REVIEW OF DENGUE DEATHS IN BANGLADESH: AN INTERIM ANALYSIS OF THE 2023 OUTBREAK

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Background: Dengue fever is one of the most prevalent mosquito-borne diseases and is categorized as a neglected tropical disease (NTD) by the World Health Organization (WHO). Last year, Bangladesh witnessed an unprecedented dengue outbreak, claiming a record-breaking 1705 lives and posing a significant public health concern. This presents the preliminary analysis of the demographics and clinical features associated with dengue-related fatalities in 2023. **Methods:** This study presents a retrospective analysis of 94 dengue death cases, which were collected from 15 different hospitals in Bangladesh between January 1, 2023, to December 31, 2023. The cases were classified based on the patient's age as children (age <15 years), adults (age between 15-59 years), and elderly (age >60 years). The study aimed to investigate the demographic and clinical characteristics of the patients and also explores adherence to national guidelines for IV fluid management. **Results:** The data reveals that among the patients, 11.8% were children, 65.6% were adults, and 22.6% were elderly. Furthermore, 52.7% of the patients were male, while 47.3% were female. Comorbidities such as diabetes mellitus and hypertension were prevalent among the patients. The median duration between disease onset and hospitalization was 3.0 (IQR: 2.0 - 5.0) days, and the median duration of hospital stay was 1.0 (IQR: 0.61 – 2.0) days. Expanded Dengue Syndrome (29.8%) was the most common diagnosis at admission, followed by Dengue Shock Syndrome (26.6%), Dengue Hemorrhagic Fever (DHF) (17.0%), and Dengue Fever (DF) (14.9%). The study also revealed that only 35.1% of the patients received IV fluid treatment according to the national guideline, 47.9% did not, and no relevant record was found for the remaining 17% of cases. The patient follow-up was according to the guideline for 12.8% of patients, while 38.3% were not, and 48.9% had no record. Moreover, it was found that patients who received IV fluid treatment according to the guideline survived significantly longer than those who did not, with a mean difference of 1.26 days ($p<0.05$). It was also found that the use of steroids (28%), antibiotics (39.8%), and drugs that are not recommended (33.3%) were prevalent among the patients. **Conclusion:** In conclusion, the findings of the interim analysis conducted during the 2023 dengue outbreak reveal that Dengue Shock Syndrome (DSS) was responsible for the largest proportion of fatalities (36%), followed by Expanded Dengue Syndrome (EDS) (23%) and sepsis. The study also highlights the significance of adhering to the National Guidelines for IV fluid management and its potential impact on patient survival.

Keywords: Dengue, Tropical diseases, Outbreak