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Research article

Psychological Impact of the COVID-19 Pandemic among Health Care Workers in Tunisia

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ABSTRACT

Background: The coronavirus 2019 (COVID-19) pandemic has caused a worldwide health crisis. In Tunisia, this large-scale health crisis urgently triggered the restructuring and reorganization of health services to support Emergency Departments, intensive care units, and continuing medical care units. Concerns about the mental health, psychological adjustment, and recovery of health care workers treating and caring for are now emerging. The objective was to assess the psychological impact of the COVID-19 pandemic on health care workers' work, psychological outcomes, and return to work.

Objective: This pandemic should help us better understand (fathom) the vulnerability of caregivers as they are faced with psychological suffering to strengthen prevention strategies and training in the psychological issues of care, relationships, and management of health crises.

Methods: Our study is a retrospective monocentric clinical trial. It is performed between June and July 2022 using a self-administered questionnaire to assess: (i) the impact on their work; (ii) the psychological consequences of the COVID-19 epidemic for health care workers.

Results: We collected 140 responses from 73 nurses (34.76%), 23 public health physicians (10.95%), 15 health technicians (7.14%), 13 residents (6.19%), 7 interns (3.33%), 5 workers (2.38%), and 4 medical specialists (1.90%). The HAD score for depression favoured certain symptomatology in most cases (n=72, 51.43%) and certain symptomatology in most cases (n=73, 52.14%) for anxiety.

Conclusion: The COVID-19 pandemic has brought about changes in the work organization and an overall increase in the workload for health care personnel.

Keywords: Anxiety; Depression; COVID-19; Psychological implications

INTRODUCTION

The new COVID-19 pandemic originated in Wuhan, China, in late 2019 and rapidly spread worldwide [1]. The COVID-19 pandemic was declared a public health emergency on January 30, 2020, by the World Health Organization (WHO) [2]. The COVID-19 pandemic threatened more than just physical health: global public health and social systems are collapsing under the spread of the coronavirus. Intensive care units are completely overwhelmed in some countries. Extremely strict pandemic prevention measures, mandatory school closures and the suspension of all non-essential production and business activities severely affect people's daily lives and professional activities and endanger economic organizations [3]. In the face of this situation, health care workers who are directly involved in the diagnosis, treatment and care of COVID-19 patients, already jeopardizing their lives, are at the risk of developing psychological distress and other mental health symptoms. The ever-increasing number of confirmed and suspected cases, overwhelming workload, exhaustion of personal protective equipment, widespread media coverage, lack of specific medications, and feelings of inadequate care may all contribute to the psychological impact on healthcare workers. Previous studies have reported a psychological impact of the 2003 SARS epidemic on health care workers [4-7]. These studies showed that these health care workers feared contagion and infection from family, friends, and colleagues [4], felt uncertainty and stigma, reported reluctance

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to work or considering resigning and reported experiencing high levels of symptoms of stress, anxiety, and depression, which could have long-term psychological implications [6].

METHODOLOGY

We collected data from health personnel at the Ibn El Jazzar University Hospital from June to July 2020 using a self-administered questionnaire to assess: (i) the impact on their work; (ii) the psychological impact of the COVID-19 epidemic. The target sample size of participants was determined mathematically before starting the survey. We studied symptoms related Our study aimed to assess the impact of the COVID-19 pandemic on caregivers and return to work by quantifying the extent of symptoms of depression, anxiety, eating disorders, behavioural changes, and Tobacco-alcohol use.

RESULTS

Socio demographic characteristics

Overall, 140 participants (51 males, 89 females; Mean age: 35.06 ± 7.92 years) were included in the study. Responses were collected from 73 nurses (34.76%), 23 general practitioners (10.95%), 15 health technicians (7.14%), 13 residents (6.19%), 7 interns (3.33%), 5 workers (2.38%) and 4 specialist physians (1.90%). Mean experience duration was 8.82 ± 7.48 years.A medical history was reported by 28 participants (20%). A psychiatric history was reported by 12 participants (8, 57%). Overall 62 participants (44, 28%) was single, 76 participants (54,28%) was married and two participants (1,43%)was divorced or separated.

Eating disorders

We observed that coffee consumption in 128 participants (91.43%). Coffee consumption increased in 64 participants (45.71%). Weight gain was reported by 59 participants (42.14%). The feeling of losing control over one's diet was observed in 68 participants (48.57%) (Table 1).

Table 1: Psychological impact over eating disorders.

The question	Number (n)	Percentage (%)
Do you drink coffee? (yes)	128	91.43
Have you increased your coffee consumption? (yes)	64	45.71
During this COVID-19 pandemic period have you noticed that your weight		
Increased	59	42.14
Decreased	27	19.29
Remained stable	54	38.57
Do you feel that you are losing control of your diet during this COVID-19 pandemic period? (yes)	68	48.57

Behavioral changes

Regarding the amount of time our participants spent on their smartphones during the COVID-19 pandemic, responses were split between often in 34 cases (16.19%), always in 33 cases (15.71%), frequently in 31 cases (14.76%), rarely in 27 cases (12.86%) and sometimes in 15 cases (7.14%) (Table 2).

Table 2: Impact of smart phone usage on behavioral changes.

	Number (n)	Percentage (%)
Rarely	27	12.86
Sometimes	15	7.14
Frequently	31	14.76
Often	34	16.19
Always	33	15.71

Tobacco and alcohol use

The participants in our study, 25 (17.86%) were smokers. Increased smoking was reported by 24 participants (17.14%). Alcohol consumption was observed in 14 participants (10%); among them, 7 (5%) reported an increase in alcohol consumption during the COVID-19 pandemic (Table 3).

Table 3: Impact of alcohol and tobacco use during COVID-19.

The question	Number (n)	Percentage (%)
Do you smoke?	25	17.86
Have you increased your smoking during this pandemic period COVID-19	24	17.14
Do you drink alcohol?	14	10
Have you increased your alcohol consumption during this pandemic period COVID-19	7	5

Anxiety disorders

Seventy-seven participants (55%) felt they were encouraging an anxiety-provoking climate at home. The permanent sensation of transmitting the disease to their loved ones was found in 105 participants (75%). We found nightmares or flashbacks of past events in 58 cases (41%).on the other side; the participants avoided stimuli associated with the traumatic event in 47 cases (34%), and we found sleep disturbances, concentration problems and startle reactions were found in 83 cases (59%). Regarding the expression of their negative feelings, most of our participants admitted to doing so from time to time (n=71) 51%.

During the last month, 30 participants (21%) never had difficulty controlling the important things in their lives, 19 participants (14%) rarely had this difficulty, 67 participants (48%) sometimes had this difficulty, 10 participants (7%) had it quite often, and 14 participants (10%) often had it (Table 4). The HAD score for anxiety favoured certain symptomatology in most cases (n=73) 52.14% (Table 5).

Table 4: Anxiety disorders and their difficulties.

The question	Number (n)	Percentage (%)
Do you feel that you are encouraging an anxiety-provoking environment in your home?	77	55
Do you constantly feel you are passing on the disease to your loved ones?	105	75

Do you have nightmares or flashbacks about events you have experienced in person?	58	41
Have you found that you avoid stimuli associated with this traumatic event?	47	34
During this period, did you experience sleep disturbances, difficulty concentrating, startle reactions	83	59
I expressed my negative feelings		
Not at all	26	19
Some of the time	71	51
Often	23	16
Always	20	14
In the past month, how often have you found it difficult to control the important things in your life		
Never	30	21
Rarely	19	14
Sometimes	30	21
Somewhat often	67	48
Often	10	7
Do you feel that you are encouraging an anxiety-provoking environment in your home?	77	55
Do you have the persistent feeling that you are passing on the disease to your loved ones?	105	75

Table 5: Results of HAD score for anxiety.

	Number (n)	Percentage (%)
No symptomatology	21	15
Questionable symptomatology	46	32.86
Certain symptomatology	73	52.14

Depressive disorders

The mean scale rating communication within the institution was 5.36 ± 1.86. The mean scale qualifying the psychological sequelae of the COVID-19 pandemic was 5.22 ± 2.3.

Sports activity was observed in 43 participants (30.71%). This activity was regular in only 11 cases (7.86%) and 104 participants (74.29%) reported a cessation of activity at the time of the COVID-19 pandemic (Table 6). The HAD score for depression favoured certain symptomatology in most cases (n=72) 51.43% (Table 7).

Table 6: Mean scale ratings of depressive disorders.

The question	Number (n)	Percentage (%)
Do you practice a sports activity? (yes)	43	30.71
If yes, is your activity?		
Regular	11	7.86
Irregular	25	17.86
No activity at the moment	104	74.29
How many days did you feel nervous or stressed in the last month?		
Never	37	26.43
Rarely	24	17.14
Sometimes	58	41.43
Quite often	14	10
Often	7	
Do you feel a loss of interest and pleasure? (yes)	80	38.10
Do you feel that your (service, hospital, department) has taken the necessary steps to deal with the pandemic? (yes)	32	22.86
Are you satisfied with your effort during the pandemic period?	114	81.43
Do you feel stigmatized about your job during this pandemic: I feel that I put in more effort than most of my co-workers		
Always	31	22.14
Regularly	37	26.43
Sometimes	59	42.14
Never	13	9.29
Do you feel after this experience that your institution and co-workers do not deserve your commitment to your job? (yes)	61	43.57

Table 7: Results of HAD for depression.

	Number (n)	Percentage (%)
No symptomatology	14	10
Questionable symptomatology	54	38.57
Certain symptomatology	72	51.43

Return to work

The participants in our study, 98 (70%) reported being ready to return to work.

DISCUSSION

Our study concluded to The HAD score for depression favoured certain symptomatology in most cases and the HAD score for anxiety favoured certain symptomatology in most cases.

Previous work on the psychological impact of health crises on the mental health of medical and paramedical personnel has shown that they are exposed to a negative psychological impact during pandemics, especially if they are frontline workers [8-13]. During the COVID-19 pandemic, few studies evaluating the psychological impact of this crisis on health care personnel were published; we

count five [14-18]. These were cross-sectional studies like those studying the impact of the COVID-19 pandemic on the general population. The dimensions or variables explored by these authors were not the same. Four studies explored mental health outcomes in healthcare workers exposed to COVID-19, i.e. anxiety, depression and psychological distress [14-18]. In contrast, the fifth study compared the severity of the indirect impact on frontline nurses, non-frontline nurses and the general population [17]. Lai et al. recently published a survey in a hospital setting [14]. The samples were stratified by geographic location. Because Wuhan was most severely affected, more hospitals in the city were sampled. Then, one clinical department was randomly sampled from each selected hospital. Both secondary and tertiary hospitals were involved. The final sample comprised 1257 respondents (response rate=68.7%), 493 physicians and 764 nurses who completed well-known and internationally validated questionnaires. Another Chinese study involved 230 medical staff, 70 physicians and 160 nurses at a tertiary infectious disease hospital for COVID-19 in Fuyang, China, near Wuhan (response rate=93.5%). Participants were asked to complete two questionnaires [15]. The questionnaire method was not specified in either research, although a web-based method was suggested. Kang et al. conducted a study using an online survey tool [16]. The sample included 183 physicians and 811 nurses (N=994). A total of 31.1% worked in high-risk departments in Wuhan. Cao et al. conducted qualitative and quantitative assessments of health care providers working in a 24-hour fever clinic set up in an emergency department in the context of psychological support [18]. Interviews were conducted whenever medical staff were available. Each medical worker was interviewed several times during their 2-3 week rotation. Results showed that the HCWs were exposed to high levels of stressful or traumatic events and expressed significant negative mental health effects (14-18), including stress-related symptoms [14-16], depression [14,16,18], anxiety [14-16], and insomnia [14-16]. The rate of depression was 50.4% (14), the rate of anxiety ranged from 23.04% (15) to 44.6% (14), the rate of insomnia was 34.0% [14], and the rate of stress ranged from 27.39% to 71.5% [14,15]. Our results were comparable to those in the literature. The HAD score for depression favoured certain symptomatology in 51.43% of cases and anxiety in 52.14% of cases. Nurses [14,15], women [14-16], younger subjects [16], frontline health workers and those working in Wuhan [14], where the COVID-19 pandemic started, reported more severe mental health symptoms than other health workers(14). Frontline healthcare workers had a higher risk of psychological symptoms during the COVID-19 pandemic outbreak [14,19].

CONCLUSION

Based on the literature to date, it has been confirmed that the current COVID-19 pandemic has had an enormous psychological impact on individuals. Healthcare workers experienced considerable psychological distress during the initial phase of the pandemic in terms of anxiety, depression, and post-traumatic symptoms. Globally, the results were relatively consistent in severity: most health care workers suffered from mild to moderate distress, while those reporting severe symptoms were in the minority. Some variables were associated with a higher psychological impact, such as female gender and young age. The preliminary results of our study are in line with the literature.

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Statement of ethics

This study was conducted following the ethical standards of the Declaration of Helsinki, and the confidentiality of patients' data was respected.

PATIENT CONSENT

All patients are given consent for possible publication of our research (Review article).

CONFLICT OF INTEREST STATEMENT

No conflict of interest to disclose.

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None

AUTHOR CONTRIBUTIONS

All the authors contributed to the study's development. All the authors have reviewed the statistical analysis and validated the manuscript's final version.

DATA AVAILABILITY STATEMENT

All data generated or analyzed during this study are included in this article. Further enquiries can be directed to the corresponding author.

PROVENANCE AND PEER REVIEW

Not commissioned, externally peer reviewed.

ETHICS WAIVER

Research that does not involve human participants.

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