

Identifying critically ill children at risk of dying during hospital admission in Malawi: prognostic accuracy of a modified qSOFA score

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Introduction

After initial ETAT screening, a reliable bedside score for children to guide level of care in low-resource settings is lacking. The paediatric Liverpool qSOFA score was not yet validated in this setting.

Methods

The LqSOFA was evaluated in a Malawian cohort. We improved this score to a simple 4-parameter bedside tool (BqSOFA). We validated this score in a second Malawian cohort and compared it with the FEAST PET.

Results

To predict mortality, the LqSOFA yielded an AUC of 0.68 (95%-CI: 0.60-0.76). The BqSOFA and FEAST-PET yielded AUCs of 0.84 (95%-CI: 0.79-0.89) and 0.83 (95%-CI: 0.77-0.89) in the derivation cohort, and 0.74 (95%-CI: 0.68-0.79) and 0.76 (95%-CI: 0.70-0.82) in the validation cohort, respectively.

Discussion

The BqSOFA revealed improved prognostic performance for mortality compared to the LqSOFA and its performance is as discriminative yet more practical than the FEAST PET.

A modified qSOFA score (four clinical variables) was able to identify children at risk of dying in Malawi.

Tables & Figures

Liverpool qSOFA (LqSOFA, range 0-4)

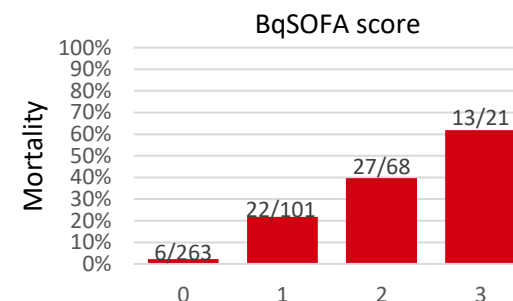
- Respiratory rate*
- Capillary refill time \geq 3 sec
- Heart rate*
- Consciousness level (AVPU)

* Based on 13 age-categories Bonafide et al.



Blantyre qSOFA (BqSOFA, range 0-4)

- Respiratory rate*
 - Capillary refill time > 3 sec
 - Pallor yes/no
 - Consciousness level (BCS<5)
- * \geq 80/min if 0-1 yrs, \geq 75/min if >1-5yrs, \geq 65 if >5 yrs



Conclusion

We developed a simple bedside score based on four clinical parameters to promptly identify critically ill children in Malawi. If these results can be confirmed in other low-resource settings, it may be used to guide level of care (BqSOFA=0 transfer to the ward, BqSOFA=1 transfer to HDU, BqSOFA \geq 2 stabilize in A&E).

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