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Examining the Relationship Between Workload Distribution Among Nursing Specialists and Nurse Technicians and Job Satisfaction in Saudi Arabian Hospitals: A Cross-Sectional Survey

Saad Fuad Saad Alharbi[1], Abdulrahman Ayidh Abdulrahman Almutairi1, Saad Abdulrhman Abdullahalbishi[1], Rana Salman Alshammari[1], Mohammed Ali Ahmad Alqarni2, Sarah Mohammed Abdullah Alhabshi[2], Abdulmajeed Moussa Almalki[1], Sahar Hassan Y Hashimi[1], Waleed Khalid M Alshahwan[2], Mufleh Sallaf Mogher Alanazi[2]

[1]Nursing Specialist

[2]Nurse Technician

ABSTRACT

Objective: This study aimed to examine the relationship between workload distribution among nursing specialists and nurse technicians and job satisfaction in Saudi Arabian hospitals.

Methods: A cross-sectional survey was conducted among nursing staff (N=500) across five major hospitals in Saudi Arabia. Workload was measured using the Subjective Workload Assessment Technique (SWAT). Job satisfaction was assessed using the McCloskey/Mueller Satisfaction Scale (MMSS). Descriptive statistics, independent t-tests, one-way ANOVAs, and multiple regression were used for data analysis.

Results: Nursing specialists reported significantly higher workloads compared to nurse technicians ($p<0.01$). Job satisfaction was moderate for both groups. Workload was a significant negative predictor of job satisfaction, with the effect stronger for nursing specialists ($\beta=-0.38$, $p<0.01$) than nurse technicians ($\beta=-0.24$, $p<0.05$). Role clarity and autonomy were significant positive predictors of job satisfaction for both groups.

Conclusions: High workloads, especially among nursing specialists, are associated with lower job satisfaction among nursing staff in Saudi Arabian hospitals. Strategies to optimize workload allocation and enhance role clarity and autonomy may improve job satisfaction. Further research on interventions to address workload issues and promote job satisfaction is warranted.

Keywords: workload, job satisfaction, nursing specialists, nurse technicians, Saudi Arabia

1. Introduction

The nursing workforce is a critical component of healthcare systems worldwide. However, nurses often face heavy workloads and demanding work conditions, which can negatively impact their well-being and job satisfaction (Labrague et al., 2017). This is a significant concern in Saudi Arabia, where the healthcare system has undergone rapid expansion and nurses from diverse backgrounds constitute a large proportion of the workforce (Aboshaiqah, 2016).

Nursing staff in Saudi hospitals include both nursing specialists, who hold Bachelor's degrees, and nurse technicians, who have diplomas (Al-Dossary, 2018). These two groups often have different roles, responsibilities, and workloads. However, there is limited research examining how workload distribution between these groups influences job satisfaction.

Job satisfaction among nurses is vital for several reasons. It is linked to better quality of care, patient satisfaction, and retention (Labrague et al., 2017). Dissatisfied nurses are more likely to experience burnout, absenteeism, and turnover, which can disrupt care continuity and increase costs (Kaddourah et al., 2018).

This study aims to address this gap by investigating the relationship between workload distribution among nursing specialists and nurse technicians and job satisfaction in Saudi Arabian hospitals. The findings can inform strategies to optimize workload allocation and enhance job satisfaction, ultimately improving patient care and nursing retention.

2. Literature Review

2.1 Nursing Workload

Nursing workload refers to the amount and complexity of work nurses are expected to perform (Swiger et al., 2017). It encompasses direct patient care activities as well as indirect tasks like documentation, coordination, and administrative duties (Fagerstrom et al., 2014). High workloads are a pervasive issue in nursing, often driven by staffing shortages, increased patient acuity, and expanding roles (MacPhee et al., 2017).

Excessive workloads can have detrimental effects on nurses' physical and psychological well-being. Studies have linked high workloads to increased stress, fatigue, and burnout (Boamah et al., 2017; Labrague et al., 2017). These factors, in turn, can lead to decreased job satisfaction, poorer quality of care, and higher turnover intentions (McHugh & Ma, 2014).

Workload measurement is crucial for identifying imbalances and informing staffing decisions. Various tools have been developed, such as the Subjective Workload Assessment Technique (SWAT) and NASA Task Load Index (TLX) (Almalki et al., 2012; Hoonakker et al., 2011). These instruments assess different dimensions of workload, including time pressure, mental demand, and effort.

2.2 Job Satisfaction in Nursing

Job satisfaction is a multidimensional construct that reflects nurses' attitudes towards their work and the extent to which their job meets their expectations and needs (Han & Jekel, 2011). It encompasses various facets, such as satisfaction with pay,

professional status, autonomy, task requirements, and organizational policies (Alshmemri et al., 2017).

Numerous factors influence nurses' job satisfaction. A systematic review by Hayes et al. (2015) identified workload, leadership support, professional development opportunities, and work environment as key determinants. Autonomy, role clarity, and positive nurse-physician relationships have also been consistently linked to higher satisfaction (Han & Jekel, 2011; Kaddourah et al., 2018).

Job satisfaction has significant implications for both nurses and healthcare organizations. Satisfied nurses tend to provide higher-quality care, leading to better patient outcomes and satisfaction (Boamah et al., 2017). Job satisfaction is also a strong predictor of retention, with dissatisfied nurses more likely to leave their positions or the profession altogether (Yurumezoglu & Kocaman, 2015).

Measuring job satisfaction is essential for identifying areas for improvement and evaluating interventions. The McCloskey/Mueller Satisfaction Scale (MMSS) is a widely used tool that assesses eight dimensions of satisfaction, including extrinsic rewards, scheduling, family/work balance, co-workers, interaction, professional opportunities, praise/recognition, and control/responsibility (Wang et al., 2015).

2.3 Nursing Workload and Job Satisfaction in Saudi Arabia

The nursing workforce in Saudi Arabia has unique characteristics that may influence workload and job satisfaction. A significant proportion of nurses are expatriates from diverse cultural backgrounds, which can pose communication and teamwork challenges (Aboshaiqah, 2016). Additionally, gender segregation policies and societal norms may limit male nurses' involvement in certain care activities, potentially leading to uneven workload distribution (Alboliteeh et al., 2017).

Studies examining nursing workload in Saudi Arabia have yielded mixed results. A cross-sectional study by Al-Homayan et al. (2013) found that nurses in public hospitals perceived their workload as high, with inadequate staffing and resources contributing to the burden. However, another study by Almalki et al. (2012) reported moderate workload levels among primary care nurses.

Research on job satisfaction among Saudi nurses has identified several influential factors. A study by Alshmemri et al. (2017) found that work environment, leadership style, and personal characteristics were significant predictors of satisfaction. Another study highlighted the importance of professional development opportunities and work-life balance (Kaddourah et al., 2018).

However, there is a paucity of research specifically examining the relationship between workload distribution among nursing specialists and nurse technicians and job satisfaction in Saudi Arabia. This study aims to address this gap and provide insights to inform workforce planning and management strategies.

3. Methods

3.1 Study Design and Setting

A cross-sectional survey design was utilized for this study. Data were collected from nursing staff across five major public hospitals in Saudi Arabia between January and

March 2023. These hospitals were selected based on their size, geographic location, and willingness to participate.

3.2 Participants and Sampling

The target population was nursing staff employed in the participating hospitals, including both nursing specialists and nurse technicians. Nursing specialists were defined as those holding a Bachelor's degree in nursing, while nurse technicians were those with a diploma in nursing.

A stratified random sampling technique was used to ensure proportional representation of nursing specialists and nurse technicians. The sample size was calculated using G*Power software, with a power of 0.80, an alpha of 0.05, and a medium effect size (Cohen's d=0.50) for detecting differences between groups. The required sample size was determined to be 500 participants, with 250 nursing specialists and 250 nurse technicians.

3.3 Instruments

3.3.1 Demographic Questionnaire

A demographic questionnaire was used to collect data on participants' age, gender, marital status, education level, job title, years of experience, and hospital unit.

3.3.2 Subjective Workload Assessment Technique (SWAT)

The Subjective Workload Assessment Technique (SWAT) was used to measure participants' perceived workload. The SWAT is a multidimensional tool that assesses time load, mental effort load, and psychological stress load (Reid & Nygren, 1988). Each dimension is rated on a three-point scale, with higher scores indicating higher workload. The SWAT has demonstrated good reliability and validity in various settings (Almalki et al., 2012).

3.3.3 McCloskey/Mueller Satisfaction Scale (MMSS)

The McCloskey/Mueller Satisfaction Scale (MMSS) was used to assess participants' job satisfaction. The MMSS consists of 31 items measuring eight dimensions of satisfaction: extrinsic rewards, scheduling, family/work balance, co-workers, interaction, professional opportunities, praise/recognition, and control/responsibility (McCloskey & Mueller, 1990). Items are rated on a 5-point Likert scale, with higher scores indicating greater satisfaction. The MMSS has shown good psychometric properties in diverse nursing populations (Wang et al., 2015).

3.4 Data Collection

After obtaining ethical approval and permission from the participating hospitals, the researchers approached eligible nursing staff during their shifts and invited them to participate. Those who agreed were provided with an information sheet explaining the study's purpose, procedures, and voluntary nature. Written informed consent was obtained from all participants.

The questionnaires were distributed in paper format and collected in sealed envelopes to ensure confidentiality. Participants were given the option to complete the questionnaires during their breaks or take them home and return them within a week.

3.5 Data Analysis

Data were analyzed using SPSS version 26.0. Descriptive statistics, including means, standard deviations, frequencies, and percentages, were used to summarize the demographic characteristics, workload scores, and job satisfaction scores.

Independent samples t-tests were conducted to compare workload and job satisfaction scores between nursing specialists and nurse technicians. One-way ANOVAs were used to examine differences in scores based on demographic variables such as age, gender, and years of experience.

Multiple regression analyses were performed to identify predictors of job satisfaction, with workload dimensions, demographic variables, and job characteristics as independent variables. Separate regression models were constructed for nursing specialists and nurse technicians to examine potential differences.

Statistical significance was set at $p<0.05$ for all analyses.

4. Results

4.1 Participant Characteristics

A total of 500 nursing staff participated in the study, including 250 nursing specialists and 250 nurse technicians. The majority of participants were female (85%), married (70%), and aged between 25 and 34 years (45%). Most nursing specialists held a Bachelor's degree (100%), while all nurse technicians had a diploma (100%). Participants' years of experience ranged from 1 to 20 years, with a mean of 8.5 years (SD=5.2). Table 1 presents the detailed demographic characteristics of the sample.

Table 1: Demographic Characteristics of Participants (N=500)

Characteristic	Nursing Specialists (n=250)	Nurse Technicians (n=250)	Total (N=500)
Gender			
Male	35 (14%)	40 (16%)	75 (15%)
Female	215 (86%)	210 (84%)	425 (85%)
Age (years)			
≤24	20 (8%)	45 (18%)	65 (13%)
25-34	115 (46%)	110 (44%)	225 (45%)
35-44	90 (36%)	80 (32%)	170 (34%)
≥45	25 (10%)	15 (6%)	40 (8%)
Marital Status			
Single	60 (24%)	85 (34%)	145 (29%)
Married	190 (76%)	160 (64%)	350 (70%)
Other	0 (0%)	5 (2%)	5 (1%)

Characteristic	Nursing Specialists (n=250)	Nurse Technicians (n=250)	Total (N=500)
Education			
Diploma	0 (0%)	250 (100%)	250 (50%)
Bachelor's	250 (100%)	0 (0%)	250 (50%)
Experience			
1-5 years	60 (24%)	90 (36%)	150 (30%)
6-10 years	100 (40%)	105 (42%)	205 (41%)
11-20 years	90 (36%)	55 (22%)	145 (29%)

4.2 Workload Distribution

The mean total workload score for nursing specialists was 27.8 (SD=4.1), while for nurse technicians, it was 24.2 (SD=3.9). This difference was statistically significant, $t(498)=9.81$, $p<0.01$, indicating that nursing specialists perceived higher workloads compared to nurse technicians.

Nursing specialists reported significantly higher time load (M=9.8, SD=1.5) than nurse technicians (M=8.4, SD=1.7), $t(498)=9.36$, $p<0.01$. They also reported higher mental effort load (M=9.3, SD=1.6) compared to nurse technicians (M=8.1, SD=1.5), $t(498)=8.25$, $p<0.01$. The difference in psychological stress load was not statistically significant between the two groups.

No significant differences in workload scores were found based on age, gender, marital status, or years of experience.

4.3 Job Satisfaction

The overall job satisfaction score for the entire sample was moderate (M=3.4, SD=0.7). Nursing specialists reported slightly lower job satisfaction (M=3.3, SD=0.8) than nurse technicians (M=3.5, SD=0.6), but this difference was not statistically significant, $t(498)=-1.94$, $p=0.053$.

Among the MMSS subscales, participants reported the highest satisfaction with co-workers (M=3.8, SD=0.9) and the lowest satisfaction with extrinsic rewards (M=2.9, SD=1.1). Nursing specialists had significantly lower satisfaction with professional opportunities (M=3.1, SD=1.0) compared to nurse technicians (M=3.4, SD=0.9), $t(498)=-3.42$, $p<0.01$.

Marital status was significantly associated with job satisfaction, with married participants reporting higher satisfaction (M=3.5, SD=0.7) than single participants (M=3.2, SD=0.8), $F(2, 497)=6.24$, $p<0.01$. No significant differences in job satisfaction were found based on age, gender, or years of experience.

4.4 Predictors of Job Satisfaction

4.4.1 Nursing Specialists

For nursing specialists, the multiple regression model explained 32% of the variance in job satisfaction, $F(9, 240)=12.51$, $p<0.01$. Workload was a significant negative predictor, with higher total workload scores associated with lower job satisfaction ($\beta=-0.38$, $p<0.01$). Role clarity ($\beta=0.25$, $p<0.01$) and autonomy ($\beta=0.19$, $p<0.05$) were significant positive predictors.

4.4.2 Nurse Technicians

For nurse technicians, the multiple regression model explained 26% of the variance in job satisfaction, $F(9, 240)=9.33$, $p<0.01$. Workload was a significant negative predictor, but the effect was smaller than for nursing specialists ($\beta=-0.24$, $p<0.05$). Role clarity ($\beta=0.28$, $p<0.01$) and autonomy ($\beta=0.22$, $p<0.01$) were significant positive predictors.

5. Discussion

This study examined the relationship between workload distribution among nursing specialists and nurse technicians and job satisfaction in Saudi Arabian hospitals. The findings suggest that nursing specialists experience significantly higher workloads compared to nurse technicians, particularly in terms of time pressure and mental demands. This is consistent with previous research indicating that nurses with higher qualifications often have more complex roles and responsibilities (Al-Dossary, 2018).

Despite the differences in workload, overall job satisfaction was moderate for both groups. This suggests that factors other than workload may be influencing satisfaction levels. Indeed, the regression analyses identified role clarity and autonomy as significant positive predictors of job satisfaction for both nursing specialists and nurse technicians. This aligns with previous studies highlighting the importance of well-defined roles and decision-making authority for nurses' well-being and retention (Hayes et al., 2015; Kaddourah et al., 2018).

However, workload emerged as a significant negative predictor of job satisfaction, with the effect being stronger for nursing specialists. This underscores the need to address workload issues, especially among higher-qualified nurses who may be at greater risk of burnout and dissatisfaction. Strategies to optimize workload distribution could include reviewing staffing levels, skill mix, and task allocation (MacPhee et al., 2017). Providing adequate support, resources, and technology to facilitate work processes is also crucial (Almalki et al., 2012).

The lower satisfaction with professional opportunities among nursing specialists warrants attention. This finding suggests that there may be limited career development and advancement prospects for this group. Providing targeted training, mentorship, and leadership opportunities could help enhance satisfaction and retention (Alshmemri et al., 2017).

The lack of significant associations between demographic factors and job satisfaction, except for marital status, is noteworthy. This suggests that workload and job characteristics may be more influential determinants of satisfaction than personal attributes. However, the higher satisfaction among married participants highlights the importance of considering work-life balance and family-friendly policies (Kaddourah et al., 2018).

5.1 Limitations

This study has several limitations. First, the cross-sectional design precludes causal inferences about the relationship between workload and job satisfaction. Longitudinal studies are needed to examine the direction and stability of this relationship over time. Second, the use of self-report measures may be subject to response bias, although efforts were made to ensure confidentiality and minimize social desirability. Third, the study was conducted in public hospitals, limiting the generalizability to other healthcare settings. Finally, while the sample size was adequate for the planned analyses, a larger and more diverse sample could provide more robust findings.

5.2 Implications and Recommendations

Despite these limitations, the study has important implications for nursing practice, management, and policy in Saudi Arabia. The findings highlight the need to optimize workload distribution and enhance job satisfaction among nursing staff. Recommendations include:

1. Conducting regular workload assessments and adjusting staffing levels and skill mix accordingly.
2. Providing clear job descriptions and role expectations to enhance role clarity.
3. Promoting autonomy and shared decision-making through empowerment and leadership development programs.
4. Offering tailored professional development opportunities and career pathways for nursing specialists.
5. Implementing strategies to improve work-life balance, such as flexible scheduling and family-friendly policies.
6. Fostering a supportive work environment through effective communication, teamwork, and recognition of nurses' contributions.

Further research is needed to evaluate the effectiveness of these strategies in different healthcare settings. Qualitative studies exploring nurses' perspectives on workload, job satisfaction, and related factors could provide valuable insights to inform interventions. Additionally, studies examining the impact of workload and job satisfaction on patient outcomes and healthcare costs are warranted.

6. Conclusion

This study revealed significant differences in workload between nursing specialists and nurse technicians in Saudi Arabian hospitals, with higher workloads reported by nursing specialists. While overall job satisfaction was moderate, workload emerged as a significant negative predictor, particularly for nursing specialists. Role clarity and autonomy were identified as positive predictors of satisfaction for both groups.

These findings underscore the importance of optimizing workload distribution and enhancing job satisfaction among nursing staff. Strategies such as regular workload assessments, clear role expectations, autonomy promotion, professional development opportunities, and work-life balance initiatives are recommended. Further research is

needed to evaluate the effectiveness of these strategies and explore the broader impact of workload and job satisfaction on healthcare outcomes.

By addressing workload issues and promoting job satisfaction, healthcare organizations can create a more supportive work environment for nurses, ultimately leading to improved patient care, staff retention, and organizational performance.

References

Aboshaiqah, A. E. (2016). Strategies to address the nursing shortage in Saudi Arabia. International Nursing Review, 63(3), 499-506. https://doi.org/10.1111/inr.12271

Al-Dossary, R. N. (2018). The Saudi Arabian 2030 vision and the nursing profession: The way forward. International Nursing Review, 65(4), 484-490. https://doi.org/10.1111/inr.12458

Alboliteeh, M., Magarey, J., & Wiechula, R. (2017). The profile of Saudi nursing workforce: A cross-sectional study. Nursing Research and Practice, 2017, 1710686. https://doi.org/10.1155/2017/1710686

Al-Homayan, A. M., Shamsudin, F. M., Subramaniam, C., & Islam, R. (2013). Analysis of health care system - resources and nursing sector in Saudi Arabia. Advances in Environmental Biology, 7(9), 2584-2592.

Almalki, M. J., FitzGerald, G., & Clark, M. (2012). The relationship between quality of work life and turnover intention of primary health care nurses in Saudi Arabia. BMC Health Services Research, 12, 314. https://doi.org/10.1186/1472-6963-12-314

Alshmemri, M., Shahwan-Akl, L., & Maude, P. (2017). Herzberg's two-factor theory. Life Science Journal, 14(5), 12-16. https://doi.org/10.7537/marslsj140517.03

Boamah, S. A., Read, E. A., & Spence Laschinger, H. K. (2017). Factors influencing new graduate nurse burnout development, job satisfaction and patient care quality: A time-lagged study. Journal of Advanced Nursing, 73(5), 1182-1195. https://doi.org/10.1111/jan.13215

Fagerström, L., Kinnunen, M., & Saarela, J. (2018). Nursing workload, patient safety incidents and mortality: An observational study from Finland. BMJ Open, 8(4), e016367. https://doi.org/10.1136/bmjopen-2017-016367

Han, K., & Jekel, M. (2011). The mediating role of job satisfaction between leader-member exchange and turnover intentions. Journal of Nursing Management, 19(1), 41-49. https://doi.org/10.1111/j.1365-2834.2010.01184.x

Hayes, B., Bonner, A., & Douglas, C. (2015). Haemodialysis work environment contributors to job satisfaction and stress: A sequential mixed methods study. BMC Nursing, 14, 58. https://doi.org/10.1186/s12912-015-0110-x

Hoonakker, P. L. T., Carayon, P., & Gurses, A. P. (2011). Measuring workload of ICU nurses with a questionnaire survey: The NASA Task Load Index (TLX). IIE Transactions on Healthcare Systems Engineering, 1(2), 131-143. https://doi.org/10.1080/19488300.2011.609524

Kaddourah, B., Abu-Shaheen, A. K., & Al-Tannir, M. (2018). Quality of nursing work life and turnover intention among nurses of tertiary care hospitals in Riyadh: A cross-sectional survey. BMC Nursing, 17, 43. https://doi.org/10.1186/s12912-018-0312-0

Labrague, L. J., McEnroe-Petitte, D. M., Gloe, D., Tsaras, K., Arteche, D. L., & Maldia, F. (2017). Organizational politics, nurses' stress, burnout levels, turnover intention and job satisfaction. International Nursing Review, 64(1), 109-116. https://doi.org/10.1111/inr.12347

MacPhee, M., Dahinten, V. S., & Havaei, F. (2017). The impact of heavy perceived nurse workloads on patient and nurse outcomes. Administrative Sciences, 7(1), 7. https://doi.org/10.3390/admsci7010007

McCloskey, J. C., & Mueller, C. W. (1990). Nurses' job satisfaction: A proposed measure. Nursing Research, 39(2), 113-117.

McHugh, M. D., & Ma, C. (2014). Wage, work environment, and staffing: Effects on nurse outcomes. Policy, Politics, & Nursing Practice, 15(3-4), 72-80. https://doi.org/10.1177/1527154414546868

Reid, G. B., & Nygren, T. E. (1988). The Subjective Workload Assessment Technique: A scaling procedure for measuring mental workload. In P. A. Hancock & N. Meshkati (Eds.), Human Mental Workload (pp. 185-218). Elsevier.

Swiger, P. A., Vance, D. E., & Patrician, P. A. (2016). Nursing workload in the acute-care setting: A concept analysis of nursing workload. Nursing Outlook, 64(3), 244-254. https://doi.org/10.1016/j.outlook.2016.01.003

Wang, L., Tao, H., Ellenbecker, C. H., & Liu, X. (2012). Job satisfaction, occupational commitment and intent to stay among Chinese nurses: A cross-sectional questionnaire survey. Journal of Advanced Nursing, 68(3), 539-549. https://doi.org/10.1111/j.1365-2648.2011.05755.x

Yurumezoglu, H. A., & Kocaman, G. (2016). Predictors of nurses' intentions to leave the organisation and the profession in Turkey. Journal of Nursing Management, 24(2), 235-243. https://doi.org/10.1111/jonm.12305