THE IMPACT OF AN ADDITIONAL NURSE ASSISTANT DURING EVENING SHIFTS ON NURSES' PERCEPTIONS OF JOB DEMANDS, JOB RESOURCES AND WELL-BEING

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Abstract

Aim: Nurses' well-being is often compromised due to high workloads and job demands, especially during evening shifts when resources are limited. This study aims to investigate the effects of integrating a nurse assistant into ward staffing during evening shifts on nurses' perceptions of job demands, job resources, and well-being.

Design: This study employs a pre-post pilot design to compare nurses' perceptions before and after the addition of a nurse assistant to ward staffing during evening shifts, focusing on job demands, job resources, and well-being.

Methods: Twenty-eight nurses from a top clinical hospital participated in this study, completing baseline and follow-up surveys using validated measures for job demands (workload and physical demands), job resources (autonomy and task clarity), and well-being (recovery from work and sleep problems).

Results: Following the addition of a nurse assistant, nurses reported reduced job demands, including lower workloads and fewer physical demands, as well as fewer sleep problems compared to baseline. However, no significant changes were observed in job resources such as autonomy and task clarity, or in recovery difficulties.

Conclusions: The findings suggest that integrating a nurse assistant during evening shifts can alleviate workloads, physical demands, and sleep problems among nurses.

Impact: This study underscores the potential of adding a nurse assistant to nursing teams during evening shifts to address heavy job demands and sleep-related issues. Further research with larger sample sizes and control groups is recommended to better assess the intervention's effectiveness and cost-effectiveness.

Aim

Over the past decades, nurses have experienced escalating workloads due to increasing healthcare demands and staff shortages (Duffield et al., 2011). To address these challenges cost-effectively, efforts have focused on expanding nurse teams with nurse assistants, also known as healthcare assistants in the UK, unlicensed assistive personnel in the USA, support workers , or assistants in nursing in Australia (Walker, 2019). Nurse assistants undertake routine tasks like bathing, cleaning, and providing emotional support, allowing licensed nurses more time for core clinical duties and potentially reducing their workload.

However, while nurses may appreciate the potential for more time on clinical tasks, concerns exist regarding increased workload related to supervising nurse assistants or unclear task distribution (Keeney et al., 2005). Consequently, it remains unclear whether adding nurse assistants increases or decreases nurses' overall workload. Given nurses' existing high job demands, characterized by factors like workload, understanding how adding nurse assistants impacts job demands and job resources (such as autonomy) is crucial (Laschinger et al., 2012; Bakker & Demerouti, 2007). Nurse autonomy could be enhanced if nurse assistants assume basic care tasks, potentially giving nurses more flexibility to manage other clinical responsibilities. However, introducing nurse assistants may also lead to challenges in task clarity, as the division of care tasks between nurses and nurse assistants may create confusion (Duffield et al., 2014).

Furthermore, this study addresses the unique challenges of evening shifts in ward staffing, where nurse-patient ratios and workloads are typically higher compared to day shifts. Shift work during evenings can impede post-work recovery and increase sleep problems, which can jeopardize nurse well-being (Karhula et al., 2013). Exploring whether adding nurse assistants during evening shifts exacerbates or alleviates these risks and how nurses perceive this intervention's impact on job demands and resources is vital.

Design

This pilot study employs a pre-post design. In this context, nurse assistants undergo a two-year training before performing basic care tasks under licensed nurses' supervision. All 28 licensed nurses at a top clinical hospital ward completed a baseline survey . Subsequently, a nurse assistant was integrated into evening shift staffing starting mid-February. In April, all nurses were invited to complete a follow-up survey. Ethical approval for the study was waived by the hospital's Medical Ethics Committee.

Methods

The baseline and follow-up surveys comprised questions concerning job demands, job resources, and indicators of well-being, assessed using the validated Questionnaire on the Experience and Evaluation of Work (QEEW) (Veldhoven et al., 2002). Job demands encompassed workload and physical demands, as detailed in Table 1. Job resources included autonomy and task clarity, while well-being indicators encompassed recovery after work and sleep problems. Responses for

job demands and resources items and recovery after work items were structured on a four-point scale ranging from 1 ("never") to 4 ("always"), while sleep problem items had response categories of "yes" and "no." Paired-samples t-tests were conducted to evaluate improvements in job demands, job resources, and well-being post-intervention. Bonferroni corrections were applied to adjust for multiple comparisons in pre/post assessments of various outcomes.

Table 1 presents Cronbach's alpha (α), means, standard deviations (SD), changes, and standard errors (SE) for job demands, job resources, and well-being at baseline and follow-up, involving a sample size of 28 participants.

Table 1: Cronbach's alpha (α), means, standard deviations (*SD*), change and standard error (SE) of job demands, job resources and well-being at baseline and follow-up (*N* = 28)

Variable	# items	Cronbach's alpha (α)	Baseline Mean (SD)	Follow-up Mean (SD)	Changea (SE)
Job demands					
Workload	6	0.88	10.04 (2.96)	7.57 (2.66)	-2.46* (0.74)
Physical demands	3	0.88	4.79 (1.85)	3.32 (1.47)	-1.46** (0.41)
Job resources					
Autonomy	4	0.66	6.61 (1.81)	6.75 (1.80)	0.14 (0.45)
Task clarity	4	0.86	9.04 (2.22)	8.04 (2.70)	-1.00 (0.62)
Well-being					
Recovery difficulties	6	0.90	6.71 (3.43)	5.18 (3.19)	-1.54 (0.96)
Sleep problems	13	0.90	4.61 (4.21)	2.39 (3.01)	-2.21* (0.80)

Note: N = 28; * p < .05, ** p < .01 (Bonferroni corrected).

Results

All 28 participants (26 female, 2 male) completed both the baseline and follow-up surveys. Compared to baseline, nurses reported reduced job demands, specifically lower workloads and fewer physical demands, at the follow-up assessment (refer to Table 1). However, no statistically significant changes were observed in job resources, such as autonomy and task clarity. Concerning well-being, nurses reported a significant decrease in sleep problems, while recovery difficulties showed no significant change.

The assumption of a normal distribution was found to be violated for physical demands and sleep problems according to Kolmogorov-Smirnov tests. To address this, non-parametric Wilcoxon signed-rank tests were conducted as a sensitivity analysis, confirming significantly lower

physical demands ($z = 3.04$, $p < .01$) and fewer sleep problems ($z = 2.48$, $p < .05$) at the follow-up compared to baseline.

Conclusions

This pilot study offers initial insights indicating that integrating a nurse assistant into ward staffing during evening shifts may lead to reductions in workload, physical demands, and sleep problems among nurses. However, no discernible effects were observed on nurses' perceived task clarity or autonomy in their work. Future research with larger cohorts and control groups is necessary to gain a more precise understanding of the intervention's impact and cost-effectiveness.

Considering the small sample size and multiple testing adjustments made in this study, caution is warranted regarding the possibility of type II errors (failing to reject the null hypothesis despite population-level changes). Lack of evidence for systematic changes in autonomy, task clarity, and recovery difficulties should not be construed as evidence against potential effects of integrating a nurse assistant into the nursing team.

Future investigations into the impact of nurse assistants should broaden their scope to include patient outcomes alongside those of nurses. The question of whether adding nurse assistants is beneficial for patients remains uncertain, and this impact may vary depending on the healthcare setting and the level of training provided to nurse assistants across different countries. A systematic examination of nurse assistant impacts across diverse healthcare systems is therefore warranted.

Impact

This study provides preliminary evidence suggesting that the challenges posed by heavy job demands and sleep problems during evening shifts may be alleviated by augmenting the nursing team with a nurse assistant.

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