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Use of Early Warning Signs to Facilitate Prompt Detection of Neonates at Risk of Clinical Deterioration

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Introduction

It is well known that newborns are prone to develop physiological instability during their transition to extra-uterine life. The observation chart traditionally used in Special Care Baby Unit (SCBU) is insufficient to provide nurses with reference ranges and severity levels of significant clinical signs specific to neonates. This hinders early recognition of infants at risk of clinical deterioration, communication of condition changes among health care team members and rapid activation of appropriate interventions.

Objectives

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Methodology

Strategies employed in the development of an integrated observation chart with NEWS included retrospective review of Neonatal Intensive Care Unit (NICU) admission; literature review and liaison with neonatologist to define severity levels of clinical signs and action pathways; forming a nursing team to design the layout of the chart; conducting educational talks to nurses. Feasibility was assessed by post education staff survey. Descriptive statistics was used to analyze the results.

Result

In 2014, sixty-three infants in SCBU required admission to NICU for step-up care. The major presenting clinical signs were respiratory (48%), gastrointestinal (14%) and neurological (8%) related. These clinical signs, together with pain score, and skin assessment score were integrated into the new observation chart. Colored zones were used to highlight normal and abnormal reference ranges, as well as the levels of severity. Action pathways were developed for abnormal signs detected. All respondents (100%) in the staff survey favored the new chart for providing them with organized format and clear instruction for charting; guidance in identifying the severity of infant's condition and initiation of appropriate actions. With management support,

the integrated observation chart with NEWS was fully implemented in SCBU since February 2016 in our hospital. It was the first use of integration of early warning signs and action pathways as a clinical tool to facilitate early detection of neonates at risk of clinical deterioration in our hospital. It would have great potential to benefit other health care providers serving neonates as well.