



Do Clinical Scores Score in Predicting Neonatal Mortality?

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According to World Health Organisation data (2020), there are approximately 6700 newborn deaths every day, contributing to 47% of under-5 mortality [1]. The current neonatal mortality rate in our country is 24.9 per 1000 live births as per National Family Health Survey (NFHS-5) [2]. Preterm delivery, sepsis and birth asphyxia are the leading causes of neonatal mortality. Several maternal, placental, fetal and environmental factors may be interplaying in the death of a neonate. Preterm birth, low birth weight, a low APGAR score at 5 min, failure to initiate early breastfeeding and temperature ($\geq 37.5^{\circ}\text{C}$) at admission are important predictors of neonatal mortality [3]. Predicting neonatal survival or death is at times difficult and systems developed for this task should include a judicious mixture of clinical and lab components. Depending on the purpose of the score *i.e.*, screening, diagnosis or prediction, the score components should be appropriately chosen and both sensitivity and specificity of the score should be carefully examined before using.

In a multicentre study by Vardhelli et al., sickness scoring (SNAPPE-II and STOPS) was done for 669 neonates with gestational age ≥ 33 wk at 12 h after admission to 5 NICUs. The area under the curve (AUC) on the receiver operating characteristics (ROC) curve for both scores were compared. STOPS with a cut-off score ≥ 4 on the ROC curve had 85% accuracy and a SNAPPE-II cut-off score ≥ 33 on the ROC curve had 94% accuracy in predicting mortality. Both SNAPPE-II and STOPS had good mortality prediction ability with AUCs of 0.965 [95% confidence interval (CI): 0.94–0.98] and 0.92 (95% CI: 0.87–0.99), respectively. The authors conclude that in neonates with gestation ≥ 33 wk, both new STOPS score and SNAPPE-II are good for predicting mortality and STOPS score may be more suitable for resource restricted settings [4]. The study results are significant as the data has been collected from 5 different NICUs.

Neonates with gestational age ≥ 33 wk have been included in this study. As the quality of perinatal care is improving, the number of extremely preterm (less than 28 wk) and very preterm (28 to 32 wk) neonates being salvaged is increasing and it would be meaningful to have specific clinical scores for these neonates also.

STOPS and SNAPPE-II are general scores which may be convenient for prognostication. However, etiology and gestation specific scores may be useful in predicting mortality more accurately. Sepsis specific scores including Neonatal Sequential Organ Failure Assessment (nSOFA) and NeoSep Severity and Recovery scores have been getting attention. Newer scores usually evolve from the pre-existing scores, depending on the situation and improvement in neonatal care. User friendly clinical scores which can be computed soon after admission, reproducible and applicable for various groups are easily adapted in clinical practice [5]. Although the importance of clinical scores cannot be undermined, improving manpower, protocols, infrastructure and smart networking of neonatal transport is the need of the hour. We should move away from the mindset of resource limited settings and state of the art facilities should be made available for all the future citizens.

Declarations

Conflict of Interest None.

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