

Unlocking The Potential Of Nursing Teams: A Systematic Review Of Training And Development Programs In Saudi Healthcare

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Abstract

Background: Nursing workforce is very important in providing the effective treatment to patients in the healthcare centers. Training and development program is effective in enhancing the nursing competency and skills.

Objective: The objective of this research is to systematically review the literature to unlock the potential of nursing teams with respect of training and development programs in Saudi Healthcare.

Method: With an emphasis on studies published between 2021 and 2025, research was categorized using databases such as Scopus, PsycINFO, Google Scholar and Web of Science. The analysis specifically examined the training and development of nursing team in Saudi Healthcare, a total of 17 papers were included in the systematic review.

Result: Four themes were extracted from the SR. These following themes are as Nursing Competency Development; Nursing Training & Developing New Skill; Female Nursing Empowerment & Future Training & Development Challenges.

Conclusion: The systematic review of Unlocking the Potential of Nursing Teams concerning Training and Development Programs in Saudi Healthcare found limitations and suggested improvements. KSA is developing nursing team training programs due to a lack of literature. The studies were limited and local. Research on training doesn't explain it. What development programs are underway. Unpublished research in local publications should be examined. Some studies use self-reported data. Gender-related training and development impediments were limited. The education competency and development framework, gender dynamics, cultural barriers, and retention variables should be studied longitudinally and experimentally. This article explores Saudi Healthcare's training and development strategies to unleash nursing teams' potential in workforce, competency, and new skills to better serve patients and domain specialists.

Keywords: Nursing Teams, Training Programs, Development Programs, Saudi Healthcare

Introduction

Nursing has different domain where they work as teams. These domains include patient centered care team, case management nursing and modular nursing team. The expertise, teamwork, and ongoing professional development of healthcare workers especially nurses, who form the foundation of frontline clinical care, are which link to the quality of healthcare delivery. Nurses make up a considerable share of the healthcare workforce in Saudi Arabia and are essential to maintaining patient safety, improving health outcomes, and increasing system effectiveness. It has never been a more pressing need to develop nursing teams due to the nation's expanding population and increasingly complex healthcare demands (Loke, Guo & Molassiotis, 2021; Chang et al., 2021; Dugué, Sirot, & Dosseville, 2021; Alsadaan et al., 2021).

As a result of Vision 2030, a government policy to diversify the economy and improve public services, including healthcare, the Kingdom of Saudi Arabia is currently undergoing a significant renovate of its healthcare system. Creating a robust and sustainable healthcare system that can satisfy the needs of a current society is one of Vision 2030's main tenets. The healthcare center has placed a greater emphasis on developing human capital as a result of this reform, with a particular emphasis on the professional development and training of nurses (Aldhafeeri et al., 2024; Alqahtani et al., 2022; Chowdhury et al., 2021).

In this regard, maximize nursing teams' ability is both a practical prerequisite and a national priority. To provide excellent, patient-centered care, nursing teams which include registered nurses (RNs), licensed practical nurses (LPNs), nursing assistants, and specialist nurses must work together harmoniously. Nevertheless, a number of issues still subsist that restrict Saudi Arabian nursing teams' efficacy. These consist of uneven training requirements, deficiencies in leadership training, restricted access to ongoing education, and obstacles to interprofessional cooperation. Furthermore, a lot of training programs priority developing individual skills over team-based growths, which can consequence in disintegration and inefficiencies in the provision of care (Yi et al., 2022; Lake et al., 2022; Jackson et al., 2021).

The training and development programs can improve nursing team performance, develop leadership abilities, promote communication, and eventually result in better patient outcomes is supported by research conducted worldwide. However, there is still a dearth of widespread data about the character, extent, and effects of such initiatives in the unique Saudi healthcare context. Evaluating the effectiveness of nursing teams' training and development to features future challenges is critical as the Kingdom strives to revise its healthcare communications (Chen et al., 2022; Sherwood & Barnsteiner, 2021; Mrayyan, 2023).

It is evaluated that nurses' retention of cardiopulmonary resuscitation knowledge and abilities following training and retraining has effective for nursing training. The results suggested a reduction in knowledge and skills in both theoretical and practical assessments. Retraining helped nurses keep more information and skills on cardiopulmonary resuscitation, which shows how important it is to keep learning about health (Araujo et al., 2022). Another quasi-experimental study was conducted among nursing students. The intervention group learned CPR using Serious Games and Integrated Real-Time Audiovisual Feedback Simulators. The finding noted that there was no notable alteration in group satisfaction or self-confidence ($p>0.05$). Adding a serious game to a real-time audiovisual feedback simulator does not help people learn or practice CPR better (Demirtas et al., 2022).

Also, a study of randomized control design indicated that simulation-based training exerted a modest although substantial positive impact on nurses' skills relative to alternative learning methodologies. However the results demonstrated considerable heterogeneity. It concluded that simulation seems to help nurses get better at their jobs (Hegland et al., 2022).

Moreover, a study examining the impact of resilience training on nurses indicated that it enhanced their resilience ratings. The training linked with improvement in stress, sadness, anxiety, and burnout. However, only comprehensive evaluations could be conducted because of difference in respect of training

and the techniques used to measure it. The findings indicate that resilience training may serve as an effective resource for nurses to manage occupational stress and mitigate burnout (Zhai et al., 2021).

Moreover, this systematic research examine the training and development of nursing team in Saudi Healthcare as what training programs are being doing and what else need to improve in the future.

Methods

Research Objective

The objective of the current study is to systematically review the literature to unlock the potential of nursing teams with respect of training and development programs in Saudi Healthcare.

Research Question

The research questions of this systematic review are;

- What are different training programs for nursing are being done in Saudi Healthcare?
- What are different development programs for nursing are being done in Saudi Healthcare?
- What is the effectiveness and efficacy of those training and development program in Saudi Healthcare?
- How training and development programs enhance the nursing potential?

Literature Search Strategy

An inclusive search strategy was used to find relevant studies. Databases such as Scopus, PsycINFO, Google Scholar and Web of Science were searched using a combination of keywords related to “Nursing Training Programs in KSA Healthcare”, “Nursing Development Programs in KSA Healthcare”, “To Unlock the Potential of Nursing Teams with Respect of Training and Development Programs in Saudi Healthcare.”

Table 1 Syntax Search

Syntax 1	“Nursing Training Programs in KSA Healthcare” AND “Nursing Development Programs in KSA Healthcare”
Syntax 2	“To Unlock the Potential of Nursing Teams with Respect of Training and Development Programs in Saudi Healthcare”

Table 2 Statistics from the Data Base

No	Database	Syntax	Year	No of Researches
1	Google Scholar	Syntax 1		540
		Syntax 2		615
2	SCOPUS	Syntax 1		987
		Syntax 2	2021	438
			- 2025	469
3	PsycINFO	Syntax 1		448
		Syntax 2		

4	Web of Science	Syntax 1	449
		Syntax 2	210

The study used Scopus, Google Scholar, Web of Science, and PsycINFO databases to categorize relevant research publications from 2021-2025. The most significant articles were found in PsycINFO 1425; Google Scholar 1155 and Scopus 917 whereas Web of Science had 659 had representative thoroughness in the scientific search. The total researches were searched as 4920.

Figure 1

Inclusion and Exclusion Criteria

This literature review unlocks the potential of nursing teams with respect of training and development programs in Saudi Healthcare, encompassing research article, peer-reviewed publications and reports. This encompasses studies featuring nursing teams, randomized controlled trials, cohort studies, qualitative research, and systematic reviews. The exclusion criteria encompass research that were not published in English, those that failed to explore the development and training of nursing team in KSA healthcare and articles published between 2021 and 2025.

Quality Assessment

The study was evaluated for quality and methodological consistency utilizing instruments such as the Joanna Briggs Institute Critical Appraisal Checklist, taking into account factors such as sample size, data collection methods, research design, and potential bias. Few articles were not included, but the results were analyzed with an eye on the cons and pros of each method.

Table 3 Assessment of the literature quality matrix

No	Author (Year) & Title	Selections Described?	Literature Coverage?	Methods Described?	Findings Clearly Described?
1	Aboshaiqah et al. (2023): Development of Nursing Research in Saudi Arabia	Yes	Yes	Yes	Yes
2	Almaghaslah & Alsayari (2021): Global framework tool... Pharmacy Workforce	No	No	No	No
3	Moustafa Saleh & Elsabahy (2022): Sustainability Education Program...	Yes	No	Yes	Yes
4	Attallah & Hasan (2022): Core Competency Framework... Delphi Technique	Yes	Yes	Yes	Yes
5	Alqahtani et al. (2022): Organizational Factors & EBP...	Yes	Yes	Yes	Yes
6	Alnowibet et al. (2021): Healthcare Human Resources Trends & Demand	No	No	No	No

No	Author (Year) & Title	Selections Described?	Literature Coverage?	Methods Described?	Findings Clearly Described?
7	Alwesabi (2023): Training Program on Myocardial Infarction Care	No	No	No	No
8	Brinjee et al. (2021): Disaster Nursing Training Needs in Taif City	Yes	Yes	Yes	Yes
9	Almarwani & Elshatarat (2022): Learning Styles in Nursing Programs	No	No	No	No
10	Halabi et al. (2021): Professional Competence & Patient Safety Experiences	No	No	No	No
11	AlRatrout et al. (2025): Impact of QSEN Program on Junior Nurses	No	No	No	No
12	Mohamed et al. (2024): Web-based EBP Training Program	Yes	No	Yes	Yes
13	Arishi et al.: Health Workforce Development... Opportunities & Challenges	No	No	No	No
14	Davies et al. (2025): Narrative Review... Female Nursing Workforce	No	No	No	No
15	Alzaaqi et al. (2025): Empowering Women in Saudi Health Sector	No	No	No	No
16	Shareifi et al. (2024): Role of Clinical Nurse Specialists...	No	No	No	No
17	Rahman & Qattan (2021): Vision 2030 & Healthcare Revitalization	No	No	No	No

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

Studies are selected on the basis of inclusion and exclusion criteria. Those studies which fell on the exclusion criteria were not selected. Also, those which have incomplete researches not added in study selection.

Table 4 Selected Studies for SR (Systematic Review)

No	Author(s) (First Author Only)	Research Title	Year
1	Aboshaiqah, A.	Development of nursing research in Saudi Arabia: implications for policies and practice	2023

No	Author(s) (First Author Only)	Research Title	Year
2	Almaghaslah, D.	Using a global systematic framework tool to identify pharmacy workforce development needs	2021
3	Moustafa Saleh, M. S.	Integrating sustainability development education program in nursing to challenge practice	2022
4	Attallah, D.	Developing a Core competency framework for student nurses in Saudi Arabia	2022
5	Alqahtani, N.	Organizational factors associated with evidence-based practice among nurses in Saudi Arabia	2022
6	Alnowibet, K.	Healthcare human resources: trends and demand in Saudi Arabia	2021
7	Alwesabi, S. A.	Effect of training program on nurses' knowledge towards care of patients with myocardial infarction	2023
8	Brinjee, D.	Identify the disaster nursing training and education needs for nurses in Taif City	2021
9	Almarwani, A. M.	Understanding learning styles in undergraduate nursing programs in Saudi Arabia	2022
10	Halabi, J. O.	Professional competence among registered nurses and their experiences of quality of care and patient safety	2021
11	AlRatrout, S.	The impact of QSEN program on knowledge, skills, and attitudes of junior nurses	2025
12	Mohamed, R. A.	Impact of web-based training program on nurses' knowledge, skills, and attitudes about evidence-based practice	2024
13	Arishi, A. J. A.	Health workforce development in Saudi Arabia: opportunities and challenges	N/A
14	Davies, J.	Narrative review of nursing in Saudi Arabia and prospects for female workforce	2025
15	Alzaaqi, S. M.	Empowering women in the Saudi health sector: challenges, opportunities, and policy interventions	2025
16	Shareifi, D. S. M.	Role of clinical nurse specialists in improving patient outcomes in Saudi Arabia	2024
17	Rahman, R.	Vision 2030 and sustainable development: revitalizing the healthcare system in Saudi Arabia	2021

Result

Study Database

A systematic review included the 4920 researches from which 17 researches were selected after deleting the duplicate researches, incomplete researches and those which fell on the exclusion criteria.

Title and Abstract Screening

The reviewer evaluated the titles and abstracts of the identified records in the first screening. Seventeen 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 seventeen studies selected. Studies were found and independently reviewed against the inclusion and exclusion criteria by two reviewers. Following the full-text assessment, seventeen studies met the criteria and were involved in the systematic review.

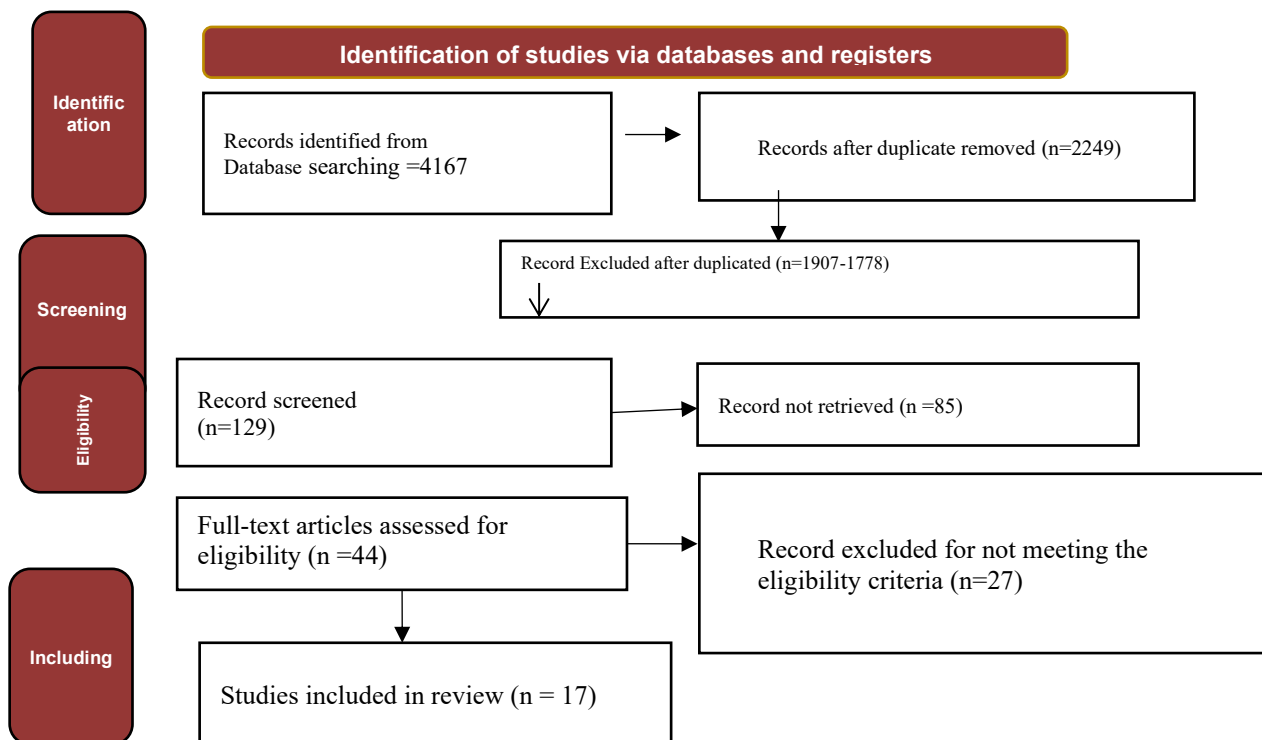
PRISMA Flowchart

The study selection process is illustrated in the PRISMA flowchart. 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

Quality evaluation is a systematic process that includes assessing study quality using data from peer-reviewed journals, largely assessment, and quality management, providing valuable information on research techniques and pressure application.

Figure 1 PRISMA 2020 flow diagram for new systematic reviews which included searches of databases and databases



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

No	Author(s)	Year	Aim of Study	Methodology	Sample	Setting	Result
1	Aboshaiqah, A., et al.	2023	To explore the development of nursing research in Saudi Arabia and its policy/practice implications.	Review/Analysis	Not Applicable	Saudi Arabia	Highlighted growth in nursing research but emphasized the need for stronger policies and strategies.
2	Almaghaslah, D., & Alsayari, A.	2021	To identify pharmacy workforce development needs in Saudi Arabia using a global systematic framework tool.	Case Study	Not Specified	Saudi Arabia	Revealed workforce gaps and the importance of systematic planning.
3	Moustafa Saleh, M. S., & Elsabahy, H. E. S.	2022	To integrate sustainability education into nursing practice among interns.	Experimental/Intervention	Nursing interns	Healthcare settings	Improved sustainability practices and knowledge among interns.
4	Attallah, D., & Hasan, A. A.	2022	To develop a core competency framework for student nurses in Saudi Arabia.	Delphi Technique	Experts panel	Saudi Arabia	Identified essential competencies for student nurses.
5	Alqahtani, N., et al.	2022	To examine organizational factors linked to evidence-based practice knowledge, attitudes, and implementation.	Cross-sectional survey	Nurses	Saudi Arabia	Organizational support was strongly associated with EBP implementation.
6	Alnowibet, K., et al.	2021	To explore healthcare human resource trends and demands in Saudi Arabia.	Trend analysis	National HR data	Saudi Arabia	Projected shortages and increasing demand in multiple healthcare areas.
7	Alwesabi, S. A.	2023	To evaluate the effect of training on nurses' knowledge of myocardial infarction care.	Quasi-experimental	Nurses	Najran General Hospital	Training improved nurses' knowledge significantly.

No	Author(s)	Year	Aim of Study	Methodology	Sample	Setting	Result
8	Brinjee, D., et al.	2021	To identify disaster nursing training and education needs for nurses.	Survey	Nurses	Taif City	Found substantial training gaps in disaster preparedness.
9	Almarwani, A. M., & Elshatarat, R.	2022	To review learning styles in undergraduate nursing programs in Saudi Arabia.	Integrative literature review	Not Applicable	Saudi Arabia	Identified diverse learning styles requiring tailored teaching methods.
10	Halabi, J. O., et al.	2021	To assess competence among nurses and experiences with quality and patient safety.	Survey	Registered nurses	Hospitals in Saudi Arabia	Professional competence linked to perceived quality and safety.
11	AlRatrout, S., et al.	2025	To examine the impact of QSEN program on junior nurses' knowledge, skills, and attitudes.	Quasi-experimental	Junior nurses	Saudi Arabia	QSEN program improved knowledge, skills, and attitudes significantly.
12	Mohamed, R. A., et al.	2024	To explore the impact of web-based training on nurses' EBP knowledge, skills, and attitudes.	Quasi-experimental	Nurses	Saudi Arabia	Web-based training enhanced EBP knowledge and attitudes.
13	Arishi, A. J. A., et al.	2021	To discuss opportunities and challenges in health workforce development in Saudi Arabia.	Policy/Review	Not Specified	Saudi Arabia	Highlighted workforce challenges and strategic opportunities.
14	Davies, J., et al.	2025	To narratively review nursing in Saudi Arabia and improve social determinants for female workforce.	Narrative review	Not Applicable	Saudi Arabia	Suggested strategies to empower female nurses and address systemic barriers.
15	Alzaaqi, S. M., et al.	2025	To explore challenges and policy	Policy analysis	Not Specified	Saudi Arabia	Outlined barriers and recommended

No	Author(s)	Year	Aim of Study	Methodology	Sample	Setting	Result
			interventions for empowering women in Saudi health sector.				supportive policy interventions.
16	Shareifi, D. S. M., et al.	2024	To examine the role of clinical nurse specialists in improving patient outcomes.	Research/Analysis	Clinical Nurse Specialists	Saudi Arabia	CNS roles improved patient outcomes significantly.
17	Rahman, R., & Qattan, A.	2021	To analyze Saudi Vision 2030's role in revitalizing the healthcare system.	Policy analysis	Not Applicable	Saudi Arabia	Vision 2030 initiatives enhance sustainability in healthcare delivery.

Data Synthesis

The synthesized findings were presented through a narrative synthesis approach; to explore nursing teams' training and development programs in Saudi Healthcare. The data divided into different training and development which are from knowledge, competency, skills and resilience.

Findings

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

No	Themes
1	Nursing Competency Development
2	Nursing Training & Developing New Skill
3	Female Nursing Empowerment
4	Future Training & Development Challenges

Discussion

In this systematic review, above themes were extracted from the previous literature on Nursing team development & training programs in Saudi healthcare.

The improvement of nursing and healthcare workforce research in Saudi Arabia has accelerated in recent years, exploratory of the probable and challenges accessible by Vision 2030 reforms. Numerous studies highlight the increasing significance of developing research capacity, enhancing professional competency, and establishing sustainable workforce policies. As, Aboshaiqah et al. (2023) showed that nursing research in Saudi Arabia has developed, but it is still sprinkled and not very good at revolving substantiation into perform. Almaghaslah and Alsayari (2021) also establish problems with planning the pharmacy workforce, especially when it comes to training, distribution, and instruction. They stressed the essential for education and healthcare system needs to be in sync. These findings align with inclusive workforce studies, like Alnowibet et al. (2021) and Arishi et al. (2025), which compete that Saudi Arabia confronts significant manpower shortages, excessive dependence on expatriate, and difficulties in reconciling expansion with quality enhancement.

Education and skill development are still significant topics in the literature. Attallah and Hasan (2022) effectively recognized a core competency framework for student nurses, delineate essential domains like evidence-based practice, safety, and communication. Halabi et al. (2021) experiential that professional ability has a direct effect on patient safety and care quality, although it is often hard to maintain because of heavy workloads and communication problems. Training interventions bolster this evidence: Alwesabi (2023) evidence substantial enhancements in myocardial infarction care post-structured training; while AlRatrout et al. (2025) show that the QSEN program enhanced junior nurses' competencies, safety awareness, and collaboration. Similarly, Mohamed et al. (2024) validated that online training enhanced convenience and elevated nurses' knowledge and attitudes regarding evidence-based practice. Brinjee et al. (2021) provided a distinctive viewpoint by prominence the inadequacy of disaster attentiveness among nurses, so illustrating the pressing necessity for organized curricula and emergency training. These studies communally emphasize those educational strategies about simulation, competency-based frameworks, or e-learning & in-service training are essential for enhancing workforce preparation.

Alongside educational changes, research has emphasized the necessity of tailoring pedagogical approaches to meet student requirements. Almarwani and Elshatarat (2022) found that Saudi nursing students' different learning styles didn't match up with traditional teaching methods. This means that curriculum changes should include more flexible methods. Moustafa Saleh and Elsabahy (2022) discussed and incorporating sustainability principles into nursing education, representative scientific improvements in interns' critical thinking and cost-effectively liable behaviors. These studies suggested that education should not solely highlight technical proficiency but also integrate broader global health concerns, including flexibility and sustainability.

An additional major theme in the literature is staff empowerment and gender evenhandedness. Davies et al. (2025) and Alzaaqi et al. (2025) discussed about the cultural and structural barriers that Saudi female nurses face, such as limited opportunity for career advancement, a lack of illustration in leadership and problems with work-life balance. Though women's involvement in healthcare has risen, institutional improvements are necessary to promote inclusivity and impartial opportunity. The purpose of advanced practice nurses, especially clinical nurse specialists, has also been recognized as a means to improve patient outcomes. Shareifi et al. (2024) underscored that Clinical Nurse Specialists (CNSs) can significantly throw in to quality treatment and focused interventions, dependent upon the expansion and support of their roles through dictatorial frameworks.

Lastly, bigger policy-oriented studies put these results in the context of the national healthcare reform goal. Rahman and Qattan (2021) review Vision 2030's initiatives in privatization, digital health and infrastructure reconstruction, although tinted ongoing apprehensions around equal access and workforce preparedness. Alqahtani et al. (2022) also showed that support from the organization, leadership, and training opportunities are important factors in putting evidence-based practice into action. Nevertheless, these factors are classically weakened by heavy workloads and time limits. These observations strengthen the assertion that in the absence of robust domination and favorable organizational cultures, educational and training changes may not make the grade to be fully implement in perform.

The research showed that Saudi Arabia is changing its nursing and healthcare workforce by making changes to competency development, education, policies and gender equity that are in line with Vision 2030. However, obstacles persist in closing policy-practice discrepancies, enabling the workforce to address escalating healthcare needs and guaranteeing sustainability.

Conclusion

In the conclusion of this systematic review, training & development in Saudi Arabia indicates substantial advancement, in accordance with the Vision 2030 objectives for health sector transformation. Systematic

research shows that organized training programs and competency frameworks increase nurses' knowledge, abilities, and patient outcomes. Policy assessments prioritize sustainable workforce planning and the empowerment of women within the healthcare industry. However, constraints such as cross-sectional studies and restricted research scopes obstruct the generalizability of findings. To progress workers' skills and fix the insufficiency of workers, future efforts should focus on large-scale studies, digital education methods, and regulations that apply to the whole country.

Limitation & Recommendations

The systematic research about Unlocking the Potential of Nursing Teams about Training and Development Programs in Saudi Healthcare has highlighted the limitation and recommendations for further development and training. As there are very limited literature on development and training programs on nursing teams is being done in KSA. The studies were localized and small. Those researches about training are not explaining the training provided. Also what development programs are being done. It is recommended to explore the research which are not published and are in local journals. There are researches which have self-reported data. There was also limitation of gender related barriers in training and development. The recommendations are as longitudinal and experimental studies to show the relationship develop the education competency and development framework, gender dynamics, cultural barriers, and retention factors.

What does this article add to the existing literature?

This article explore to unlock the potential of nursing teams with respect of training and development programs in Saudi Healthcare which explore the workforce, competency enhancing, new skills to improve the dealing the patients and different domain specialists.

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