Safe water –Basic Human Right

Water-related diseases encompass both communicable and non-communicable diseases. The most vulnerable populations to these diseases world-wide are children, women and those living in poverty. WHO estimates that access to safe water would be able to prevent 1.4 million childhood deaths due to diarrhea, 0.5 million from malaria, 0.86 million child deaths from malnutrition and 0.28 million from drowning; another 10 million people could be saved from serious disability due to lymphatic filariasis and trachoma. Improving water, sanitation and hygiene has potential to reduce global disease burden by 9.1% and deaths by 6.3%.[1] The 64th World Health Assembly, 2011, discussed water, sanitation and hygiene as one of their agenda items[2], urging member states to recognize it as a major preventive measure towards achieving Millennium Development Goals 7 (Ensure environmental sustainability), Goals 4 (Reduce child mortality), 5 (Improve maternal health) and 6 (Combat HIV/AIDS, malaria and other diseases). However, in Pakistan, the drive to ensure access to clean water appears to be non-existent.

In Pakistan, the major water-related diseases which are wreaking havoc with our public health are enteric fever, polio, diarrhea, mosquito-borne diseases including malaria, dengue and chikungunya, and primary amoebic meningoencephalitis with *Naegleriafowleri*. The Weekly Field Epidemiology Report for July 23-29, 2018 listed 738 dengue and 84 chikungunya cases from Pakistan this year, when the monsoon season has not even started.[3] Yet another case of PAM has been reported in a 5-year-old, bringing the total number of Naegleria cases to 4 in 2018. Typhoid cases this year were 3,018, with 1,406 XDR-typhoid, resistant to first-line, quinolone and third generation cephalosporins. The most affected age group was 3-4 year-olds, with an attack rate of 22 cases / 100,000, primarily from Karachi. Another outbreak of acute watery diarrhea in Quetta affected 333 individuals with highest attack rate of 35/1000 among 1-4 year-olds. Confirmed polio cases reported in 2014 were 306, though they went down to 8 cases in 2017[4], however acute flaccid paralysis cases were 113 this year, majority being GuillianBarre syndrome[5], which may be a sequelae of gastroenteritis with campylobacter. These data suggest that water and sanitation related infectious diseases are a serious burden in Pakistan.

Major reasons for unsafe water in Pakistan are lack of infrastructure and planning, poor utilization of existing resources, water mafia in urban centers, and population growth. Guidelines are available for developing drinking-water quality regulations and standards which also provide guidance on how to monitor compliance to them.[6] Political will is needed to drive this agenda at a national level and thus ensure its implementation. Separating waste water lines and drinking water supply, regular repairs and most importantly treating waste water before releasing into the water sources.

Awareness at community level and developing a sense of hygiene and cleanliness in individuals is also necessary to ingrain and sustain safe water practices. The best ways to achieve this is to start at grass roots: through community engagement programs involving schools, homes and neighborhoods. Centers of disease control and prevention utilized social marketing techniques in conjunction with community mobilization to achieve major behavior changes pertaining to safe water practices in Kenya and Madagascar.[7] Similar efforts in Pakistan from both public and private sectors with outreach programs can make a difference.

Pakistan has one of the highest typhoid incidence in under 5 year-olds.[8] We also have a huge burden of viral, bacterial and protozoal diarrhea, and mosquito-borne diseases. Preventive measures must also include vaccination against typhoid, rotavirus, and dengue alongside provision of safe drinking water and sanitation.

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