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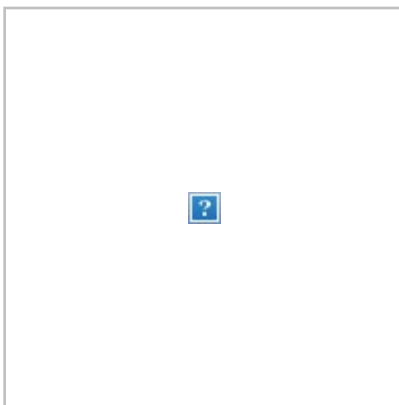
Routine blood parameters of dengue infected children and adults. A meta-analysis

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ABSTRACT

The World Health Organization (WHO) has revised dengue case classification in 2009 to better reflect the severity of the disease. However, there was no comprehensive meta-analysis of pooled routine blood parameters according to the age or the categories of the 2009 WHO classification. This study aimed to meta-analyze the routine blood parameters of dengue infected children and adults. Electronic search was performed with eligible articles included for review. Meta-analysis was conducted for six blood parameters stratified into children, adults and all ages, which were further grouped into the three 2009 WHO case classifications (dengue without warning signs, DwoWS; dengue with warning signs, DwWS; severe dengue, SD), non-severe dengue (non-SD) and 'All' cases. A total of 55 articles were included in the meta-analysis. Fifteen studies were conducted in the children's age category, 31 studies in the adult category and nine studies in all ages. The four selected pooled blood parameters for children were white blood cell (WBC) ($\times 10^3/L$) with 5.11 (SD), 5.64 (DwWS), 5.52 (DwoWS) and 4.68 (Non-SD) hematocrit (HCT) (%) with 36.78 (SD), 40.70 (DwWS), 35.00 (DwoWS) and 29.78 (Non-SD) platelet (PLT) ($\times 10^3/\mu L$) with 78.66 (SD), 108.01 (DwWS), 153.47 (DwoWS) and 108.29 (non-SD); and aspartate aminotransferase (AST) ($/\mu L$) with 248.88 (SD), 170.83 (DwWS), 83.24 (DwoWS) and 102.99 (non-SD). For adult, WBC were 4.96 (SD), 6.44 (DwWS), 7.74 (DwoWS) and 3.61 (non-SD); HCT were 39.50 (SD), 39.00 (DwWS), 37.45 (DwoWS) and 41.68 (non-SD); PLT were 49.62 (SD), 96.60 (DwWS), 114.37 (DwoWS) and 71.13 (non-SD); and AST were 399.50 (SD), 141.01 (DwWS), 96.19 (DwoWS) and 118.13 (non-SD). These blood parameters could not differentiate between each dengue severity according to the WHO 2009 classification, SD, DwoWS, DwWS and non-SD, because the timing of blood drawing was not known and there was an overlapping confidence interval among the clinical classification. Hence, these pooled blood parameter values could not be used to guide clinicians in management and did not correlate with severity as in previous scientific literatures and guidelines.

KEYWORDS: [Dengue](#) [WHO 2009 classification](#) [blood parameters](#) [clinical practice](#) [guide](#) [severity](#)

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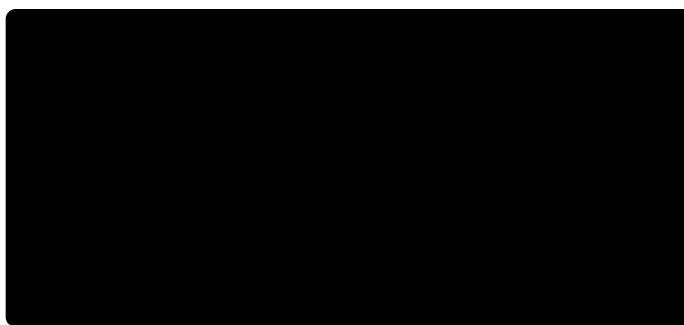


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