Association between Nutritional Status and Severity of Dengue Hemorrhagic Fever among Children Ages 2-18 Years

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Abstract

Objectives. To 1) describe the profile of patients with Dengue Hemorrhagic Fever as to age, sex, nutritional status, dengue grading, clinical signs and symptoms, laboratory findings, complications, management, hospital stay and condition on discharge 2)determine if there is a difference between non-shock DHF and Dengue Shock Syndrome (DSS) patients as to age, gender,nutritional status, laboratory findings, complications and length of hospital stay.3)determine the association between nutritional status and observed complications of DHF.4) determine the association between nutritional status and severity of DHF.

Methods. A retrospective cohort study of pediatric patients admitted in a tertiary hospital in Metro Manila from January 2005 to December, 2006 with a diagnosis of DHF. Data was analyzed using STATA version 9 software. Frequency tables were generated to show the distribution of variables being determined. To determine differences between shock and non-shock DHF patients, chi square test of homogeneity for categorical variables and independent t-test for continuous variables were used with p-value ≤0.05 as cut-off for significance. To determine the association between nutritional status and dengue severity, as well as observed complications in DHF, relative risk and chi square test of association were calculated using the same cut-off p-value.

Results: A total of 217 patients were included in the study. DHF occurred more frequently among children with an age range of 13-18 years (42.9%) mean age of 11 years, 51% of whom were females and 49% were males. Majority of patients (57.1%) belonged to the healthy category, while 29% were overweight or obese. Most of the patients were classified as grade II severity of DHF (57%). The most common signs and symptoms aside from fever were bleeding, abdominal pain, pruritus and headache. The most common observed complication was pleural effusion. All patients were given crystalloids and the mean duration of hospital stay was 6 days. There was no difference as to age, sex, and nutritional status between nonshock DHF and DSS. Significantly low WBC count was seen among nonshock DHF and the lowest platelet count and prolonged PTT occurring more often in the DSS group. The proportion of complications was higher and the mean duration of hospital stay was longer among shock (45.9%, 6.5 ± 1.8 days respectively) than non-shock (3.9%, 5.5 ± 1.5 days respectively) DHF patients.

Conclusion: DHF occurred more frequently among children aged 13-18 years. This study showed that there was no association between nutritional status and severity of DHF and also with observed complications.

Keywords: Dengue hemorrhagic fever, nutritional status, children, obese, underweight