

IMPACT OF SHORTAGE OF STAFF NURSES ON QUALITY CARE OF PATIENTS AT SPECIALISED HOSPITALS IN LAHORE

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Abstract: *The nursing shortage has been recognized as a global healthcare issue that can negatively impact the quality of patient care. Adequate staffing of nurses is an essential factor that can ensure the provision of high-quality healthcare services to patients. A shortage of nurses may lead to poor patient outcomes, including medication errors, patient falls, and hospital-acquired infections. Therefore, addressing the nursing shortage is critical to improve patient care and health outcomes. This study investigates the impact of nursing shortage on patient care in healthcare settings. This study used a quantitative cross-sectional descriptive study design to assess the impact of nursing shortage on patient care. The study was conducted in multiple healthcare settings across different regions. A convenience sampling technique was used to select participants for the study. The patients in settings with nursing shortages used and filled out a questionnaire according to international guidelines. The results of the study showed that the majority of the participants reported a negative impact of nursing shortage on patient care. The shortage of nurses was associated with decreased patient satisfaction with nursing staff care. Furthermore, the study found that nursing shortages often led to nurses being overworked and exhausted, leading to medical errors and declining patient quality of care. The study concluded that the nursing shortage significantly negatively impacts patient care in healthcare settings. The shortage of nurses leads to decreased quality of care, increased length of hospital stay, patient mortality rates, and decreased patient satisfaction with care. Therefore, addressing the nursing shortage is crucial for improving patient outcomes and ensuring the provision of high-quality healthcare services.*

Keywords: Nursing Shortage, Quality Care Of Patients, Impact of Nursing Shortage

Introduction

Nursing is a profession that combines art, science, and humanitarian service to provide care for individuals, families, and communities. Florence Nightingale is credited as the founder of modern nursing (Pfetscher, 2021). She established the first professional nursing school at St. Thomas Hospital, London, in 1860. (Selanders and Crane, 2012). Nurses have an essential role in every country's healthcare system. Their primary objectives are to encourage healthy lifestyles, prevent illnesses, alleviate pain, and help individuals recover. To provide effective and efficient healthcare for the public, most countries have enhanced their nursing profession by offering degree-level education and specialization in specific nursing fields (Bichel-Findlay et al., 2023).

Nursing is considered a profession based on specific criteria that it meets. These include having a systematic body of knowledge that provides a framework for the profession's practice, standardized formal higher education, a commitment to providing a service that benefits individuals and the community, the maintenance of a unique role that recognizes autonomy, responsibility, and accountability, the responsibility of controlling practice through standards and a code of ethics, evidence-based practice, and a commitment to members of the profession through professional organizations and activities (Porter-O'Grady, 2019).

A nursing shortage occurs when there is a higher demand for nursing professionals, such as Registered Nurses (RNs),

than available locally (e.g., within a healthcare facility), nationally, or globally. It can be measured by the nurse-to-patient ratio, the nurse-to-population ratio, and the number of job openings. This situation is observed in both developed and developing nations across the world. (Haddad et al., 2018)

Proper patient care requires qualified and educated nursing staff. Unfortunately, there is a widespread shortage of such staff (Machitidze, 2022).

The shortage of nurses has become a critical issue for local and global healthcare services, with the COVID-19 pandemic exacerbating the problem. According to an analysis by the World Health Organization, there are currently around 29 million nurses worldwide, but it is estimated that by 2024, we will need an additional one million nurses. Furthermore, due to the ongoing pandemic, an extra six million nurses are required to meet medical standards in the health sector. This shortage can be addressed by investing more money and attention in nursing, increasing the number of teachers available to train new nurses, and expanding nursing programs (Parveen, 2016).

Pakistan faces significant challenges in the nursing profession, with the shortage of nurses being one of the most significant concerns. Nursing is considered a female-dominated field, leading to social and cultural barriers exacerbating the shortage. Gender bias also contributes to the shortage of nurses. Unfortunately, the nursing

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profession has a negative image in Pakistani culture, partly due to media representation, discouraging people from considering it as a career option. This negative perception creates a shortage of nurses in the long run (Ndirangu et al., 2021). Nurses play a vital role in the healthcare sector and are considered the backbone of the profession. The scarcity of nurses significantly impacts the treatment of patients who require comprehensive care. Time is crucial in nursing duties, and managing it efficiently is essential to make informed decisions (Organization, 2021). Recent research in Pakistan has revealed that 30% of nurses are unsatisfied with their jobs. This dissatisfaction may lead to frustration, ultimately causing them to leave nursing. This, in turn, can create a shortage of nurses, which increases the workload on the remaining nurses and results in poor patient care. The shortage of healthcare professionals can lead to an inability to treat sick patients, significantly changing mortality rates. Higher death rates put a higher burden on the country (Healy and McKay, 2000).

Patient safety is paramount in healthcare. As nurses are the healthcare workers who spend the most one-on-one time with patients, their performance is crucial to ensure safe patient care. Any reduction in a nurse's time or resources can have a negative impact on patient safety. Several studies have established a link between the nursing shortage and patient safety. Healthcare leaders are striving to mitigate the effects of short staffing in nursing so that patient care is not compromised. Hence, the nursing shortage has been identified as affecting patient safety (Haddad et al., 2018). Nursing shortages lead to errors, increased morbidity, and mortality. Hospitals with high patient-to-nurse ratios result in nurse burnout and dissatisfaction, leading to increased mortality rates and failure-to-rescue rates among patients compared to facilities with lower ratios (Aiken et al., 2002). Improving or eradicating negative factors that impact the status of nursing is crucial for controlling the nursing shortage. In Pakistan, nursing is not well understood, and there is a need for effective marketing methods to promote the profession and improve patient care quality. This study aims to shed light on the real issue behind this challenge by examining the impact of nursing staff shortages on patient outcomes. We aim to play a small part in addressing this major problem through this paper.

Methodology

The quantitative descriptive study design was used to conduct this study. The study was conducted at the different hospitals of the region where the nursing staff was short according to international guidelines. The study duration was from July 2022 to January 2023 after the approval of IRB. The sample size was 111 patients (calculated on open-epi sample size calculator). The sampling technique was Non-Probability, Consecutive. The study includes patients admitted to hospitals where the nursing staff was short according to international guidelines. Patients with some psychiatric illness, are on anti-psychotic medication, are not oriented, and have not given consent were excluded from the study.

The rules and regulations set by the ethical committee of the University Of Saida Waheed FMH College Of Nursing were followed while conducting the research, and the research participants' rights were respected.

The study participants were asked to provide written informed consent and were assured that all information and data collected would be kept confidential. To protect their anonymity, participants were not identified by name. They were also informed that there were no risks or disadvantages associated with participating in the study and that they were free to withdraw at any time. All data was stored securely under lock and key, with password protection on any electronic devices used for storage.

The data collection was analyzed by using SPSS 23.0 version and MS Excel. The study's results described frequency distributions, cross-tabulations, and a graph.

Data was analyzed by using percentage (%) and frequency mean. The statistical analysis was carried out using SPSS version 23.0. P value < .05 was considered statistically significant.

Results

This descriptive analysis included one hundred and eleven participants fulfilling the inclusion criteria. The 54 participants were males, as shown in Figure 1. The mean age of the participants was 46.68 ± 17.76 years (table 2). Table 3 presents data on individuals' frequency and percentage distribution across various categories of variables.

The first category is "WARD," which describes the hospital ward where the individual is located. The hospital has four wards: a Male Ward, a Female Ward, a CCU (Cardiac Care Unit), and an ICU (Intensive Care Unit). The table shows that the highest number of individuals are in the CCU ward (38, 34.2%), followed by the Female Ward (24, 21.6%), ICU (30, 27%), and Male Ward (19, 17.1%).

The second category is "JOB status," which indicates whether an individual is employed. Table 3 shows that slightly over half of the individuals are employed (58, 52.3%), while the other half are not (53, 47.7%).

The third category is "Education," which describes the educational level of the individuals. There are five categories of education: No Education, Middle, and Metric, Intermediate, and Graduate. The table shows that the highest number of individuals have Metric and Intermediate education (25 each, 22.5%), followed by Graduate education (21, 18.9%) and Middle education (20, 18%). The lowest number of individuals have No Education (20, 18%) (Figure 2).

The survey revealed several areas of concern in nursing care as perceived by patients. A significant portion of respondents expressed dissatisfaction with the perceived impersonal approach of nurses, with 40.5% feeling that nurses lacked a personal connection. Moreover, 77.4% of respondents disagreed with the notion that nurses treated them in a friendly and courteous manner, indicating room for improvement in interpersonal skills.

Patient safety and attentiveness were also issues of concern. Nearly half (47.7%) agreed that nurses sometimes ignored their concerns, while 51.4% disagreed or strongly disagreed that nurses listened carefully to what they had to say. This suggests the need for improved communication and responsiveness.

Timeliness of care emerged as a critical concern, with 73.9% agreeing that patients often had to wait too long for emergency treatment. Additionally, 77.4% disagreed with

the statement that they could easily reach a nurse for health-related queries, highlighting accessibility challenges. Patient education practices were perceived as lacking, with 80.9% expressing disagreement or neutrality regarding nurses providing advice on health maintenance. Privacy concerns were raised by 63.9% of respondents, emphasizing the importance of respecting patient dignity.

Rushed care was a common perception, with 67.5% agreeing that nurses often appeared hurried during care. Finally, 76.5% felt that immediate support for complaints of pain or nausea was lacking.

The survey findings indicate the need for improvements in nursing care, particularly in interpersonal skills, attentiveness, patient safety, timeliness, accessibility, patient education, privacy, and overall patient experience. Healthcare institutions can use this feedback to enhance the quality of care and prioritize a patient-centered approach.

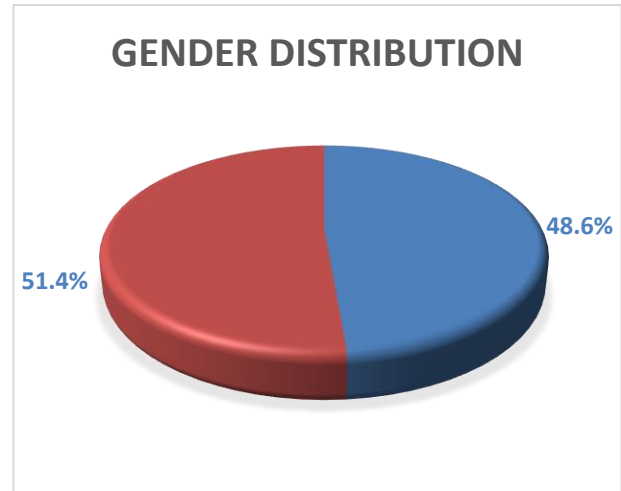


Figure 1 Distribution of Gender

Table 2 Mean age and length of hospital stay

	N	Minimum	Maximum	Mean	Std. Deviation
AGE	111	18.00	75.00	46.6847	17.76103
LOS	111	2.00	6.00	3.9459	1.52457

Table 3 Demographic variable of the study group

Variables	Constructs	N	%
WARD	Male Ward	19	17.1%
	Female Ward	24	21.6%
	CCU	38	34.2%
	ICU	30	27.0%
JOB status	Yes	58	52.3%
	No	53	47.7%
Education	No Education	20	18.0%
	Middle	20	18.0%
	Metric	25	22.5%
	Intermediate	25	22.5%
	Graduate	21	18.9%

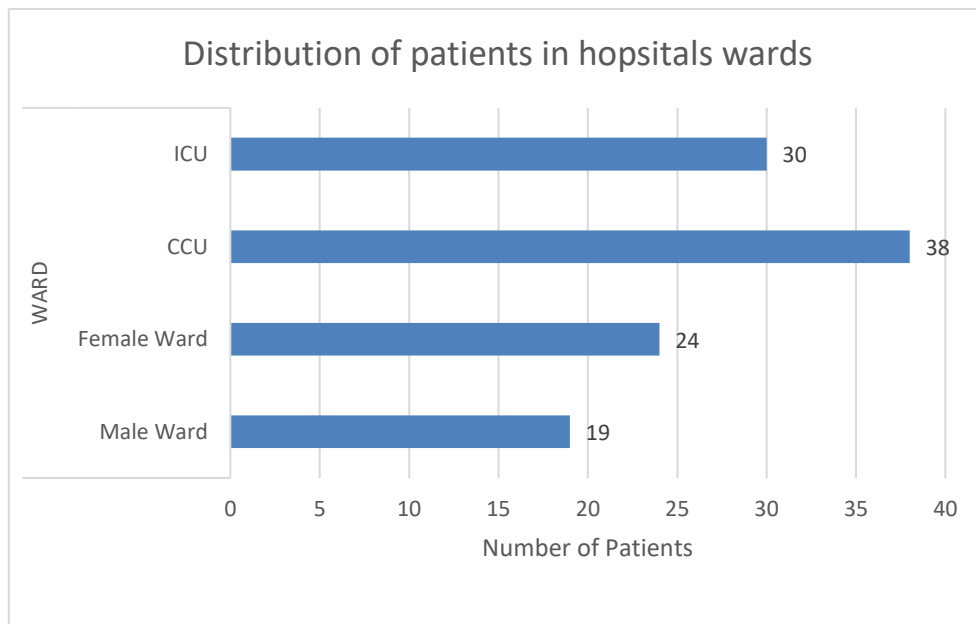


Figure 2: Distribution of patients in different wards of hospitals

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Table 4: Assessment of Patient Response towards Nursing Care

Statement/Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total Responses
The nurse was impersonal towards me	8 (7.2%)	10 (9.0%)	6 (5.4%)	45 (40.5%)	42 (37.8%)	111
The nurse treats me in a very friendly and courteous manner	47 (42.3%)	39 (35.1%)	10 (9.0%)	8 (7.2%)	7 (6.3%)	111
Nurses sometimes ignore what I tell them	10 (9.0%)	7 (6.3%)	10 (9.0%)	31 (27.9%)	53 (47.7%)	111
I have rarely seen fall injuries occur in the ward	12 (10.8%)	48 (43.2%)	36 (32.4%)	7 (6.3%)	8 (7.2%)	111
Nurses are very careful to check everything when treating and examining me	42 (37.8%)	43 (38.7%)	10 (9.0%)	6 (5.4%)	10 (9.0%)	111
I think patients have to wait too long for emergency treatment	11 (9.9%)	9 (8.1%)	10 (9.0%)	41 (36.9%)	40 (36.0%)	111
If I have a medical question, I can reach a nurse for health without any problem	43 (38.7%)	43 (38.7%)	11 (9.9%)	6 (5.4%)	8 (7.2%)	111
Nurses listen carefully to what I have to say	9 (8.1%)	57 (51.4%)	9 (8.1%)	21 (18.9%)	15 (13.5%)	111
Nurses often give me advice about ways to avoid illness and stay healthy	9 (8.1%)	45 (40.5%)	44 (39.6%)	5 (4.5%)	8 (7.2%)	111
When I am receiving nursing care, they pay more attention to my privacy	32 (28.8%)	39 (35.1%)	14 (12.6%)	14 (12.6%)	12 (10.8%)	111
Sometimes, nurses are in a hurry when they treat me	18 (16.2%)	11 (9.9%)	7 (6.3%)	31 (27.9%)	44 (39.6%)	111
I can always get nurse support when complaining of pain, nausea, etc.	45 (40.5%)	40 (36.0%)	12 (10.8%)	9 (8.1%)	5 (4.5%)	111
My family members and friends have opportunities to ask questions at all times	9 (8.1%)	36 (32.4%)	51 (45.9%)	9 (8.1%)	6 (5.4%)	111
The nursing care I receive is excellent	46 (41.4%)	36 (32.4%)	9 (8.1%)	8 (7.2%)	12 (10.8%)	111
There are some things about the nursing care I receive that could be improved	8 (7.2%)	11 (9.9%)	10 (9.0%)	36 (32.4%)	46 (41.4%)	111

Discussion

The literature highlights a significant shortage of nurses in Pakistan, with estimates varying widely. One study highlighted the need for about 60,000 nurses, while another suggested a shortage of 1 million nurses in the country (Khan et al., 2021). The results of our study confirm the shortage, with nurse-to-population ratios far below international standards, such as the WHO's recommended ratio of 1 nurse to 3 doctors influencing patient care. Both the literature and our survey results underscore the issue of nurse-patient ratios. While the Pakistan Nursing Council (PNC) prescribes ratios of 1:10 in general areas and 2:1 in specialized areas, the existing ratios are much higher, often reaching 1:50 or even 1:60 in some hospitals (Bano et al., 2019). This indicates that nurses in Pakistan are frequently tasked with caring for many patients simultaneously. The literature points out that the nursing shortage is not unique to Pakistan but is a global issue (Drennan and Ross, 2019; Strohmeier and Scholte, 2015). This shortage affects healthcare systems worldwide, resulting in inadequate patient care and an increased risk of medical errors. The World Health Organization (WHO) has also highlighted the need to increase the number of health workers globally (Wong et al., 2015).

The survey results illuminate a critical issue often discussed in healthcare literature. The shortage of nursing staff in healthcare institutions has been a pervasive problem worldwide and can have significant repercussions on patient care quality.

The survey findings provide empirical evidence of the impact of nursing staff shortages on the quality of patient care. The perception of rushed care, difficulties in accessing nurses for health-related queries, and longer wait times for emergency treatment all point to the strain placed on nursing

staff due to shortages. This aligns with past research showing that understaffed hospitals often struggle to provide timely and attentive patient care (Duffy, 2022; Kelly et al., 2019).

The perception of nurses as impersonal or lacking in friendliness and courtesy could be partially attributed to the stress and workload nurses face in understaffed healthcare settings. Research has indicated that as nursing staff become overburdened, they may have less time to build rapport with patients, negatively impacting patient satisfaction and overall care experience (Abraham et al., 2022; Cœugnet et al., 2016; Laeque et al., 2018).

The survey results also raise concerns about patient safety. Patients feeling that nurses sometimes ignore their concerns or do not listen carefully can lead to critical issues being overlooked. In an environment with staff shortages, nurses may have to prioritize tasks, potentially leading to safety lapses. The perception that nurses do not provide adequate health maintenance and illness prevention advice could result from time constraints due to staff shortages. Patients may receive less proactive education on managing their health conditions when nurses are stretched thin.

The concern about long waiting times for emergency treatment highlights the challenges of delivering prompt care when nursing staff are limited. Delays in care can have serious consequences for patients, particularly those with acute conditions (Bersano et al., 2020).

Maintaining patient dignity and privacy is essential, but the survey results indicate that this aspect of care may be compromised in understaffed healthcare settings. Nurses may have to rush through care tasks, potentially leading to inadvertent patient privacy breaches (Adib-Hajbaghery and Aghajani, 2015).

In the specialized hospitals in Lahore, the survey results underscore the urgency of addressing nursing staff

shortages. Healthcare institutions must prioritize adequate staffing levels to ensure patients receive high-quality care. This includes improving nurse-patient ratios, supporting nursing staff, and implementing strategies to enhance patient satisfaction, safety, and overall care quality. Additionally, the findings emphasize the importance of ongoing research and data collection to continually monitor the impact of staffing shortages on patient care. Hospitals should use this information to advocate for resources and policy changes that can alleviate staffing challenges and ultimately improve the healthcare experience for patients in specialized hospitals like the one in Lahore. The quantitative approach limits the expressions by giving them limited options in the form of closed-ended questions. So, quality is compromised in this design.

Conclusion

Nursing shortage negatively impacts patient care, leading to longer hospital stays and decreased satisfaction. The main cause is increased workload and decreased staffing levels, resulting in medication errors, delayed treatments, and decreased patient monitoring. While strategies like funding nursing education and retention programs have been implemented, more research is needed to determine the most effective solutions. Prioritizing efforts to address nursing shortage is crucial for improving patient care outcomes.

Declarations

Data Availability statement

All data generated or analyzed during the study are included in the manuscript.

Ethics approval and consent to participate

Approved by the department Concerned.

Consent for publication

Approved

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Not applicable

Conflict of interest

The authors declared absence of conflict of interest.

References

- Abraham, V., Meyer, J. C., Godman, B., and Helberg, E. (2022). Perceptions of managerial staff on the patient safety culture at a tertiary hospital in South Africa. *International Journal of Qualitative Studies on Health and Well-being* **17**, 2066252.
- Adib-Hajbaghery, M., and Aghajani, M. (2015). Patients dignity in nursing. *Nurs Midwifery Stud* **4**, e22809.
- Aiken, L. H., Clarke, S. P., Sloane, D. M., Sochalski, J., and Silber, J. H. (2002). Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *Jama* **288**, 1987-1993.
- Bano, S., Pradhan, N. A., Rizvi, N., and Midhet, F. (2019). NURSES'JOB DISSATISFACTION AND ASSOCIATED FACTORS AT PUBLIC SECTOR TERTIARY CARE HOSPITAL IN

- PAKISTAN: A QUALITATIVE STUDY. *Journal on Nursing* **9**.
- Bersano, A., Kraemer, M., Touzé, E., Weber, R., Alamowitch, S., Sibon, I., and Pantoni, L. (2020). Stroke care during the COVID-19 pandemic: experience from three large European countries. *European journal of neurology* **27**, 1794-1800.
- Bichel-Findlay, J., Koch, S., Mantas, J., Abdul, S. S., Al-Shorbaji, N., Ammenwerth, E., Baum, A., Borycki, E. M., Demiris, G., and Hasman, A. (2023). Recommendations of the International Medical Informatics Association (IMIA) on education in Biomedical and Health Informatics: second revision. *International Journal of Medical Informatics* **170**, 104908.
- Cœugnet, S., Forrierre, J., Naveteur, J., Dubreucq, C., and Anceaux, F. (2016). Time pressure and regulations on hospital-in-the-home (HITH) nurses: An on-the-road study. *Applied ergonomics* **54**, 110-119.
- Drennan, V. M., and Ross, F. (2019). Global nurse shortages: the facts, the impact and action for change. *British medical bulletin* **130**, 25-37.
- Duffy, J. R. (2022). "Quality caring in nursing and health systems: Implications for clinicians, educators, and leaders," Springer Publishing Company.
- Haddad, L. M., Annamaraju, P., and Toney-Butler, T. J. (2018). Nursing shortage.
- Healy, C. M., and McKay, M. F. (2000). Nursing stress: the effects of coping strategies and job satisfaction in a sample of Australian nurses. *Journal of advanced nursing* **31**, 681-688.
- Kelly, G., Mrengqwa, L., and Geffen, L. (2019). "They don't care about us": older people's experiences of primary healthcare in Cape Town, South Africa. *BMC geriatrics* **19**, 1-14.
- Khan, S., Khatoon, R., Dahri, M., and Hassan, F. (2021). Pakistan at a dearth of nurses: A persistent challenge. *Journal of Nurses and Midwives Pakistan* **1**, 8-13.
- Laeque, S. H., Bilal, A., Hafeez, A., and Khan, Z. (2018). Violence breeds violence: burnout as a mediator between patient violence and nurse violence. *International journal of occupational safety and ergonomics*.
- Machitidze, M. (2022). Impact of the nurses education and shortage on the patients care outcomes-literature review. *Am J Biomed Sci Res* **15**, 441-3.
- Ndirangu, E. W., Sarki, A. M., Mbekenga, C., and Edwards, G. (2021). Professional image of nursing and midwifery in East Africa: an exploratory analysis. *BMC nursing* **20**, 1-11.
- Organization, W. H. (2021). Standards for healthy eating, physical activity, sedentary behaviour and sleep in early childhood education and care settings: a toolkit.
- Parveen, S. (2016). Acute shortage of nursing professional in Pakistan. *Texila Int. J. Nurs* **2**, 1-6.
- Pfetscher, S. A. (2021). Florence Nightingale: modern nursing. *Nursing Theorists and Their Work E-Book* **52**.
- Porter-O'Grady, T. (2019). Principles for sustaining shared/professional governance in nursing. *Nursing Management* **50**, 36-41.

- Selanders, L. C., and Crane, P. C. (2012). The voice of Florence Nightingale on advocacy. *Online Journal of Issues in Nursing* **17**, F1.
- Strohmeier, H., and Scholte, W. F. (2015). Trauma-related mental health problems among national humanitarian staff: A systematic review of the literature. *European journal of psychotraumatology* **6**, 28541.
- Wong, F. K. Y., Liu, H., Wang, H., Anderson, D., Seib, C., and Molasiotis, A. (2015). Global nursing issues and development: Analysis of World Health Organization documents. *Journal of Nursing Scholarship* **47**, 574-583.



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