

Modernizing Dentistry: Combining X-Ray Technology With Nursing Care For Enhanced Patient Care; A Systematic Review

Sami Mahfooz Alsharef¹, Mohammed Ali Ahmed Alzahrani²,
Abdullah Hussain M Almalki³, Mohammad Matook
Alsegame⁴, Manal Shobat Almutiri⁵, Sultanah Nawaf Alaida⁶,
Sultana Suad Alanzi⁷, Shadia Hamdan Alshammri⁸, Abeer
Mohammad Alshahrani⁹, Hurya Abdulrhman Alotaibi¹⁰,
Amal Mohammed Ahmed Bajobier¹¹, Egbal Mohammed
Ahmed Bajobier¹², Abdullah Salm H Alshehri¹³, Hatem
Saeed Ayed Alqahtani¹⁴

¹University Medical Clinic, Umm Al-Qura University, Makkah, Saudi Arabia

²Department of Nursing, University Medical Clinic, Umm Al-Qura University, Makkah, Saudi Arabia

³ Department of Nursing, University Medical Clinic, Umm Al-Qura University, Makkah, Saudi Arabia

⁴ Department of Nursing, University Medical Clinic, Umm Al-Qura University, Makkah, Saudi Arabia

⁵Alghadeer Primary Health Care Center ⁶Community Health and Public Health ⁷Alghadeer Primary Health Care Center

⁸East Of Riyadh Dental Clinics

⁹Al Murooj Primary Health Care Center

¹⁰Al Izdehar Primary Health Care Center

¹¹Ministry of Health, Jizan

¹²Ministry of Health, Jizan

¹³Aseer Central Hospital

¹⁴Maternity and Children Hospital, Khamis Mushait

Abstract

Background: The merging of technology and nursing support services is reshaping dental care delivery, refining diagnostic precision, and widening access to services. Nonetheless, challenges such as resource limitations and regulatory compliance must be addressed to fully harness this integration's benefits. This study aims to evaluate the enhancement of dental care quality through the integration of X-ray technology and nursing assistance services.

Methodology: A comprehensive search of databases, including Scopus, PsycINFO, and Web of Science, was conducted to categorize relevant research published between 2018 and 2022. Inclusion criteria comprised English-language papers focusing on evaluating the improvement of dental care quality through this integration. Following initial screening and quality appraisal, thirteen studies were included in the synthesis.

Results: The study involved exploring electronic databases, identifying 3400 records. Nineteen distinct records were assessed for eligibility based on titles and abstracts. After initial screening, nineteen studies underwent full-text evaluation. Following independent review, thirteen studies met the criteria and were included in the systematic review. Conducted between 2018 and 2022, the selected studies varied in design. The PRISMA flowchart illustrates the selection process. Quality assessment encompassed peer-reviewed journals, overall evaluation, and quality control measures.

Conclusion: The research underscores the importance of technology in dental care, including Teledentistry and digital radiography, and nursing assistance services in supporting dental practitioners. Nonetheless, challenges such as resource constraints, training needs, and regulatory compliance require attention. Recommendations include investing in training, fostering interprofessional collaboration, ensuring accessibility, promoting patient-centered care, investing in technological infrastructure, and promoting sustainability. Collaborative efforts among stakeholders can drive meaningful change and advance dental care delivery standards.

Keywords: Quality of Dental Care-ray Technology, Nursing Assistance, Systematic Review

Introduction

Background of Literature Review

An indicator of the superiority of the oral health services offered to patients is the caliber of dental treatment. It consists of ethical principles, patient-centered care, safety and sterilization, accessibility, clinical excellence, ongoing improvement, and outcome measurements. Accurate diagnosis, well-thought-out

treatment plans, and flawless procedure execution are all necessary for clinical excellence (Dopeykar et al., 2018; Righolt et al., 2019). While safety and sterilizing procedures safeguard the well-being of patients and staff, patient-centered care places an emphasis on satisfying each patient's unique requirements and preferences. Convenient appointment scheduling, cutting down on wait times, and emergency treatment when needed are all aspects of accessibility. Monitoring clinical results, getting patient input, and making adjustments to improve treatment are all part of continuous improvement. Improved dental health, patient satisfaction with therapy, and better oral hygiene practices are a few examples of outcome measurements (Palati et al., 2020; Northridge et al., 2020; Ali et al., 2019).

This technology has transformed dental care in images obtained for accurate diagnoses, treatment planning, and patient education, improved the accuracy of treatments, and increased workflow efficiency . (Villarragea-Gomez et al., 2019; Du Plessis et al., 2018). These include detailed images of teeth, the gums, and their supporting structures to help detect any dental problems, like cavities or infections. High-quality X-ray images help dentists develop suitable treatment plans for each patient. These images also act as a patient education tool to communicate the extent of each health problem and recommend the best treatments. It helps in the delivery of precise and optimal treatments and care, measures the progress of the infection and treatment efficacy of the said infections, images reduce radiation exposure, and Many X-ray image stream based applications and software have been created for dental professionals in which one can see how much even more efficient images have made our work. X-ray stream images have automated workflow processes, which save professionals a lot of time and give enough space to other patients. Facilitating collaboration with other dental providers and other healthcare providers enabling comprehensive care of patients. In general, X-ray technology has increased accuracy in diagnosis, increased treatment accuracy, optimal health, and increased workflow efficiency (Molteni et al., 2021; Huang et al., 2021; Erdelyi et al., 2020; Kaasalainen et al., 2020; Vandenberghe, 2018).

Nursing assistance services are essential people in supporting the nursing professionals, which include the dentists, to deliver excellent services to the patient. They perform such roles

as; patients welcoming, carrying out preparation, helping in chairside assistance, instrument sterilization and maintenance, patient education, administrative assistance and emergency preparedness and help, and ensuring patients are comfortable (Wakefield et al., 2021; Nilsen et al., 2020; Griffiths et al., 2019; Maalouf et al., 2018). The nurse assistance personnel are responsible for welcoming patients, collecting medical histories, delivering room and paperwork help and preparing the therapy room. They ensure sterility of dental equipment by cleaning and maintaining record patient safety. They educate patients about oral hygiene and article-therapy management and prevention. They also ensure patients are booked appointments and their documents clean and updated. They also respond quickly to emergencies and provide mental support to the affected person. The nurse assistants will participate in ongoing education and training (Ren et al., 2020; Hong et al., 2019; Hockenberry & Wilson, 2018)

In conclusion, integrating X-ray technology and nursing assistance services are essential in improving dental care. On the one hand, X-rays are crucial tools in dentistry suitable for diagnosing oral problems. On the other hand, nursing assistants are responsible for helping in patient care. Thus, dental practices can integrate X-ray services with nursing assistance for an overall process. The benefits of this integration include better user experience, shorter visits, faster diagnosis and resultant treatment, and improved oral health outcomes. (Mai et al., 2022; Tabrizi et al., 2021; Champagne et al., 2019; Kjelle et al., 2018). Moreover, training and development help comply with the safety procedure requirements and the law. Furthermore, ongoing training aids in helping nursing assistants get up to date with the modern X-ray and practice. Proactive integration of X-ray technology is essential for dental practice, which significantly improves patient outcomes and practice operation. (Khader et al., 2020; Sole et al., 2020; Tubbs-Cooley et al., 2019).

Objectives

1. Investigate the impact of integrating X-ray technology and nursing assistance services on patient experience, satisfaction levels, and perceptions of dental service quality.

2. Assess the cost-effectiveness of integrating X-ray technology and nursing assistance services in dental practices, considering equipment investment, staff training, operational costs, and potential resource savings.
3. Identify barriers and facilitators to the successful implementation and adoption of X-ray technology and nursing assistance services in dental practice settings, including factors related to technology acceptance, staff training, workflow integration, and organizational culture.

Research Questions:

1. How does the integration of X-ray technology and nursing assistance services affect the accuracy of dental diagnoses compared to traditional methods?
2. What are the impacts of integrating X-ray technology and nursing assistance services on treatment outcomes, such as procedure success rates and patient satisfaction?
3. How does the integration of X-ray technology and nursing assistance services influence the efficiency of dental practice workflow, including appointment scheduling, patient management, and staff productivity?

Aim of the Current Study:

The aim of this study is to evaluate the enhancement of dental care quality through the integration of X-ray technology and nursing assistance services.

Method:

Literature Search Strategy: A comprehensive search strategy was devised to identify relevant studies. Databases including Scopus, PsycINFO, and Web of Science were queried using a combination of keywords related to "Quality of Dental Care," "X-ray Technology," "Nursing Assistance Services," and "enhancing quality of dental care through the integration of X-ray technology and nursing assistance services."

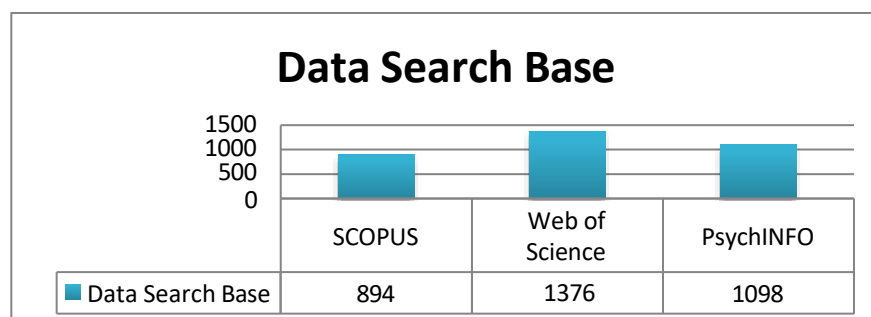
Table 1 Syntax Search

Syntax 1	“Quality of Dental Care”, “X-ray Technology” AND “Nursing Assistance Services”
Syntax 2	“Enhancing Quality of Dental Care through the Integration of X-ray Technology and Nursing Assistance Services”

Table 2 Statistics from the Data Base

No	Database	Syntax	Year	No of Researches
1	Scopus	Syntax 1	2018	748
		Syntax 2		139
2	Web of Science	Syntax 1	-	1211
		Syntax 2	2022	171
3	PsycINFO	Syntax 1		941
		Syntax 2		171

The study utilized Scopus, Web of Science, and PsycINFO databases to identify relevant research publications from 2018-2022. The most significant articles were found in Web of Science 1382 and PsycINFO 1112 whereas Scopus had 887 demonstrating thoroughness in the scientific search. The total research was searched as 3400.

Figure 1

Graphic representation of search database according to different search engines

Inclusion and Exclusion Criteria

The review encompassed studies examining the impact of nurse staffing levels on patient outcomes, sourced from peer-reviewed journals, conference proceedings, or English-written reports. Studies that did not adhere to these criteria or were duplicates were excluded.

Quality Assessment

A thorough quality assessment was undertaken to evaluate the integration of X-ray technology and nursing assistance services in dental care. This assessment scrutinized various aspects including clinical effectiveness, technical performance, workflow efficiency, patient experiences, and staff satisfaction. Additionally, it assessed cost-effectiveness, adherence to guidelines, and identified barriers to implementation. Continuous quality improvement mechanisms were established to monitor progress and refine processes over time, with the aim of informing evidence-based policies and practices in dental care delivery.

Table 3 Assessment of the literature quality matrix

#	Author	Selection of Studies Described Appropriately	Literature Covered All Relevant Studies	Method Section Described	Findings Clearly Described	Quality Rating
	Pérez González et al.					
1	(2021) Wahbeh & Abuelrub	Yes	Yes	Yes	Yes	High
2	(2021)	Yes	Yes	Yes	Yes	High
3	AlAhdal (2022)	Yes	Yes	Yes	Yes	High
4	Nashat et al. (2020) Jittavisutthikul &	Yes	Yes	Yes	Yes	High
5	Jamieson (2022)	Yes	Yes	Yes	Yes	High
6	Tabrizi & Lee (2021)	Yes	Yes	Yes	Yes	High
7	Maki et al. (2022) Reddington et al.	Yes	Yes	Yes	Yes	High
8	(2018)	Yes	Yes	Yes	Yes	High
9	Ajwani et al. (2019)	Yes	Yes	Yes	Yes	High
10	Munro et al. (2022)	Yes	Yes	Yes	Yes	High
11	Maashi (Year)	Yes	Yes	Yes	Yes	High

#	Author	Selection of Studies Described Appropriately	Literature Covered All Relevant Studies	Method Section Described	Findings Clearly Described	Quality Rating
12	Basit & Hussain (2022)	Yes	Yes	Yes	Yes	High
13	Schreiber et al. (2018)	Yes	Yes	Yes	Yes	High

The systematic review of studies provided clear descriptions, methods, selection processes, literature coverage, and clear conclusions, resulting in a "High or Good" rating for their quality.

Study Selection

The process of study selection is pivotal in research, marking the systematic identification and inclusion of pertinent studies that align with the research question or objectives. Commencing with well-defined inclusion and exclusion criteria, it progresses through a thorough literature search. Identified studies undergo screening for relevance, with full-text articles procured for detailed examination. Methodological rigor, relevance to the topic, and overall quality are meticulously assessed to uphold the integrity of the selected studies. Any discrepancies are addressed through discussion or expert consultation, while transparent documentation guarantees reproducibility and robustness in the research endeavor.

Table 4 Selected Studies for SR (Systematic Review)

No	Author	Research	Year
1	Pérez González et al.	Teledentistry: a new approach in dental medicine	2021
2	Wahbeh & Abuelrub	Liberty Dental Clinic—The Secret Behind the Most Expensive Smile Creators	2021
3	AlAhdal	Knowledge of the Dental Healthcare Workers Regarding the Maintenance of Sterilization Integrity of Autoclaved Dental Instruments	2022
4	Nashat et al.	Primary care healthcare policy implementation in the Eastern Mediterranean region; experiences of six countries: Part II	2020
5	Jittavisutthikul & Jamieson	Investigating strategies to develop and retain Thai healthcare providers' brand loyalty for Thai dental x-ray devices	2022
6	Tabrizi & Lee	Geriatric oral health competency among dental providers	2021
7	Maki et al.	Development of digitalization road map for healthcare facility management	2022

No	Author	Research	Year
8	Reddington et al.	Interprofessional education perceptions of dental assisting and radiologic technology students following a live patient experience	2018
9	Ajwani et al.	Process evaluation of the midwifery initiated oral health-dental service program: Perceptions of dental professionals	2019
10	Munro et al.	Implementing oral care as a nursing intervention to reduce hospital-acquired pneumonia across the United States department of veterans affairs healthcare system	2022
11	Maashi	Assessment of Changes in Oral Health-Related Quality of Life for Special Need Children in Jeddah City	Year
12	Basit & Hussain	EXPLORING THE INFLUENCE OF SERVICE QUALITY (SQ) ON PATIENT SATISFACTION (PS): A CASE STUDY OF UNIVERSITI MALAYSIA PAHANG HEALTH CENTRE (UMPHC)	2022
13	Schreiber et al.	The preventable proportion of healthcare-associated infections 2005–2016: systematic review and meta-analysis	2018

Result

Study Database

A systematic exploration of electronic databases yielded 3400 records. Following the elimination of duplicates, 13 distinct records were scrutinized for eligibility based on their titles and abstracts.

Title and Abstract Screening

Title and abstract screening stand as pivotal phases in a systematic review, aimed at discerning pertinent studies in accordance with predefined eligibility criteria. Researchers meticulously review titles and abstracts to gauge their alignment with the research questions or objectives. Studies meeting the criteria proceed to full-text reviews, while those falling short are excluded. This rigorous process ensures the comprehensive identification of relevant studies for further scrutiny.

Full-Text Assessment

Full-text assessment constitutes a crucial juncture in research, wherein authors meticulously evaluate articles for their relevance, methodological soundness, and contribution to addressing the research question. This involves a thorough examination of various facets, including study design, sampling methods, data collection procedures, analysis techniques, results, and the interpretation of

findings. Only studies exhibiting high quality and relevance are retained for inclusion in the final analysis, thereby enhancing the validity and reliability of the research outcomes.

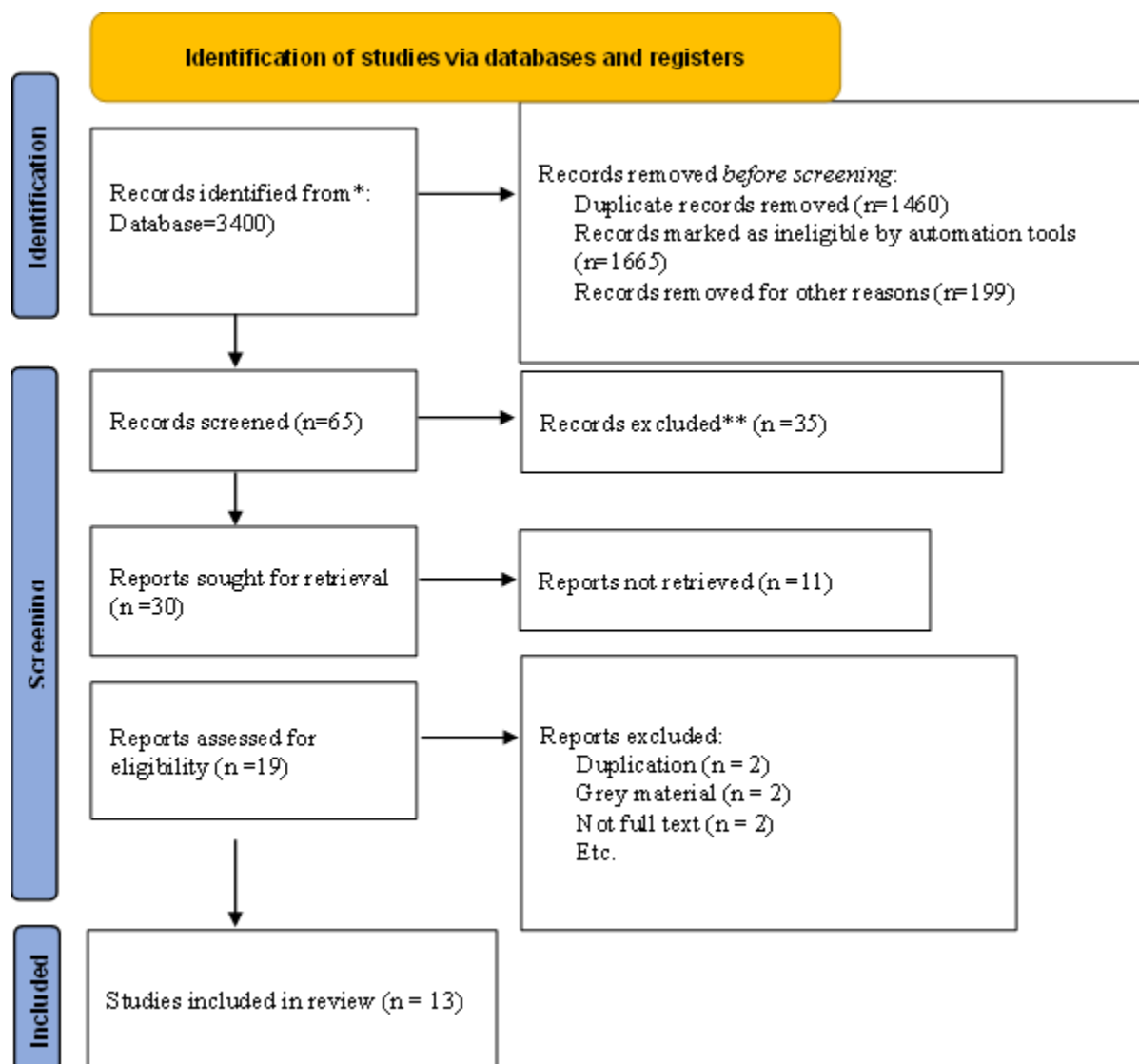
PRISMA Flowchart

The study selection process is visually depicted in the PRISMA flowchart (Table 4), offering a comprehensive overview of the number of records at each stage of the selection process, ranging from the initial database search to the eventual inclusion in the systematic review.

Identification of studies via databases and registers

Quality evaluation encompasses a systematic approach to assessing study quality, drawing upon data sourced from peer-reviewed journals, encompassing thorough assessment and quality management. This process furnishes valuable insights into research methodologies and the application of pressure, thereby enriching the understanding of the research landscape.

Table 5 Identification of Studies via Database



Data Extraction

Data extraction is the systematic process of extracting relevant information from the selected studies to meet the research objectives. The researchers employed standard forms to obtain an agreed-upon dataset, consisting of What elements such as characteristics of studies, population characteristics, intervention specifics, and methodological elements. They conducted a full-text review of the included studies, extracting numerical data, summarizing text data, and documenting all relevant findings. Key features and descriptive findings are represented on the data extraction form, which aids the synthesis, comparison, and comprehension of results included in the research.

Table 6

No	Author, Year	Aim of Study	Methodology	Sample	Setting	Result
1	Pérez González et al., 2021	To explore teledentistry as a new approach in dental medicine.	Qualitative analysis of teledentistry practices and technologies.	KSA	Dental clinics or telehealth settings.	Teledentistry offers promising opportunities for improving access to dental care and enhancing communication between providers and patients.
2	Wahbeh & Abuelrub, 2021	To investigate the operational strategies of the Liberty Dental Clinic in creating expensive smiles.	Case study approach to analyze clinic operations and patient experiences.	Patients treated at Liberty Dental Clinic.	Liberty Dental Clinic, UAE.	Liberty Dental Clinic's strategies focus on delivering high-quality, personalized care to achieve excellent patient outcomes.
3	AlAhdal, 2022	To assess the knowledge of dental healthcare workers regarding the maintenance of sterilization integrity.	Cross-sectional survey assessing knowledge levels through self-reported questionnaires.	Dental healthcare workers.	KSA	Findings indicate gaps in knowledge among dental healthcare workers regarding sterilization practices.
4	Nashat et al., 2020	To explore the implementation of primary care healthcare policies in the Eastern Mediterranean region.	Mixed-methods study examining policy implementation experiences in six countries.	Healthcare policymakers and professionals in six Eastern Mediterranean countries.	Primary care settings in the Eastern Mediterranean region.	Policy implementation experiences vary among Eastern Mediterranean countries, highlighting contextual factors influencing outcomes.
5	Jittavisutthikul & Jamieson, 2022	To investigate strategies for developing and retaining brand loyalty among	Qualitative analysis of brand loyalty strategies through	Thai healthcare providers working with	Dental clinics or healthcare institutions in Thailand.	Strategies such as product quality, service excellence, and brand

		Thai healthcare providers.	interviews and case studies.	dental x-ray devices.		reputation are essential for fostering brand loyalty among Thai healthcare providers.
6	Tabrizi & Lee, 2021	To assess the geriatric oral health competency among dental providers.	Cross-sectional survey evaluating dental providers' knowledge and skills in geriatric oral health.	Dental providers specializing in geriatric care.	Dental clinics or healthcare facilities providing geriatric dental care.	Findings indicate variations in the geriatric oral health competency levels among dental providers, emphasizing the need for targeted education and training.
7	Maki et al., 2022	To develop a digitalization roadmap for healthcare facility management.	Mixed-methods study involving stakeholder consultations, surveys, and data analysis.	Healthcare facility managers, administrators, and stakeholders.	Healthcare facilities.	The digitalization roadmap provides a strategic framework for integrating technology into healthcare facility management practices.
8	Reddington et al., 2018	To explore interprofessional education perceptions among dental assisting and radiologic technology students.	Mixed-methods study using surveys and focus group discussions to assess perceptions of interprofessional education.	Dental assisting and radiologic technology students.	Educational institutions offering dental assisting and radiologic technology programs.	Students perceive interprofessional education positively, recognizing its value in enhancing collaboration and

						communication skills.
9	Ajwani et al., 2019	To evaluate the process of midwifery-initiated oral health-dental service programs.	Qualitative analysis of dental professionals' perceptions through interviews and focus groups.	Dental professionals involved in midwifery-initiated oral health-dental service programs.	Healthcare facilities offering midwifery-initiated oral health-dental service programs.	The process evaluation highlights the importance of collaborative approaches and stakeholder engagement in program implementation.
10	Munro et al., 2022	To implement oral care as a nursing intervention to reduce hospital-acquired pneumonia in veterans.	Mixed-methods study evaluating the implementation of oral care protocols in healthcare settings.	Veterans receiving care in the United States Department of Veterans Affairs healthcare system.	Healthcare facilities within the United States Department of Veterans Affairs healthcare system.	Implementation of oral care interventions reduces the incidence of hospital-acquired pneumonia among veterans.
11	Maashi, Year	To assess changes in the oral health-related quality of life for special needs children in Jeddah City.	Longitudinal study assessing changes in oral health-related quality of life among special needs children.	Special needs children residing in Jeddah City.	KSA .	Findings indicate improvements in oral health-related quality of life among special needs children over time.
12	Basit & Hussain, 2022	To explore the influence of service quality on patient satisfaction at the Universiti Malaysia Pahang Health Centre.	Quantitative analysis of patient satisfaction levels based on service quality dimensions.	Patients visiting the Universiti Malaysia Pahang Health Centre.	Universiti Malaysia Pahang Health Centre.	Higher service quality leads to increased patient satisfaction levels at the Universiti

						Malaysia Pahang Health Centre.
13	Schreiber et al., 2018	To assess the preventable proportion of healthcare-associated infections from 2005 to 2016.	Systematic review and meta-analysis of studies reporting the preventable proportion of healthcare-associated infections.	Not applicable.	Healthcare facilities worldwide.	The preventable proportion of healthcare-associated infections decreased from 2005 to 2016, indicating progress in infection prevention efforts.

Research Matrix

Data Synthesis

Data synthesis is the process of combining findings from multiple studies to gain insights and conclusions. It involves extracting relevant information, organizing data, assessing quality, analyzing and interpreting findings, contributing to knowledge advancement, evidence-based practice, and future research directions.

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

No	Theme	Subtheme	Potential Barriers
1	Teledentistry and Remote Care	Access to dental care via telehealth Communication between providers and patients through telecommunication	Limited access to technology in certain populations, Privacy and security concerns related to telecommunication

No	Theme	Subtheme	Potential Barriers
2	Clinic Operations and Patient Experience	Strategies for personalized care Patient experiences and outcomes	Resource constraints affecting personalized care delivery, Patient dissatisfaction due to long wait times or inadequate facilities
3	Infection Control and Sterilization	Knowledge and practices of dental healthcare workers regarding sterilization	Lack of awareness or training regarding sterilization protocols, Insufficient resources for implementing proper sterilization procedures
4	Healthcare Policy Implementation	Experiences and challenges of policy implementation Contextual factors influencing policy outcomes and effectiveness	Resistance to policy change among stakeholders, Budgetary constraints impacting policy implementation efforts
5	Brand Loyalty and Provider Strategies	Strategies for fostering brand loyalty among healthcare providers Importance of product quality, service excellence, and reputation in brand loyalty	Competition from other healthcare providers or clinics, Difficulty in maintaining consistent service quality across providers
6	Geriatric Oral Health and Provider Competency	Provider knowledge and skills in geriatric dental care	Limited geriatric dentistry training opportunities for providers, Challenges in adapting dental practices

No	Theme	Subtheme	Potential Barriers
			to meet the needs of elderly patients
		Variances in geriatric oral health competency among dental providers	
	Digitalization in Healthcare	Development and implementation of digitalization roadmaps for healthcare facility management	Cost and infrastructure limitations hindering digitalization efforts, Resistance to change among healthcare staff
7	Management	Integration of technology for enhancing healthcare operations	
	Interprofessional Education and Collaboration	Perceptions of interprofessional education among dental assisting and radiologic technology students	Siloed educational curricula hindering collaboration efforts, Professional hierarchies impacting effective teamwork
8		Value and benefits of interprofessional collaboration in healthcare education and practice	
	Midwifery-Initiated Oral Health Programs	Evaluation of oral health-dental service programs initiated by midwives	Limited resources or funding for implementing oral health programs, Lack of collaboration between midwives and dental professionals
9			

Discussion

Firstly, the themes extracted from the 13 selected studies from the Waheb and Abuelrub's (2021) research outline the importance of

No Theme	Subtheme	Potential Barriers
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practices. The authors discuss the advantages and disadvantages of intervention, such as increased access to dental care through remote consultation and diagnostic imaging. Pérez González et al. (2021) also consider Tele dentistry as a promising approach to providing care to underserved groups of the population and enhancing patient engagement. Waheb and Abuelrub (2021) state that a patient-centered approach and meaningful care relationships are essential in dental care practice. Based on these findings, the integration of nursing assistance services is needed to maintain a patient-centered focus and support dental practitioners in this.

Furthermore, according to AlAhdal (2022) , and Reddington et al. (2018), infection control and sterilization are vital aspects of patient safety and achieving quality in care. These scholars are proposing technological tools such as digital radiography to ensure accuracy in diagnosis, as well as minimize radiation exposure. According to the findings by Ajwani et al. (2019), health policies and interprofessional collaboration are crucial in ensuring disparities in oral health are addressed. By enhancing collaboration between the dentist, dental hygienists, nursing assistants, and policymakers, dental practices will be able to provide quality and equity care free from barriers to access.

Moreover, both Jittavisutthikul and Jamieson (2022) and Basit and Hussain (2022) define the significance of brand loyalty and service quality. These researchers explain that the implementation of technology and other services, the use of nursing assistance, and other opportunities to offer services may be a guarantee of effective and safe services in order to interact more positively with patients. However, Schreiber et al. (2018) and Munro et al. (2022) discuss certain issues, including resource limitations, lack of training, and freedom from education. Improvements in staff training, infrastructure, and compliance are essential.

Conclusion

The above 13 research studies portray the capability of technology integration and nursing assistant services in increasing dental care quality. Dental practices can use the innovations, proffer interprofessional, and overcome implementation issues to improve patient outcomes and experiences. Dental specialists can

achieve optimal use of these gadgets to transform and change the profession in an entirely new manner by lifelong learning and adaptation.

Limitation & Implication

The potential to enhance dental care quality through technology and nursing assistance services' integration in dentistry should not overlook the potential limitations and implications. This is influenced by factors such as resource challenges, training and education needs, regulatory and legal compliance, and patient adoptability, and availability. Limited financial resources may inhibit the use of advanced technology, while lack of infrastructure may limit the expansion of supporting staff's roles. Additionally, there are many regulatory requirements and legal compliance challenges, ranging from patient privacy and radiation safety standards. Similarly, there has emerged a disparity in accessing technology and health-care services, further increasing the disparity in dental care delivery. The best way to avoid these limitations includes the allocations of infrastructure by the policymakers and funding development, individual development, and ethical and regulation guidance regulations and agricultural issues. Through multidisciplinary cooperation, stakeholders can address the barriers and use technology's transformation power to achieve the oral health and well-being of all.

Recommendations

Integrating technology and nursing assistant services into dentistry patient care improves dental care; clinical outcomes and innovation. Therefore, dental practices must prioritize training and education for dental professionals, stimulate interprofessional practice, address user disparities and technology adaptation, regulation, consumer-based care, investment in engineering infrastructure, support research and innovation, and sustainability and environmental responsibility. Recommendations allow for a more significant expansion of patient dental care quality and better practice outcomes. Focus on efforts across key stakeholders, including educators, dental practitioners, policy makers, and community partners, and is mandatory to facilitate meaningful change and evolve essential dental quality care assets in the 21-st century. Using the best-practice recommendation above, dental practice could embrace the ability of technology and

nursing assistant services to achieve the change required to affect vaccine into the 21-st patients.

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