximizing potential benefits. Non-maleficence emphasizes avoiding harm, ensuring that risks are minimized throughout the research process. Justice promotes fairness in the selection of participants and in the distribution of both risks and benefits.
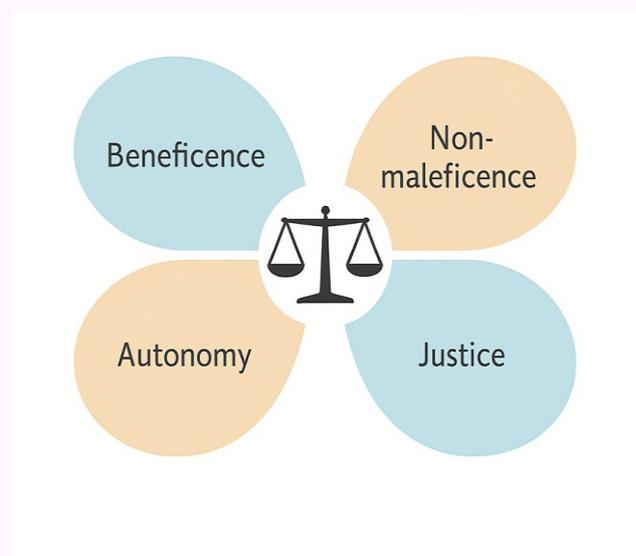
Core ethical principles:

1. **Role of Institutional Ethical Committees (IECs):** Institutional Ethical Committees or Institutional Review Boards (IRBs), are independent bodies responsible for

safeguarding participants in research. Their responsibilities include reviewing research proposals, evaluating risk-benefit ratios, ensuring guideline compliance and monitoring ongoing studies. As per WHO, all research involving human participants must be reviewed by an ethics committee to ensure proper ethical standards are maintained.

2. **Role of informed consent in research:** Informed consent is the practical expression of autonomy in research. It comprises two essential documents: the Patient Information Sheet and the Informed Consent Form (ICF). It ensures that participants understand the purpose, procedures, risks and benefits of the study before agreeing to take part voluntarily.

3. **Privacy, confidentiality and data protection:** Confidentiality is a vital component of ethical research. Researchers are obligated to protect identifiable information collected during the study. Breach of confidentiality is permissible only under exceptional circumstances, such as legal obligation, public health threats or severe risk to others.

Ethical challenges in medical research

1. **Challenge with informed consent:** A key issue with informed consent in medical research is determining what constitutes "adequate" information, as the level of detail necessary for true understanding can vary. Additionally, challenges arise in ensuring voluntariness, participant competency and prioritizing participant welfare over mere procedural compliance.

2. **Challenge with placebo:** The key ethical issue with placebo-controlled studies is the element of deception, as participants are not informed whether they are receiving the active treatment or a placebo. This can potentially violate the principles of non-maleficence and beneficence, especially if placebo use leads to unintended harm.

3. **Challenge with publication:** Research publications play a vital role in advancing evidence-based medicine and must therefore uphold credibility through robust research design. However, Medical research publications face several ethical concerns, including the falsification or fabrication of data driven by the pressure to publish at any cost. The rise of guest authorship, where individuals are credited without contribution and ghost authorship, where actual contributors are not acknowledged, undermines authorship integrity. Similarly, simultaneous submissions and duplicate publications violate journal policies and dilute research credibility. Plagiarism—whether intentional or unintentional—remains a serious issue, leading to copyright infringement and potential disciplinary actions. These practices collectively compromise the ethical standards and trustworthiness of scientific research.

4. **Challenge in psychiatric research:** In psychiatric patients, diminished decision-making capacity can compromise informed consent and create ethical tension between respecting autonomy and ensuring beneficence. In India and similar cultural settings, physicians are often expected to make decisions on behalf of patients, which can lead to a conflict of interest when the treating psychiatrist also acts as the research investigator—a concern that must be carefully recognized and managed.

5. **Challenge in public health research:** Public health research often involves communities rather than individuals, raising ethical concerns about community consent, privacy, justice and the need for culturally sensitive engagement.

6. **Other emerging challenges:** Additionally, Modern medical research faces a range of other emerging ethical challenges globally driven by rapid technological developments. Genetic research and gene editing raise concerns about consent, privacy and potential misuse of genetic information. The use of artificial intelligence and big data introduces issues related to data security, bias and transparency. International and cross-cultural trials bring complexities related to differing ethical standards, cultural norms and regulatory frameworks. Addressing these challenges requires evolving ethical frameworks that balance innovation with the protection of individual rights.

Cultural & social influences on bioethics in India

In India, bioethical decisions are shaped by cultural, religious and social traditions. Family members or community leaders often influence health choices, sometimes limiting an individual's say. In rural areas, gender roles may prevent women from giving consent on their own. Social status, varying education level and caste can also affect how people understand or respond to research risks. Since Indian society values group decisions over individual ones, ethical research must balance local customs with the need to protect each participant's rights and dignity.

Recent ethical reforms in India

India has progressively strengthened its ethical framework for biomedical research. The National Ethical Guidelines for Biomedical and

Health Research Involving Human Participants, 2017 by ICMR, marked a significant step toward safeguarding research ethics in the country. The ICMR Bioethics Unit, located in Bengaluru, plays a key role in supporting and fostering initiatives to promote the ethical conduct of biomedical and health research across India. The inclusion of AETCOM modules by the NMC in the undergraduate medical curriculum is a commendable step towards promoting ethics in the medical science and research in India.

Conclusion and recommendation

Medical research drives innovation and saves lives, but only when it is conducted ethically. The implementation of medical research ethics in India encounters several challenges, such as concerns over cultural complexities, resource constraints and varying educational levels among the population, all of which can hinder ethical compliance and the safeguarding of participant rights. Recognizing the need for a distinct set of ethical guidelines focused on health systems research is essential and should be tailored to the Indian context. These guidelines can support researchers in addressing practical concerns such as ensuring privacy, involving appropriate stakeholders and managing ethical issues in community-based studies.

References

1. World Health Organisation: Ethical standards and procedures for research with human beings. Available at: https://www.who.int/teams/health-ethics-governance/ governance/research. Accessed on 27/06/25.
2. Mathur R, Swaminathan S. National ethical guidelines for biomedical & health research involving human participants, 2017: A commentary. Indian J Med Res. 2018 Sep;148(3): 279-283. doi: 10.4103/0971-5916.245303.
3. World Medical Association. Declaration of Helsinki. Available at: https://www.wma.net/what-we-do/medical ethics/declaration of helsinki/. Accessed on 27/06/25.
4. The Belmont Report (1979), Available at: https:// www.hhs.gov/ohrp/regulations-and-policy/belmont-report/read the belmont- report/index.html. Accessed on 29/06/25.
5. Fifty Years Later: The Significance of the Nuremberg Code. Available at: https://www.nejm.org/doi/full/10.1056/NEJM199711133372006. Accessed on 29/06/25
6. Thakur S, Lahiry S. Research ethics in the modern era. Indian journal of dermatology, venereology and leprology. 2019 Jul1;85:35

Days of Public Health Importance: April - June

Month	Date	Day	Theme 2025
April	2nd April	WORLD AUTISM AWARNESS DAY	Advancing neurodiversity & the UN Sustainable Development Goals
	7th April	WORLD HEALTH DAY	Healthy Beginnings, Hopeful Futures
	22nd April	EARTH DAY	Our Power, Our Planet
	25th April	WORLD MALARIA DAY	Malaria Ends with Us: Reinvest, Reimagine, Reignite
May	1st May	WORKERS DAY	Safety and Health of Workers
	8th May	WORLD RED CROSS DAY	Keeping Humanity Alive
	12th May	INTERNATIONAL NURSES DAY	Our Nurses. Our Future. Caring for Nurses Strengthens Economies
	15th May	INTERNATIONAL DAY OF FAMILIES	Family-Oriented Policies for Sustainable Development
	24th May	WORLD SCHIZOPRENIA DAY	Rethink the Label: Reclaim the Story
	31st May	WORLD NO TOBACCO DAY	Bright Products. Dark Intentions. Unmasking the Appeal
June	5th June	WORLD ENVIRONMENT DAY	Beat Plastic Pollution
	14th June	WORLD BLOOD DONOR DAY	Give Blood, Give Hope: Together We Save Lives
	15th June	WORLD ELDER ABUSE AWARNESS DAY	Addressing Abuse of Older Adults in Long Term Care Facilities
	21st June	INTERNATIONAL DAY OF YOGA	Yoga for One Earth, One Health

Fighting Japanese Encephalitis in Raigad: Community's Promise to Protect Children

PG Corner

Dr. Dushyant Prakash[1], Dr. Nisha Relwani[2]

[1] JR1, [2] Professor, Community Medicine,
Mahatma Gandhi Mission's Medical College, Kamothe, Navi Mumbai

Introduction:

Nestled between the green rice fields and the gentle coastal breeze, Raigad is a beautiful district — but its natural charm came with a hidden danger. Every year, children here faced a threat that was invisible but very real: Japanese Encephalitis (JE). Japanese Encephalitis (JE) is the leading viral cause of Acute Encephalitis Syndrome (AES) in Asia, with the disease primarily affecting children under 15 years. It is a member of the Flavivirus genus, part of the Flaviviridae family—a group of viruses that also includes Dengue, Yellow Fever, West Nile, and Zika viruses.

The virus is a positive-sense, single-stranded, enveloped RNA virus. It is primarily spread by mosquitoes, particularly those of the Culex species, which breed in rice fields and stagnant water. Pigs and water birds serve as natural reservoirs for the virus.

Humans are considered "dead-end hosts," meaning they do not develop high enough levels of the virus to pass it on to other mosquitoes or people. In India, about 70% of those who develop clinical JE either die or are left with long-term neurological disabilities, making JE a significant public health concern. With a high case fatality rate (CFR) of around 30% and residual neurological sequelae in 30-40% of survivors [1], mass immunization has proven to be the most effective preventive measure.

Vaccines against JE are generally very effective and are an essential public health tool in endemic areas.

Why Was Raigad Especially at Risk?

Raigad's picture-perfect countryside — with its swaying rice fields and calm wetlands — unfortunately created a perfect home for the mosquitoes spreading JE. Added to that were nearby animals like pigs and water birds, which played a role in passing around the virus, leading to a serious health risk in the area.

In 2025, following guidance from the Government of India (GoI) and in alignment with statewide strategy, Raigad district conducted a one-time JE vaccination campaign targeting all children aged 1-15 years in both urban and rural areas. The campaign was scheduled for March 2025 and was followed by integration of JE vaccine into the Routine Immunization (RI) program, with doses at 9-12 months and 16-24 months [2].

How Did we take the Action?

It was a community mission, powered by three key steps we all supported:

1. **Mosquito Control:** We cleaned up stagnant water and managed mosquito populations around our homes and farms.
2. **Pig Management:** In some areas, reducing the number of pigs helped slow the virus's spread.
3. **Vaccination:** The most powerful protection we had - vaccines, that built immunity & save lives.

Vaccine Type	Description & Examples	Notes
Inactivated Mouse Brain–Derived Vaccine	Developed with virus grown in mouse brains.	Formerly widely used but now largely phased out due to higher side-effect rates and improved alternatives.
Inactivated Vero Cell Derived Vaccine	Uses virus grown in Vero (monkey kidney) cells	Examples: IXIARO, JENVAC. Generally safe and well-tolerated—currently the main choice in many countries. Typically given as two doses.
Live Attenuated Vaccine	Contains a weakened form of JEV; gives strong immunity after one dose.	Examples: SA14-14-2 (used in China and some Asian countries). Suitable for large-scale campaigns, single-dose schedule in many programs
Live Recombinant (Chimeric) Vaccine	Sophisticated genetic engineering combines JE virus with yellow fever virus backbone for safety and efficacy.	Example: Imojev (used in Australia and several Asian countries), given as a single shot.

The Roadmap for Vaccination

Started in March 2025, Raigad launched a large-scale vaccination drive, targeting all children aged 1 to 15 [3]. This wasn't a one-off event — it was the start of integrating JE vaccines into regular immunizations for young children. After March, every child received doses at key stages of their early years to stay safe. The Nere, PHC area is the catchment area of the RHTC of Department of Community Medicine MGM Medical College, Kamothe. In conjunction both sides work closely and were involved in the

vaccination against JE. The total number of sessions for Raigad district Vaccination were 248, and the total number of beneficiaries for the vaccination were 18847.

Behind the Scenes: How We Get Ready?

Our local health officers worked tirelessly. Meetings were held regularly to bring everyone on board — from teachers and Anganwadi workers to community leaders and NGOs. They trained vaccinators to ensure every shot was given safely and kindly. Special care was taken to find every child — whether they were in school, working with families, or part of tribal groups.

The logistics team focused on one critical challenge: keeping the vaccines cold and effective all the way from the warehouse to our doorstep.

When and Where Did Vaccination Take Place?

To make sure no child was left behind, the campaign happened in phases: Week 1: School children aged 5–15 were vaccinated right at school, whether government or private. - Weeks 2 & 3: Smaller children (1–5 years) received their jabs at Anganwadi centres, local health spots, and specially set-up booths. Mobile teams also reached out to far-off villages and crowded urban slums, making sure vaccines reached every corner.

Everyone's Role: A Community Effort

This campaign was not only about healthcare workers — it was a promise from all of us; parents, teachers, village leaders, and volunteers rose to spread the word, answered questions, and helped families feel confident about the vaccine. From parent-teacher meetings, we made sure everyone knew why this mattered.

Safety Came First

We understood how important it was that vaccinations were safe. Every vaccinator was carefully trained and equipped with emergency kits. After every vaccination, children were watched closely for 30 minutes to catch any rare side effects early. If any problems arose, a quick-response system was ready to act.

Looking Forward: A Healthier, Stronger Raigad

This was not just another government program — it was our community standing up for its children's health. With all of us working together, Raigad set an example in defending against diseases carried by mosquitoes and protecting future generations. We joined hands to make Japanese Encephalitis history here, one child and one vaccine at a time.

References:

1. JE Vaccination Campaign - 2025 Panvel Municipal Corporation. JE Vaccination Campaign - 2025 [Internet]. 2025 [cited 2025 Jul 28]. Available from: JE-Campaign-PMC.pdf

2. Government of Maharashtra, State Family Welfare Bureau. JE Vaccination Campaign 2025 Operational Guidelines [Internet]. Pune; 2025 Feb 14 [cited 2025 Jul 28]. Available from: JE-op-GUIDELINES-LETTER.pdf

3. Zilla Parishad Raigad. JE Vaccination Campaign 2025 Circular [Internet]. Alibag: Department of Health, Zilla Parishad Raigad; 2025 Feb 12. Report No.: राजिप/आरोग्य/मा.बा.सं.का / ८५०/२०२५.

APPEAL

The Indian Public Health Association (IPHA) existing since 1956 is a professional registered body (Society Act No. S/2809 of 1957 – 58) committed to promotion and advancement of public health and allied sciences in India, protection and promotion of health of the people of the country, and promotion of co-operation and fellowship among the members of the association. IPHA has local branches in almost all states of the country. Any professional graduate, MBBS or any equivalent degree recognized by any Indian university in Indian System of Medicine / Dentistry (BDS) / Engineering (BE) / Nursing (B Sc Nursing) / Veterinary (BV Sc & AH) are eligible to be ordinary & life member of the association after paying the necessary subscription.

We, the executive committee members of IPHA – Maharashtra Branch sincerely appeal the eligible qualified individuals to become the life members of the organization and enhance our strength and visibility. Kindly visit National IPHA website, **www.iphaonline.org** to fill up the online application form and for further official procedures of payment of membership fee. If you need any help in this regard, please feel free to contact.

Secretary, IPHA – Maharashtra Branch
Phone: 022 - 2743 79 96 / 97
Mobile: 9011062306 / 9324714313
E-mail: **iphamaha@ gmail.com**

Research Study Abstracts of Winners of IPHA Maharashtra State Branch Scheme: Padvyuttar (PG) Sanshodhan Prakalp Anudan
for MPH / MD Community Medicine Post Graduate Students in Maharashtra

2023: Dr. Suparna Goswami*

B. J. Government Medical College, Pune

Women empowerment using a survey-based women empowerment index (SWPER) among women and its association with child health and nutrition in slums attached to field practice area of a medical college in Pune city: A cross-sectional study.

Background: Women's empowerment plays a crucial role in improving maternal and child health outcomes. This study examines the association between women's empowerment, measured using the Survey-Based Women's Empowerment (SWPER) Index, and key child health and nutrition indicators in urban slums of Pune, India. While several government initiatives aim to improve maternal and child health, gender disparities and socioeconomic constraints continue to affect healthcare utilization and nutritional outcomes. **Methods:** A cross-sectional, community-based study was conducted among 250 mother-child pairs in urban slums attached to the field practice area of a medical college in Pune. Data on women's empowerment were collected using the SWPER Index, assessing attitude toward domestic violence, social independence, and decision-making autonomy. Child health indicators included malnutrition (stunting, wasting, underweight), morbidity, healthcare-seeking behaviour, food security, and immunization status. Statistical analysis was performed using chi-square tests to determine associations between empowerment levels and child health indicators. **Results:** Empowerment Levels: High empowerment in attitudes toward domestic violence (90.4%), social independence (70.8%), and decision-making (75.6%) was observed. Child Nutrition: Malnutrition prevalence was significant, with 35.7% stunting, 25% wasting, and 28.86% underweight. The Composite Index of Anthropometric Failure (CIAF) was 56.91%. Morbidity Patterns: 17.6% of children had acute illness in the last 14 days, and 36.4% had recurrent illnesses (> 3 times/year). Hospitalization rates were significantly lower among children of highly empowered mothers (p < 0.001). Minimum Dietary Diversity (MDD): Empowered mothers were significantly more likely to provide diverse diets (p < 0.001). Healthcare-Seeking Behaviour: Private healthcare utilization was higher among empowered mothers (65.6%) than those with lower empowerment (p < 0.001). Immunization & Food Security: Children of empowered mothers had higher immunization rates (96.5%) and greater food security (96.5%) compared to those with lower empowerment (p < 0.001). Exclusive Breastfeeding: 57.2% of mothers exclusively breastfed for six months, indicating the need for additional interventions. No Significant Associations: Exclusive breastfeeding, ICDS food supplementation, and low birth weight were not significantly associated with empowerment levels. **Conclusion:** Greater maternal empowerment is significantly linked with improved child nutrition, reduced morbidity, and better healthcare-seeking behaviour in urban slum settings. Empowered women are more likely to ensure immunization, food security, private healthcare access, and diverse diets for their children. These findings underscore the need for targeted policies that enhance women's autonomy in decision-making, social independence, and improved attitude to violence. Interventions aimed at increasing women's empowerment can serve as transformative tools to address intergenerational cycles of poor health and nutrition in marginalized communities.

* Guide: Dr. Malangori A. Parande, Associate Professor, Community Medicine, B. J. Government Medical College, Pune.

2024: Dr. Rajendra Sangle *
Government Medical College, Akola

Estimate the Prevalence of the toxicity of Semecarpus Anacardum in the domestic occupational workers of unorganized sector in Western Vidarbha Region. A Community Based Cross Sectional Study

Introduction: Semecarpus anacardium (marking nut) is widely used in traditional medicine but is also a potent skin irritant. Despite its routine handling by rural workers, especially women, the occupational dermatoses associated with this plant remain under-investigated. This study aimed to evaluate the prevalence, patterns, and severity of contact dermatitis among women exposed to the nut in rural Maharashtra. **Methods:** A cross-sectional community-based study was conducted among 125 female workers involved in nut collection, processing, and oil extraction. Participants were assessed through interviews, dermatological examination, and photographic documentation. Sociodemographic data, exposure practices, lesion characteristics, and treatment-seeking behaviour were recorded. **Results:** All participants exhibited signs of contact dermatitis, with lesions ranging from hyperpigmented macules, vesicles, and erosions to nodular swellings and necrotic ulcers. Severity correlated significantly with exposure duration and task type (e.g., oil extraction). No protective equipment was used, and self-treatment with traditional remedies was common. Photographs confirmed anatomical spread on hands, face, neck, and lower limbs. The study reveals a critical occupational health issue. Dermatitis due to S. anacardium is severe, widespread, and preventable. The findings echo previous reports exposures. Cultural beliefs, gendered labour roles, and poor healthcare access contribute to chronic morbidity. Integration of dermatological screening, education, and safety gear is essential. **Conclusion:** This study comprehensively highlights the significant burden of occupational and ritual-induced dermatoses caused by Semecarpus anacardium among female workers in rural Maharashtra. The dermatological manifestations ranged from acute erythematous eruptions and vesicles to chronic pigmentation, ulceration, and nodular lesions, documented clinically and photographically. Further longitudinal and mechanistic studies are recommended to investigate chronic systemic effects and refine prevention strategies.

* Guide: Dr. Umesh Kawalkar, Assistant Professor, Community Medicine, Government Medical College, Akola

---

2024: Dr. Nidhi Sastry *
Indira Gandhi Government Medical College, Nagpur

Health profile, quality of life and concerns of people from LGBTQIA+ community: A mixed methods study in Central India

Introduction: LGBTQIA+ is an acronym that brings together many different gender and sexual identities that often face marginalization across society. They have limited access to public health facilities in comparison to peers and colleagues from heterosexual groups leading to physical, mental, social and economic problems. Hence, the objectives of the study are to study health profile, quality of life and concerns of people from LGBTQIA+ community. **Methods:** Our study employed an exploratory mixed-methods approach. The study was conducted among 200 participants in a non-governmental organization (NGO) in Nagpur, Maharashtra. For the qualitative part, focus group discussions (FDGs) were conducted while quantitative part studied sociodemographic details, health profile, concerns faced and quality of life which was assessed using WHOQOL BREF scale. **Results:** Most participants in the study were males 142 (71%), and bisexual were 97 (48.50%). HIV/AIDS infection was the most common morbidity present in 73 (36.5%) participants. The 119 (59.5%) participants faced problems at school or workplace which included bullying, violence, harassment, sexual abuse or lowered self-esteem. Transgenders had lower quality of life score compared to the others. **Conclusion:** Most participants in the study were males and bisexuals. Psychological health

was the most affected among the participants with lowest scores while transgenders were seen to have poorer quality of life compared to others. The recurring concerns that emerged during the qualitative study were discrimination in school and workplace, lack of family support, discrimination faced in hospitals and harassment faced by police officials. Healthcare professionals, HR, policemen should be more sensitive and understanding towards them and their needs instead of criminalizing or discriminating them.

Key words: LGBTQIA+, sexual orientation, mixed-methods, quality of life, FGD

* Guide: Dr Jyotsna Deshmukh, Associate Professor, Department of Community Medicine, Indira Gandhi Government Medical College, Nagpur

2024: Dr. Laxmi Naorem *

Government Medical College, Akola

Caregiver burden and its associated factors among primary caregivers of adult cancer patients in tertiary care centre.

Background: Cancer significantly impacts both patients and their caregivers, who often experience substantial emotional, physical, and financial burdens. Understanding the prevalence and determinants of caregiver burden is essential for developing targeted support interventions. Aim is to determine sociodemographic and psychosocial factors associated with primary caregivers of adult cancer patients in tertiary care centre. **Objectives:** (1) To estimate the prevalence of caregiver burden of primary caregivers of patients with cancer. (2) To determine the association between caregiver burden and its contributing factors among primary caregivers of cancer patients. **Methods:** A cross-sectional analytical study conducted in tertiary care centres giving treatment and care to cancer patients in Akola district, Maharashtra. Total 150 primary caregivers of the cancer patients were selected by systematic random sampling. Pretested structured questionnaires were administered for the sociodemographic characteristics and validated 22 items. Zarit Burden Interview (ZBI) scale was used to assess caregiver burden. Statistical analysis included descriptive statistics, Chi-square tests for associations between categorical variables, independent t-tests and Pearson's correlation for continuous variables. A p-value of <0.05 was considered statistically significant. **Results:** A total of 94.7% of caregivers experienced some level of burden; 48.0% reported mild to moderate burden, while 46.7% experienced moderate to severe burden. Significant associations were observed between caregiver burden and area of residence ($p = 0.006$), education level ($p < 0.001$), occupation ($p < 0.001$), relationship to patient ($p < 0.001$), presence of caregiver comorbidities ($p = 0.001$), alcohol use ($p = 0.002$), absence of additional caregivers ($p = 0.001$), lack of family support ($p = 0.004$), and total patient dependency ($p = 0.001$). A positive correlation was found between burden and distance from healthcare facility ($r = 0.177$, $p = 0.031$) and patient's age ($r = 0.204$, $p = 0.012$). Caregiver age and financial liabilities were not significantly correlated with caregiver burden. **Conclusion:** The study revealed a high prevalence of caregiver burden among primary caregivers of cancer patients, with multiple factors significantly influencing the perceived burden. These findings highlight the importance of routine screening and targeted interventions for caregivers within cancer care services, particularly for those from rural backgrounds, with limited education, or without support systems. Considering the heavy burden on primary caregivers and the limited number of cancer hospitals, there is a pressing public health need to acknowledge this vital group. All levels of healthcare staff in cancer centres across developing nations should be sensitized of the burdens faced by caregivers.

Keywords: Burden, cancer, primary caregivers, patients, caregiver burden, ZBI

* Guide: Dr. Pushpa Lokare, Assistant Professor, Community Medicine, Government Medical College, Akola

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

2023: Sakshi Sharma*
Symbiosis Medical College for Women, Pune
Occupational Health Hazards among Workers Working in the Brick Kiln Industry

Background: Occupational health issues among brick kiln workers are a pressing concern in many developing countries, including India, Pakistan, and Bangladesh. This study aims to investigate the occupational health hazards prevalent in the workers working in brick kilns in Western Maharashtra. **Methods:** A descriptive interventional study was conducted in the Rural Health Training Centre (RHTC) field practice area of the Department of Community Medicine of tertiary care institute in Pune, India. A structured questionnaire was used to obtain detailed information on socio-demographic characteristics, occupational exposure history, and health status. The health assessments were conducted to measure the prevalence of any respiratory infection symptoms, musculoskeletal disorders symptoms, and skin problem symptoms among the workers. The secondary objective of the study was to determine the relationship between work-related factors and respiratory symptoms and illnesses. **Results:** 26.2% of the workers in this study reported to be suffering from Chronic bronchitis. 33.2% of Chronic Bronchitis in all the workers was contributed by non-smoking individuals which is strong evidence of the occupational effect on the respiratory illness. 12.4% reported having been diagnosed by the doctor as an Asthmatic, 34.3% had a chronic cough and 27% met the criteria of having chronic phlegm. The questionnaire survey revealed that 42% of the respondents were aware of the health risks associated with exposure to brick kaolin dust as the respondents had biannual health checkups. **Conclusion:** The study highlights the urgent need for effective interventions to improve working conditions and protect the health of brick kiln workers. Implementing measures like providing adequate respiratory protective equipment, improving ventilation systems, and promoting regular health check-ups can significantly reduce the risk of occupational health hazards.
Keywords: Occupational Health, Occupational Hazards, Brick Kiln

* Guide: Dr. Reshma Patil, Professor and Head, Department of Community Medicine, Symbiosis Medical College for Women, Pune

2023: Jhalak Tiwari*
Bharati Vidyapeeth (DU) Medical College, Pune
Factors associated with delay in early initiation and continuation of breastfeeding

Introduction: Early initiation of breastfeeding is a critical practice that ensures newborns receive colostrum, first milk that offers immunological protection. Early Breastfeeding reduces the risk of developing gastrointestinal infections, respiratory infections, and cardiovascular diseases. Factors associated with delayed initiation of breastfeeding include absence of breast milk, cultural factors, rural residence and place of delivery. Enhancing maternal education, strengthening the Baby-Friendly Hospital Initiative and community-based programs can promote breastfeeding practices. Addressing these challenges is essential to reduce neonatal mortality and improve long-term health. **Methods:** This cross-sectional study was conducted among 160 mothers in Primary health centres and maternity homes to assess the prevalence and determinants of delayed breastfeeding initiation. Data were collected using semi-structured interviews and analysed with SPSS version 28. **Results:** The results revealed that 70% of mother breastfed their infants within the first hour of birth, a rate higher than the national

average of 41.8% reported in NFHS-5. Significant factors associated with early initiation included birth order (p = 0.04), with younger children being breastfed earlier, whereas maternal age, education, occupation, and diet did not show significant associations. While the majority of mothers were housewives (61.9%) and secondary-educated (52.5%), these variables did not directly influence breastfeeding timing. The findings emphasize the importance of maternal experience, healthcare accessibility, and supportive practices in improving breastfeeding rates. **Conclusion:** This study underscores the complex interplay of maternal, cultural, and healthcare factors influencing breastfeeding practices. This includes: Younger children are more likely to benefit from early breastfeeding initiation. Although higher education levels were associated with better practices, the association was not statistically significant. The 70% EIBF rate in primary health centres and maternity homes indicates progress but leaves room for improvement compared to WHO goals of early breastfeeding. Delayed initiation deprives newborns from immunological benefits and increases neonatal morbidity and mortality risks.
Keywords: Breastfeeding, Postnatal care

*** Guide: Dr. Shraddha Thorat, Assistant Professor, Department of Community Medicine, Bharati Vidyapeeth (DU) Medical College, Pune**

2023: Ekshita Sahu *
MGM Medical College, Kamothe, Navi Mumbai
Pattern of Addictions and their effect on Nutritional Status among Medical Students

Background: The World Health Organization (WHO) defines substance abuse as the harmful or hazardous use of psychoactive substances, including alcohol and illicit drugs. Tobacco use alone is responsible for over 7 million deaths annually, with the majority occurring in low- and middle-income countries. Among students, substance use often coexists with poor dietary habits, but their combined effects on nutritional status are not well studied or documented. **Objectives:** (1) Estimate the prevalence and pattern of addictions; (2) identify demographic correlates; (3) examine the association between addictions and nutritional status. **Methods:** A descriptive cross-sectional study of 150 MBBS students and interns used a validated questionnaire, detailed daily diet intake and anthropometry. Dependence thresholds followed international guidance (e.g., FDA limit of 400 mg caffeine/day). Calorie / Protein adequacy was benchmarked against WHO healthy-diet recommendations. **Results:** Overall, 54.7 % had ≥ 1 addiction; cigarettes (32.7 %) and caffeine (11.3 %) dominated. Addiction prevalence did not differ by sex or residence but spiked in internship (73.3 %, p <0.05). Calorie deficiency affected 73 % of all students. Micronutrient-deficiency signs were 5-fold higher in addicts (82 % vs 36 %, p <0.05). **Conclusions:** Half the cohort were addicted, chiefly to tobacco and caffeine. Although inadequate diet was widespread, addicts showed far heavier micronutrient shortfalls. Multifaceted campus programmes that pair cessation support with nutrition reform are warranted.
Keywords: Addiction, Medical Students, Nutrition

*** Guide: Dr. Ganesh R. Nair, Assistant Professor, Department of Community Medicine, MGM Medical College, Kamothe, Navi Mumbai**

2023: Gaurav Mittal *
Mahatma Gandhi Institute of Medical Sciences, Sewagram, Wardha
Prevention of Adverse Childhood Experiences and Mitigation of its Impact: Co-designing Strategies to be Implemented Through Schools in India

Background: Adverse Childhood Experiences (ACEs) have a profound impact on children's emotional, behavioural, and academic well-being. Although there is growing awareness of ACEs as an issue in public health, Indian schools currently do not have systematic methods for identifying and dealing with such experiences. Teachers are generally the initial point of contact

but are ill-equipped to deal with trauma in students. **Objectives:** (1) To evaluate teachers' knowledge, attitudes, and practices on ACEs. (2) To identify opportunities in schools for prevention, mitigation, and building resilience to ACEs. (3) To co-design practical strategies with teachers to intervene with ACEs within the school environment. **Methods:** A six-month mixed-method convergence triangulation study was carried out in schools of Wardha district, Maharashtra. Quantitative data were gathered through an online questionnaire survey of 203 teachers. Focus group discussions (FGDs) and a participatory co-design meeting involving roleplay and theatre-based methods were used. Reflexive thematic analysis was applied for qualitative data. **Results:** A merely 27.1% had earlier known about ACEs while more than 60% of teachers had ever found evidence of students' experience with trauma. There were three dominating themes which appeared: (1) complexities surrounding child trauma; (2) school-based gaps in response to trauma; and (3) disconnection from caregivers to children. Practical ideas like the day-to-day emotional check-in, calm zones for classrooms, orderly teacher-parent communication, buddy programs among students, and plain referrals were facilitated at the co-design meeting. **Conclusion:** The research highlights the importance of trauma-informed school practice in India. Teachers are well-positioned to identify and intervene on ACE when empowered with context-appropriate tools and facilitation. Co-designed approaches present a viable model for emotional safety and building resilience in school systems.
Keywords: Adverse Childhood Experiences, resilience, trauma-informed schools, co-design, teachers, India, participatory research, student well-being

* Guide: Dr. Subodh S Gupta, Professor & Head, Department of Community Medicine, Mahatma Gandhi Institute of Medical Sciences, Sewagram, Wardha

2024: Rohan Maheshkumar Mehta*
Dr. BVP Rural Medical College, PIMS (DU), Loni
Geospatial Mapping of vector breeding sites in field practice area of tertiary care hospital in Maharashtra.

Background: Mapping of mosquito breeding sites is crucial for controlling mosquito borne diseases like Malaria, Dengue, Chikungunya, etc. There are many important interventions for prevention and control of mosquito borne diseases which included - Targeted interventions, reduce disease incidence, efficient resources allocation, enhanced surveillance and monitoring, community engagement and education, environmental considerations and technological advancements. **Objectives:** (1) To study distribution of vector breeding sites within the study area. (2) Provide recommendations for targeted interventions to mitigate mosquito proliferation and reduce disease risk. (3) To identify dry and wet potential breeding sites, larval sites and note their geospatial coordinates (4) Calculate different indices related to vector breeding. **Methods:** A cross-sectional study was done in 36 houses (Both indoor and outdoor) from selected area. Mosquito larval sampling was conducted by using a mosquito field kit. **Results:** From total of 36 houses, 29 houses were positive for mosquito breeding places. In these 29 houses, 108 containers were inspected and out of them 72 containers were positive for mosquito breeding. And geospatial coordinates were also marked for the same. Data analysis showed a marked increase in breeding site density during the monsoon season (September), Post-monsoon surveys (October-December) indicated that improper drainage and water accumulation in artificial containers contributed to prolonged breeding activity, posing an ongoing risk for vector-borne disease transmission. **Conclusion:** Geospatial mapping has proven to be an invaluable tool in detecting and monitoring vector breeding sites around the tertiary care hospital. The findings highlighted critical hotspots that pose a risk for vector-borne diseases, emphasizing the need for targeted control measures. By integrating EPICOLLECT 5 APP with public health interventions, authorities can optimize resource allocation and implement more effective vector management strategies.
Keywords: Geospatial Mapping, vector, breeding, Maharashtra.

* Guide: Dr. Meghraj Ramchandra Bhondwe, Assistant Professor, Department of Community Medicine, Dr. BVP Rural Medical College, PIMS (DU), Loni

2024: Ushmaa Ved *

MGM Medical College, Kamothe, Navi Mumbai

Awareness of cervical cancer among females residing in rural field practice area of a tertiary care hospital, in Navi Mumbai.

Introduction: Cervical cancer is the fourth most common cancer globally and the second most common cancer in India. However, awareness related to cervical cancer remains astonishingly low among females in rural India. Therefore, this study not only aims to assess awareness of cervical cancer among females residing in Waje village in Navi Mumbai but also educate them regarding the same to bring about a change in these levels. Further, the study also delves into the association between sociodemographic factors and awareness related to cervical cancer. **Methods:** An observational, cross-sectional, analytical, retrospective survey was conducted among 100 rural females aged 15-49 years. Data related to sociodemographic details, menstrual history, sexual history, health history, obstetric history, addiction history, cervical cancer awareness and cervical cancer vaccine acceptance was collected using a semi-structured questionnaire. The data was entered into MS Excel and converted into bar graphs and pie charts for easy interpretation. Further analysis was done using the Chi Square test in SPSS software. **Results:** While many women had of the women had heard of the term cancer (89%) and cervical cancer (62%), most of the women had poor awareness related to cause (0%), risk factors (6%), symptoms (7%), screening methods (0%) and vaccination (10%) as preventive measures for cervical cancer. Despite this, 48% of the women were willing to take a vaccine for cervical cancer prevention if provided free of cost at a government hospital or school, while 29% were unsure and 23% were unwilling. Younger women demonstrated more awareness about a vaccine to prevent cervical cancer than older women in the age group 36-49 years. Additionally, married women were more aware about the term cervical cancer as compared to unmarried women. Educated women were more aware about the term cancer, cervical cancer, cancer affecting any body organ and cervical cancer affecting only women. Notably, those willing to take the free vaccine had a better understanding of the term cancer and the fact that it could affect any body organ. **Conclusion:** Awareness of the term cervical cancer may have reached the rural female population but specific knowledge related to the same is currently lacking. This gap can be filled by increasing the levels of awareness of cervical cancer with regards to cause, risk factors, symptoms and prevention by media, seminars, healthcare professionals and healthcare workers. A high percentage of the women unwilling or unsure towards taking a free of cost vaccine did not give any reason for the same (44.2%). Effective counselling regarding the importance and benefits of the vaccine can help change these numbers and make the participants more open towards taking the vaccine.
Keywords: Cervical cancer, Awareness, Rural, Female

* Guide: Dr. Monika Das & Dr Noopur Kulkarni, Assistant Professor, Department of Community Medicine, MGM Medical College, Kamothe, Navi Mumbai

2024: Niketan Shegokar *

Government Medical College, AKola

Enforcement and Awareness of Tobacco Regulations (COTPA Act 2003) in Akola City: An Observational Study

Introduction: Tobacco use is a major preventable cause of morbidity and mortality in India. To curb this public health threat, the Government of India enacted the Cigarettes and Other Tobacco Products Act (COTPA), 2003. Despite this, enforcement across cities remains inconsistent. This study aimed to evaluate the implementation of Sections 4 (prohibition of smoking in public places), 6(b) (ban on tobacco sale within 100 yards of educational institutions), and 7 (packaging and labelling requirements) of COTPA in public places in Akola City, Maharashtra, and to assess institutional awareness and enforcement practices.
Methods: A cross-sectional observational study was conducted using stratified random

sampling. A total of 71 public places—including 46 educational institutions, 14 government offices, 4 hospitals, and 7 public areas—were included. Data were collected via structured observation checklists and semi-structured interviews with institutional heads. Quantitative data were analysed descriptively; qualitative responses were thematically analysed to explore barriers and enforcement perspectives. **Results:** Only 60.86% of educational institutions displayed 'No Smoking' signage indoors, and just 23.91% at entrances. Tobacco vendors were found within 100 yards of 4.34% of educational institutions and 25% of hospitals, violating Section 6(b). While 82.60% of institutional heads were aware of COTPA, very few had taken enforcement actions such as issuing warnings, banning vendors, or collecting fines. Qualitative findings revealed enforcement challenges, insufficient awareness, and cultural normalization of tobacco use. **Conclusion:** The study highlights suboptimal compliance with key COTPA provisions in Akola City, despite reasonable awareness among stakeholders. Weak enforcement mechanisms, lack of standardized signage, and limited institutional engagement impede effective tobacco control. Strengthening institutional capacity, enhancing community awareness, and establishing routine compliance monitoring are crucial for improved enforcement. Findings shared with the District Tobacco Control Cell to inform NTCP strategies. **Keywords:** Tobacco, COTPA, Regulations

* Guide: Dr Umesh Kawalkar, Assistant Professor, Department of Community Medicine, Government Medical College, AKola

2024: Disha Hegde *
Bharati Vidyapeeth (DU) Medical College, Pune
Patient Pathways to Diagnosis, Treatment Initiation till Cure of Drug Sensitive Pulmonary Tuberculosis in Urban Pune, Maharashtra – A Qualitative Study

Background: Pulmonary tuberculosis (TB) continues to be a significant public health burden in India, particularly in urban areas where healthcare access and awareness vary widely. This qualitative study aimed to explore the care-seeking pathways and identify delays and barriers in diagnosis, treatment initiation, and adherence among patients with drug-sensitive pulmonary TB in urban Pune, Maharashtra. **Methods:** In-depth interviews were conducted with 12 adult patients diagnosed with pulmonary TB. A structured interview questionnaire was used to collect data on symptom onset, healthcare-seeking behavior, diagnosis, treatment, government support utilization, and stigma. Thematic analysis was applied to identify key patterns and barriers throughout the patient journey. **Results:** Symptom Onset and Delay in Care: All participants reported classical TB symptoms, especially a persistent cough (100%). Three delayed seeking care for over a month due to job obligations, lack of awareness, or underestimation of symptoms. First Point of Contact and Diagnosis: Most participants (75%) first consulted private practitioners, but only 44% suspected TB early. Many were misdiagnosed or treated symptomatically, resulting in delayed diagnosis. Half (50%) were eventually diagnosed at Bharati Hospital. Treatment Initiation and Centre Preference: Treatment was started either at the study hospital (58%) or DOTS centres (42%), based on proximity, trust, or referral. Challenges in Treatment Adherence: While 67% adhered to anti-tubercular therapy, others experienced interruptions due to drug side effects, misinformation, or medication shortage. Government Support and DOTS Utilization: Only 25% availed financial support. Awareness of free treatment under DOTS and TB preventive treatment (TPT) for contacts was low, despite 42% reporting TB exposure within their families. Stigma and Family Support: Most participants received family support, but one patient faced stigma and isolation. In one case, the diagnosis was initially concealed from the patient due to fear of emotional distress. **Conclusion:** Delayed TB diagnosis at the primary care level, limited provider suspicion, poor awareness of government benefits, and stigma continue to hinder effective TB control. Strengthening early detection, referral systems & public awareness is essential in urban TB care.

* Guide: Dr. Swathi Krishna N, Assistant Professor, Department of Community Medicine, Bharati Vidyapeeth (DU) Medical College, Pune

2024: Tanushree Gaikwad *
Bharati Vidyapeeth (DU) Medical College, Pune
Assessment of Awareness and Willingness to Use Menstrual Cups among Reproductive Age Group Women of Urban Slums: A Community-Based Cross-Sectional Study

Introduction: Menstrual hygiene management and access to affordable and sustainable menstrual hygiene products poses a significant challenge in low-resource urban slums. The most commonly used sanitary pads are expensive and non-biodegradable compounded with environmental pollution concerns. Menstrual cups are a cost-effective, reusable, and environmentally friendly alternative. Culturally, they are underutilized due to a lack of awareness, stigma, and misinformation. The study aimed to assess awareness and willingness to use menstrual cups and identify their acceptability's barriers and facilitators among women of reproductive age in urban slums. **Methods:** Under the Urban Health Training Centre (UHTC), a community-based cross-sectional study was carried out among 79 women between 18 to 45 years of age from the Urban slums of Pune. Participants were recruited from the study site using a two-stage random sampling technique. A semi-structured questionnaire on menstrual hygiene practices, knowledge, attitudes towards menstrual cups, and general practices related to menstruation was utilized to collect data. Quantitative data were analysed using SPSS and chi-square test was conducted to assess associations between variables. **Results:** Awareness of menstrual cups use was 79.7%, with only 2.5% had prior usage experience. Post -education, the willingness to try them increased to 65.8%. It was linked to cost effectiveness and prolonged use. The most cited barriers to using it were health concerns, lack of confidence, coupled with cultural or religious norms. **Conclusion:** The usage of menstrual cups continues to be low in urban slums, but by providing focused information, direct assistance, and subsidized availability of menstrual cups present an opportunity for low-income communities to improve their menstrual hygiene practices in a long-lasting and affordable way.

* Guide: Dr. Sanjivani Patil, Associate Professor, Department of Community Medicine, Bharati Vidyapeeth (DU) Medical College, Pune

2024: Lisha Sharma*
Government Medical College, Akola
The impact of emotional intelligence over burnout aspects among medical students.

Background: Burnout is a psychological condition resulting from chronic work-related stress, particularly when prolonged demands exceed an individual's coping capacity. Medical students are highly vulnerable to burnout due to persistent academic and emotional pressure. Emotional intelligence (EI), defined as the ability to understand and manage one's own and others' emotions, is known to buffer stress and promote psychological well-being. This study aimed to explore the relationship between emotional intelligence and academic burnout among medical students, with the goal of identifying protective factors and raising awareness about the impact of burnout. **Methods:** A cross-sectional analytical study was conducted among 350 second-, third-, and fourth-year medical students at a tertiary care hospital. Emotional intelligence and burnout levels were assessed using the Schutte Self-Report Emotional Intelligence Test (SSEIT) and the Burnout Assessment Tool (BAT), respectively. Data were coded and analysed using Microsoft Excel and Epi Info version 7.2.6.0 (2023). Chi-square tests were used for group comparisons. **Results:** Among the 350 participants, 56.9% were female, and the majority were aged between 19 - 22 years. Over half of the students had moderate to good emotional intelligence levels. However, more than 50% were at risk of burnout. A significant negative correlation was observed between emotional intelligence and burnout ($p < 0.05$), indicating that students with higher EI experienced lower burnout levels. Notably, 72.5% of students with poor EI were at a very high risk of burnout, compared to 21% with good EI. Statistically significant differences were found between age and both SSEIT and BAT scores, whereas sex and residence showed no significant impact. **Conclusion:** Emotional intelligence serves as a protective factor against academic burnout among medical students. Students with higher EI demonstrated lower levels of burnout, suggesting that EI development

could be a key strategy for promoting mental health in medical education. Implementing training programs to enhance EI may be an effective intervention to reduce burnout and foster emotional resilience in future healthcare professionals.

* Guide: Dr. Neelam Sukhsohale, Associate Professor, Department of Community Medicine, Government Medical College, Akola

2024: Naitica Darooka*
Seth G. S. Medical College & KEM Hospital, Mumbai
Assessment of mental health status of postpartum women and its association with infant's feeding practice and growth – A Hospital-based Cross-sectional study.

Background: The postpartum period presents a critical phase for maternal mental health, which can significantly impact infant care, particularly feeding practices and growth. This study aimed to assess the mental health status of postpartum women and its association with breastfeeding practices and infant growth. **Methods:** A hospital-based cross-sectional study was conducted at KEM Hospital, Mumbai, among 303 postpartum women with infants under 12 months. Mental health was assessed using the Edinburgh Postnatal Depression Scale (EPDS) and Perinatal Anxiety Screening Scale (PASS). Infant feeding practices and anthropometric measurements were recorded alongside sociodemographic and obstetric data. **Results:** The prevalence of postpartum depression and anxiety was 25.7% and 36.6%, respectively. Depression and anxiety were significantly associated with nuclear family structure, low social support, and having an underweight infant. Exclusive breastfeeding was negatively associated with maternal anxiety ($p < 0.001$). Structural Equation Modelling (SEM) revealed maternal anxiety as a significant predictor of infant underweight status, mediated by social support. **Conclusion:** Postpartum anxiety and depression are common and strongly associated with suboptimal infant outcomes. Strengthening social support systems & promoting exclusive breastfeeding may improve both maternal mental health & child nutritional status. Integrated postnatal care strategies addressing these factors are urgently needed.

* Guide: Dr. Rupali Sabale, Assistant Professor, Department of Community Medicine, Seth G. S. Medical College & KEM Hospital, Mumbai.

Days of Public Health Importance: July - September			
Month	**Date**	**Day**	**Theme 2025**
July	1st July	NATIONAL DOCTORS DAY	Behind the Mask: Who Heals the Healers?
	11th July	WORLD POPULATION DAY	Empowering young people to create the families they want in a fair and hopeful world.
	28th July	WORLD HEPATITIS DAY	Hepatitis: Let's Break It Down.
	29th July	WORLD ORS DAY	ORS: Simple Solution for a Healthier Future.
August	1st- 7th Aug	WORLD BREASTFEEDING WEEK	Prioritize Breastfeeding: Create Sustainable Support Systems
	9th Aug	WORLD TRIBAL DAY	Indigenous Youth as Agents of Change for Self-determination
	12th Aug	INTERNATIONAL YOUTH DAY	Localising the Sustainable Development Goals
September	1st - 7th Sep	NATIONAL NUTRITION WEEK	Nutritious Food for All, From Children to the Elderly
	10th Sep	WORLD SUICIDE PRREVENTION DAY	Changing the Narrative on Suicide
	21st Sep	WORLD ALZHIMERS DAY	Never too early, never too late
	25th Sep	WORLD PHARMACIST DAY	Think Health, Think Pharmacist
	28th Sep	WORLD RABIES DAY	Act Now: You, Me, Community
	29th Sep	WORLD HEART DAY	Don't Miss a Beat

Nital: Social Shades of Vitiligo

Dr. Harshal Pandve
Professor & Head, Community Medicine, PCMC's PGI & YCM H, Pimpri, Pune

Film Language: Marathi (with English subtitles)
Cast: Devika Daftardar, Shekhar Kulkarni, Reema Lagu, Vikram Gokhale and Vijay Tendulkar.
Directors: Sumitra Bhave and Sunil Sukhtankar.
Running time: 2 Hrs. 9 Minutes

Film Review

Vitiligo is a common, acquired, discoloration of the skin, characterized by well-circumscribed, ivory or chalky white patches (macules), which affects 1 % population worldwide. Vitiligo is hardly a disease of medical significance but more of a social stigma attached to it because of cosmetic reasons. The Marathi film **"Nital"** talks about the social aspects of Vitiligo.

This film "Nital" is the story of Dr. Neeraja Kaushik (Devika Daftardar), a successful Ophthalmologist, who is young & intelligent, ready to take in her life with full enthusiasm. But for Neeraja, the things are not as smooth as for others. She is suffering from vitiligo, she has white patches on her skin, on her face especially. But after passing through the internal turmoil since her childhood, Neeraja has overcome her inferiority complexes. The Film begins with Dr. Ananya Ranade (Shekhar Kulkarni) taking his colleague Dr. Neeraja Kaushik to his home, which has three generations living under one roof. Although the pretext of the visit is supposedly to look up the convalescent grandmother who had undergone eye surgery, but it also is an exercise in finding out how his family members would accept.

The Vitiligo affected doctor as his wife. Ananya's elite and high society, well-educated family is taken aback even with just the possibility of Neeraja becoming part of their family. Some member of the family is constantly observing Dr. Neeraja. Even few members in the family secretly consult with the dermatologist about her disease and its implications in future generations. One of the uncles of Dr. Ananya tries to counsel and advise him to rethink on his decision on marrying a girl with Vitiligo. But at the end Dr. Ananya remains firm on his decision of marrying Dr. Neeraja and the story ends on a positive note.

Performance-wise the entire cast done a great job, but it is Devika Daftardar who played Dr. Neeraja steals the show. She has successful in showing the sense of deviance and stigma around her due to the disease. In many parts of India, it is called a "Safed Dag" or "Kod" and misbelieved as a punishment of past sins. It carries social stigma and causes many matrimonial problems in young women who are suffering from the disease. There is need for awareness regarding Vitiligo as it causes so much of psychological stress to the sufferers. To conclude with, the films like "Nital" are important as they try to comment about such issues of social relevance. Such a socially relevant films should be widely appreciated.