Title:
Nursing Workload and its Relationship to Patient Care Error in the Paediatric Critical Care Setting

Ruth M. Trinier, MN
Paediatric Intensive Care Unit, Hospital for Sick Children, Toronto, ON, Canada

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Session Title:
Rising Stars of Research and Scholarship Invited Student Poster Session 1

Keywords:
nurse staffing, nursing-workload and patient care error

References:
Donovan, R. O., Doody, O., & Lyons, R. (2015). The effect of stress on health and its implications for nursing. British Journal of Nursing, 22(16), 969-973. Kiekkas, P., Karga, M., Lemonidou, C., Aretha, D., & Karanikolas, M. (2011). Medication errors in critically ill adults: A review of direct observation evidence. American Journal of Critical Care, 20(1), 36-44. doi: 10.4037/ajcc2011331 Laurent, A., Aubert, L., Chahraoui, K., Bioy, A., Mariage, A., Quenot, J.P., & Capellier, G. (2014). Error in intensive care: psychological repercussions and defense mechanisms among health professionals. Critical Care Medicine, 42(11), 2370-2378. doi: 10.1097/CCM.0000000000000508 Parshuram, C. S., Amaral, A.C.K.B., Ferguson, N. D., Baker, G. R. Etchells, E. E., Flintoft, V. … Canadian Critical Care Trials Group. (2015). Patient safety, resident well-being and continuity of care with different resident duty schedules in the intensive care unit: a randomized trial. Canadian Medical Association Journal, 321-329. http://dx.doi.org/10.1503/cmaj.140752 Rushton, C. H., Batcheller, J., Schroeder, K., & Donohue, P. (2015). Burnout and resilience among nurses practicing in high-intensity settings. American Journal of Critical Care, 24(5), 412-420. doi: http://dx.doi.org/10.4037/ajcc2015291 Vryonides, S., Papastavrou, E., Charalambous, A., Andreou, P., & Merkouris, A. (2015). The ethical dimension of nursing care rationing: a thematic synthesis of qualitative studies. Nursing Ethics, 22(8), 881-900. http://dx.doi.org/ 10.1177/0969733014551377

Abstract Summary:
Increased workload has been reported to contribute to errors, a leading cause of death and disability. This prospective observational study examined a correlation between nursing workload and patient care error. A statistically significant association was identified. Further findings noted many patients requiring more care than one nurse could provide.

Learning Activity:

LEARNING OBJECTIVES	EXPANDED CONTENT OUTLINE
Following this presentation, the learner will be able to state the potential deleterious effects of patient care error.	Learner will meet objective through presenter description of content in addition to question and answer period allowing the audience to contribute to learning through personal reflection and personal stories.
Following this presentation, the learner will be able to describe the relationship between nursing workload and patient care error.	Learner will meet objective through presenter description of study results in addition to question and answer period allowing the audience to contribute to learning through personal stories.

Abstract Text:

Patient care error, a leading cause of death and disability in the critical care setting, contributes to suffering of the patient and family; can precipitate an emotional crisis for health care staff; and creates an increased financial burden to the health care system. Nurses, who provide the majority of direct patient care in the hospital setting, have reported a perception that increased workload contributes to many of these errors. Nursing practice, which requires complex knowledge work and vigilant patient assessment to promote best outcomes, may be compromised by time and manpower constraints.

To examine the relationship between nursing workload and the delivery of best-practice care in the paediatric critical care setting, a prospective observational study was performed. This study was nested within a larger study, using direct observation strategies of critically ill patients admitted to a critical care unit over a period of 5 months. The main outcome was the occurrence of 13 complications of care. For each patient-day, nursing workload scores, which quantified physical and emotional care of the patient including underlying cognitive activities and indirect care, were determined for each patient using data entered directly by the patient's nurse. Using a correlational design, the presence or absence of complications was compared to the workload score for the nurse(s) over a 24 hour period.

Data for 2,117 total patient days representing 3,845 nursing shifts over the 5 months of the study identified 665 complications that occurred on 497 (23%) patient days. A statistically significant ($p < .001$) association between nursing workload and patient care error was identified. Although the relationship was small (rho (2117) =.11), the odds of error increased as the nursing workload increased. The difference in mean workload hours between those entries with an error and those without was 1.77 hours over 24. Further findings indicated that a large number of patients in the study required nursing care in excess of what was suggested that one nurse could provide.

Staffing models responsive to the nursing care needs of individual patients have been suggested as a method to reduce the potential for error and increase the nurse's ability to complete appropriate patient care in the time allotted.