

# Revisiting the prevalence of psychological symptoms among health care workers in Saudi Arabia during COVID-19

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## ABSTRACT

**الأهداف:** تحليل الدراسات التي تناولت انتشار الأعراض النفسية بين العاملين في مجال الرعاية الصحية في المملكة العربية السعودية خلال جائحة كوفيد-19، ومراجعة أدوات القياس المستخدمة مع تسليط الضوء على النتائج المتعلقة بالدعم النفسي للعاملين في مجال الرعاية الصحية.

**المنهجية:** اخترنا جميع الدراسات من قاعدة PubMed خلال شهر مارس 2023م. كما تم فحصها وفقاً لبروتوكول PRISMA تم توجيه تقييم جودة الدراسات المشمولة وخطر التحيز فيها.

**النتائج:** سبع دراسات تم اختيارها تتناول انتشار الأعراض النفسية بين العاملين في مجال الرعاية الصحية في المملكة العربية السعودية خلال جائحة كوفيد-19. تم تحديد عدد من الموضوعات التي شملتها هذه الدراسات. شملت هذه الموضوعات انتشار الأعراض النفسية الموجودة لدى العاملين في مجال الرعاية الصحية، وتصميمات الدراسة، والأدوات المستخدمة لتقييم الأعراض النفسية، والتأثير المحتمل للدراسات على التحديات الصحية النفسية التي يواجهها العاملون في مجال الرعاية الصحية نتيجة لانتشار كوفيد-19.

**الخلاصة:** توفر نتائج هذه المراجعة زاوية أخرى لتفسير نتائج الدراسات حول انتشار الأعراض النفسية التي يعاني منها العاملون في مجال الرعاية الصحية أثناء الوباء. كما تشير المراجعة أنه لضمان جودة نتائج الدراسات المستقبلية من المهم إعادة تقييم انتشار هذه الأعراض، واستخدام منهجية مناسبة ثقافياً تساعد في فهم وتفسير نتائج هذه الدراسات.

**Objectives:** To analyze the existing literature on the prevalence of psychological symptoms in healthcare workers (HCWs) in Saudi Arabia during the COVID-19 pandemic. The review will evaluate the assessment methods used for measuring the prevalence of psychological symptoms and critically review the literature's findings concerning psychological support for HCWs.

**Methods:** All articles were selected from the PubMed database and reviewed for potential inclusion in March 2023. The articles were screened following the preferred reporting items for systematic reviews and meta-analyses protocol. Assessment of the quality and risk of bias in the included studies was guided using the prevalence critical appraisal tool criteria.

**Results:** We identified 7 articles that investigated the prevalence of psychological symptoms among HCWs

in Saudi Arabia during the COVID-19 pandemic. We determined the studies' characteristics and classified and explained various themes. These themes included the prevalence of psychological symptoms found in HCWs, the study designs, the tools used to assess psychological symptoms in HCWs, and the potential impact of the studies on the mental health challenges faced by HCWs due to COVID-19. We also examined the quality and risk of bias in the included studies.

**Conclusion:** This review's findings provide valuable insights into the psychological symptoms experienced by HCWs during the pandemic. To ensure the consistency of the results, it is essential to reevaluate the prevalence of these symptoms and use a culturally sensitive approach to translating the measures. This review lays the groundwork for future research on psychological symptoms and the interpretation of measurement outcomes.

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**Keywords:** pandemic, Saudi Arabia, mental health, culturally sensitive approach

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Coronavirus disease (COVID) was first discovered in December 2019 in Wuhan, China. The World Health Organization (WHO) stated that COVID-19 had become a pandemic in March 2020.<sup>1</sup> As per the WHO report, by August 31, 2020, COVID-19 had spread to most countries, affecting 26 million people and causing 850,000 deaths worldwide.<sup>2,3</sup> In most people, the virus causes mild to severe respiratory symptoms, and they recover without additional treatment. However, some people require medical care, especially older individuals and those with pre-existing conditions such as cardiovascular disease, diabetes, chronic lung disease, or cancer.<sup>3</sup> Given the unpredictability of COVID-19, each country must make crucial decisions to limit its spread. One highly effective containment strategy involves implementing procedures to reduce viral transmission.<sup>4</sup>

Indeed, the pandemic has caused significant health effects beyond the illness itself, increasing the risk of psychological symptoms such as depression, anxiety, and post-traumatic stress disorder (PTSD); this is particularly observed in young individuals, healthcare professionals, and individuals with a history of mental health conditions or substance abuse.<sup>5-7</sup>

Several studies have been carried out to investigate this increase in psychological symptoms among individuals during the pandemic.<sup>8-10</sup> Some of these investigations have targeted healthcare workers (HCWs), focusing on the psychological challenges encountered by them during the health crisis. These investigations have revealed that many HCWs exposed to COVID-19 are highly vulnerable, exhibiting significantly higher levels of psychological symptoms.<sup>11</sup> For example, Saragih et al<sup>12</sup> reviewed the literature on psychological symptoms in HCWs during the pandemic, estimating an increased global prevalence of psychological symptoms. More recently, various other regional and national investigations have supported these results, including but not limited to studies carried out in Thailand, Japan, Egypt, and Oman.<sup>13-16</sup> Due to the widespread pandemic, every nation has been obligated to pay more attention to psychological symptoms in medical settings.

Like other countries, in Saudi Arabia, according to recent findings, HCWs have experienced a significant increase in symptoms of stress, anxiety, depression, obsessive-compulsive symptoms, somatization, PTSD, and suicidal ideation.<sup>17-24</sup> These psychological symptoms may arise from various factors, including those related to pandemic management procedures. These procedures can lead to increased workloads, prioritization of patient care, and a higher risk of contracting the virus due to

direct or indirect patient interaction.<sup>20,21</sup> Another factor is that the resilience of HCWs may have been negatively impacted by social isolation, loss of social connections, and concerns on infecting loved ones.<sup>20</sup> In addition to the aforementioned factors, the uncertainty caused by the pandemic may lead to heightened psychological symptoms in HCWs. Although no studies, to our knowledge, directly address psychological symptoms among HCWs and the cultural aspect of uncertainty, this may be particularly true in cultures that have a lower tolerance for uncertainty.<sup>25</sup> Therefore, individuals with a low tolerance for uncertainty could be more likely to experience psychological symptoms due to the pandemic.<sup>26</sup>

These factors, likely in addition to others, have made the COVID-19 pandemic an unparalleled opportunity for scientists to meticulously investigate and comprehend the potential psychological consequences of this global health crisis. However, to assist HCWs who may be at genuine risk of developing mental health conditions, make well-informed decisions regarding mental health care and support in Saudi Arabia, and embrace the visions of novel researchers, it is imperative to question the prevalence rates reported in the relevant studies. Therefore, to provide some insight into the prevalence rates, this systematic review will examine existing published research on psychological symptoms among HCWs in Saudi Arabia who are engaged in the ongoing pandemic.

**Methods.** This systematic review followed the Khan et al<sup>27</sup> protocol and comprised 5 main steps.

**Framing the questions.** This review is intended to answer the following questions: I) what has the prevalence of psychological symptoms among HCWs in Saudi Arabia been during the pandemic?; II) what methods have been used to measure the psychological symptoms of HCWs?; and III) did these studies highlight the importance of implementing changes to mental healthcare regulations to provide psychological support to HCWs?

**Identifying relevant publications.** Two independent reviewers carried out an inclusive electronic search to reduce potential selection bias, and all disagreements were settled through discussions. PubMed, Sage, and SDL were utilized for the search, with no restrictions on search strategies.

**Eligibility criteria.** The inclusion criteria included studies related to the review questions and published in English before December 2022. The eligibility criteria for excluded articles were: I) articles that solely provided abstracts; II) articles that included children;

III) articles that involved the general population; IV) articles that focused on healthcare workers outside Saudi Arabia; V) articles that explored psychological impacts of COVID-19 not directly related to mental health disorders; VI) articles that were not specific to HCWs; VII) articles that did not examine psychological aspects; and VIII) articles that sampled patients with COVID-19.

*Assessing the quality and risk of bias in the included studies.* Using the 10 prevalence critical appraisal tool criteria,<sup>28</sup> 2 independent reviewers carefully evaluated the eligibility of each study to ensure comprehensive methodological quality. Responses to these questions can be yes, no, unclear, or not applicable (Table 1).

**Results.** The primary search yielded 2274 articles and abstracts. After removing 17 duplicates, the remaining 2257 records were screened. During the screening process, 2250 articles were excluded based on the eligibility criteria. Seven articles that met the inclusion criteria remained (Table 1). The preferred reporting items for systematic reviews and meta-analyses (PRISMA) guidelines provide comprehensive details regarding the study selection procedure,<sup>29</sup> as illustrated in Figure 1.

*Study characteristics.* In most studies, the target population consisted of HCWs working in hospitals

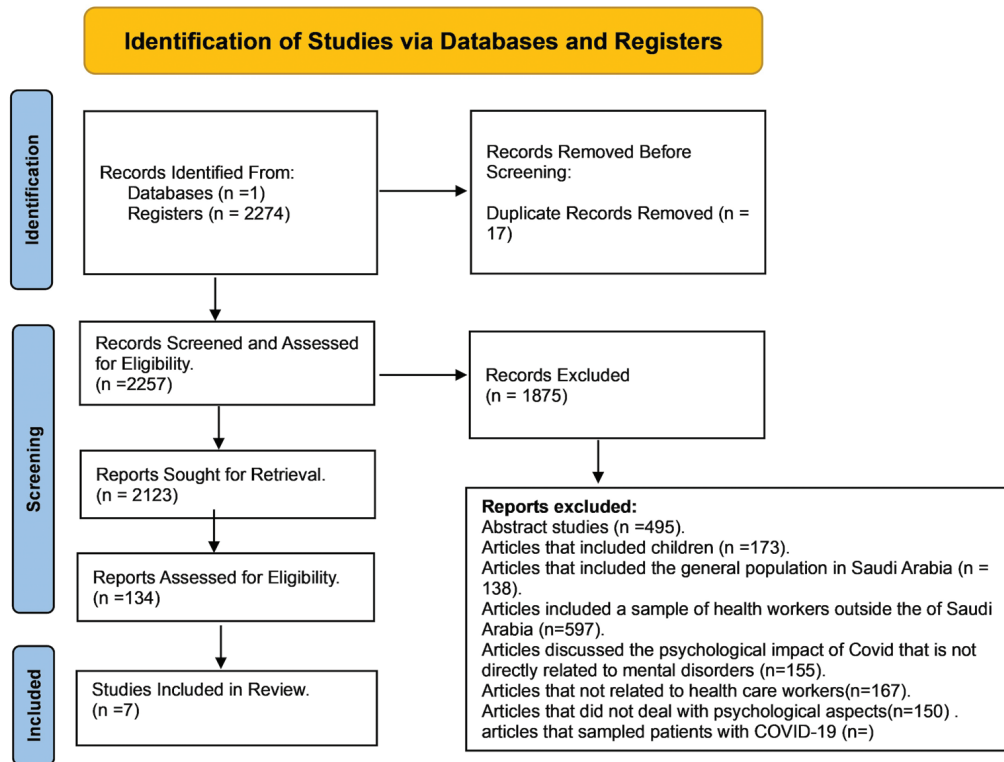
(government and private) in Saudi Arabia, including both male and female and both Saudi and non-Saudi participants. The respondents represented various HCW occupations and lived across different regions of Saudi Arabia. Most studies recruited HCWs from multiple specialties and educational backgrounds. The review also encompassed several different psychological symptoms related to the pandemic. The exclusion criteria in most studies consisted of non-HCWs, those under 18 years old, and non-Arabic speakers. The age of HCWs participating in the studies ranged between 18-65, as indicated in Table 2.

*Identified study themes.* The studies included in this review support the idea that the COVID-19 pandemic resulted in an increased prevalence of psychological symptoms. Specifically, the results of the study by AlAteeq et al<sup>30</sup> revealed that more than half (55.2%) of the participating HCWs were diagnosed with depressive disorder, and approximately half (51.4%) had generalized anxiety disorder (GAD). Similarly, Alzaid et al<sup>31</sup> found that 33.3% of their sample (n=456) reported having an anxiety disorder. Furthermore, Alhurishi et al<sup>32</sup> found that 73% of their participants reported symptoms of depression, 69% reported symptoms of anxiety, 62% reported symptoms of insomnia, and 83% reported distress. Additionally, Meo et al<sup>33</sup> found that HCWs directly involved in

**Table 1 -** The prevalence critical appraisal tool.

Criteria	Al Ateeq et al <sup>30</sup>	Al Zaid et al <sup>31</sup>	Al Hurishi et al <sup>32</sup>	Meo et al <sup>33</sup>	Mohsin et al <sup>2</sup>	Al Shehri et al <sup>34</sup>	Al Malki et al <sup>1</sup>
Was the sample representative of the target population?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Were study participants recruited in an appropriate way?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Was the sample size adequate? Identified using objective criteria?	Yes	Yes	No	Yes	Yes	No	Yes
Were the study subjects and the setting described in detail?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Was the data analysis carried out with sufficient coverage of the identified sample?	N/A	Yes	N/A	Yes	Yes	N/A	Yes
Were objective, standard criteria used to measure the condition?	Yes	Yes	No	Yes	Yes	Yes	No
Was the condition measured reliably?	N/A	Yes	N/A	N/A	N/A	N/A	N/A
Was there appropriate statistical analysis accounted for?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Are all important confounding factors/subgroups/differences identified and accounted for?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Were subpopulations identified using objective criteria?	Yes	Yes	Yes	Yes	Yes	Yes	Yes

N/A: not applicable



**Figure 1** - Preferred reporting items for systematic reviews and meta-analyses flow diagram of the study selection process. COVID-19: coronavirus disease-19

treating COVID-19 patients experienced increased GAD and sleep disturbance symptoms.

A study carried out by Mohsin et al<sup>2</sup> assessed the levels of fear and anxiety among HCWs in Saudi Arabia during the COVID-19 pandemic. The findings revealed that 10.7% reported mild levels, 73.5% reported moderate levels, and 15.7% reported severe levels of fear and anxiety.<sup>2</sup> Alshehri et al<sup>34</sup> found that the prevalence of PTSD was higher among HCWs diagnosed with COVID-19 who were isolated in hospitals (28.9%) compared to those at home (13.1%) or in hotel quarantine (12.2%). Post-traumatic stress disorder frequency was also higher (23.7%) among those with chronic diseases.<sup>34</sup> A year into the COVID-19 pandemic, a study carried out by Almalki et al<sup>1</sup> in Saudi Arabia found that 33.13% of HCWs experienced severe or extremely severe anxiety, 23.95% experienced severe or extremely severe depression, and 15.17% experienced severe or extremely severe stress.

Previous studies have shown that mental health conditions are common among HCWs, notably in female participants.<sup>30-32</sup> Factors such as region of residence, higher education levels, working in frontline areas, and having chronic diseases or knowing someone

who has died due to COVID-19 were significantly associated with psychological symptoms among HCWs.<sup>30,33</sup>

**Study designs.** Cross-sectional study designs were used in most studies to investigate the prevalence of psychological symptoms among HCWs.

**Measures of psychological symptoms in HCWs.** Several measures have been used to evaluate the impact of COVID-19 on mental health symptoms in HCWs. Four studies used the GAD-7 questionnaire, and 2 used the patient health questionnaire.<sup>30-33</sup> The insomnia severity index and impact of event scale-revised were used to measure insomnia and distress symptoms.<sup>32</sup> The Pittsburgh sleep quality index was used to assess sleep disturbance symptoms.<sup>33</sup> A short-form version of the depression, anxiety and stress scale and the COVID-19 fears and anxiety self-reported questionnaire were also used.<sup>2</sup> The PTSD checklist for the diagnostic and statistical manual of mental disorders, which covers a total of 20 self-reported measures that assess the presence and severity of PTSD symptoms, was also applied.<sup>34</sup> Internal consistency was evaluated for the scales, with Cronbach's alpha ranging between 0.81-0.95.<sup>2,30,31,33</sup> To ensure adequate cultural adaptation, both back-translation and

translation techniques were employed.<sup>1,2,30</sup> One study utilized an open-ended question to gather insights on individual perspectives regarding the far-reaching effects of COVID-19 (Table 2).<sup>2</sup>

**Potential impact of studies.** Most of the studies included in this review reached a similar conclusion regarding the psychological impact of COVID-19 on HCWs, including increased levels of stress, anxiety, and depression, among other psychological symptoms. Their findings highlight the importance of supporting the psychological health and well-being of frontline HCWs. Describing healthcare occupations as a humanitarian and national duty may give HCWs and the general population a more meaningful perception of their professional lives.<sup>30</sup> This necessitates organizations offering comprehensive support strategies and psychological counselling interventions to tackle the rising prevalence of mental health conditions among HCWs.<sup>1,31,33</sup> Equally important is the need to consider the well-being and social support systems of

HCWs to allow for the early detection of psychological symptoms.<sup>2,32,34</sup>

**Assessing the quality of, and risk of bias in, the included studies.** The prevalence critical appraisal tool was used to assess the quality of the studies, and the results are summarized in Table 1. Most studies met the criteria for selecting a representative sample of the target community. They used precise recruitment methods, described the subjects and setting in detail, and employed appropriate statistical analysis. Furthermore, most of these studies account for all significant confounding factors, subgroups, and differences. In contrast, we encountered some studies that failed to meet the quality criteria; for instance, 0.14% (n=2) lacked evidence that the authors calculated the sample size required to be considered adequate, and 0.21% (n=3) failed to determine whether the data analysis adequately covered the identified sample. In determining whether the measurement tools were validated instruments, we found that only 0.14% (n=2) did not meet the criteria.

**Table 2 -** Characteristics of included studies in the systematic review.

Authors	Study design	Participants	Sample size	Average age	Measures	Study outcome
Al Ateeq et al <sup>30</sup>	Cross-sectional	HCWs	n=502	18-50 years	PHQ-9, GAD-7	<ul style="list-style-type: none"> <li>- Over 50% of HCWs showed symptoms of depression and anxiety.</li> <li>- Female HCWs exhibited higher scores of depression and anxiety.</li> <li>- HCWs in Riyadh and those with university degrees report higher levels.</li> <li>- 27% of HCWs experienced mild anxiety, 13.2% reported moderate stress, and 7.9% reported severe anxiety.</li> </ul>
Al Zaid et al <sup>31</sup>	Cross-sectional	HCWs	n=456	25-65 years	GAD-7	<ul style="list-style-type: none"> <li>- Older individuals and non-Saudis were less likely to have an anxiety disorder.</li> <li>- Females and individuals with a family history of COVID-19 were significantly more likely to have an anxiety disorder.</li> </ul>
Al Hurishi et al <sup>32</sup>	Cross-sectional	HCWs	n=200	21-41+ years	PHQ-9, GAD-7, ISI-7, IES-22	<ul style="list-style-type: none"> <li>- HCWs reported symptoms of 73% of depression, 69% of anxiety, 62% of insomnia, and 83% of distress.</li> <li>- The severe level of depression for physicians and nurses was observed.</li> <li>- Females reported severe levels of depression and anxiety.</li> <li>- 25.9% among HCWs, experienced moderate to severe anxiety, with females being more likely to report moderate to severe anxiety.</li> </ul>
Meo et al <sup>33</sup>	Cross-sectional	HCWs	n=1678	21-61+ years	GAD-7, PSQI	<ul style="list-style-type: none"> <li>- Frontline workers reported the highest level of poor sleep quality.</li> <li>- Physicians and nurses were more likely to experience moderate to severe anxiety.</li> </ul>
Mohsin et al <sup>2</sup>	Cross-sectional	HCWs	n=737	18-50 years	COVID-19 fear and anxiety questionnaire, an open-ended question	<ul style="list-style-type: none"> <li>- 10.7% of participants exhibited mild, 73.5% moderate, and 15.7% severe levels of fear and anxiety.</li> </ul>
Al Shehri et al <sup>34</sup>	Cross-sectional	HCWs	n=404	30-40+ years	PCL-5	<ul style="list-style-type: none"> <li>- PTSD score revealed that 60 out of 404 participants experienced symptoms.</li> <li>- PTSD frequency increased with age.</li> <li>- Pharmacists and hospitalized individuals showed a higher frequency of PTSD.</li> <li>- Stress levels were higher among pharmacists than physicians but lower among nurses.</li> </ul>
Al Malki et al <sup>1</sup>	Cross-sectional	HCWs	n=501	18-35+ years	DASS-21	<ul style="list-style-type: none"> <li>- Depression was significantly higher among participants with chronic illnesses and those who had tested positive for COVID-19.</li> </ul>

HCWs: healthcare workers, PHQ: patient health questionnaire, GAD: generalized anxiety disorder, ISI: insomnia severity index, IES: impact of event scale-revised, PSQI: Pittsburgh sleep quality index, COVID-19: coronavirus disease-19, PCL: post-traumatic stress disorder checklist for diagnostic and statistical manual of mental disorders-5, DASS-21: depression, anxiety, and stress scale-21, PTSD: post-traumatic stress disorder

Moreover, to determine how the measurements were carried out and whether the data collectors were trained or educated in using the tools, we found that 0.42% (n=6) did not meet the criteria. A mere 0.07% (n=1) of the studies explicitly referenced the collaborative institutional training initiative, as all investigators received the accredited program (Table 1).

**Discussion.** This review makes a modest yet significant contribution to the ongoing debate regarding the mental health symptoms experienced by HCWs during the COVID-19 pandemic. Extensive research has unequivocally demonstrated that COVID-19 has spread worldwide, resulting in significant psychological consequences for much of the global population.<sup>35</sup> The pandemic has caused severe psychological effects, including heightened mental health conditions due to social uncertainty.<sup>35</sup> This has raised concern regarding HCWs being at significant risk of developing complicated psychological symptoms.<sup>6,20</sup>

The effects of the COVID-19 pandemic on HCWs have wide-reaching implications, including Saudi Arabia. The findings demonstrate that the prevalence of depression, anxiety, and fear was high among HCWs in Saudi Arabia, alongside insomnia and distress, GAD, sleep disturbance, and PTSD.<sup>1,2,30-34</sup> A comprehensive range of measures was implemented to achieve the studies' objectives. Furthermore, these studies discussed the implications of considering mental health care and support for HCWs. The studies included in this review particularly focused on investigating the prevalence of psychological symptoms among HCWs in Saudi Arabia. However, their findings sparked a discussion on various related points.

Given the widespread impact of COVID-19 on mental health in Saudi Arabia, researchers have carried out significant efforts to select study samples that precisely represent the population and its demographic characteristics. However, it is important to acknowledge the unique challenges of the virus's rapid spread, which necessitates more time to gather comprehensive and relevant data. This may restrict a clear representation of the impact of the COVID-19 pandemic.<sup>36</sup> For example, many of the reviewed studies did not consider the potential pre-existing mental health conditions of HCWs. As a result, the ability to obtain an accurate and precise understanding of the consistent prevalence of psychological symptoms among HCWs may be limited. Another critical point that must be considered when interpreting and generalizing the results of these studies is that most data on mental health is derived from cross-sectional study designs that utilize common screening measurements. Sun et al<sup>37</sup> stated

that uncritical reliance on cross-sectional studies and unvalidated instruments examining mental health and well-being during the COVID-19 pandemic may make the results difficult to interpret, and caution may be required when interpreting such results as indicative of a global "pandemic" of mental health disorders.

The importance of the previous points must not overshadow the need to consider an even more critical aspect when interpreting the results of these studies; the most used psychological measurements in the studies were English language assessments that utilized a translation and back-translation approach. This approach, which was adopted in most of the studies we reviewed, implies that the psychometric properties of these psychological measurements would be appropriate for Saudi HCWs. This indicates that no cultural methodology was employed to ensure the measures' cultural appropriateness. The primary concern here is that the modest translation-back translation approach alone, without clearly outlining translation processes in research protocols and reports, is not sufficiently robust to judge the appropriateness of the scales, which in this case, leads to concerns regarding reliability, validity, and credibility.<sup>38-41</sup> Equally, the cultural appropriateness of the measurements should not be assumed but, instead, systematically and rigorously tested to ensure the quality of the results.<sup>42</sup> Moreover, according to Bader et al,<sup>43</sup> when a measurement tool is provided to diverse cultural groups in different languages, some items may not be equivalent due to translation bias or actual differences among cultural groups. Also, he mentioned that using the tool in a common language like English could create a bias in understanding for non-native speakers.<sup>43</sup> Therefore, using translated measurement tools without sufficient information regarding the translation and cultural adaptation processes can introduce a significant bias that extends beyond the conventional criteria for assessing bias risks in systematic reviews.

Considering all these points regarding the investigation of psychological symptom prevalence among HCWs during the COVID-19 pandemic raises a fundamental question: do these psychological symptoms constitute genuine psychological disorders or dysfunction, or should they be considered a normal response to the seriousness of the situation and its emotional impact?. According to Johnstone,<sup>44</sup> in the context of COVID-19, fear and anxiety should be understood as normal human reactions. This is not to suggest that COVID-19 has resulted in no adverse mental health consequences, but as stated by Johnstone,<sup>44</sup> the pandemic "gives us a chance to challenge, rather than reinforce, the narrative of mental health/illness". This reference is pertinent to the ongoing review's findings.

The results regarding the prevalence of mental health symptoms do not conclusively determine the nature of psychological symptoms among HCWs; therefore, further investigation should be considered.

Finally, taking the argument regarding the prevalence of psychological symptoms together with a measurement validation approach, an important point should be carried out regarding the notion of psychological support systems that can be provided for HCWs. Mental health intervention for HCWs is still at a nascent phase of inquiry, requiring considerable applied research to identify who needs such interventions or psychological care or support. This would improve our understanding, validate findings from upcoming studies, and draw attention to those repeatedly exposed to suffering and death or unusual life event scenarios.<sup>45,46</sup> The key point here is that not all HCWs are traumatized and in need of psychological support.<sup>45</sup> However, regular reviews and continuous evaluations must be carried out for the improvement of any national mental health program.<sup>47</sup>

**Study limitations.** A comprehensive review of articles in the chosen databases was carried out. However, some relevant studies may have been left out, and some of these may have been issued at the same time as this review. This could impact our ability to conclusively state whether these findings provide a complete picture of the prevalence of psychological symptoms among HCWs during the pandemic.

Future studies should consider the limitations described above when discussing mental health challenges among HCWs. This review of the prevalence of mental health symptoms among HCWs during the COVID-19 pandemic in Saudi Arabia suggests the need for enhanced mental health support programs. Continuous assessment, early intervention, coping strategies, and stress management can help mitigate negative impacts. At this stage, these programs should incorporate culturally adaptable methods. These methods are essential for accurate measurements, counselling services, and access to mental health professionals; this highlights the importance of re-evaluating the risk biases that arise from cultural differences rather than only relying on scientific methodological approaches.

In conclusion, this review provides insights into the studies carried out during the COVID-19 pandemic, focusing on HCWs. It also addressed the prevalence rates of psychological symptoms and the methodologies utilized to measure them during the COVID-19 outbreak. The results of this review could be considered a platform from which future studies are launched, establishing the basis for providing appropriate institutional care and support to those who need it.

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