

EDITORIAL VIEW

PERIOPERATIVE MEDICINE

Floods as catalysts for malnutrition and maternal-child healthcare risks in Pakistan

Haseeb Khaliq*

*Department of Pathology, University of Health Sciences (UHS) Lahore, Pakistan / IMPRS Berlin, Germany.

Correspondence: Haseeb Khaliq; Email: haseebkhaliq119@gmail.com; Phone: +923161484482

ABSTRACT

Floods will remain the primary cause of intergenerational malnutrition and growing health inequity, unless a resolution to the issue is enforced across the area. The diversity of climate change, malnutrition, and maternal-child health came into sharp focus with the 2022 floods in Pakistan. Meanwhile, the worsening infrastructure, as well as the epidemic outbreak, posed threats to pregnant women as well as newborn babies. It is obvious that the presence of socioeconomic inequalities, gender inequalities, and structural gaps is the main factor to aggravate these threats, yet the presence of community midwives in the local populations can be the key to mitigating the damage.

Keywords: Child; Floods; Malnutrition; Child nutrition disorders; Pakistan; Socioeconomic factors

Citation: Khaliq H. Floods as catalysts for malnutrition and maternal-child healthcare risks in Pakistan. *Anaesth. pain intensive care* 2025;29(7):660-662. DOI: 10.35975/apic.v29i7.2951

Received: May 09, 2025; **Revised:** October 26, 2024; **Accepted:** January 01, 2025

UNLESS an urgent action is taken across the region, floods will remain the primary cause of intergenerational malnutrition and increasing health disparities. A population survey conducted in Khyber Pakhtunkhwa revealed that 25.2 percent of flood-affected children are underweight, with socioeconomic factors including family income, maternal education, and parental health having a strong influence.¹ In an extra index of child malnutrition wasting, there was another analysis, which found major links with household sizes, parental demography, and livelihood disruption, also in the same flood-impacted regions.² These results reveal that floods not only wipe out food supply, but they also wipe out social and economic factors of feeding.

In addition to anthropometric data, the maternal-child feeding pattern is also severely influenced. At flood relief camps, more than half of mothers ceased or decreased breastfeeding, citing poor diet, stress, and lack of privacy as obstacles.³ These delays are disastrous during early childhood, as immunity and growth depend on breastfeeding. Infant malnutrition, combined with unhygienic living conditions in the camps, increases susceptibility to infectious diseases. These risks are

increased by the structural weaknesses of the health system in Pakistan. In 2022, the floods destroyed almost 13% of the health facilities in the affected provinces, leaving 15% population without care. Researchers have urged the development of climate-resilient health systems that can absorb shocks of this scale, and that emergency response through reactive efforts is not enough unless it is accompanied by investment in permanent infrastructure and preparedness planning.⁴

With these systemic gaps, community-based health providers became an important point of defense. Community midwives were vital during the floods, maintaining maternal and neonatal care, providing antenatal support, and ensuring safe childbirth in inaccessible regions. Their contribution underscores the potential and vulnerability of grassroots health workers, who require training, resources, and institutional acknowledgment to enhance resilience in disaster-prone areas.⁵ Malnutrition is not the only health hazard, but rather a combination of infectious diseases and maternal complications. Floodwaters establish habitats for malaria and dengue, and infected drinking water promotes diarrheal disease and hepatitis. Following the floods in 2022, researchers reported increased cases of

these infections and increased maternal complications and miscarriages.⁶ In case of infections coupled with undernourishment, newborns and children were at high risk of stunting, developmental delays, and deaths.⁷

This is a larger climate-health injustice that has a disproportionate effect on women and children. Public health journals have undertaken analyses to argue that floods intensify gendered vulnerabilities, where women lose access to reproductive services and children lose access to safe environments to grow and learn.⁸ In the flood-affected regions, 79% of households lost crops and livestock, 73% of households fell below the poverty threshold, and more than 60% of households suffered serious setbacks in access to healthcare services - factors that directly exacerbated maternal and child malnutrition.⁹ An empirical review noted that livelihoods that had relied on agriculture and livestock, the main source of nutrition for most families, were destroyed, leaving families dependent on insufficient relief supplies.¹⁰

Nutrition is not the sole health system burden. Outbreaks of infectious diseases intensified in flood-afflicted regions, with researchers reporting surges in malaria, dengue, and diarrheal diseases. Importantly, the same study reported that the floods displaced more than 650,000 pregnant women, most of whom had no access to prenatal care, contraceptives, or safe births.¹¹ The intersection of maternal displacement and outbreaks of diseases is a threat to the multiplier effect of disasters caused by climate change. A rapid assessment further revealed that 77% of women in relief camps lacked adequate reproductive services, with shortages of delivery and hygiene kits compounding material risks. It highlights how gendered vulnerabilities deepen during disasters, as women in camps struggle for safe reproductive health services.¹²

An evaluation of reproductive health refers to this crisis as a public health emergency within a disaster, with maternal deaths, obstetric emergencies, and mental health burdens increasing in camps. The authors state that reproductive health is neglected when there is a crisis, despite being essential to maintain life and dignity. This oversight reflects general patterns in humanitarian affairs in which childbearing rights and motherly care are not prioritized. The future of resilience in Pakistan will be based on bridging these gaps. Enhancement of nutrition programs, provision of sustained support in emergencies, empowerment of midwives, and integration of maternal-child health into climate adaptation plans are urgently needed. The academic data is clear: floods are not standalone disasters but triggers of an expanding maternal-child health crisis, threatening generations if left unaddressed.

Conflict of interest

None declared by the author.

Authors contribution

Haseeb Khaliq is the sole author of this editorial.

REFERENCES

1. Haq IU, He X, Mujahid AM, Ibrahim H, Mehmood Z, Shah J, et al. Preparedness to Combat Determinants of Underweight-Based Child Malnutrition in Flood-Affected Areas of Pakistan. *Biomed Res Int.* 2022 Jan 25;2022:6464901. PMID: PMC8807031; DOI: 10.1155/2022/6464901
2. Haq IU, Mehmood Z, Tahir M, Ahmad Zakki S, Siddiq K, Xu J, et al. Risk Factors of Wasting-Based Malnutrition in the Flood-Affected Areas of Pakistan: A Cross-Sectional Study. *Ecol Food Nutr.* 2024 Jul-Aug;63(4):343-354. DOI: 10.1080/03670244.2024.2361250 .
3. Rizwan W, Sadiq M, Bukhari MH, Tasneem M. Impact of Flood on Breastfeeding Practices at Flood Relief Camps of Pakistan. *Pak J Med Sci.* 2024 Sep;40(8):1724-1728. PMID: PMC11395385; DOI: 10.12669/pjms.40.8.8488
4. Akthar TM, Reid MJA. The Urgency of Climate-Resilient Health Systems in Pakistan: Lessons From the 2022 Floods. *Int J Public Health.* 2024 Nov 1;69:1607981. PMID: PMC11563755; DOI: 10.3389/ijph.2024.1607981 .
5. Kamran I, Mir AM. Strengthening community midwives to tackle gender-based vulnerabilities during the 2022 floods in Pakistan-lessons learned for future natural disasters. *BMC Glob Public Health.* 2023 Jul 31;1(1):2. PMID: PMC11587618; DOI: 10.1186/s44263-023-00002-9
6. Raza M, Fatima A, Habiba U, Shah HH. Public health implications of severe floods in Pakistan: assessing the devastating impact on health and the economy. *Front Environ Sci.* 2023 Jul 6;11:1091998. DOI: 10.3389/fenvs.2023.1091998. PMID: 36387957; PMID: PMC9661380; DOI: 10.1016/j.amsu.2022.104837
7. hmed UM. Floods and Climate Change: An Impact on Women and Child Health. *PJPH.* 2023 Mar 3;13(4):146–7. <https://doi.org/10.32413/pjph.v13i4.1325>
8. Khan QA, Jan A, Iram S, Haider I, Badshah A, Khan A, et al. Impact of 2022 flood on socio-economic and health status of people residing in flood-stricken areas of Pakistan: a cross-sectional survey. *Ann Med Surg (Lond).* 2024 Aug 2;86(11):6465-6471. PMID: 39525710; PMID: PMC11543238; DOI: 10.1097/MS9.0000000000002402
9. Zaidi S, Memon Z. Pakistan floods: breaking the logjam of spiraling health shocks. *EBioMedicine.* 2023 Jul;93:104707. PMID: 37394380; PMID: PMC10363445; DOI: 10.1016/j.ebiom.2023.104707; Epub 2023 Jun 30.

10. Alied M, Salam A, Sediqi SM, Kwaah PA, Tran L, Huy NT. Disaster after disaster: the outbreak of infectious diseases in Pakistan in the wake of 2022 floods. *Ann Med Surg (Lond)*. 2023 Dec 8;86(2):891-898. PMID: [PMC10849431](#); DOI: [10.1097/MS9.0000000000001597](#)
11. Ashraf M, Shahzad S, Sequeria P, Bashir A, Azmat SK. Understanding Challenges Women Face in Flood-Affected Areas to Access Sexual and Reproductive Health Services: A Rapid Assessment from a Disaster-Torn Pakistan. *Biomed Res Int*. 2024 Apr 1;2024:1113634. PMID: [PMC11001467](#); DOI: [10.1155/2024/1113634](#) .