

Analyzing the Effect of Nursing Staff Shortages on Service Quality in Hospitals

Thamir Alhumidi M alhazmi¹, Reem Hassan somily², Aljazi Mohammed Alsahli³, Munerah Hail Alonezi⁴, Warda saad Al motery⁵, Fatimah yahya aleyadi⁵, Sarah mohammed alshuyfani⁶, Ohoud khalif alanzi⁵, Naif Adl Sahal Alotaibi⁷, Abdulrahman Salem Ghali Albalawi⁸, Salman Awdah Salem Alhowiti⁸, Abdullah Ibrahim Salem Alhowiti⁸

1. Nursing technician, Turaif general hospital at northern borders
2. Nurse Technician, Al Hamra primary health care
3. Specialist Nursing, ALHAMRA PRIMARY HEALTH CARE
4. Nursing, ALHAMRA PRIMARY HEALTH CARE
5. Nurse Technician, Al Hamra primary health care
6. Specialist nursing, Al Hamra primary health care
7. Nursing, Riyadh Third Health Cluster
8. Nursing Technician, Tabuk health cluster

ABSTRACT

The quality of patient care is greatly impacted by the scarcity of nursing staff, which has become a major problem in healthcare systems around the world. This study explores the intricate connection between hospital service quality and nurse personnel shortages. We seek to clarify the effects of insufficient staffing levels on patient outcomes, satisfaction, and overall hospital performance by reviewing the body of existing literature and carrying out empirical research.

KEYWORDS: nursing staff, patient care, healthcare systems.

1. Introduction

The quality of patient care is greatly impacted by the scarcity of nursing staff, which has become a major problem in healthcare systems around the world. This study explores the intricate connection between hospital service quality and nurse personnel shortages. We seek to clarify the effects of insufficient staffing levels on patient outcomes, satisfaction, and overall hospital performance by reviewing the body of existing literature and carrying out empirical research.[Carl-Ardy et al.,2012]

A variety of factors will be investigated in the project, including:
Patient Safety: The effect of nurse staffing on the frequency of adverse events, medication mistakes, and infections acquired in hospitals.
Patient Satisfaction: The correlation between nurse staffing and patient satisfaction, which includes elements like empathy, communication, and perceived treatment quality. [Fatima et al.,2013].

Job satisfaction and nurse burnout: The consequences of Nurse Burnout and Job

Thamir Alhumidi M alhazmi, Reem Hassan somily, Aljazi Mohammed Alsahli, Munerah Hail Alonezi, Warda saad Al motery, Fatimah yahya aleyadi, Sarah mohammed alshuyfani, Ohoud khalif alanzi, Naif Adl Sahal Alotaibi, Abdulrahman Salem Ghali Albalawi, Salman Awdah Salem Alhowiti, Abdullah Ibrahim Salem Alhowiti

Satisfaction: Understaffing can worsen staffing shortages by having an impact on nurse burnout, job satisfaction, and turnover rates. Hospital Performance: How nurse staffing affects hospital performance indicators like death, readmission, and duration of stay. Healthcare regulators, hospital administrators, and clinicians may create practical solutions to address these issues and raise the standard of patient care by comprehending the complex effects of nurse staff shortages. In addition to offering evidence-based suggestions to maximize nurse staffing levels and improve patient outcomes, this study will add to the continuing conversation on healthcare workforce planning.

2. Aims and Objectives

The main goal of the study "Analyzing the Effect of Nursing Staff Shortages on Service Quality in Hospitals" is to learn more about how inadequate nursing staff negatively affects the standard of patient care in medical facilities.

3. Literature Review

According to a study done in nine European nations, adding one patient to a nurse's workload increased the likelihood that an inpatient would pass away within 30 days of admission by 7% [Institute of Medicine,1990]. Staffing with nurses is critical in healthcare systems to fulfill workload needs and react to changes like demography, disease detection, and care complexity. In order to improve patient safety, health, and well-being, hospitals must improve their operations and organizational structure through human resource solutions. Avoidable events including pressure ulcers, patient falls, and readmissions to the hospital are decreased by high-quality treatment. A study in Australia found that hospital mortality rates increased by 3% for each day that a patient's ward staffing fell below the mean. Patient satisfaction, a key indicator of healthcare quality, impacts clinical results, patient retention, and medical malpractice lawsuits. Factors influencing nurse staffing include the number of admissions, discharges, transfers, experience, physical location, patient complexity, and availability of resources. Having enough nurses on staff can lead to longer hospital stays, fewer medication errors, and improved patient satisfaction. The World Health Organization reports the highest demand for nurses in South East Asia and Africa. A sufficient number of nurses with the right training, education, and experience is crucial for meeting patients' needs and providing top-notch care.

4. Supplies and Techniques

situated at latitude 4.1667° and longitude 9.1667°, with an area of 2,093km² and a density of 222.8km² [Annette et al.2005]. There are numerous urban and semi-urban communities in Fako. In addition to being situated in a coastal region of Cameroon, it boasts a number of social and economic amenities as well as governmental institutions, all of which have helped to increase its population, the majority of

whom are young people .As a Category 3 hospital, the Buea Regional Hospital may offer medical care to Cameroonians in the South West Region and beyond. It is a key healthcare facility in the area, offering patients round-the-clock care and acting as a teaching hospital for several universities, including the Faculty of Health Sciences at the University of Buea. Among the hospital's departments are radiology, general medicine, pediatrics, physiotherapy, maternity, gynecology & obstetrics, and surgery. The Limbe Regional Hospital, also called Mile 1 Hospital, is the primary referral facility in the area and is managed by the Ministry of Public Health in Cameroon. Physiotherapy, dentistry, inpatient and outpatient care, pharmacy, ear, nose, and throat care, general surgery, counseling, and nutritional guidance are some of its offerings. The Tiko District Hospital serves the people of Tiko and beyond as a tertiary level healthcare facility. Gynecology and obstetrics, pediatrics, maternity, and general medicine are a few of the hospital's departments. The BRH and LRH surgical wards have 33 and 32 beds available for patients, respectively.

Depending on the diseases, these departments receive patients both before and after surgery for a variety of surgical procedures. are composed of general practitioners, surgeons, anesthesiologists, and nursing personnel who provide patient care. In terms of the medical wards, there are female medical wards with 26 and 18 beds for BRH and LRH, respectively, and male medical wards with 19 and 16 beds for BRH and LRH. The diagnosis and treatment of hospitalized patients are guaranteed by the medical and nursing personnel working in these wards. Internal medicine patients as well as pre and postoperative patients are treated in the TDH's medical ward, a general ward with 28 beds. This study comprised patients who were admitted to the medical and surgical wards of the three hospitals in Fako that were chosen.

hospitalized patients who are 21 years of age or older, who are able to read, listen, comprehend, and make decisions, and who are willing. First, the Institutional Review Board (IRB, 1817-05) of the University of Buea's Faculty of Health Sciences granted ethical approval. Administrative consent was then acquired from the directors of the Buea An updated Karen-patient instrument for assessing treatment quality and a modified "Patient Satisfaction with Nursing Care Quality Questionnaire" for assessing patient satisfaction [Petsunee,et al.2007] were used to gather data from inpatients in the research hospital wards. To determine if the tools were feasible and practical, a pilot study was carried out.

Ten samples participated in the investigation; informed consent was obtained from each sample using the easy sampling technique. Patient satisfaction with nursing care quality and care quality were evaluated using the finalized instruments. The pilot The study's results showed that it was both practical and workable.

SPSS version 25.0 for Windows was used to evaluate the data produced by the study after it was entered into an Excel spreadsheet. Tables, figures, means, and percentages were used to summarize the data. Regression tests were employed, and the p-value statistics with a 95% confidence level were used to test the significance level.

5. Results

5.1. Sociodemographic Features Description

120 patients with ages ranging from 21 to 92 years were chosen for this study from the LRH (45), BRH (54), and TDH (20). The participants were 42±17.4 years old on average, and 37 (IQR: 28–53) years old on average. 50% of the individuals in this study were chosen from BRH, 38.7% from LRH, and the remaining 16% from TDH. Of the 119 patients, the majority (40.9%) were in the age range of 21 to 36, and 50.4% were female. Additionally, the majority of participants (40.5%) were unmarried, and 40.5% were tertiary educated. The majority of the 92 nurses who participated in the study had State Registered Nursing or Nursing Assistant diplomas. degrees (31.8%, 29.3%, and 23.1%, respectively) and bachelor's degrees .

5.2. The standard of patient care

The majority of patients (50.0%) thought that the structural quality of the care was good, whereas 55.5% . outcome. The minimum and highest scores for the 35 items that evaluated the quality of patient care were 43 and 115, respectively. As illustrated in Fig. 1, received inadequate nursing care, according to the mean score. LRH had the highest percentage of good quality care (73.7%), followed by BRH (57.4%). There was a substantial correlation (p<0.001) between the hospital environment and nurse care quality.

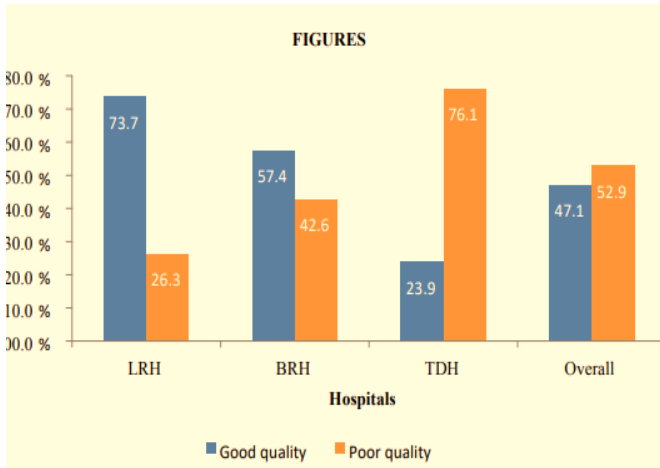


Figure 1 : care Quality

The sociodemographic data of research participants did not significantly correlate with the quality of nursing care (p-value: >0.05).

. provides a summary of the findings. Patient satisfaction with nursing care

The item with the highest satisfaction level, 106 (89.1%), according to an analysis of PSNCQQ ratings, was "restful atmosphere provided by nurses." According to

TABLE 7, the item with the lowest satisfaction rating (47, 39.5%) was "recognition of your opinions." The lowest score was 21 and the highest score was 72 for the 17 questions that measured patient satisfaction with nursing services. While the median score was 46 (IQR:), the mean score was 46.4 (39–53). As seen in Fig. 2, the mean score indicated that overall. The hospital environment and nurse care satisfaction were significantly correlated ($p < 0.001$). The highest percentage of patients were satisfied with the quality of care at Fig. 3 presents the findings. The sociodemographic data of research participants did not significantly correlate with patient satisfaction with nursing care.

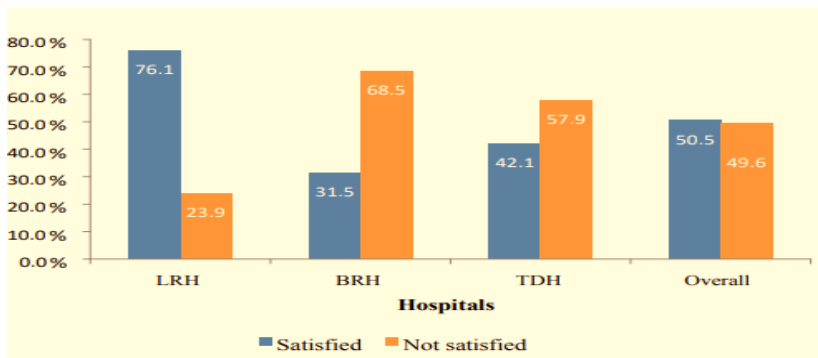


Figure 2: Patient satisfaction with nursing care by hospital, compared to overall satisfaction.

5.4 The connection between patient satisfaction and nurse staffing and care quality

Simple linear regression results indicate a strong correlation between mean ratio of patients to nurses and treatment quality. The quality of care drops by 3.28 units for every unit increase in the patient to nurse ratio ($p < 0.001$). Patient satisfaction and the mean patient to nurse ratio were significantly correlated, according to the results of multiple linear regressions. The patient satisfaction score drops by 0.25 units for every unit increase in the patient to nurse ratio (p -value: 0.02).

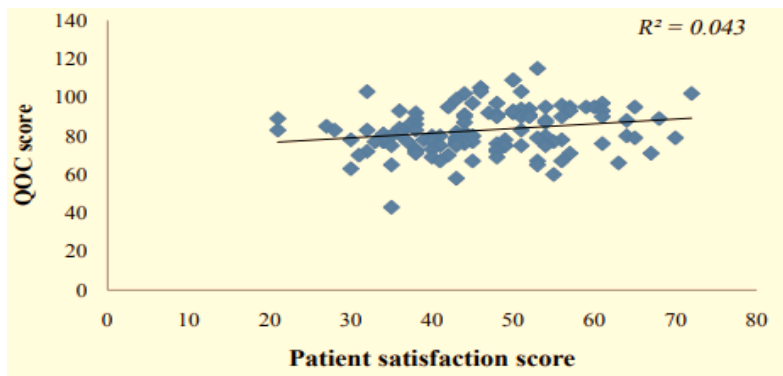


Figure 3: Patient satisfaction and quality of care are related.

6. Discussion

The phenomena of quality in healthcare is intricate, multifaceted, and multidimensional [Linda et al.,2014]. One of the intended results of overall health care quality is nursing care quality. Good care increases the organization's reputation as a service provider, draws and retains satisfied patients, and encourages more people to seek treatment. Quality is defined by patients in terms of interpersonal elements of care, how they are handled, and how quickly the care provider responds [Griffiths et al.,2014]. The impact of nurse staffing on patient satisfaction and care quality was specifically examined in this study. The surgical ward in this study had a nurse to patient ratio of 10.0, while the male and female medical wards had ratios of 4.7 and 5.4, respectively. These contrast from those in the [Kane et al,2007], assessed nurse staffing levels by figuring out the average number of patients assigned to a nurse in the country's eastern, central, and western areas. The findings demonstrated that the departments of surgery and internal medicine had a ratio of 8.3 nurses to patients. The level and quantity of hospitals examined may have an impact on these discrepancies. According to this study, there was a low overall perception of the quality of nursing care, with 47.1% of patients having a positive opinion of it. This was in line with the results of a study carried out in 2021 at Najran General Hospital in Saudi Arabia by Ibrahim et al., which revealed that 41% of patients had a positive opinion of the caliber of nursing care . Another study published in 2018 by Wafa et al. at Jordanian inpatient mental hospitals revealed that patients' overall score 52.4 percent of respondents thought that the mental nursing care was of bad quality . The average stated deemed Inadequate nurse staffing or subpar service delivery may be the cause of this. Another study by Theresa et al. found that 86.3% of respondents had a positive opinion of the quality of nursing care in four units chosen from a Federal Medical Center in Nigeria. The level of hospitals examined, a sufficient number of nurses, and the hospital's strategy about the quality of service delivery may all be factors in this discrepancy [Paul et al.2013].

According to this survey, the overall With 50.4% of individuals expressing pleasure, patient satisfaction with nursing treatment was moderate. This was less than the findings of other studies, such as the one carried out in 2015 in a private hospital in Istanbul by Karaca et al., where the mean PSNCQ scores of all patients range. A study carried out at one hospital and one outpatient department in Georgia's capital city by Skhvitaridze et al. revealed that 89% of patients said they were generally satisfied with the nursing care they received [Sympllice et al.,2013]. 77% of patients at the Lagos University Teaching Hospital expressed great satisfaction with the caliber of nursing care they received, according to a study conducted by Olowe et al. [Fako,2021]. These variations may have to do with the caliber of care given, the number of nurses on staff, and the level of hospitals under study.

The demographic factors in the current study did not significantly correlate with patients' satisfaction with the quality of nursing care. This is corroborated by a related study that found no correlation between satisfaction and demographic factors in three tertiary care settings in Hail, Saudi Arabia, done by Alsaqri [Inger2008]. Similar to the research done in North India by Twayana and Adhikari, which

discovered that patient demographics like age and gender had no bearing on patient satisfaction

7. Conclusion

The study's findings demonstrated that patients' perceptions of the care they received throughout treatment were of poor quality and that they were only moderately satisfied. their stay in the hospital. In light of our research, we suggest the following: By increasing staffing and assessing patient satisfaction and care quality, healthcare professionals can help provide high-quality services by developing and enhancing nursing care in accordance with patient expectations. Improving patient happiness is mostly the responsibility of healthcare professionals. To improve patient satisfaction, it is crucial that healthcare professionals—especially nurses—have a compassionate demeanor, effective communication skills, and competent technical abilities. Therefore, it is advised that in-service training be prioritized for the healthcare professionals use the study's findings. Given the nature of the study and the parameters covered, it is advised that studies be conducted in hospitals nationwide to look into how nurse staffing affects patient satisfaction and care quality.

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