

Abstract

Introduction: Dengue illness has become a universal concern today with its physical, psychological and economic burden to the countries and to the households.

Objectives: To describe the prevalence and selected correlates of depression, anxiety, stress and post infectious fatigue (PIF) and the household costs borne by an adult in a household confirmed with Dengue infection, admitted to selected healthcare institutions in Colombo District.

Methods: Component I: The Chalder Fatigue Questionnaire (CFQ) was culturally adapted, translated to Sinhala and assessed judgmentally by adopting a modified Delphi process. A validation study was conducted among Dengue infected patients admitted to Colombo South Teaching Hospital. Construct validity of CFQ-Sinhala version (CFQ(S)) was assessed with hypothesized scale structure and with confirmatory factor analysis.

Component II: A longitudinal study described the prevalence of depression, anxiety, stress and PIF following a Dengue infection. An analytical component described the correlates for depression, anxiety, stress and PIF following Dengue infection at one month follow up.

Component III: A longitudinal study was conducted to estimate the household costs due to Dengue Fever (DF) and Dengue Haemorrhagic fever (DHF) admitted to the Institute of Infectious Diseases in Colombo District.

Results: Study confirmed that culturally adapted CFQ(S) is a valid tool to screen for PIF, reproduced as per the original two factor model. Reliability with a Cronbach's alpha coefficient of 0.85 and test retest reliability coefficient of 0.89. Prevalence of depression, anxiety, stress and PIF associated symptoms was **13.1%**, **23.4%**, **13.8%** and **81.5%** respectively on discharge and at follow up was **2.7%**, **3.2%**, **7.9%** and **35%** correspondingly.

Due to low prevalence of depression and anxiety, multivariate analysis of correlates was not conducted. At multivariate analysis, being a female (AOR=3.24;95% CI=1.457-26), having headache post discharge (AOR=3.26;95% CI=1.39-7.61) and having myalgia post discharge

(AOR=4.16;95% CI=1.74-9.92) were significant correlates of having stress following Dengue infection.

After controlling for confounders, age ≥ 35 years (AOR=4.05;95% CI=2.04-8.04), not being married (AOR=2.7;95% CI=1.38-5.28), having experience of stress full life events (AOR=1.98;95% CI=1.16-3.36), not receiving an adequate quantity of sleep (AOR=2.51;95% CI=1.00-6.31), poor quality of sleep (AOR=15.34;95% CI=3.2572.49), headache post discharge (AOR=2.69;95% CI=1.6-4.53), presence of myalgia post discharge (AOR=3.63;95% CI=2.16-6.11), haemoglobin < 11 g/dl at acute stage (AOR=2.01;95% CI=1.02-3.98) and having a platelet count $\leq 30,000/\text{mm}^3$ (AOR=2.38;95% CI=1.42-3.99) have significant associations with post infectious fatigue.

The average cost per illness episode of DF household and DHF household was Rs. 23,353.90(SD=17,067.00) and Rs. 24,637.50(SD=17,248.70) respectively. The Out of Pocket Expenditure (OOPE) accounted for 98.03% and 95.59% of total household cost of DF and DHF groups correspondingly. The average household cost per illness was estimated at nearly 25% of average monthly income of a household in 2016 in Colombo District.

Conclusions and Recommendations: CFQ(S) is a valid and reliable tool to assess PIF following Dengue infection. Depression, anxiety and stress showed a low prevalence whereas PIF was present among 35% at one month post infection. The modifiable correlates suggest the indications on screening and prevention, which is more applicable to Clinicians. High OOPE stresses on importance on prevention of Dengue infection.

Keywords: Post infectious fatigue, Psychological morbidity, Dengue infection, correlates, household cost