

Qualitative study - other

Likelihood of nursing care being missed is influenced by several work-based factors

10.1136/eb-2018-102933



Andres Azuero

School of Nursing, University of Alabama at Birmingham, Birmingham, Alabama, USA

Correspondence to: Dr Andres Azuero, University of Alabama at Birmingham, School of Nursing, Birmingham, AL 35294, USA; andreo@uab.edu

Commentary on: Blackman I, Lye CY, Darmawan IGN, *et al.* Modeling missed care: implications for evidence-based practice. *Worldviews Evid Based Nurs.* 2018. doi: 10.1111/wvn.12285

Implications for practice and research

- ▶ Accumulating evidence, both through objective data and self-report, supports the influence of nursing work conditions such as staffing and skill mix on the likelihood of care being missed.
- ▶ In absence of objective data, self-report measures may provide proxy yet useful information about the relationships between nursing work environment and care quality.

Context

In the past two decades, a compelling body of evidence^{1,2} has linked higher nurse-to-patient ratios, higher proportion of baccalaureate-prepared nurses and higher total nursing care hours to lower patient mortality, decreased length of stay and a lower likelihood of patient complications such as nosocomial infections and pressure injuries. Many of these studies used a complex mix of data sources including medical and administrative hospital records from which patient outcomes, staffing and skill mix were extracted, as well as concurrent surveys measuring perceptions of the work environment. Access to these complex data and resources to manage and analyse them are formidable barriers to empirically examine the contribution of nursing to patient-care outcomes.

Methods

In this study,³ a modified version of the Missed Nursing Care (MISSCARE) self-report survey was used to examine associations between sociodemographic characteristics, work environment factors and reports of missed care and reasons for omission of care, among a relatively large sample of 1195 nurse respondents in four Australian states. Dimension reduction of the 22 items reporting missed care and the 16 items with perceptions of reasons for care omission was examined using Rasch models. Day shift and late/afternoon shift missed care were treated as separate latent constructs, as was endorsement of reasons for care omission. Association analyses were conducted with an approach to structural equation modelling robust to distributional assumptions (PLS-SEM).

Findings

About half of respondents worked in medical/surgical areas, 62% had at least a bachelor's degree, 70% worked over 30 hours/week and 54% were

satisfied with their jobs. Excluding the path coefficients among the three latent constructs, reported effects were of small-to-moderate magnitude. The largest estimated effect was from day shift missed care to late/afternoon missed care. Identified direct predictors of missed care were: intention to leave current job, staffing adequacy and geographical region. Direct predictors of endorsement of reasons for care omission were: missed care, geographical region and type of clinical venue. Indirect predictors of missed care were: education level and type of clinical venue.

Commentary

This study presented an alternative strategy for conducting inquiries on the relationships between work environment and nursing sensitive outcomes; it used a comprehensive self-report survey collected in a large geographical area, from a variety of nursing professionals, to obtain proxies for all the variables. The traditional approach of linking complex hospital and survey data would have been unfeasible in this case. The relative ease of implementation of a self-report approach has the potential to provide approximate yet critical information about what is occurring at the point of care delivery, in a timely and cost-effective manner, and could be applicable in any clinical setting at any time. For instance, consistent with prior research, better staffing was associated with higher quality of care: respondents in the geographical region with mandatory staff-to-patient ratios reported the lowest frequencies of overall missed care.

However, the analysis results should be interpreted with caution as there are methodological issues that need consideration. From comparing the initial and final model figures, it appears that the path modelling was conducted, at least partially, in a data-driven manner, which is not problematic per se as an exploratory approach, but it is so for inferential purposes, as inference after data-driven modelling on the same dataset is likely to result in biased⁴ (overoptimistic) point estimates and measures of uncertainty. Some of the added paths could have resulted from the inability to incorporate non-causal covariation relationships by the PLS-SEM approach. Some questions are not answered fully; for example, is the relationship between day shift and late/afternoon shift missed care covariation or cause-effect? Why would late/afternoon shift missed care be a causal predictor of endorsement of reasons for missed care, and not the other way around? Given the large sample size, a split-sample approach to validate the resulting model or models and the more traditional covariance-based SEM, which can also be robust to distributional assumptions, could have been ways to deal with these issues.

Competing interests None declared.

Patient consent Not required.

Provenance and peer review Commissioned; internally peer reviewed.

© Article author(s) (or their employer(s) unless otherwise stated in the text of the article) 2018. All rights reserved. No commercial use is permitted unless otherwise expressly granted.

References

- 1 Patrician PA, Loan LA, McCarthy MS, *et al.* Twenty years of staffing, practice environment, and outcomes research in military nursing. *Nurs Outlook* 2017;65:S120–9.
- 2 Aiken LH, Sloane D, Griffiths P, *et al.* Nursing skill mix in European hospitals: cross-sectional study of the association with mortality, patient ratings, and quality of care. *BMJ Quality & Safety* 2017;26:559.
- 3 Blackman I, Lye CY, Darmawan IGN, *et al.* Modeling missed care: implications for evidence-based practice. *Worldviews Evid Based Nurs* 2018.
- 4 Efron B, Hastie T. *Computer age statistical inference: algorithms, evidence, and data science.* Cambridge: Cambridge University Press, 2016.