Migration Letters

Volume: 20, No: S11 (2023), pp. 1094-1107

ISSN: 1741-8984 (Print) ISSN: 1741-8992 (Online)

www.migrationletters.com

Prevalence Of Depression And Anxiety Among Healthcare Professionals In KSA: A Systematic Review

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Abstract

***Background**: Mental health issues, including depression and anxiety, among healthcare professionals are of growing concern globally. This systematic review aims to investigate the prevalence of depression and anxiety among healthcare professionals in the Kingdom of Saudi Arabia (KSA).*

***Methods**: Adhering to PRISMA guidelines, electronic searches were conducted in databases such as PubMed, Embase, Scopus, and Web of Science using relevant keywords. All study designs were considered, with inclusion criteria focusing on studies providing primary data on depression and anxiety prevalence among healthcare professionals in KSA. Data extraction was performed independently by two reviewers using a standardized form, with any disparities resolved through discussion or consultation with a third reviewer.*

***Results**: Out of 147 identified studies, 14 met the inclusion criteria. These studies, conducted among various healthcare professionals including dentists, medical students, healthcare workers, medical residents, nurses, [1]and surgeons, revealed varying levels of depression and anxiety. Factors such as workplace, gender, exposure to COVID-19, and professional experience were found to influence mental health outcomes. Overall, the findings underscore the urgent need for interventions and support programs to address mental health challenges faced by healthcare professionals in Saudi Arabia, particularly in light of the COVID-19 pandemic.*

***Conclusion**: This systematic review protocol outlines the methodology for examining the prevalence of depression and anxiety among healthcare professionals in Saudi Arabia. The results of this review will contribute to understanding the magnitude of mental health issues in this population and inform the development of targeted interventions to support the well-being of healthcare professionals in KSA.*

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Introduction

Persistent emotions of sadness, hopelessness, and boredom with respect to activities describe depression, a mental health disease [1]. It has the potential to greatly influence one's psychological health and ability to go about daily life. Healthcare workers may experience depression due to factors such as job stress, burnout, excessive workloads, and inadequate social support [2, 3]. Depression is rather common among healthcare professionals, with estimates ranging from 18% to 36% according to several research conducted both domestically and abroad [4-7]. On the other hand, 24% to 80% of Saudi Arabian healthcare professionals reported suffering from depression [8-10]. According to reports, 58% of healthcare workers were affected [11]. In a survey carried out in 2023 among healthcare workers in Canada, D'Alessandro-Lowe et al. found that 52% of the total number of participants reported experiencing symptoms of depression [12]. Healthcare workers that suffer from depression may be more prone to unsatisfactory patient care, increased absenteeism, and decreased job satisfaction [13]. Healthcare providers and patients alike must prioritize the resolution of this critical problem.

Excessive concern and unease are symptoms of anxiety, a mental health problem. A person's emotional health, mental stability, and physical health are all profoundly affected. Factors like as occupational stress, challenging patient scenarios, inability to regulate one's work environment, and error fear may all contribute to anxiety [14]. A higher level of anxiety among these medical professionals may result from these factors. Furthermore, healthcare workers' health, productivity, and relationships with patients and coworkers may all take a hit when they suffer from anxiety. According to many research, healthcare professionals have a prevalence of anxiety ranging from 21% to 51% [12, 15, 16]. In Saudi Arabia, however, this prevalence was found to be between 24% and 56% [8, 10, 17, 18]. Anxiety was reported by 21% of healthcare professionals [16]. As a result, improving healthcare workers' overall performance requires a deeper knowledge of anxiety and its treatment.

When faced with adversity, our bodies and minds respond with stress. It may result from exposure to traumatic events, long hours at work, challenging patient scenarios, or ethical dilemmas. It has the potential to impact a person's general health [19]. Mental and physical health, job satisfaction, and patient care quality are all negatively impacted when healthcare workers experience stress [20]. Stress affects a large percentage of healthcare personnel, with estimates ranging from 9–18% [21, 22] and 51% [12] of healthcare professionals reporting symptoms of stress.

According to the research, healthcare professionals' mental health problems may be influenced by a number of sociodemographic characteristics, including gender, age, marital status, smoking status, clinical experience, and night shift duty [23-29].

Healthcare providers in Saudi Arabia play a crucial role in attending to patients of all ages in a variety of contexts, including those categorized as critical, non-critical, emergency, and non-emergency. Stress, anxiety, depression, and other mental health issues are common among healthcare workers who work in high-stress settings including emergency rooms and critical care units.

Methods

Review Question

This systematic review protocol aims to examine the prevalence of depression and anxiety among healthcare professionals in the Kingdom of Saudi Arabia (KSA). The primary research question guiding this review is: What is the prevalence of depression and anxiety among healthcare professionals in KSA?

Search Strategy

The search strategy adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Electronic searches were conducted in databases such as PubMed, Embase, Scopus, and Web of Science. Medical Subject Headings (MeSH) terms and relevant keywords pertaining to "depression," "anxiety," "healthcare professionals," and "Saudi Arabia" were utilized. The search was restricted to studies published in English or Arabic.

Types of Studies to be Included

This systematic review encompassed studies examining the prevalence of depression and anxiety among healthcare professionals in Saudi Arabia. All study designs, including cross-sectional, cohort, and qualitative studies, were considered. Only studies providing primary data on the prevalence of depression and anxiety were included, while reviews, editorials, and commentaries are excluded.

Participants

The systematic review involved studies focusing on healthcare professionals in Saudi Arabia, including those working in hospitals, clinics, and other healthcare settings. There were no restrictions based on age, gender, or specific healthcare profession.

Search Keywords

Searches employed a combination of keywords and phrases pertinent to the review question, including "depression," "anxiety," "healthcare professionals," "Saudi Arabia," and related terms. The search strategy was tailored to each database and encompassed both controlled vocabulary (MeSH terms) and free-text terms.

Study Selection Process

Two independent reviewers screened titles, abstracts, and full texts of retrieved articles for eligibility. Any discrepancies were resolved through discussion or consultation with a third reviewer. Eligible studies were chosen based on predefined inclusion and exclusion criteria, prioritizing studies examining the prevalence of depression and anxiety among healthcare professionals in Saudi Arabia.

Outcomes

The primary outcome of interest is the prevalence of depression and anxiety among healthcare professionals in Saudi Arabia. Secondary outcomes may include factors influencing the prevalence rates, such as demographic characteristics and professional experience.

Data Extraction and Coding

Data extraction was conducted using a standardized form to capture relevant study characteristics, participant demographics, and prevalence rates of depression and anxiety. Two reviewers independently extracted data from included studies, with any disparities resolved through discussion or consultation with a third reviewer.

Data Management

Descriptive statistics were utilized to summarize the extracted data, including prevalence rates of depression and anxiety among healthcare professionals in Saudi Arabia. Additionally, a narrative synthesis is provided to summarize findings across the included studies.

Results

The initial search identified a total of 147 studies from PubMed, Embase, Cochrane Library, and CINAHL. There were 37 duplicates and 117 studies were screened based on their titles and abstracts. Of these, 51 full-text articles were reviewed, and only 14 studies were eligible for inclusion in this systematic review (Figure 1).

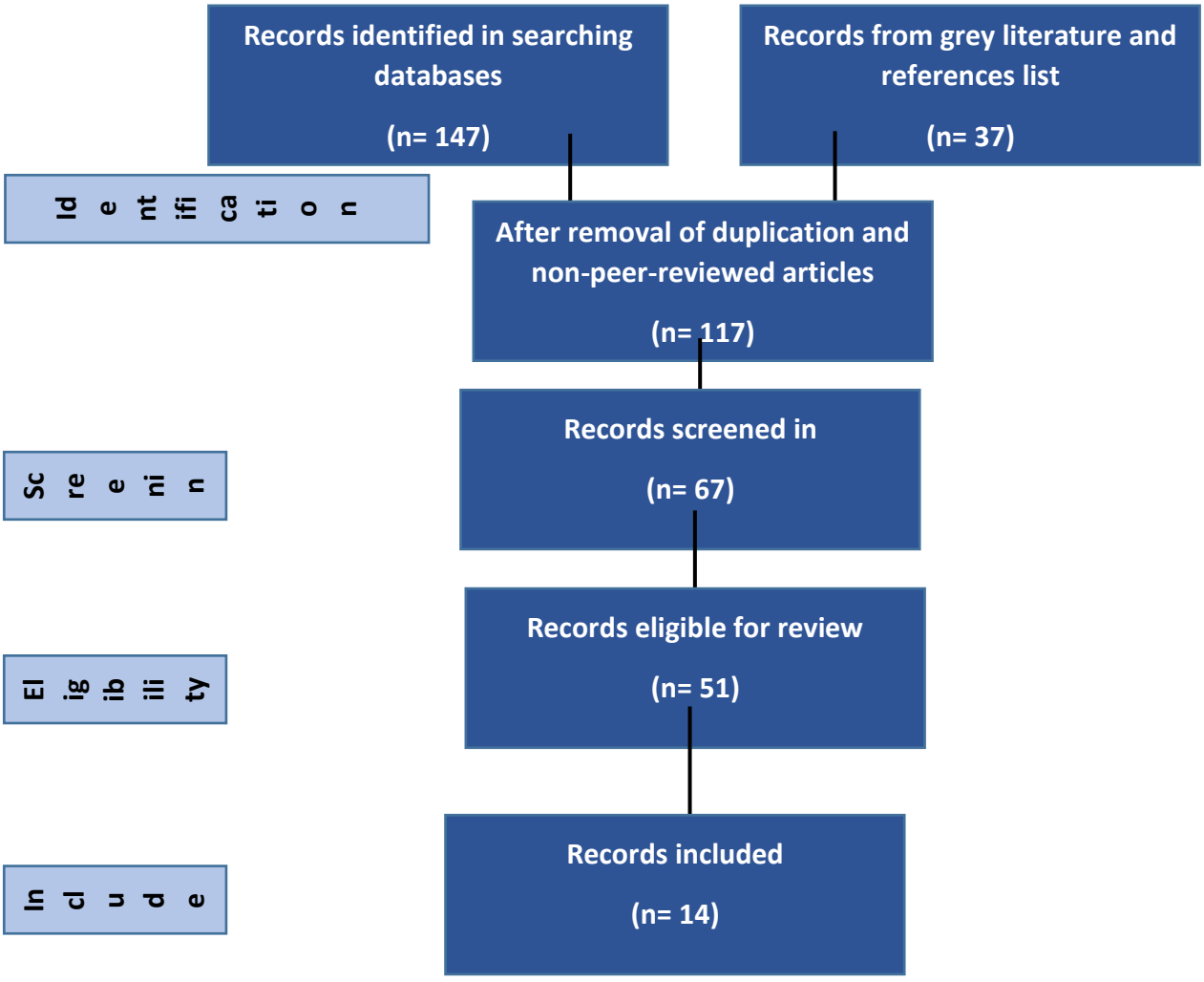

Figure 1: Flow chart of selection process

Table 1 summarizes 14 studies conducted in Saudi Arabia, aiming to assess mental health status among healthcare professionals with a focus on doctors and dentist and to a lesser extent on undergraduate students. [30-43].

A cross-sectional study conducted among dentists, revealed varying levels of anxiety and depression, with no significant gender difference but notable variations based on workplace and smoking habits [30]. Another study, a systematic review, highlighted higher levels of depression, stress, and anxiety among dental students, particularly females, indicating the necessity for urgent intervention and preventive strategies [31].

A descriptive cross-sectional survey conducted among medical and dental students found that two-thirds of participants experienced depression or anxiety, with medical students reporting higher anxiety levels. No significant gender association was found with depression or anxiety [32]. In another cross-sectional study involving healthcare workers, the majority exhibited mild anxiety and depression, with various factors like age, gender, workplace, and economic status influencing mental health [33].

A study focusing on healthcare workers in Jazan City identified a high prevalence of depression, anxiety, and stress, particularly among those exposed to COVID-19 or with chronic illness [34]. Similarly, among medical residents, a high prevalence of depression and anxiety was observed, with higher rates among females [35]. The impact of the COVID-19 pandemic on healthcare providers' mental health was significant, with high rates of depression, anxiety, insomnia, and distress reported [36]. Another study focusing on healthcare workers identified a high prevalence of depression associated with recent loss of a loved one and fewer years of experience [37].

A systematic review highlighted high prevalence rates of depression, burnout, stress, and anxiety among medical trainees, particularly females [38]. Among nursing staff, a high prevalence of anxiety and depression was associated with certain demographic factors and lifestyle habits [39]. Among surgeons, prevalence rates of anxiety and depression were influenced by work-related stress and satisfaction levels [40]. Similarly, among nurses, a high prevalence of depression and anxiety was observed, particularly among females [41].

Two cross-sectional surveys conducted among healthcare workers identified poor psychological well-being and sleep quality among certain groups, even after COVID-19 restrictions were lifted [42-43]. Overall, these studies underscore the pressing need for interventions and support programs to address the mental health challenges faced by healthcare professionals and medical students in Saudi Arabia, particularly in the context of the COVID-19 pandemic.

Discussion

As far as we are aware, there has been only one systematic study that has looked at the prevalence of mental health issues among Saudi Arabian healthcare workers. So, following COVID-19, this research set out to determine how common mental health issues were among Saudi Arabian healthcare workers and to discover the sociodemographic characteristics that were connected with them. The majority of healthcare workers in our research showed moderate levels of anxiety and depression, in addition to typical levels of stress, indicating that

these mental health issues were common among this population. Stress, anxiety, and depression were more common among healthcare workers who were female, had a history of divorce, widowhood, or separation, smoked, worked the night shift, worked for a private hospital, were 41 or older, had over 10 years of clinical experience, and did not live with their families.

Although the majority of participants reported moderate levels of anxiety and depression and typical levels of stress, our survey found that 81.3% of healthcare professionals experienced some kind of depression, and 89.6% of them reported some form of stress. Additionally, 45.5% of healthcare professionals reported some form of stress. These findings are in line with a large body of literature from research undertaken among healthcare workers throughout the world. A recent research of 218 Canadian healthcare workers found that stress (54%) and symptoms of depression (52%), anxiety (51%), and anxiety (52%), among others [12]. However, only 20.6% of the 34 healthcare workers surveyed in a cross-sectional research in Saudi Arabia reported mild to moderate anxiety, suggesting a relatively low incidence of the disorder [16]. Appiani et al. found that out of 440 Argentine medical practitioners, 22% tested positive for depression, 44% tested positive for anxiety, and 94% tested positive for stress symptoms [44]. Considerable research by Dave et al. on 520 Indian resident physicians found that 26.71% were sad, 36.58% were anxious, and 24.24% were stressed [45].

In addition, a relevant research [46] found that among 994 Brazilian psychologists, 30–40% had moderate depression, and 25–30% moderate anxiety and stress. Multiple relevant research including doctors from Saudi Arabia, Pakistan, Bangladesh, Malaysia, and Brazil came to similar conclusions [47–51]. The prevalence of depression, anxiety, and stress was found to be 46-47% among the 998 Brazilian dentists who participated in an exploratory cross-sectional research [52]. Also, similar studies in India and China found that 36-46% of dental workers suffered from anxiety and depression [53, 54]. The prevalence rates of depression were 28.2%, anxiety was 40.8%, and stress was 17.6%, according to a relevant research that was carried out among 238 pharmacists in Malaysia [23]. Relatedly, a large-scale survey of Chinese pharmacists conducted by Zhang et al. found that 41.9% had moderate to severe anxiety symptoms and 29.4% reported depressive symptoms [55]. In a comparable research, Bhandari et al. found that out of 301 Nepalese nursing staff members, 85.72% were sad, 62.8 percent anxious, and 40.9 percent stressed [56].

In addition, 71% of Indian nurses experienced sadness, 74% anxiety, and 51% stress, according to research by Kaushik et al. [24]. Identical results concerning Iranian and Brazilian nursing workers have been observed in other investigations [57, 58]. Research by Nadeem et al. [59] found that among 189 Pakistani physiotherapists, 26.4% experienced moderate to severe depressive symptoms, 30.2% anxiety, and 36.5% stress. Furthermore, among 150 medical imaging technicians in Pakistan, 35.3% had unusually low mood, while 10.7% exhibited anxiety [60]. Dissimilarities in measuring instruments or sample sizes may account for the discrepancies among the published research.

Better results on the DASS-21 are linked to a number of related variables. For example, our results confirmed that compared to male healthcare workers, female healthcare professionals had a one-time higher risk of experiencing stress and sadness. These results are in line with those of a relevant study that included 601 Vietnamese healthcare professionals; that study indicated that women were more likely than men to suffer from psychological disorders, with 50% of women experiencing depression and 38% of women stress, compared to 39% and 34% of men, respectively [26]. Female doctors who had previously infected the COVID-19 pandemic virus were more likely to have depressed symptoms, according to Hassan et al. [49]. Another relevant research on physiotherapists in Saudi Arabia found that females were more

likely to have depressive episodes than males [25]. Therefore, comparable studies have shown that being a female may increase the likelihood of stress [61]. Female healthcare workers, however, were more likely to experience anxiety symptoms, according to a number of relevant research [22, 48, 50, 55].

In comparison to non-smoking healthcare workers, those who smoke are one to three times more likely to suffer from depression, anxiety, and stress, while those who smoke now are two to six times more likely to do so. A research of 715 Saudi Arabian nurses came to similar conclusions: smoking significantly raised the risk of psychological illnesses and the likelihood that participants would experience depressive and anxious symptoms [27]. In a similar vein, a relevant research found that smoking significantly increases the risk of sadness and anxiety [62]. Additionally, healthcare professionals were more likely to suffer from depression if they smoked cigarettes, according to a cross-sectional research by Fond et al. [63]. These results highlight the need for further research on the correlation between smoking and stress levels in Saudi Arabian healthcare workers.

Our research found that compared to single healthcare workers, RT staff who had been through a divorce, widowhood, or separation were three to seven times more likely to suffer from depression, anxiety, and stress. One possible explanation for these results is that married persons tend to be happier because of the social support they get from their families. Within this framework, a relevant research found that compared to married nurses, those who had experienced a divorce or widowhood were far more likely to exhibit symptoms of depression and anxiety [27]. Additionally, compared to their married peers, healthcare practitioners who were single were more likely to suffer from depression, anxiety, and stress, as pointed out by Nayak et al. [22]. Stress in the workplace is more common among healthcare workers who have recently gone through a divorce, separation, or widowhood, according to research by Godifay et al. [28]. Those who had gone through a divorce were more likely to show signs of anxiety and depression, according to a similar research [25]. Married nurses also had a lower risk of depressive episodes than their single counterparts, according to research by Kakemam et al. [61], who also discovered a statistically significant correlation between marital status and depression. Healthcare professionals who were married had a much lower risk of developing depressive symptoms, according to previous studies [50, 54].

In addition, compared to healthcare workers who live with their families, those who do not are two to six times more likely to suffer from stress, anxiety, and depression. The positive effects of family life on the mental and social well-being of healthcare workers are highlighted by our study's results. In agreement with these findings, Abdulghani et al. [25] conducted a cross-sectional research of physiotherapists in Saudi Arabia and found that healthcare professionals without family living nearby had higher rates of anxiety and sadness. While staying with family was thought to heighten anxiety and despair, a pertinent research of Saudi Arabian healthcare workers during the COVID-19 pandemic revealed contradictory results [9]. Meanwhile, living with family members was shown to be strongly associated with an increase in anxiety symptoms [64] according to Alzaid et al. Furthermore, prior research has shown that living with a youngster or an old person greatly increases the risk of having mental health issues [17, 65, 66].

Our research found that when comparing healthcare workers with different levels of clinical experience, those with over a decade of experience were almost twice as likely to suffer from stress and depression as those with less than a year of experience, while controlling for age and job experience. In comparison to healthcare workers in their twenties and thirties, people in

their forties and fifties were almost twice as likely to suffer from stress. Similarly, Pei et al. discovered that compared to younger personnel, pharmacy professionals aged 30 and beyond had double the risks of feeling stress. Additionally, they found that compared to their less experienced colleagues, workers with more than three years of practical experience were less likely to suffer from stress and more likely to be depressed [23]. Older healthcare personnel reported significant levels of stress during the COVID-19 crisis due to physical tiredness and lengthy working hours, according to a systematic study by Spoorthy et al. [67].

Healthcare workers with more than five years of clinical experience reported far higher levels of stress at work compared to less experienced colleagues, according to a comparable research [28]. However, stress levels were greater among nurses with less than ten years of experience compared to more seasoned nurses, according to a cross-sectional research of Iranian nursing staff [57]. Nurses above the age of forty also reported lower stress levels than younger staff members. Another research found that compared to their more seasoned and older colleagues, healthcare professionals with fewer than 10 years of experience showed higher levels of stress and sadness [22].

Our results were at odds with those of other research that found younger and less experienced employees to be more vulnerable to stress and depression than their more seasoned and senior counterparts [58–70].

Contrary to what one would expect, the research found that private hospital RTs are one to two times more likely to suffer from stress, anxiety, and depression than their public sector counterparts. These results were in line with a recent study that found a correlation between the type of job one has and the prevalence of mental health symptoms; specifically, nurses in the private sector reported higher rates of depression, anxiety, and stress owing to dissatisfaction with their jobs compared to their public sector counterparts [24]. On the other hand, a recent Saudi Arabian research found that public-sector dentists had moderate depression and severe anxiety [62]. Anxieties and major depressive episodes are far less common among private sector workers, according to a plethora of research [71, 72].

Furthermore, our research found that night shift healthcare workers had a one to two times higher risk of sadness and anxiety compared to day shift workers. The night shift has a negative impact on nurses' mental health, according to Li et al., who found that anxiety and sadness were more common among night shift workers [29]. Also, working night or rotating shifts is strongly associated with an increased risk of developing anxiety and depression, according to Peng et al. [73]. Night shift nurses were more likely to exhibit depressed symptoms than their morning shift colleagues, according to a newly published systematic study [74]. So, to enhance health care quality and prevent medical mistakes, it may be helpful to reduce workload and psychological stress while also providing healthcare workers with a flexible duty schedule. This may help alleviate symptoms of melancholy and anxiety.

Conclusion

In Saudi Arabia, the systematic review of 14 studies spanning various healthcare settings has elucidated the significant mental health challenges faced by healthcare professionals and medical students, particularly exacerbated by the ongoing COVID-19 pandemic. These studies, encompassing dentists, medical and dental students, healthcare workers, medical residents, nurses, and surgeons, have unveiled a troubling prevalence of anxiety, depression, stress, and other psychological distress among these groups. Gender disparities were notably observed, with females often experiencing higher levels of anxiety and depression. The findings

underscore the critical need for targeted interventions and preventive strategies tailored to the unique needs of each demographic. Implementation of support programs, integration of stress coping methods into educational curricula, and regular mental health screening are recommended to mitigate the adverse effects on mental well-being. Furthermore, the aftermath of the pandemic necessitates ongoing support to address lingering psychological burdens among healthcare professionals. Prioritizing mental health initiatives within healthcare institutions and educational settings is imperative to foster resilience, enhance job satisfaction, and ultimately improve patient care delivery in Saudi Arabia.

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