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External Validation and Comparison of Two Dengue Severity Scores in Pediatric Patients

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To the Editor: The incidence of dengue infection in Indonesia has increased over the last 5 y. An estimated 90% of children aged < 5 y with severe dengue infection require hospitalization annually [1]. Clinical manifestations such as abdominal pain, fluid accumulation, mucosal bleeding, and hepatomegaly were associated with severe dengue infection [2]. Predicting mortality from dengue infection remains challenging for clinicians despite increasing knowledge and improvements in diagnosis. Studies by Pongpan et al. applied the scoring system to differentiate dengue infection using clinical manifestations and routine laboratory investigations [3, 4].

We conducted a retrospective cohort study using medical records from Siloam Hospital, Lippo Village, between January 2015 and December 2020. The inclusion criteria were children (0–18 y old) diagnosed with dengue infection. Children with other coinfections, long-term steroid use, immunodeficiency conditions, or insufficient laboratory data were excluded.

The first scoring system performs better in excluding DF with a sensitivity of 95.7% and ruling in DHF and DSS with specificities of 94.9% and 99.8%. In contrast, the second scoring system is superior in ruling out DHF with a sensitivity of 30.7% and ruling in DF with a specificity of 37%. Both scoring systems predicted DF correctly, with a PPV of 88.8%. The second scoring system has a higher NPV to predict DSS (98.6%), with the first scoring system having a better NPV for predicting DF (55%), and DHF (89.9%). Both scoring systems may identify patients with DF and exclude patients with DHF and DSS. Both scoring systems are also excellent at ruling in DSS when positive but less helpful at ruling it out when negative. The first scoring system was also moderately good at ruling in DHF when positive.

Declarations

Conflict of Interest None.

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