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Psychological Safety in Saudi Arabian Healthcare: A Scoping Review

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Abstract—Background: **Psychological safety arises from the knowledge that one will not be penalised for speaking one's mind, sharing concerns, or admitting mistakes. There is a dearth of studies in the Saudi Arabian context on the subject of mindfulness-based interventions to improve psychological safety in the workplace.**

Objectives: This study aims to investigate psychological safety in the Saudi Arabian healthcare sector, with the goal of promoting mindfulness-based interventions for healthcare workers. Presently, there are no formal training programs in Saudi Arabia for the healthcare workforce; essentially, the concept of mindfulness-based organisational education has yet to reach the attention of human resource managers in this sector. Our aim, therefore, is to raise awareness of the potential for novel intervention programs to improve psychological safety.

***Methods*: The review follows the Arksey and O'Malley (2005) method, using the Preferred Reporting Items for Systematic Reviews. The aim of a scoping review is to detect potential research gaps. Presently, mindfulness-based programs relating to psychological safety are under-researched in the Saudi Arabian context, and a scoping review is a preliminary requirement before a formal systematic review is conducted.**

Results: Our findings indicate that healthcare workers do perceive barriers to psychological safety in the workplace, suggesting a need for training interventions that may help improve this situation.

***Conclusion*: Saudi Arabian healthcare settings require modern interventions, in line with Saudi Vision 2030, to improve workplace effectiveness and increase psychological safety among healthcare workers.**

***Index Terms*—psychological safety; Saudi Arabia; health care; mindfulness; intervention.**

I. INTRODUCTION

Saudi Vision 2030 paves the way for innovation and global growth. To facilitate such advancement, the kingdom's integral social sectors require a conducive organisational climate. In this respect, the study and promotion of psychological safety is essential, especially in the context of health care [1,2]. For this purpose, independent consent was granted by the principal author and developer of the psychological safety scale referenced herein, to adapt this instrument in order to further explore the construct in the Saudi context. The research indicates a need for the development of an Arabic-adapted instrument, relevant to the country's norms and cultural standards, to assess psychological safety that may impact professional outcomes for Saudi healthcare workers. Furthermore, training interventions that foster psychological safety, adjusted to accommodate the Saudi culture, should be introduced in the healthcare system.

Psychological safety implies the freedom to share one's work-related problems with an employer without fear of losing one's job, and should be mandatory in healthcare organisations [2]. While the subject of psychological safety has not been widely researched

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in the Saudi Arabian context, potential exists for improvement in this regard through the introduction of mindfulness programs in Saudi Arabian hospitals. Nonetheless, cultural norms, hospital administrative rules, and the latent costs of intervention programs are all potential challenges to such implementation and improvement.

The Saudi healthcare system also relies on expatriate workers who may also benefit from a system embedded with psychological safety, so that an efficient, multicultural workforce can thrive under the kingdom's leadership [3]. Moreover, foreign trainers and facilitators who are experts in the delivery of mindfulness-based organisational education can provide guidance in developing and implementing such programs for optimal organisational outcomes.

The occupational needs of Saudi Arabian healthcare workers are an important consideration for overall well-being and performance. Tailored coaching for team leaders can help Saudi nursing staff to achieve psychological safety, which is a predictor of turnover intention [4]. Furthermore, the quality of care can be improved if authentic leadership can mediate for workplace satisfaction [4,5]. Psychological safety leads to organisational cultural safety, which helps promote emotional, spiritual, and psychological benefits within health teams. It also facilitates openness among health workers about medical errors, which can enhance patient well-being in the long run, ultimately reducing staff burnout [6].

The problem statement revolves around the concept of psychological safety, which is primarily a western construct. Edmonson's construct of psychological safety indicates circumstances under which a person feels confident to share his/her ideas, raise criticism without threat, and confess to workplace errors. Psychological safety in Saudi Arabian culture is crucial for the achievement of Saudi Vision 2030, in which global integration plays an important role. The Vision underscores the importance of diversity, and of welcoming a multicultural workforce into Saudi Arabia. A psychologically safe culture in a workplace comprising multiple nationalities is essential for the survival of a dynamic and ethical healthcare approach. Thus, it is important to explore psychology-based interventions to enhance such culture in the Saudi healthcare system, and thereby improve health-related outcomes.

Recent studies underline the problem: Nurses in Saudi Arabia feel confident to report medical errors in the workplace only if they feel psychologically safe [7]. Research indicates that the incidence of errors in the work environment can be reduced if psychological safety is fostered through meaningful interventions [8].

Training in psychological safety is needed in Saudia Arabian hospitals to foster resilience with regard to error reporting, as well as to improve the efficiency of health systems in the face of medical emergencies. A proactive attitude and prompt response is vital when managing patients in emergency situations, and only when staff feel psychologically safe can they adopt such behaviour. Training in this regard paves the way for legislative reforms and quality improvements that facilitate non-punitive reporting [9]. Moreover, the educational environment of healthcare trainees can benefit from psychological safety training, which would lead to higher engagement levels and lower levels of exclusion or job dissatisfaction [10]. Saudi Vision 2030 is congruent with the National Center for Mental Health Promotion; concerning human resources, the initiative champions the promotion of mental health in the Saudi workplace. A study conducted in Saudi Arabian tertiary teaching hospitals found that stress recognition training for nursing staff could contribute to more effective processes [11]. Currently, safety training programs exist that are tailored to the hospital environment, but it is important also to formulate tailored mental health programs for occupational issues encountered by healthcare personnel [12]. Medical errors occur daily in the hospital setting, and it should be recognised that patient safety is linked to staff safety and training, quality management, and the conversion of a non-rewarding work culture into a rewarding one. Such culture must foster improved communication, effective leadership, and shared responsibility [13].

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Effective communication processes are vital to overcome negative attitudes within healthcare organisations. If a psychologically safe culture is not promoted, the rate of medical errors may be adversely affected [14]. It is essential that healthcare workers feel psychologically safe to conduct their jobs; nonetheless, one study found that more than 57.5% of Saudi employees, including physicians, nurses, technicians, radiologists, psychologists and social workers, have encountered workplace violence [14]. Such scenario suggests an essential need for practical, evidence-based training and facilitation, embedded in a novel, mindfulness-based organisational education program, as a potential intervention in the Saudi healthcare system. While there is a dearth of research in this regard, such intervention has recently been applied in the British context at the Royal Orthopaedic Hospital [15,16].

Workplace safety involves the safety of both health workers and patients. In this regard, incident reporting is closely linked to psychological safety, which can be fostered through consistent reinforcement of a just culture and effective feedback loops [17]. Mindfulness-based intervention at the organisational level can help to foster autonomy, relatedness, and competence within organisations and promote a sense of safety that ultimately reduces burnout and stress [18].

Prior studies have led to the development of validation tools such as 'Leading a Culture of Quality for Infection Prevention'; however, such tools are lacking in the Saudi clinical context [19]. The nursing work environment is integral to smooth overall functioning, and it is important to assess psychological safety in this context. Research here is lacking, and has not been adapted to Saudi culture and norms. Important exogenous variables that can impact study outcomes that have been controlled for in the abovementioned trial [19] include team climate and organisational culture.

Furthermore, a conducive working environment can lower the risk of missed nursing care. Presently, research in the Saudi context suggests a role for training to reduce workplace stress and improve nurse retention and leadership. Nonetheless, the concept of psychological safety is not well researched, and that is the aim of the current study.

We believe that health professionals would benefit from psychological safety training programs provided by trained employees who can impart culturally relevant training. Hospital performance relies on both internal and external factors, including extraneous factors beyond mere technical efficiency [20]. For effective implementation of the Saudi Vision's proposed trauma system, staff training is essential. One initiative for trauma response development focuses on the patient's perspective, through pre-hospital, resource centre, rehab discharge and trauma care, but emphasises training for trauma unit personnel [21]. The implementation of psychological safety programs must be encouraged by clinical heads, with the approval of the Program of Health Assurance, National Transformation Program, and Saudi Health Council.

Moreover, a study suggests that incidence of occupational violence (which includes a psychological aspect) adversely influences the quality of health services [22]. While the Saudi government has indicated transformational programs in the domain of disaster preparedness and the exploration of core competencies, especially among nurses, there remains little research relating to psychological support systems for health workers [23]. Psychological safety fosters effective communication with regard to medical error reporting and feedback, which in turn improves service quality and workplace safety [24].

Teamwork, integral to the complexities of health care, is a dynamic process that includes effective communication among health workers and joint efforts to achieve a mutual goal. Dedicated teamwork helps prevent adverse events. Conversely, conflict within teams may arise when disregard fosters negligence. Thus, in high-risk medical settings, psychological safety is crucial [25]. Health team members can benefit from frequent, integrated workshops that

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foster a work environment conducive to learning. Psychological safety facilitates productive healthcare outcomes by minimising workplace errors and ensuring incident reporting. As errors are mitigated, patients can be successfully and timeously discharged, thereby reducing the hospital's overall costs [26]. Moreover, patient well-being and recovery from illness is ensured. A psychologically safe staff is better equipped to deliver a proactive service.

A study conducted within the Saudi healthcare system revealed that management processes relied more on external hospital infrastructure and management, rather than focusing internally on the softer domains of human resources, such as the psychological safety and mental health of personnel [27]. Among the negative effects of not conducting psychological safety workshops to engender a safer culture is employee silence, which in turn can lead to occupational burnout, both of which may be detrimental to an organisation.

II. METHOD

This review examines the literature related to psychological safety in Saudi Arabia, following the Arksey and O'Malley (2005) method and the Preferred Reporting Items for Systematic Reviews [28]. As per the outline of the Joanna Briggs Institute, a scoping review conducted prior to a systematic review provides a foundation upon which the latter may be formulated [29]. This approach helps to sort and chart the data, and to improve the research question for a systematic review through refining the main objective of the scoping review. It also allows for the data to be explored to ensure that the research question has not been probed before. The study suited this methodology as it focuses on one specific population (Saudi Arabian). Moreover, it is based on seven elements that focus on an article's general information, citation work, methodology, aims, outcomes, results, integral information, intervention, and specific sample (Saudi Arabian health workers). The framework is used for four main reasons: It helps examine research activity, screens for feasibility, synthesises and condenses the aim, and highlights the literature's potential gaps. Data selection and mapping is aided by consultation.

First, online searches were conducted for studies from recent years that examine the same construct in the same population. The study's title was cross-checked against the PROSPERO database, and no previous or current systematic review had been or was being conducted in the same field. Second, we conducted an online search of all relevant studies, the searched databases including the Cochrane Library, PubMed, Web of Science, Google Scholar, PsychINFO and CINAHIL. Meta analyses on the same topic from previous years were identified. Key words used were: "Edmondson" OR "psychological safety*" OR "performance*" OR "patient safety*" OR "quality care*" AND ("Saudi" health workers OR employees OR staff).

No scoping review has previously been conducted on the subject of psychological safety among Saudi healthcare workers using Edmondson's construct. This scoping review, therefore, can lay empirical foundations for future studies and systematic reviews.

Identification of Research Question

The research question examines whether the western concept of psychological safety is applicable in the Saudi Arabian healthcare setting.

Search Strategy

The keywords were used with the Boolean operators "AND/OR". The databases were searched with no restriction applied to the search engine; only articles dated after 2018 were included.

Inclusion Criteria

The search was restricted to studies involving the Saudi healthcare population (workers); all data collected must be from Saudi participants identified as workers, staff, or employees. Thus, the review was strictly limited to the Saudi population by concept and context. Grey literature was not included, as it is

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mostly not yet peer reviewed.

Studies were only included if they had been approved for a systematic review. For the research aims of a scoping review, the evidence of unpublished works, such as incomplete theses or unregistered clinical trials, is insufficient.

The review included peer-reviewed, published, full-text articles with cross-sectional or longitudinal study designs, published in the English language.

The included studies considered the relationship between psychological safety, performance, quality of care, and patient safety outcomes among the Saudi working population. The studies included only employed persons.

Ideally, Edmondson's psychological safety scale was used, but alternative measures of psychological safety were also taken, specifically for quantitative studies.

Exclusion Criteria

Any grey literature was excluded, as were articles from before the year 2018. Any articles that were non-peer-reviewed or were mere discussion papers were not considered. Studies were also excluded if they did not measure the essential outcomes of patient safety, performance, and quality of care.

III. RESULTS

In total, 1,241 records were identified; 217 duplicates were identified and removed, leaving a total of 1,024. Records were screened to ensure that metrics of keywords were met.

The total number of records excluded was 932. Of these, 389 related to industries other than health care, 411 studies related to non-Arab countries, and 132 studies related to cross-country comparisons. The remaining 92 studied were assessed for eligibility, after which a further 8 studies were excluded as they were pre-prints. Thus, 84 studies remained for review, of which 20 were qualitative and 64 quantitative studies.

Theme Retrieval

For thematic analysis, we used Thomas and Harden's (2008) approach, which is specifically applicable to systematic and scoping reviews. We chose this approach because it favours a systematic rather than a reductionist perspective for scoping studies.

The following main themes were extracted from the studies:

1. Insufficient psychological safety training
2. Attitudes towards patient safety compared with psychological safety of Saudi health workers
3. Understanding psychological safety in Saudi Arabian culture
4. Collaboration between human resource training, psychology experts, and health communities in Saudi Arabia.

1. Insufficient psychological safety training

Cross-industry training in Saudia Arabia with a subsample of healthcare workers (female n=269, male n=52, Saudi n=277, Non Saudi n=44) indicated that healthcare employees may benefit from increased career satisfaction if they felt psychologically safe through CSR policies [30]. Furthermore, a study using the partial least squares approach with a sample of supervisor-subordinate dyads in Saudi Arabia showed that cognitively flexible and innovation-driven organisations can help employees to feel psychologically safe [31].

Psychological safety is closely linked to ergonomics; the principles of the latter are essential in understanding culturally specific training requirements in clinical settings. The implementation of psychological safety-related ergonomics in the healthcare setting could reduce the risk of hazards and thus enhance workers' overall well-being.

2. Attitudes towards patient safety compared with psychological safety of Saudi health workers

Employee silence can increase rates of occupational burnout; nonetheless, studies consider patient safety more important than healthcare workers' physical or mental health and safety. One study found that nurses are more inclined to speak up than other health workers in the hospital [32]; however, more studies focus on patients' perceptions of healthcare in Saudi Arabia than on healthcare workers' perspectives [33]. Ensuring adequate error reporting safe-

guards patient safety, but is also integral to the improvement of psychological safety in Saudi Arabian hospitals. Currently, there is hesitation and fear regarding disclosure of critical incidents; this results in poor team communication that can jeopardise patient care [34]. While a culture of patient safety and quality improvement is promoted, this requires teamwork within the hospital unit that includes effective reporting methods. There are numerous technically administered healthcare surveillance systems for reporting patient well-being and ensuring safety; these systems must also be studied in relation to healthcare workers' psychological safety, as the two are interconnected. Moreover, health workers also suffer the second victim phenomenon, for which they receive insufficient support to feel psychologically safe. Thus, improved error reporting is not the only end-goal; the aim is also to instill conducive organisational change.

3. Understanding psychological safety in Saudi Arabian culture

In line with the aims of Saudi Vision 2030, it is essential to focus on employee creativity, authentic leadership, and knowledge-sharing, which are fostered through a climate of psychological safety. In Saudi healthcare organisations, staff must be trained in such a way that organisational norms are consistent with modernisation [35,36].

Vision 2030 requires that the kingdom welcome a diverse community of workers in order to maximise progress [37,38]; in this regard, a psychologically safe workforce [39] can ensure successful outcomes [40]. Most of the reviewed studies make reference to nursing staff turnover due to emotional exhaustion, psychological health issues and physical health, paired with family reasons and poor resilience in the face of absent psychological support and safety training [40,41]. When organisational learning is robust, especially among the nursing cohort, it promotes a stronger sense of teamwork, whereby effective error reporting improves patient safety and creates a conducive culture for the nurses. Criticism of errors is a perceived threat for 33.6% of nurses; thus, poorer communication of medical errors can indicate problems relating to psychological safety.

4. Collaboration among human resource training, psychology experts, and health communities in Saudi Arabia

A conducive and psychologically safe environment can lead to lower absenteeism, improved personal and family connections, and cordial working mechanisms. Encouraging team diversity is important, so that members of an organisation can trust and confide in one another and raise difficult conversations without fear of consequences [42]. In formulating policies, it is essential to consider teamwork, staffing, response to errors, and reporting of safety events. Nonetheless, there is a lack of studies focusing on continuous organisational learning in the Saudi healthcare setting [43]. A more person-centred approach, with democratic leadership favoured over a bureaucratic leadership style, will foster a psychologically safe and conducive environment [44]. In a just culture that is consistent with the norms, employees can be candid about their mistakes without fear of penalisation. Staff training can also help minimise the risk of miscoding, thereby mitigating financial losses — another significant benefit of empowering employees in the domain of psychological safety.

IV. DISCUSSION

Only two studies explore Edmondson's concept of psychological safety. The first, conducted in the Ministry of Interior Hospital of Buraydah City, Saudi Arabia, considers Edmondson's construct via the descriptive analytical approach. It was shown that psychological safety has a significant positive relationship with creative performance in health workers, and that hiring organisational psychologists and other human resources to promote psychologically safe practices can enhance hospitals' organisational climate. Of a study sample of 230, 69.6% of workers reported a "good level" of psychological safety; the discrepancy can be remedied by training interventions. Females are more vulnerable

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to psychological unsafety and trauma than their male counterparts, and may report more mental health issues, according to a study covering 13 administrative areas of Riyadh, Makkah, Madinah, Qasim, Asir, Tabuk, Hail, Jazan, Najran, Baha, and Al-Jouf [45]. Another study found that psychological safety training interventions can help in managing pre-hypertension and psychological distress in the Saudi context [46]. A competency assessment program included in Saudi Arabia's curriculum is designed to ensure safe practices through the reporting of drug errors and mismanagement of technology. However, there remains a need for policymakers to design programs that foster psychological safety, that are specially tailored for the specific sociocultural context. Furthermore, a blame-free culture must be promoted from the leadership level [47].

Moreover, fostering social mindfulness, with the aim of promoting psychological safety, diversity and healthcare performance, can further enhance the workplace culture of the Saudi healthcare system [48]. Presently, there is no mindfulness-based organisational educational training or facilitation in the healthcare system; nonetheless, such facilitation is important to the evolving culture of Saudi healthcare and society in general.

Workshops, conferences and training programs, supervised by the Program of Health Assurance, National Transformation Program, and Saudi Health Council, can encourage the development of psychological safety in Saudi culture.

The region of Riyadh attracts more medical and human resources than any other; moreover, the private sector employs a disproportionately large number of resources. Thus, training focused on improving health outcomes throughout this region would support the goals of Vision 2030 [49]. The Saudi healthcare system answers to numerous regulatory agencies; time and resources will thus be required in order to approve the proposed training in various areas of clinical and professional healthcare behaviour [50].

Such training is important to ensure effective workplace engagement and proactive safety measures among healthcare workers. Workers in rural areas report a better professional quality of life than those in urban areas; however, professional quality of life must be linked to psychological safety to better understand overall life satisfaction in Saudi Arabia [51]. There is a significant indication for organisational psychological training to be a joint venture between human resource personnel and organisational psychologists, who should coach healthcare leaders in their approach to complex psychological safety constructs.

There is much focus on safety culture for doctors, pharmacists, and nurses, while nurses report poorer levels of patient safety culture. However, there are no significant differences in safety scores between Saudi groups and non-Saudi groups. Hence, psychological safety can be relevant in Saudi settings, both for Saudi and non-Saudi healthcare professionals.

The proactive efforts of the Saudi Patient Safety Center (SPSC) to promote psychological safety are remarkable. Nevertheless, Hamdan et al.[49] found a consistent gap between awareness and implementation of psychological safety in healthcare culture and practice in Saudi Arabia. They explored this gap via a systematic review and meta-analysis of nurses' medical errors, finding that the incidence of medical errors among nurses was associated mainly with psychological stressors such as lack of training, fatigue, and communication issues. Over 40% of medication errors among nurses involved incorrect dosage, potentially leading to critical situations compromising healthcare quality and safety. It is important that the healthcare system be aware that a safe and comfortable environment, with low psychological stress, is essential to encourage the reporting of such errors. More control is required over the leadership style in the Saudi healthcare setting to promote transparency and improve practical psychological safety. Another concern is psychological burnout, which causes stress and prevents adequate practice of psychological safety. Vévoda et al. [52] confirmed a positive correlation between burnout, emotional exhaustion, and low levels of psychological safety among nurses. It is therefore clear that

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healthcare leaders and managers in Saudi Arabia should focus on practicing and maintaining psychological safety in all hospitals to reduce burnout and ultimately improve safety and quality of life.

Moreover, Hamdan et al. established that collective burnout experienced by healthcare personnel is difficult to resolve. They conducted a cross-sectional study among healthcare practitioners at King Fahad Medical City Comprehensive Cancer Center, including physicians, nurses, and allied health workers. Approximately one-third of the participating physicians experienced moderate to severe burnout, with 29% attributing this to their leadership style and 42% to their work environment. The link between psychological safety and various outcomes for healthcare providers, including job satisfaction, burnout, and patient safety, is well established, and a psychologically safe environment can mitigate these factors and improve workers' overall well-being.

Most importantly, the inclusion of mindfulness-based organisational education, which is not yet practiced in the Saudi healthcare setting, would benefit healthcare personnel. In support of the diversity and inclusion goals of Saudi Vision 2030, such training, delivered by experts to the human resources and administration departments of hospitals and clinics, can potentially make an impact. Courses, conferences, cross-cultural research exchange, stress workshops, and group counselling initiatives can further enhance the efficacy of such training, while liaison with higher educational institutions in developed countries can encourage global participation in evidence-based practices.

Future studies should prioritise the identification of optimal approaches to promote psychological safety within the distinct framework of Saudi Arabia's healthcare system. The present scoping review examines Edmonson's construct of psychological safety and has identified a potential research problem. However, Arksey and O'Malley's approach can also be improved by incorporating quality literature assessment with rapidly evolving definitions of constructs.

Further research can include tailoring solutions to diverse cultures, evaluating the impact of leadership training on fostering psychological safety, and exploring the potential of technology to improve open communication and feedback. Longitudinal studies are necessary to evaluate the enduring impact of psychological safety measures. Moreover, external funds and higher educational collaborations are required as mindfulness-based, psychological interventions and therapeutic programs are introduced and conducted. Quasi-experimental studies must be conducted to validate the effectiveness of post-training impact on the psychological safety levels of health workers. Over time, workers will begin to endorse the efficacy of programs that help them feel safe. The results will be reflected in their clinical practice, that can improve both patient well-being and the organisational climate of the hospital.

V. LIMITATIONS

This study may be affected by survivor bias, as it did not include retired and out-of-service healthcare workers. The authors also found it challenging to locate national statistics for detailed comparisons.

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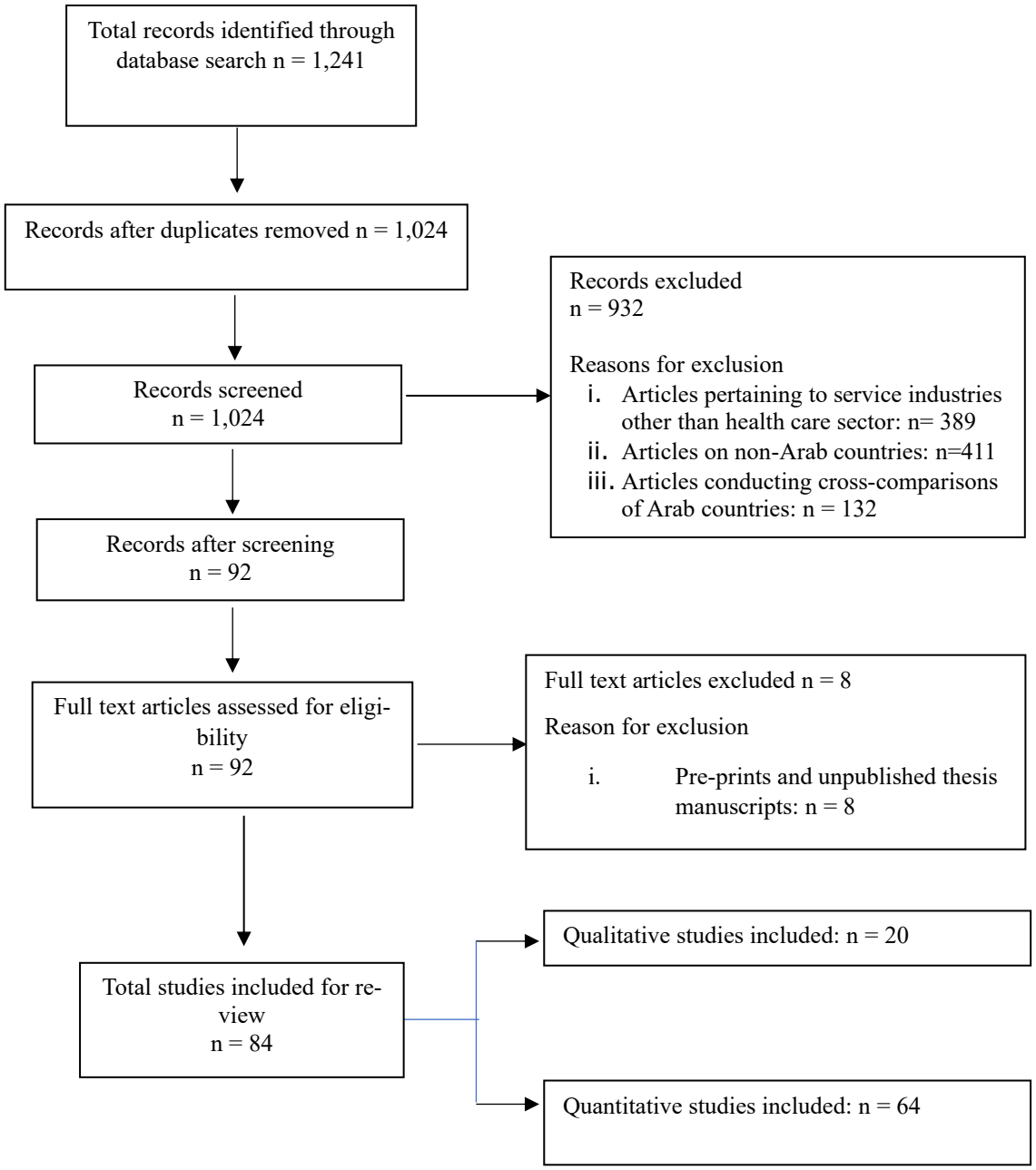

Figure 1. PRISMA flowchart for literature identification

Table 1. Detailed Presentation of the Consolidated Criteria for Reporting Qualitative Research (COREQ)

COREQ CHECKLIST Item/references	Albaalharith, A'aqoulah (2022)	ALHazim et al. (2022)	Al-Ghazali, Sohail (2021)	Al-Ghazali, Afsar (2021)	Colet et al. (2017)	Al Mutair et al (2023)	Al-Zahrani et al. (2021)	Allhaiby et al. (2023)
Bias influence	•		•	•		•	•	•
Roles		•	•		•	•		
Interviewer identification	•	•		•		•	•	•
Engagement	•		•		•		•	•
Event response	•		•	•	•	•		
Presumptions	•	•		•		•	•	•
Occupational status	•			•		•		
Impact on research of researcher's qualifications	•		•	•		•		
Facilitator training	•		•	•		•	•	•
Expertise	•		•	•	•		•	•
Age	•		•	•		•		
Gender	•	•	•	•	•		•	•
Social strata	•		•		•		•	•
Study rationale	•		•		•	•	•	•
Contact with participants	•	•		•	•	•	•	•
Researcher distance	•	•		•			•	•
Setting familiarity	•		•		•		•	•
Study design								
Methodology		•	•		•	•		
Sampling, purposive/ convenience	•	•		•		•	•	•
Sample description	•	•	•		•	•		
Participant selection	•		•	•	•	•		
Inclusion/exclusion criteria	•	•			•	•	•	•
Sample size	•	•	•		•	•		
Participant consent	•	•	•		•		•	•
Data collection method	•		•	•	•		•	•
Audio/visual	•	•			•		•	•
Data saturation	•		•			•		
Number of focus groups/interviews	•		•	•			•	•
Resource availability		•		•	•	•		
Analysis								
Validation	•	•		•	•		•	•

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Triangulation		•	•					
Original quotation	•	•	•	•			•	•
Theme derivation	•							
Data analysis	•		•		•			
Data interpretation and conclusion	•	•	•		•	•	•	•
Explicit findings	•	•		•	•		•	•
Software	•		•		•			
Argument for and against	•	•	•	•		•	•	•
Coding system	•		•		•		•	•
Inter-observer reliability	•	•		•		•		
New findings	•	•		•		•		
Theory elimination		•			•		•	•
View range	•		•		•			
Data proportion	•	•	•	•		•	•	•

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