

00103 Nursing Perceptions of a Novel Electronic Feeds Calculator in the Paediatric Intensive Care Unit

Sng Qian Wen, Ong Chengsi, Ang Su Ling Linda, Kirk Hui Ping Angela, Lee Jan Hau

KK Women's & Children's Hospital

Aims: An improved nursing-led feeding protocol that utilized a novel electronic feeds calculator was introduced in the paediatric intensive care unit (PICU) in September 2016. This novel calculator computes caloric requirements according to weight, age, milk type and intubation status. The aim of this study was to assess nurses' perceptions to this new feeds calculator.

Methodology: Nurses with >six months' PICU experience were invited to participate in pre-implementation (December 2015) and post-implementation surveys (July 2017). A 16-item questionnaire examined 2 domains (scale of 1 to 5): protocol's ease of use (7items) and quality of care (6items). Nurses also rated their comfort, confidence and familiarity (scale of 1 to 10). Lower scores denote poorer outcomes. Reliability of domains and differences in perceptions were analysed using Cronbach's alpha and Mann-Whitney U tests, respectively.

Result: 69(80%) and 63(77%) nurses responded in the pre- and post-implementation phases. Mean age of nurses was 33.8±9.4 years. Years of experience in nursing and PICU was 11.4±9.1 and 7.8±6.7, respectively. Nurses mostly reported using the feeding protocol once to twice (44.4%) in the month preceding the post-implementation phase. There was good internal consistency for Ease of Use and Quality of Care survey components (Cronbach's alpha $r=0.79$ and $r=0.92$ respectively). Significant improvements were observed in mean scores for Ease of Use (3.5±0.5 vs. 3.8±0.5, $p<0.01$), Quality of Care (3.5±0.6 vs. 3.9±0.6, $p<0.01$) and Comfort (7.1±2.1 vs. 7.8±1.5, $p=0.04$). Within the Ease of Use domain, nurses perceived less time consumed (3.0±0.9 vs. 3.3±1.0, $p<0.01$), no increase in work (3.2±0.8 vs. 3.6±0.9, $p<0.01$) and did not view it as an unnecessary stressor (3.4±0.9 vs. 3.7±0.9, $p<0.05$).

Conclusion: Nurses were receptive to the use of the improved feeding protocol and perceived an improved quality of care. The use of an electronic feeds calculator allowed customisation of PICU patients' needs without increasing nurses' workload.