

Beyond Traditional Methods: Unraveling The Influence Of Modern Nursing Education On Patient Satisfaction And Quality Care In KSA - A Systematic Review

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Abstract

Background: The rationale for this research is the growing body of evidence supporting the critical relationship between nurse staffing levels of education and patient outcomes in healthcare

settings. As evidence of the impact of staffing on patient safety, quality of care, and overall satisfaction mounts, it is necessary to comprehend the particular nuances within the Saudi Arabian healthcare context. This study aims to review the effectiveness of nursing education in improving patient satisfaction and quality of care in KSA.

Method: A thorough search of databases, including Scopus, PubMed, and Web of Science, was conducted in order to categorize relevant research that was published between 2018 and 2022. The inclusion criteria for this research were English-language papers that focused on nursing education and patients' satisfaction and quality of care perceived in the healthcare centers. The selected studies also have to offer useful information on team dynamics and employ recognized measurement scales. Following an initial screening and quality evaluation, eleven studies were included in the synthesis.

Results: The study database was searched through electronic databases, identifying 11534 records. 20 unique records were assessed for eligibility based on titles and abstracts. After initial screening, 20 studies were selected for full-text assessment. After independent review, 11 studies met criteria and were included in the systematic review. The selected studies were conducted between 2018-2022 and varied in design. The PRISMA flowchart illustrates the selection process. Quality evaluation involves peer-reviewed journals, overall assessment, and quality management.

Conclusion: It is concluded that systematic review of nursing education in Saudi Arabia reveals the need for comprehensive programs and supportive work environments to enhance patient satisfaction and care quality. It suggests prioritizing patient-centered care, leveraging digital health technologies, and promoting continuous quality improvement initiatives to elevate nursing care standards. These recommendations can enhance healthcare services and patient well-being in Saudi Arabia.

Keywords: Nurse Education, Patients' Satisfaction, Quality of Care, Systematic Review, KSA

Introduction

Background

The degree to which people are happy with their medical care is referred to as patient satisfaction. It includes a range of elements of their experience, such as their contacts with medical professionals, the efficacy of their care, the comforts and amenities offered, and the general ambiance of the hospital. Usually, questionnaires are standardized, and interviews or surveys are used to gauge patient satisfaction (Ng & Luk, 2019; Afrashtehfar et al. 2020). Quality of care is the quality of healthcare services that enhance health outcomes. It includes safety, effectiveness, timeliness, efficiency, equity, and patient-centeredness. Ensuring high-quality care requires evidence-based practices, interdisciplinary collaboration, patient engagement, and continuous monitoring. It is crucial for achieving positive health outcomes, patient satisfaction, and maximizing healthcare services value (Asmari et al., 2020; Cullati et al., 2019; WHO, 2020; Alharbi et al., 2022; Alruwaili et al., 2022; Huraire et al., 2023; Shahbal et al., 2022).

Patient satisfaction and quality of life depend on the nursing staff's services provided to them. However, higher education in nursing can significantly improve the quality of care, communication skills, and patient-centered care. Nurses with advanced clinical skills, critical thinking abilities, and a deeper understanding of evidence-based practice can deliver high-quality care, thereby enhancing patient satisfaction (Koi et al., 2018; Setyawan et al., 2019; Lofti et al., 2019). Effective communication skills are also crucial, as nurses trained in patient-centered care can build rapport, provide clear explanations, and address patients' concerns. This approach encourages patients to participate in their care, promote shared decision-making, and tailor interventions to meet individual needs (Karaca & Durna, 2019; Molina-Mula & Gallo-Estrada, 2020). Nurses play a crucial role in care coordination and continuity, particularly in hospitals and primary care clinics. Higher education can enable better coordination of care transitions, facilitate interdisciplinary collaboration, and ensure continuity of care, resulting in a more positive patient experience.

Educated nurses can also provide patient education and support self-management strategies, empowering patients to take an active role in their health and well-being, promoting better health outcomes and increased satisfaction with the care process (Bombard et al., 2018; Asamrew et al., 2020; Twigg et al., 2021).

During this time frame, numerous studies focused on evaluating educational interventions to improve nursing practice and patient outcomes. These interventions included training modules, simulation-based learning, interprofessional education initiatives, and mentorship programs. Researchers examined the impact of nursing education on patient outcomes, such as mortality rates, hospital readmissions, medication errors, and infection rates (Al-Kubaisi et al., 2022; Almutairi., 2022; Shubayra et al., 2022). They also examined patient satisfaction measures and the relationship between nursing education and quality of care indicators, such as adherence to clinical guidelines, continuity of care, communication with patients and families, and overall care coordination (Chen et al., 2020; Rice, Say & Betihavas, 2018; Yeh et al., 2018). Some studies also explored workforce diversity and inclusion within nursing education and practice, highlighting how increasing diversity among nursing students and practitioners could positively impact patient care outcomes and satisfaction, especially in underserved communities. The policy implications of these findings included optimizing educational policies, accreditation standards, and funding mechanisms to support the ongoing professional development of nurses and improve healthcare quality. (Jongen, McCalman & Bainbridge, 2018; El Chaarani & Raimi,2022)

Methods

Research Objective

The objective of research is to reviewing the effectiveness of nursing education in improving patient satisfaction and quality of care.

Research Question

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1. How does the level of nursing education (e.g., diploma, bachelor's, master's) among healthcare providers in KSA correlate with patient satisfaction scores and quality of care indicators?
2. To what extent do nursing education programs in KSA incorporate training in patient-centered care principles, and how does this training impact patient satisfaction and perceptions of care?
3. How does the integration of technology and innovative teaching methods in nursing education programs in KSA impact nurses' ability to deliver high-quality, patient-centered care, and what are the implications for patient satisfaction?

Literature Search Strategy

A systematic approach is used to conduct a comprehensive literature search on the effectiveness of nursing education in improving patient satisfaction and quality of care in the Kingdom of Saudi Arabia (KSA). Key terms such as nursing education, patient satisfaction, and quality of care are defined, and a search string is constructed using databases like PubMed, Scopus, and Web of Science. Filters and limits are applied to refine search results, and grey literature sources and hand-searching of journals are considered. After screening and selecting articles based on relevance, data extraction, quality assessment, synthesis of findings and reporting are carried out to effectively address the research objectives.

Table 1 Syntax Search

Syntax 1	“Nurse Education”, “Patients Satisfaction” and “Patients Quality of Life”
Syntax 2	“Reviewing the Effectiveness of Nursing Education in Improving Patient Satisfaction and Quality of Care in Saudi Arabia”

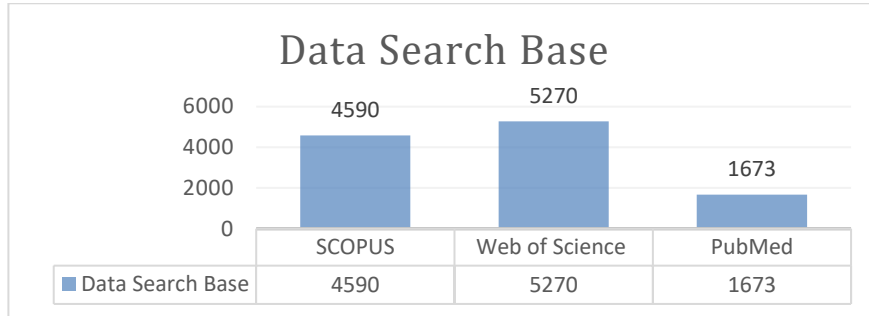
Table 2 Statistics from the Data Base

No Database	Syntax	Year	No of Researches
1	Syntax 1 :“Nurse Education”, “Patients Satisfaction” and “Patients Quality of Life”	2018-2022	1034
	Syntax 2:“Reviewing the Effectiveness of Nursing Education in Improving Patient Satisfaction and Quality of Care in Saudi Arabia”		639
2	Syntax 1 :“Nurse Education”, “Patients Satisfaction” and “Patients Quality of Life”	2018-2022	4590
	Syntax 2:“Reviewing the Effectiveness of Nursing Education in Improving Patient Satisfaction and Quality of Care in Saudi Arabia”		2309
3	Syntax 1 :“Nurse Education”, “Patients Satisfaction” and “Patients Quality of Life”	2018-2022	3901
Web of Science	Syntax 2 :“Reviewing the Effectiveness of Nursing Education in Improving Patient Satisfaction and Quality of Care in Saudi Arabia”		1369

Between 2018 and 2022, a literature search on nursing education's effectiveness in improving patient satisfaction and quality of care in Saudi Arabia was conducted. Using two search syntaxes, PubMed, Scopus, and Web of Science, significant numbers of research articles were retrieved. Scopus retrieved 4590 articles, while Web of Science found 3901 articles. The latter syntax, focusing on the Saudi Arabian context, garnered 639 articles from PubMed, 2309 articles from Scopus, and 1369 articles from Web of Science. These statistics highlight the extensive research interest and scholarly output on nursing education's impact on patient satisfaction and care quality, especially in Saudi Arabia's unique healthcare landscape.

Figure 1

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Graphic representation of search database according to different search engines

Inclusion and Exclusion Criteria

The review included studies about reviewing the effectiveness of nursing education in improving patient satisfaction and quality of care published in peer-reviewed journals, conference proceedings, or English-written reports, and was excluded if they did not meet the criteria or was duplicate.

Quality Assessment

The quality assessment of nursing education research in Saudi Arabia involves a thorough evaluation of methodological aspects to ensure the reliability and validity of findings. This includes assessing study design, sample representativeness, robust data collection methods, minimizing bias, adequacy of statistical analysis techniques, transparency in reporting, ethical adherence, and overall study quality. This systematic evaluation helps researchers make informed decisions about study inclusion or exclusion, enhancing the credibility and trustworthiness of the findings. Documenting the quality assessment process promotes transparency and reproducibility in research.

Table 3 Assessment of the literature quality matrix

Sr #	Author	Are the selection of studies described appropriately	Is the literature covered all relevant studies	Does the method section describe?	Were findings clearly described?	Quality rating
1	Al-Haroon et al. (2020)	Yes	Yes	Yes	Yes	High

Sr #	Author	Are the selection of studies described appropriately	Is the literature covered all relevant studies	Does the method section describe?	Were findings clearly described?	Quality rating
2	Alharbi (2018) Alkorashy & Al-Hothaly.	Yes	Yes	Yes	Yes	High
3	(2022)	Yes	Yes	Yes	Yes	High
4	Aldossary et al. (2022)	Yes	Yes	Yes	Yes	High
5	Alquwezet al. (2018)	Yes	Yes	Yes	Yes	High
6	Albougami et al. (2019)	Yes	Yes	Yes	Yes	High
7	Almaghrabi & Saati (2022).	Yes	Yes	Yes	Yes	High
8	Ahmad et al. (2020)	Yes	Yes	Yes	Yes	High
9	Al Kuwaiti et al. (2018)	Yes	Yes	Yes	Yes	High
10	Alsufyani et al. (2020)	Yes	Yes	Yes	Yes	High
11	Asamrew et al (2020)	Yes	Yes	Yes	Yes	High

The quality of the research was rated as "High or Good" due to the systematic review's clear techniques, descriptions, selection procedures, coverage of the literature, and findings.

Study Selection

Study selection is a systematic process that involves identifying relevant research articles based on predefined criteria. This includes defining inclusion criteria, developing a search strategy, screening results, and conducting a full-text review. Any discrepancies are resolved through consultation with a third reviewer. Data extraction and quality assessment are then performed to ensure high-quality; relevant research is included in the final analysis.

Table 4 Selected Studies for SR (Systematic Review)

No	Author	Research	Year
1	Al-Haroon, H. I., & Al-Qahtani, M. F. (2020)	The demographic predictors of job satisfaction among the nurses of a major public hospital in KSA	2020

No	Author	Research	Year
2	Alharbi, A. A. (2018)	The impact of nurse work environment on nurse outcomes, nurse-perceived quality of care and patient safety in Saudi Arabia	2018
3	Alkorashy, H. A., & Al-Hothaly, W. A. (2022)	Quality of nursing care in Saudi's healthcare transformation era: A nursing perspective	2022
4	Aldossary, N. G., Fatima, A., & Aldarwish, Z. Q. (2022)	The Impact of Accreditation on Patient Safety and Quality of Care as Perceived by Nursing Staff in a Cardiac Care Centre in the Eastern Province, Kingdom of Saudi Arabia	2022
5	Alquwez, N., Cruz, J. P., Almoghairi, A. M., et al. (2018)	Nurses' perceptions of patient safety culture in three hospitals in Saudi Arabia	2018
6	Albougami, A. S., Alotaibi, J. S., Alsharari, A. F., et al. (2019)	Cultural competence and perception of patient-centered care among non-Muslim expatriate nurses in Saudi Arabia: A cross sectional study	2019
7	Almaghrabi, Z. A., & Saati, H. S. (2022)	Patient Satisfaction on the Holistic Care Approach Rendered by Nurses in the Oncology Ward	2022
8	Ahmad, S., Singh, J., Kamal, M. A., & Shaikh, Z. M. (2020)	Person-centered care design with reference to healthcare outcomes in Saudi Arabia: an overview	2020
9	Al Kuwaiti, A., Al Muhanna, F. A., & Al Amri, S. (2018)	Implementation of digital health technology at academic medical centers in Saudi Arabia	2018
10	Alsufyani, A. M., Aldawsari, A. A., Aljuaid, S. M., et al. (2020)	Quality of nursing care in Saudi Arabia: Are empathy, advocacy, and caring important attributes for nurses?	2020
11	Asamrew, N., Endris, A. A., & Tadesse, M. (2020)	Level of patient satisfaction with inpatient services and its determinants: a study of a specialized hospital in Ethiopia	2020

Result

Study Database

A systematic search of electronic databases identified 11533 records. After removing duplicates, 11 unique records were assessed for eligibility based on titles and abstracts.

Title and Abstract Screening

The reviewer evaluated the titles and abstracts of the identified records in the first screening. Eleven studies were chosen for full-text review using this procedure. The reviewers' disagreements were settled by consensus and discussion.

Full-Text Assessment

The full texts of the 11 selected studies were found and independently reviewed against the inclusion and exclusion criteria by two reviewers. Following the full-text assessment, 11 studies met the criteria and were involved in the systematic review.

PRISMA Flowchart

The study selection process is illustrated in the PRISMA flowchart (Table 4). It provides a visual representation of the number of records at each stage of the selection process, from initial database search to final inclusion in the systematic review.

Identification of studies via databases and registers

Researchers use a systematic search strategy to identify studies using databases like PubMed, Web of Science, and Scopus and consult clinical trial registries and grey literature sources for unpublished or ongoing studies.

Table 5 Identification of Studies via Database

Data Extraction

For assessment, a uniform data extraction form was created. Key findings, participant characteristics, research characteristics (authors, publication year), and any other pertinent information were retrieved by two reviewers separately from the selected papers. Consensus was used to settle disagreements.

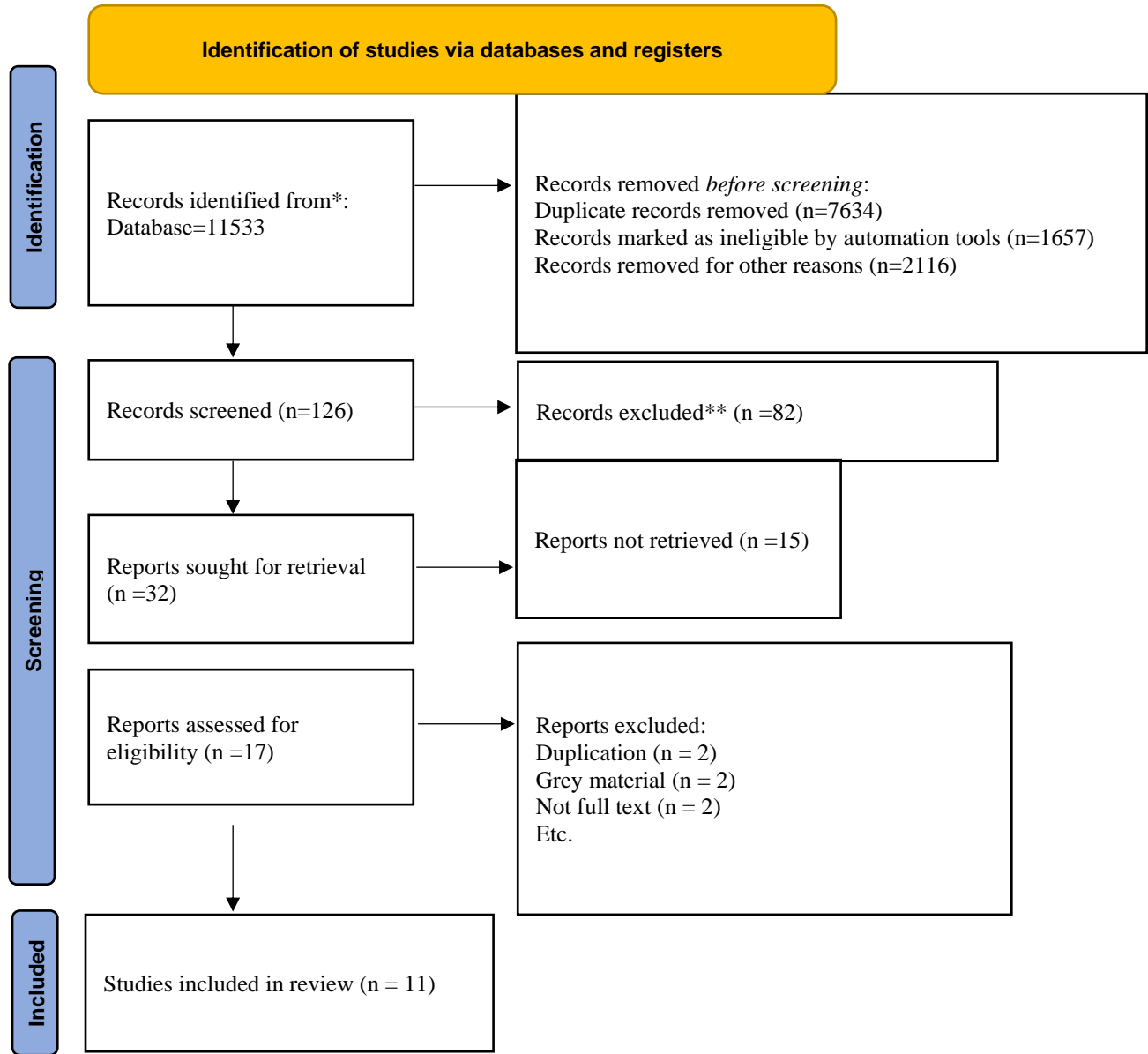


Table 6 Research Matrix

Author,						
No	Year	Aim of Study	Methodology	Sample	Setting	Result
1	2020	To identify demographic predictors of job satisfaction among nurses in a major public hospital in KSA	Quantitative survey research; Cross-sectional design	Nurses in a major public hospital in KSA	Major public hospital in KSA	Demographic factors such as age, years of experience, and education level were found to significantly predict job satisfaction among nurses.
2	2018	To examine the impact of nurse work environment on nurse outcomes, nurse-perceived quality of care, and patient safety in Saudi Arabia	Mixed-methods approach; Cross-sectional survey and interviews	Nurses working in various healthcare settings in Saudi Arabia	Various healthcare settings in Saudi Arabia	Positive nurse work environment was associated with improved nurse outcomes, perceived quality of care, and patient safety in Saudi Arabia.
3	2022	To explore the quality of nursing care in Saudi's healthcare transformation era from a nursing perspective	Qualitative research; Phenomenological approach	Nurses working in healthcare facilities undergoing transformation in Saudi Arabia	Healthcare facilities undergoing transformation	Nurses emphasized the importance of patient-centered care, effective communication, and collaboration in delivering high-quality nursing care in Saudi Arabia.

Author,						
No	Year	Aim of Study	Methodology	Sample	Setting	Result
4	2022	To investigate the impact of accreditation on patient safety and quality of care as perceived by nursing staff in a cardiac care center in the Eastern Province, KSA	Mixed-methods approach; Survey and interviews	Nursing staff working in a cardiac care center in the Eastern Province, KSA	Cardiac care center in the Eastern Province, KSA	Accreditation was perceived to positively impact patient safety and quality of care by nursing staff in a cardiac care center in the Eastern Province, KSA.
5	Alquwez et al., 2018	To explore nurses' perceptions of patient safety culture in three hospitals in Saudi Arabia	Quantitative survey research; Cross-sectional design	Nurses working in three hospitals in Saudi Arabia	Three hospitals in Saudi Arabia	Nurses perceived a need for improvement in various aspects of patient safety culture, including communication openness and feedback about errors.
6	Albougami et al., 2019	To assess cultural competence and perception of patient-centered care among non-Muslim expatriate nurses in Saudi Arabia	Quantitative survey research; Cross-sectional design	Non-Muslim expatriate nurses working in Saudi Arabia	Saudi Arabia	Non-Muslim expatriate nurses reported moderate levels of cultural competence and perception of patient-centered care in Saudi Arabia.

Author,						
No	Year	Aim of Study	Methodology	Sample	Setting	Result
7	2022	To evaluate patient satisfaction with the holistic care approach provided by nurses in the oncology ward	Quantitative survey research; Cross-sectional design	Patients receiving care in the oncology ward	Oncology ward	Patients reported high levels of satisfaction with the holistic care approach provided by nurses in the oncology ward.
8	Ahmad et al., 2020	To provide an overview of person-centered care design and its potential impact on healthcare outcomes in Saudi Arabia	Review article	Not applicable	Saudi Arabia	Person-centered care design has the potential to improve healthcare outcomes in Saudi Arabia by focusing on individual preferences and needs.
9	2018	To explore the implementation of digital health technology at academic medical centers in Saudi Arabia	Qualitative research; Case study	Healthcare professionals and patients at academic medical centers in Saudi Arabia	Academic medical centers in Saudi Arabia	Implementation of digital health technology at academic medical centers in Saudi Arabia has the potential to enhance healthcare delivery and patient outcomes.
10	2020	To assess the quality of	Quantitative survey research;	Nurses working in	Various healthcare	Empathy, advocacy, and

Author, No Year	Aim of Study	Methodology	Sample	Setting	Result
	nursing care in Saudi Arabia and investigate the importance of empathy, advocacy, and caring attributes for nurses	Cross-sectional design	various healthcare settings in Saudi Arabia	settings in Saudi Arabia	caring attributes were perceived as important for providing high-quality nursing care in Saudi Arabia.
Asamrew, Endris, & Tadesse, 11 2020	To examine the level of patient satisfaction with inpatient services and its determinants in a specialized hospital in Ethiopia	Quantitative survey research; Cross-sectional design	Patients receiving inpatient services at a specialized hospital in Ethiopia	Specialized hospital in Ethiopia	Patient satisfaction with inpatient services was influenced by factors such as waiting time, staff behavior, and quality of care received at the hospital.

Data synthesis is the systematic integration of findings from individual studies to derive meaningful conclusions and insights. It involves extracting relevant data, evaluating methodological rigor, using quantitative synthesis through meta-analysis, and qualitative synthesis through thematic analysis. This process provides a comprehensive understanding of the research topic, informs decision-making, and identifies directions for future research.

Table 7 The following sub-themes have been observed among the studies, including in the systematic review.

Theme	Sub-themes
Job Satisfaction among Nurses	Demographic predictors of job satisfaction among nurses

Theme	Sub-themes
Quality of Nursing Care	Impact of nurse work environment on nurse outcomes, quality of care, and patient safety Quality of nursing care in Saudi's healthcare transformation era Impact of accreditation on patient safety and quality of care in a cardiac care center Nurses' perceptions of patient safety culture in hospitals in Saudi Arabia Patient satisfaction on the holistic care approach rendered by nurses in the oncology ward Quality of nursing care in Saudi Arabia and the importance of empathy, advocacy, and caring attributes for nurses
Cultural Competence and Patient-Centered Care	Cultural competence and perception of patient-centered care among non-Muslim expatriate nurses Implementation of digital health technology at academic medical centers in Saudi Arabia

Discussion

The reviewed research articles provide important insights on nursing practices and healthcare outcomes in Saudi Arabia and elsewhere. First off, research on the critical role that job satisfaction plays for nurses and the effects of work settings on nurse outcomes, perceived quality of care, and patient safety can be found in studies by Alharbi (2018) and Al-Haroon & Al-Qahtani (2020). These results highlight how crucial it is to create supportive work environments in order to improve healthcare delivery as a whole. Second, studies by Aldossary et al. (2022) and Alquwez et al. (2018) highlight the impact of accreditation on nursing staff members' perceptions of patient safety and the quality of nursing care. These studies shed light on the variables influencing the culture of patient safety in healthcare institutions and the possible effects on patient outcomes. Last but not least, Asamrew et al. (2020) look into how satisfied patients are with inpatient care in

specialty hospitals, highlighting how patient experiences are shaped by elements such as wait times, staff conduct, and care quality. These findings highlight the necessity for healthcare institutions to provide patient-centered care strategies as top priority in order to raise overall patient happiness and results.

Furthermore, Albougami et al. (2019) highlight the value of cultural sensitivity in healthcare delivery by examining cultural competency and patient-centered care among non-Muslim expatriate nurses in Saudi Arabia. The aforementioned results highlight the significance of endorsing cultural competence education for healthcare practitioners in order to guarantee culturally competent treatment for a variety of patient demographics. In addition, Al Kuwaiti et al. (2018) talk about how digital health technology is being used in Saudi medical facilities and offer prospects to use technology to improve patient outcomes and healthcare delivery. These developments could increase patient participation in healthcare decision-making, expedite procedures, and increase access to care. Additionally, Alsufyani et al. (2020) investigate the effects of nursing care characteristics on patient satisfaction, including empathy, advocacy, and caring. These results emphasize how critical it is to support patient-centered, compassionate nursing practices in order to improve patient outcomes and experiences.

Limitation & Implications

Research on nursing education, patient satisfaction, and quality of care in Saudi Arabia has limitations, including small sample sizes, design constraints, potential biases, and contextual factors. These limitations may limit the generalizability of findings. However, they also present opportunities for improvement. By addressing these limitations, healthcare policymakers can tailor interventions to meet the unique needs of nurses and patients in Saudi Arabia. This research can inform policy development, training programs, patient-centered care approaches, and quality improvement initiatives. Future research should focus on overcoming these limitations through rigorous study designs and interdisciplinary collaborations.

Recommendations

Research on nursing education in Saudi Arabia suggests several recommendations to improve healthcare delivery and patient outcomes. These include investing in comprehensive programs, creating supportive work environments, implementing patient-centered care, leveraging digital health technologies, and promoting continuous quality improvement. Policymakers should consider the impact of accreditation standards on patient safety and quality of care, aligning with international best practices while addressing local contextual factors. Research should also address knowledge gaps, evaluate intervention effectiveness, and disseminate best practices to advance nursing practice and healthcare delivery in Saudi Arabia.

What this article is adding in existing literature?

The article provides a comprehensive review of nursing education programs in Saudi Arabia, analyzing their effectiveness in improving patient satisfaction and quality of care. It fills a critical gap in the literature by systematically evaluating the impact of educational strategies on patient outcomes. The article also examines the unique contextual factors influencing nursing practice and healthcare delivery in Saudi Arabia, such as cultural norms, workforce shortages, and technological advancements. It identifies implications for future research and suggests actionable recommendations to enhance nursing education, patient-centered care, and healthcare quality in Saudi Arabia.

Conclusion

It is concluded that this systematic review of nursing education in Saudi Arabia provides valuable insights into its effectiveness in improving patient satisfaction and care quality. It highlights the need for comprehensive programs and supportive work environments to improve patient outcomes. The review also suggests prioritizing patient-centered care, leveraging digital health technologies, and promoting continuous quality improvement initiatives to elevate nursing care standards. By addressing these recommendations, healthcare providers can work together to enhance healthcare services and patient well-being in Saudi Arabia.

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