FLOODS IN PAKISTAN AND ROLE OF MMIDSP!

Pakistan continues to bear a major brunt of the catastrophic effects of global climate change. The situation has been made worse by deforestation- Pakistan ranks second only to Afghanistan in Asia. Poverty, poor governance, income inequality, weak economic growth and forest fires[1] are all responsible for environmental degradation and deforestation. The average rise in temperature over the last 4 decades of 0.9 ^{o}C has led to more frequent heat waves and unusual precipitation trends.[2] Failure to build dams, creating water ways and keeping the canals and nullahs clean and patent for overflow have contributed to loss of life and livelihood in country-wide floods recently (2022). Although similar devastation was observed in floods of 1972[3] and 2010, no concrete steps were taken to prevent such events in the future.

Pakistan's health infrastructure depicts a mismatch between requirements and services, poor linkages between primary, secondary and tertiary care, lack of on-site diagnostic facilities and dearth of trained healthcare professionals. This unfortunate reality is brought into limelight with every natural disaster. In June 2022, following torrential rains and combined with melting glaciers, bursting river banks, the country experienced the worst floods in its history; one third of Pakistan was inundated.[4]

The nation responded to the calamity, fueled by visuals of people and their animals and belongings at the mercy of flood waters. Many lost their lives. Camps set up by government and non-government philanthropic organizations provided shelter but were conspicuous by the lack of order or plan, rudimentary WASH facilities, and have been most often located in proximity of large mosquito breeding sites.

Increasing population[5] deprivation, malnutrition compounded by displacement, exposure, poor living conditions led to various infections including respiratory tract infections, gastroenteritis, skin and soft tissue infections, dengue and malaria. For both mosquito-borne infections, the initial focus was on getting insecticide impregnated mosquito nets, which were eventually procured. How this measure contributed to disease control needs to be examined closely. Unabated disease transmission continued and led to widespread empiric use of antimalarials and their eventual shortage.

Cholera cases started rising by end of February 2022 and waned during monsoon rains and floods, contrary to general expectations. Dengue cases started to rise with the onset of monsoon rains and grew exponentially during floods, even in non-flood affected areas. Malaria, which is generally contained and restricted to parts of Pakistan, was amplified as a direct consequence of rains and floods. Scabies, lice infestations, fungal and bacterial skin infections were directly related to exposure and poor living conditions, lack of clean clothing and washing facilities.

Malnutrition, abdominal pain, pallor, all expected consequences of worm infestation were evident in children who presented to the medical camps. Stunted growth and poor maternal health were commonly observed. Many children were dehydrated and needed referrals to hospitals for intravenous rehydration. Due to overcrowding and change in weather, viral upper respiratory tract infections (URTI) were also seen; many malnourished children had superimposed bacterial lower respiratory tract infections (LRTIs). Most of the children were unvaccinated. The opportunities to provide catchup vaccination at medical camps were erratic. Medical camps provided single encounter opportunity for clinical assessment and provision of short course of empiric antimicrobial therapy. Since there was no prospect for follow-up, response to treatment and further course could not be monitored. A large number of IDPS had fever with specific localizing signs or symptoms and had to be treated empirically. Rapid diagnostic tests (RDTs) were not uniformly available and system of referral was also erratic and unreliable.

MMIDSP, supported by Association of Pakistani Physicians of New England (APPNE) embarked on the mission of providing service to flood victims and to cater to their health needs especially pertaining to communicable diseases.

Adult and pediatric ID physicians, dermatologists, medical students and nurses worked at various camps

established by the Govt of Sindh. In collaboration with the TB program CDC Sindh, we ensured availability of relevant medicines and RDTs. The medical camps provided an opportunity for integrating screening for HBV and HCV, TB along with identification and management of dengue and malaria and other acute medical issues, as allowed by the camp situation and available medicines.

Recent floods have been a shocking reminder of the threat of infections in the context of poverty, hunger, displacement in a largely illiterate population, living in inhuman conditions. Without attention to building and strengthening health systems, people of Pakistan will remain prone to considerable morbidity and mortality from conditions which should ideally have been controlled or eliminated by now.

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