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Impacts of COVID-19 on healthcare workers' mental and physical health in Arab Countries: A systematic literature review

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***Abstract*---**Background: Healthcare workers are under considerable psychological and physical pressure during the COVID-19 pandemic. However, in Arab countries, a comprehensive analysis of mental and physical health issues among healthcare workers (HCW) during the COVID-19 pandemic is still needed. Therefore, this systematic review aims to identify the mental and physical health impact among HCW in the Arab countries during the pandemic. Materials and Methods: This review was carried out using the PRISMA guidelines. Empirical studies were selected from the following databases PubMed, Scopus databases, Google Scholar, CINAHL (EBSCOhost), and MEDLINE (PubMed). Case reports, duplicate publications, reviews, and family-based studies were excluded. A total of 56 studies from 14 Arab countries reported the mental and physical health of HCW during the COVID-19 pandemic. The distribution of HCW analysed included doctors, nurses, paramedics, administrators and allied health workers. Results: The majority of the studies focused on HCW's mental health (n=29), four studies focused on physical issues and 23 studies focused on both. The most-reported mental health issues were anxiety, depression, distress, stigmatization, risk of infection, and post-traumatic stress disorder (PTSD), while the most reported physical health issues were physical abuse, exposure to the virus,

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exhaustion, burnout, underachievement, sleep deprivation, low life standard, and financial problems. Recommendation: Policymakers and other stakeholders of the healthcare system need to find ways of managing these health issues among healthcare workers now and mitigate these issues for future pandemics. More in-depth studies need to be conducted to aid the development of a comprehensive, practical, and sustainable pandemic preparedness plan concerning healthcare workers.

***Keywords*---**healthcare workers, mental health, physical health, COVID-19, pandemic preparedness plan.

Introduction

In December 2019, the first case of COVID-19 was reported in China. COVID-19 spread fast throughout China and then over the world, prompting the World Health Organization (WHO) to designate the situation as a pandemic on 11th March 2020 (1). COVID-19 has been linked to more than 70.4 million illnesses and 1.6 million deaths worldwide (WHO, 2020). This unexpected pandemic is a global burden on the death and morbidity that healthcare personnel is exposed to directly to the virus. Previous epidemics, like Ebola, MERS, or SARS, have proven that the unexpected emergence of any previously unknown disease with a high fatality rate can have a negative impact on HCWs' mental health (2). The psychology of healthcare workers can be affected by many factors during a pandemic, such as the poor ability to pay for personal protective equipment (PPE), the fear of becoming infected, the reorganization of services and units, the presence of new team teams, the need to make complicated ethical decisions regarding care prioritization, loss of social support and helplessness as a result of lockdown, etc. (3). Furthermore, the working condition has forced HCWs where they are required to always wear PPEs, and sometimes severely restricting family access to patients, especially terminally ill patients (4). Some scholars have attempted to examine caregivers' mental health during the onset of the pandemic (5). The COVID-19 pandemic, on the other hand, was and still is rapidly evolving, and multiple studies have been reported in recent months.

There are several contributing factors to emotional distress, for example, the government-imposed restrictions globally to stop the spread of the virus, the uncertainty about what to expect in the coming months and years, the fears of becoming infected and becoming ill, job loss and financial insecurity, as well as social isolation, (6). Emotional distress can lead to mental health problems. The pandemic situation rendered some groups of people more prone to develop mental health issues especially in the presence of emotional distress (7). These groups are often regarded to be more vulnerable as a result of their higher exposure to hazardous situations and settings. The most vulnerable are the healthcare workers, who are exposed to COVID-19 patients. Other groups are people with low-wage jobs, low education, or low income who are more likely to experience job insecurity and unemployment; they are also likely to experience overcrowding, physical health problems, and poor-quality housing (8). Those who are socially marginalized, such as prisoners, ex-convicts, the homeless, asylum seekers, and

refugees may find it more difficult to protect themselves from COVID-19 infection. The situation may also be critical among pregnant women, children, young adults, and minority and ethnic groups. Adults from minority ethnic groups, for instance, are more likely to be 'key-workers' (9) and may face issues like overcrowding, poverty, and job insecurity. They may also have a lower chance of receiving a mental health diagnosis or treatment (10). People with physical health problems usually have a worse disease prognosis than others, while those with mental health problems may discover that their symptoms worsen during the pandemic (11).

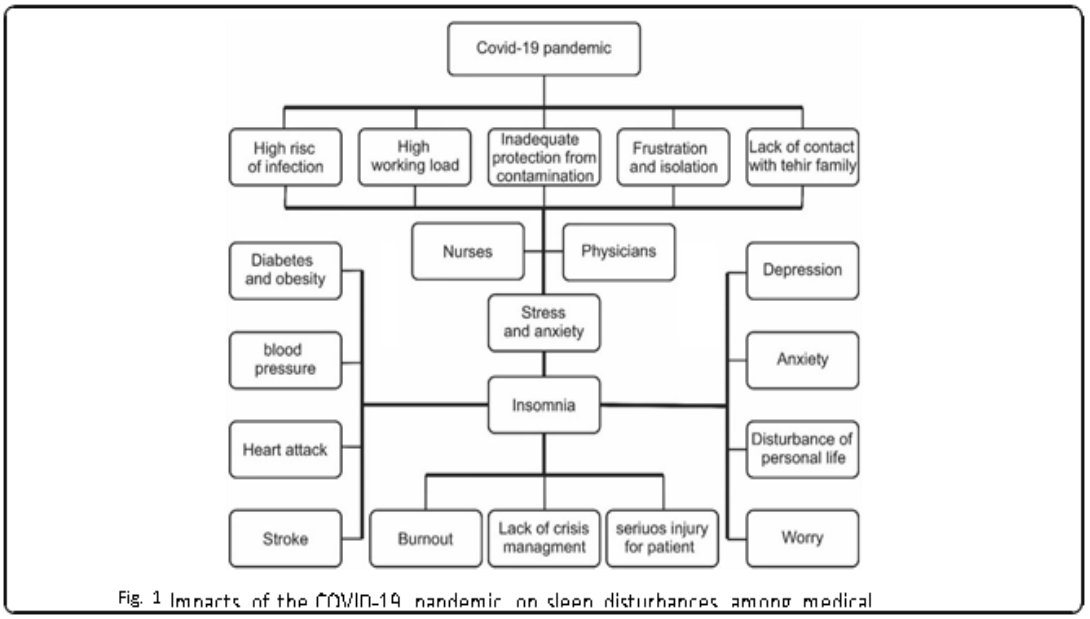


Fig. 1 Impacts of the COVID-19 pandemic on sleep disturbances among medical

The degree of physical and mental symptoms in HCWs during the COVID-19 outbreak has been reported higher than in previous epidemics, according to existing literature (12). Increased anxiety among medical workers and their families can severely impact the delivery of health services and could later discourage and isolate the patients (13). The threat of infection, direct exposure to disease, and the heavy job pressure among the health workers in Wuhan, China, had resulted in high levels of anxiety, depression, fear, rage, and stress among the workers as reported by the Chinese statistics (14). Among medical professionals, stress is the main reason for sleep disruptions. According to Huang & Zhao (2020), the incidence of sleep disturbances among medical staff during the pandemic increased by 23.6 per cent, which was greater than the level experienced among other community groups (15).

This review will aid in the development of inputs for policies aimed at ensuring the well-being of healthcare workers during times of pandemics. and help to mitigate the immediate and long-term effects of poor mental and physical health on healthcare workers' professional and social lives.

Materials and Instruments

A systematic review of studies was performed in the Scopus databases, Google Scholar, CINAHL (EBSCOhost), and MEDLINE (PubMed) for the research conducted from January 2020 and 1 January 2022. The search was done using the "Medical Subject Headings (MeSH)" search terms: "prevalence, Generic free-text search terms, synonymous with psychological impacts such as psychological distress, psychological disturbance, anxiety, depression, vicarious traumatization, secondary traumatic stress, exhaustion, risk of infection, sleep disturbance, isolation, AND COVID-19, coronavirus, 2019-ncov, sars-cov-2 AND healthcare providers, healthcare professional, healthcare workers, Saudi Arabia, Qatar, UAE, Oman, Kuwait, Bahrain, Yemen, Jordan, Syria, Palestine, Lebanon, Egypt, Iraq, Sudan, Libya, Algeria, Tunisia, Morocco" were used. The search terms were tailored to several e-databases. All the articles were retrieved for eligibility evaluation for the criteria of inclusion.

Study Selection and Screening

The selected studies were exported to Mendeley software in order to remove the duplicated studies. the abstracts and titles of the selected studies were screened. The eligible studies went through thorough full-text reading to assess their suitability. These processes including data extraction and risk of bias evaluation were verified by an external researcher. The process of selection following PRISMA procedures is presented with the reason for exclusion in figure 2.

Inclusion Criteria

The following eligibility criteria were applied.

1. Cross-sectional studies.
2. Study population including HCWs.
3. Studies published in the English language.
4. Should include one of the following keywords "healthcare workers OR healthcare providers OR health care professionals OR medical staff or nursing staff COVID-19 OR pandemic OR CORONAVIRUS, mental health OR mental status OR psychological distress OR psychological impact OR physical comorbidities".
5. Studies published in the Arab context.

Exclusion Criteria

1. Articles that do not meet the scope of the inclusion criteria
2. Unavailability of the full text.
3. Review articles (systematic, narrative, and literature reviews),
4. Books, book chapters, news articles, letters to editors.
5. Not related populations such as medical students as they were deployed during peak Covid-19 periods to treat basic medical cases while doctors and nurses focused on Covid-19 cases.

Data extraction

The researcher did an extraction of related findings from the selected studies. The articles were imported into Microsoft Excel to include the authors, year, setting, samples/participants, instrument/ tool, main findings, impact, study design, focus (psychological, physical).

Quality assessment

Joanna Briggs Institute (17) approach was applied to the selected studies to evaluate the quality of the selected studies using cross-sectional studies. The risk of bias is categorised as low if the accumulative of "yes" answers is higher than 70% "moderate" if the accumulative is "50–69%" and high if it is 49%. The following criteria were used to assess the risk of bias:

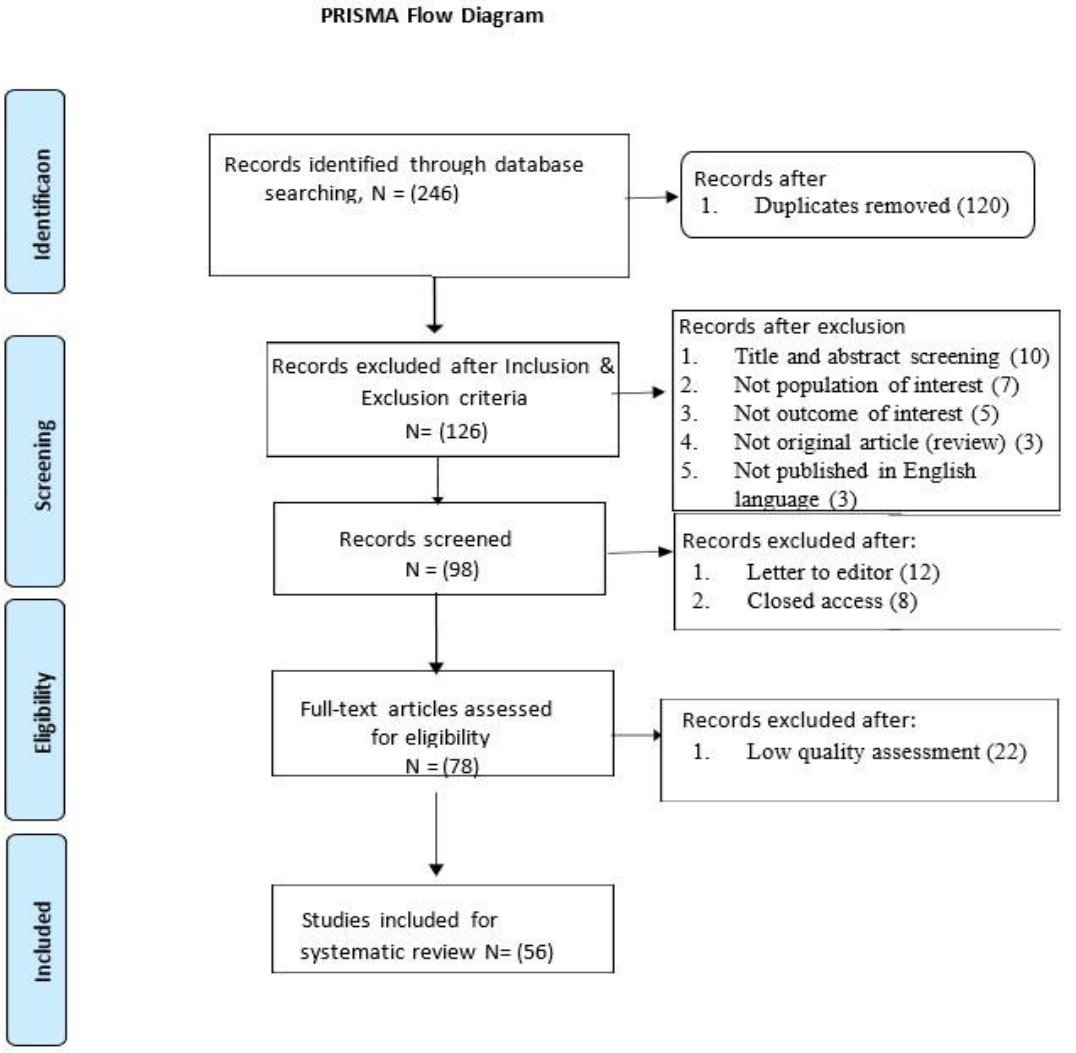
Was the sample frame appropriate to address the target population? Were study participants sampled in an appropriate way? Was the sample size adequate? Were the study subjects and the setting described in detail? Was a sample size justification, power description, or variance and effect estimates provided? Were valid methods used for the identification of the condition? Was the condition measured in a standard, reliable way for all participants? Was there appropriate statistical analysis? Was the response rate adequate, and if not, was the low response rate managed appropriately. The findings of the quality assessment showed that all the selected studies meet the criteria of assessment. The high rate of quality assessment could be justified by the fact that the selected studies were filtered by the selection criteria that narrowed the scope of the selected studies. The findings of the quality assessment of the selected studies illustrated in Table 1.

Table 1. Findings of quality assessment

Quality Assessment	Low	Moderate	High
Selected studies (N=56)	0%	25%	75%

Search results

The first round of search found 246 research articles, after removing the duplicated studies the number of studies was 120. Next, the criteria of inclusion and exclusion were applied; 98 were eligible for inclusion. After that, the full text of the selected reviews was assessed and 78 were selected. Finally, the quality assessment of the studies was tested by Joanna Briggs Institute, the search yielded 56 articles with high-quality assessment indicating low risk of bias. Therefore, only 56 studies were selected to be included in the current review for analyses.



No	Author	Year of Publication	Country/ Sample size	Subjects & Location of work	Key finding
1	(18)	2020	Saudi Arabia N=502	Physicians Nurses Administrators Non-physician specialist Technician Pharmacist	(55.2%) depressive disorder (51.4%) generalized anxiety disorder
2	(19)	(2021)	Saudi Arabia N=1130	Tertiary care and ministry of health Centers	(76.93%) normal to mild depression (78.88%) minimal to mild anxiety (85.83%) subthreshold insomnia

3	(20)	(2021)	Egypt& Saudi Arabia N=426	physician, nurse, pharmacist, technician, paramedic, or others	(69%) depression (58.9%) anxiety (55.9%) stress (37.3%) had inadequate sleeping .
4	(21)	(2020)	Saudi Arabia N=107	Physicians Nurses, Lab technicians, others	(46.70) experienced anxiety (44.90%) experienced sleep deprivation (50.50%) depression (68%) moderate stress
5	(22)	(2020)	Saudi Arabia N=4920	Nurses	(55.20%) depression
6	(23)	(2020)	Saudi Arabia N=441	Physicians Nurses, Allied HCWs, others	(33.30%) Anxiety
7	(24)	(2020)	Saudi Arabia N=950	Physicians Nurses	(40.0%) experienced anxiety
8	(25)	(2021)	Saudi Arabia N=2094	Nurses and Doctors	(27.60%) stress (27.60%) depression
9	(26)	(2020)	Saudi Arabia N=529	Doctors, Nurses, medical technicians & others	(67.5%) High fear (56.9%) Isolation (49.7%) Fear
10	(27)	(2020)	Saudi Arabia N=577	Doctors Nurses, Lab.Sc., others	(14.0%) anxiety (7.0%) depression
11	(28)	(2020)	Saudi Arabia N=737	Dentistry Medicine Pharmacy	(10.7%, 73.5%, and 15.7%) Mild, moderate, and severe degrees of fear and severe anxiety
12	(29)	(2021)	Saudi Arabia N=978	Dentistry Physician Pharmacist Nurses	(54.4%) high level of fear. (22.8%) sickle cell trait (21.2%) asthma
13	(30)	(2021)	Saudi Arabia (249)	Dentist, Doctors, Nurses, Technician, Pharmacist, Medical, secretary	high levels of anxiety (19.3%) depressive feelings (2.4%) loss of motivation. Post-Traumatic features. (40.6%) were affected financially. (41%) disrupted

					sleep/wake cycle
14	(31)	(2020)	Saudi Arabia N=469	Non-defined	(15.8%) high stress levels, (77.2% moderate stress levels (7%) low stress levels.
15	(32)	(2021)	Iraq N= 430	Pharmacist Physician Board student Permanent resident Dentist	High risk of infection (82%) Stress (85.9%) concerns about personal and family safety
16	(33)	(2020)	Iraq N= 370	physicians	(15.4%) had low stress, (67.3%) had moderate stress (17.3%) had high stress. (28.4%) had mild anxiety. (39.3%) had moderate anxiety. (22.9%) had severe anxiety.
17	(34)	(2021)	Iraq N=12	nurses	Aggression Fear Stress Anxiety Isolation
18	(35)	(2021)	Lebanon & Iraq N= 518	physicians, residents, nurses, pharmacists, dentists	(60.0%) depression (42.9%) anxiety (43.4%) stress
19	(36)	(2021)	Jordan N= 365		(40%) severe depression, (60%) severe anxiety (35%) severely distressed.
20	(37)	(2020)	Jordan N= 448	nurses.	(64%) ASD (41%) distress.
21	(38)	(2021)	Jordan N= 937	Nurses technicians, physicians, pharmacists	(32%) high distress (20%) suffered from severe distress. (34%) exhaustion (34%) anxiety (19%) depression (29%) sleep disturbances
22	(39)	(2021)	Qatar N= 550)	Physician Nurse, Technician, Paramedic	Depression, (95%) Anxiety (95%) Stress (95%)
23	(40)	(2021)	Qatar N= 127	Nurses Doctors	(75%) high risk of psychological distress and depression.
24	(41)	(2021)	Qatar N=1001	Medical, Nursing,	Anxiety (47%) Low mood (53%)

				Allied health Non-Clinical, Other	Insomnia (36.15%) Irritability anger (25.23%) Poor concentration (22.25%) Indecisiveness/ difficulty making decisions (11.84%) Loss of motivation (36.66%) Avoidance of people (33.68%) Feelings of isolation (37.59%)
25	(42)	(2021)	Qatar N= 4417	Doctors Nurses Paramedics	(90.3%) risk of exposure, (80.0%) risk of exposure to their families. (30.5%) moderate to severe distress
26	(43)	(2021)	Qatar N= 30	Nurses	Working facility (infrastructure) Workload, Wearing protective gear, fear of infection change in eating habits
27	(44)	(2021)	Sudan N= 380	Doctors Nurses	(35.2%) minimal (29.9%) mild anxiety and (54.9%) high levels of stress
28	(45)	(2021)	Tunisia N=368	Nurse Doctor Medical resident Medical technician Hospital staff	(93.7%) Anxiety (97.8%) Safety of families
29	(46)	(2020)	UAE N= 1290	Physician, Nurse, Allied healthcare, profession, Lab technician	(52.2%) Physically tired (54.2%) Musculoskeletal pain or discomfort (52.8%) Moderate-to-high burnout (26.3%) Anxiety (28.1%) Depression
30	(47)	(2020)	UAE N= 240	Nurses	(36.8%) high stress workload.
31	(48)		UAE N=176	Physicians Nurses	50.6% Risk of infection
32	(49)	(2021)	Yemen N= 197	Physician Nurse Pharmacist Other HCPs	Mild Anxiety Mild depression -Nurses were found more vulnerable to anxiety and depression.

					-female had more depressed and anxious
33	(50)	(2020)	Oman N=509	Physicians Nurses	(74.1%) anxiety -Anxiety was higher among gender (female) and younger HCWs - lower level of general wellbeing.
34	(51)	(2020)	Egypt N=138	Physicians, Nurses, cleaners	(13.5%) prevalent of COVID-19 infection.
35	(52)	(2020)	Egypt N=190	Doctors	-Decrease in monthly income -Increased psychological stress
36	(53)	(2020)	Bahrain N=280	Doctors, nurses, allied staff	FLHCW (75%) poor sleepers (85%) had moderate-severe stress NFLHCW, (76%) poor sleepers (84%) moderate-severe stress.
37	(54)	(2020)	Saudi Arabia& Bahrain N=234	Doctors	(50%) anxiety and GAD.
38	(55)	(2021)	Egypt N= 218	physicians, nurses, technicians, and health workers.	(6.7) Symptoms of depression, (9.1) hostility, (7.3) phobia and somatization (7.7) history of chronic medical illnesses. (12.6) anxiety
39	(56)	(2021)	Egypt N= 714	Physicians	(50%) severe psychological distress.
40	(57)	(2021)	Egypt N= 237	Physicians	(78.9%) anxiety (43.8%) depression. (85%) risk Poor sleep quality, Disrupted social life Stigmatization exposure
41	(58)	(2021)	Egypt N= 118	Doctors, nurses, and lab technicians	75.2% higher stress levels than average, and 19.5% had slightly higher levels of stress.

42	(59)	(2020)	Egypt N= 320	Physicians	Ideas about death, moderate-to-severe anxiety, (29%) depressive symptoms. (20%) high emotional exhaustion, (71%) high depersonalization (39%) low personal accomplishment
43	(60)	(2020)	Egypt N= 210	Nurses	(75.2%) had high stress (98.6%) Workload (96.7%) personal demands and fears (95.7%) biosecurity measures (95.2%) stigmatization (51.0%) low satisfaction level
44	(2)	(2021)	Egypt N= 524	Doctors nurses aides, helpers, Laboratory technicians Medical waste	(32%) anxiety (29%) OCD (69%) high depression
4	(61)	(2020)	Kuwait N= 607	Physician	Severe anxiety Severe depression Transmit infection to their families
46	(62)	(2020)	Libya N=532	Doctor	(67.1%) emotional exhaustion (47.4%) depersonalization (22.7%) lower personal accomplishment (57.1%) Verbal abuse (17.5%) Physical abuse
47	(63)	(2020)	Libya N= 745	doctors and nurses	(56.3%) depressive symptoms (46.7%) had anxiety symptoms.
48	(64)	(2021)	Libya N= 154	Physicians	(65.6%) anxiety (73.4%) depressive symptoms. (67.5%) emotional exhaustion (48.1%) depersonalization (21.4%) personal underachievement
49	(65)	(2021)	Morocco N= 87	Emergency staff, Interventional, Laboratory.	(77.4%) Anxiety (73.9%) depression

				Surgical units	
50	(66)	(2021)	Morocco N= 85	Physicians and nurses.	(71.1%) fear of infection. (97.6%) transmit the virus to relatives. (65%) exhaustion.
51	(67)	(2020)	Oman N= 40	physicians, nurses, health managers, administrators, Public health experts	Exhaustion Risk of exposure.
52	(68)	(2020)	Oman N=402	Female doctors and nurses	(27.9%) moderate anxiety. Poor sleep quality.
53	(69)	(2021)	Oman N= 1132	physicians, nurses and allied health professions.	More depression anxiety stress clinical insomnia
54	(70)	(2021)	Oman N=150	Nurses and physicians	High levels of stress and anxiety
55	(71)	(2021)	Oman N=327	Physicians Nurses	(33%) stress
56	(72)	(2020)	Egypt N=502	Physicians, Nurses, others	-High anxiety, High depression Insomnia Stress among HCWs -Females are at higher risks of experiencing severe anxiety, depression, and severe stress

Findings and Results

From the 264 publications obtained from the database search and reference lists, only 56 research matched the inclusion criteria as seen in Fig.1. Cross-sectional studies from 14 Arab nations were selected, including studies from Saudi Arabia, Oman, Bahrain, Egypt, Qatar, Jordan, Iraq, Yemen, UAE, Libya, Sudan, Morocco, Tunisia, and Kuwait The mental and physical conditions of HCWs are mostly evaluated using the GAD-7 (general anxiety and depression) and PHQ-9 (patients' health questionnaire). All the selected studies investigated three (3) main domains which are mental, physical, and economic domains.

Mental impact

Depression (4.3 percent - 95.0 percent), anxiety (5.4 % - 95.0 5), stress (3.4 % - 95.0 %), and post-traumatic stress disorder (up to 45.1 percent) were all common psychological illnesses among frontline HCWs.

Physical impact

The findings of the selected studies found that the physical impact of the pandemic on the HCW included (67.1%) emotional exhaustion,(47.4%)

depersonalization, (22.7%) lower personal accomplishment, (57.1%) Verbal abuse (17.5%) Physical abuse, (29%) depressive symptoms, (20%) high emotional exhaustion, (71%) high depersonalization (39%) low personal accomplishment, (75%) poor sleepers (52.2%) Physically tired, (54.2%) Musculoskeletal pain or discomfort. Some of the physical impact factors were found in the results of the selected studies such as economic and financial problems. Even though this was not included in the criteria of selection, it is noteworthy to report.

Workers' perceptions and satisfaction may be influenced by job-related risks. Job satisfaction is critical for FHCWs to reduce emotional instability and poor quality of life. In this analysis, research that looked at care providers' quality of life during the COVID-19 pandemic mostly found lower-income and lower quality of life as the drivers of emotional instability among FHCWs (30) (47). Loss of additional income sources increased consumption, and depression were all associated with a low quality of life among FHCWs (29). In this review, sleeplessness, loneliness & isolation (26)(27)(29), fatigue (38)(55)(64), social stigmatization and burnout were identified as other impacts of COVID-19 pandemic on FHCWs (46)(57)(60). The identified factors that contribute to sleep deprivation among FHCWs were workload, the number of daily working hours, direct exposure to active COVID-19 patients, and lack of social support (38)(20). Furthermore, social factors such as the FHCWs society perceptions, family and peer support, and media news had strong connections to the impacts of COVID-19 on FHCWs during the pandemic.

Age

The average age of HCWs in the papers evaluated was 19-44 years. Younger HCWs (those under 30 years old) showed greater depression levels than the older ones (24)(28). Nonetheless, age has the potential to impact people's levels of anxiety (1).

Gender/Sex

Females made up the majority of participants (65.4 per cent to 97.6%) in 40 of the 56 articles examined. Being a woman was consistently linked to the development of severe psychological effects such as stress, anxiety, and depression among HCWs, according to (19)(26)(20). Furthermore, The fear of becoming infected and the risk of infecting loved ones were the most prominent sources of reasons of concern in the study (45)(32). The reviewed studies also showed that individual, institutional, and social variables all had a role in the development of these impacts. For example, gender (female), having a pre-existing illness, working as a nurse, increased workload, pressure tolerance level, and job satisfaction were all linked to higher stress, depression, and anxiety ratings in 40 of the 56 articles analyzed.

Type of profession

Frontline HCWs (FHCWs) had a greater prevalence of Covid-19 infections compared to the other healthcare professionals as frontline HCWs who are exposed directly to the virus, especially those who interact directly with

the COVID-19 patients. The FHCWs showed a higher prevalence of COVID-19 infection, ranging from 10.9 per cent to 13.5 per cent in the included studies (20)(25)(43). The implication is that one out of every ten FHCWs may be affected by COVID-19 based on this data, with the majority of the infected people being women and nurses.

In comparison to other frontline HCWs, nurses had more incidences of depression, infection, anxiety, stress, and poor sleep quality, according to the study (36)(35)(37). In Saudi Arabia and Jordan, however, studies demonstrate no significant difference in the levels of anxiety and depression among female COVID-19 HCWs from different specializations (63). Female FHC experienced more severe sleep deprivation, anxiety, depression, and higher ratings on the impact of event scale (IES) than others, according to the majority of research (29)(36)(55).

Discussion

The findings of the study are in line with systematic literature reviews. A study conducted by Hayaty et al (73) in the Asian context showed similar findings as they found high levels of anxiety, depression, stress, insomnia, and PTS. However, they found a low PTS which contradicts the findings of the current study. Many studies had compared the psychological impacts between frontline and non-frontline. In terms of comparing the sample of the study, previous research did not significantly differ between the groups. However, It can be seen that FHCW suffer more had higher physical and psychological impacts such as sleep disturbance, anxiety, PTSD, and burnout than non-frontline healthcare providers. This finding is in line with studies done in Malaysia Singapore (73)(74). However, this contradicts research conducted in the Taiwanese context (75). Moreover, the findings also correspond with a study done in Europe that found that the FHCW had the greatest impact psychologically that was worsened by long working hours and contact with suffering and death. Marvaldi et al (76) in their systematic review found a high prevalence of psychological impact among the HCW, as they reported that “300 % of anxiety (95 %CI, 24.2–37.05); 311 % of depression (95 %CI, 25.7–36.8); 565 % of acute stress (95 %CI - 30.6–80.5); 20,2% of post-traumatic stress (95 %CI, 9.9–33.0); 44.0 % of sleep disorders (95 %CI, 24.6–64.5)”. These findings are similar to the findings of the current research. The similar findings in the current and previous research could be justified by the fact that the treatment condition and procedures of the virus are similar in all contexts around that world. Therefore, the HCW face the same challenges and impact.

HCWs are generally at an elevated risk of work-related stress. COVID-19's pandemic was initially met with alarm due to the unknown nature of the virus. The high infectivity and fatalities associated with the virus increased this fear, and these caused significant psychological distress, resulting in anxiety, sleep deprivation, and depression among HCWs who provide direct care to COVID-19 patients. Also indicated as factors linked with higher fear, stress, and anxiety among FHCWs were the number of infected HCWs with COVID-19 and the insufficiency of specific training on the use of PPE during the pandemic (18).

An SR on the influence of COVID-19 on FHCWs in the United States and Asian countries (77) support this observation.

Increased workload, worker tiredness, longer working hours, and poor mental health conditions have all been linked to a global lack of healthcare providers (78). As a result of the heightened pressures experienced by HCWs from rapid cases of COVID-19 in places with limited healthcare facilities, psychological effects such as anxiety and depression are expected during the pandemic. This finding is supported by previous research on the effects of social support on psychological outcomes. During the COVID-19 outbreak, a study (36) found that proper social supports could improve the emotional state of HCWs; it can also improve their self-efficacy and control during significant physical or mental threats. Individual and contextual factors could be taken into account to improve the sleep quality of FHCWs. The negative experiences felt by FHCWs during the pandemic could be heightened by factors such as the work environment, physical strain, perceived inter-personal isolation from family and friends, long nights and shift lengths, and the negative effects of prolonged use of PPE during working hours (43). Other factors that may promote severe impacts of COVID-19 among FHCWs could include fears and worries of infecting family members, the agony of seeing loved ones suffer or die from the infection, and, above all, the constant need for extra carefulness regarding the procedures for infection control (28). Recent research backs this up by reporting that age, gender, area of practice, long night shifts, and direct interaction with COVID-19 patients increase sleep deprivation and stress among FHCWs (77). As a result, efforts should be focused on resolving these variables, with an emphasis on providing FHCWs with adequate diets rich in proteins, healthy fats, vitamins, and minerals.

The physical challenges faced by FHCWs during COVID-19 are numerous, including a high prevalence of the virus, increased workloads, and prolonged periods of working hours were also found by (47); (52); (60). COVID-19 had a greater impact on females and nurses compared to the other groups as one out of every ten FHCWs is reportedly infected by the virus. The finding is similar to a previous SR (77), both reviews included papers with predominantly female sample sizes. For example, female-dominated participants were employed in 40 of the 56 investigations included in this review. Furthermore, previous research has shown that women are more likely than men to experience stress, sleep disruptions, and psychosomatic symptoms like depression, headaches, and anxiety (73). Women are naturally more caring about their bodies and other physical symptoms compared to males; society is seen to be more responsive to women expressing their bio-psychosocial distresses as well (79). These could explain why women in this study had a higher level of sleep deprivation, anxiety, depression, and stress.

Second, due to the unique nature of their roles in hospital settings, nurses as a category of HCWs encounter different occupational stressors (76). In general, occupational hazard risks have been shown to be highly dependent on the workers' exposure to the hazard source (37). Therefore, FHCWs are believed to be at a higher risk of contracting the COVID-19 virus since they are closer to the infected patients than the other HCWs. Nurses, unlike some other HCWs, are more frequent and closer to the patients during the course of their treatment to

detect danger indications early and achieve the best treatment outcomes. In previous investigations, the duration and rate of contact with active COVID-19 patients were linked to the risk of infection among HCWs (42).

Concluding remarks

In summary, this review study investigated the prevalence of physical and psychological health impact on the HCWs during the COVID-19 pandemic in the Arab countries. The findings revealed that the most prevalent mental issues experienced by HCW were anxiety, depression, distress, stigmatization, risk of infection, and post-traumatic stress disorder, while the most physical issues were physical abuse, exposure to the virus, exhaustion, underachievement, sleep deprivation, and financial problems. The study recommends an immediate plan which is to create a program to help/support the HCWs affected, mid-term plan is to conduct more in-depth study preferably health systems research to comprehensively understand why and how these impacts happen to HCW, and lastly the long-term plan is to create a Pandemic Preparedness Plan that addresses the actions that can be taken to prevent/mitigate factors that lead to these negative impacts.

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