

**ASSESSMENT OF DETERMINANTS FOR NEONATAL MORTALITY RISK PREDICTION
DECISION SUPPORT SYSTEM**Jaleh Shoshtarian Malak¹, Reza Safdari¹, Fatemeh Nayeri²

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TYPE OF ARTICLE: CONFERENCE ABSTRACT**ABSTRACT**

Introduction: In recent years, many decision-making systems have been proposed for neonatal intensive care units, where the high-risk neonates are taken care of. Hence, using these tools helped to decrease neonatal mortality rates, but statistics have shown no reduction rate for preterm, low weights, and neonatal with labor complication. In this paper, we are going to assess the determinants for developing a neonatal mortality risk prediction decision support systems.

Methods: Neonatal mortality scoring systems and articles including “Neonatal Intensive Care Decision Support System” in their title or abstract were searched using PubMed, Scimedirect, and IEEE databases. Parameters, related outcomes, and applied methods were extracted and analyzed in focus groups sessions with neonatal specialists, resulting in a questionnaire, which was fielded by 10 neonatal specialists. Content validation was made using CVR and CVI measures, and the questionnaire was examined by Cronbach’s alpha.

Results: By reviewing neonatal intensive care decision support systems, their variables and outcomes 85 items were extracted, and 84 items were finalized during group discussion. By calculating CVI measure, only seven items were selected for neonatal mortality risk prediction, including birth weight, gestational age, respiratory rate, hypothermia, lowest temperature, multiple seizures, and serum PH.

Conclusion: Selected items during the assessment were applied for designing a neonatal mortality risk prediction system. Deciding about high-risk neonates treatment and resource allocation is a multivariable and complicated task and requires the collaboration of complex real time tools and technologies.

KEYWORDS: Neonatal mortality prediction, NICU decision support system, Neonatal intensive care unit management