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Prevalence of stress and associated changes in the personal habits of frontline healthcare workers during COVID-19 pandemic

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ABSTRACT

Background: The pandemic of coronavirus disease 2019 (COVID-19), caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), has dramatically tested health services all over the world. Since being hit by the first wave of the epidemic in the spring of 2020 and the second wave in the autumn of the same year, Italy has been one of the countries most affected. For frontline healthcare workers (FHWs) the two waves posed different problems. In the first phase of the outbreak, the sudden overload of work, the lack of protective equipment, fear of infection, insufficient knowledge of safety procedures, and uncertainty about treatment criteria were among the major problems.

Materials and methods: With this broad perspective in mind, to grasp the complexity of the problem, we performed, as also suggested by Greenhalgh and colleagues (16), a narrative review.

Result: Most of the participants (31.1%) were non-smokers and nondrinkers. About 22 (24.4%) of the doctors modify their life style and 60 (66.7%) used home remedies as preventive methods against this viral infection. Despite decreased financials, a majority of healthcare workers 65 (72.2%) did not feel harassed and took pride in their work.

Conclusion: In our study longitudinal study of weight changes, eating patterns, physical activity, and psychological factors among a specified group of FHWs. The findings contribute to the current body of growing evidence to best understand how pandemic-induced life style disruptions shape health behaviors and weight change among FHWs.

Keywords: COVID-19 pandemic; Frontline healthcare workers; Lifestyle habits; Weight change; Physical activity; Psychological factors

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INTRODUCTION

The pandemic of coronavirus disease 2019 (COVID-19), caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), has dramatically tested health services all over the world. [1] Since being hit by the first wave of the epidemic in the spring of 2020 and the second wave in the autumn of the same year, Italy has been one of the countries most affected. [2] For frontline healthcare workers (FHWs) the two waves posed different problems. In the first phase of the outbreak, the sudden overload of work, the lack of protective equipment, fear of infection, insufficient knowledge of safety procedures, and uncertainty about treatment criteria were among the major problems. [3] In the second phase, once the shortage of devices had been resolved, the new safety procedures had been assimilated, and the therapeutic protocols had been consolidated, the psychosocial problems related to the on-going epidemic became evident. [4]

Since the early months of the COVID-19 epidemic, numerous scientific papers have considered the possibility that frontline FHWs are being affected by post-traumatic stress, anxiety, depression, and burnout. [5] During epidemics, intensivists are among the most vulnerable FHWs on account of infections and mental health problems. [6] There are conflicting findings on the epidemiology of burnout among FHWs working in COVID-19 wards: some studies have found a reduction in burnout rates, for example in US neurosurgeons, in French geriatric facilities, and in Chinese frontline nurses, compared with ordinary ward workers. [7]

The mental health of FHWs can vary according to many factors and is hardly homogeneous for all groups of workers, even in the same company or department. However, FHWs who had unprotected contact with COVID-19 patients and even more those who had SARS-CoV-2 positive nasopharyngeal swab had an increased risk of insomnia, anxiety, and depression compared to their colleagues. [8]

As noted, in the absence of pre-/post-studies, further longitudinal study is needed to distinguish psychological symptoms during and after the infectious disease outbreaks. [9] With the onset of the pandemic, many researchers have carried out short-term longitudinal studies (one to three months) on specific topics relating to the mental health of FHWs. [10] The studies published so far have been conducted online and anonymously, without the possibility of tracking respondents; consequently, the surveys carried out at different moments of the pandemic do not represent longitudinal studies, in which the incidence of mental disorders can be evaluated, but repeated cross-sectional studies, with comparison of prevalence and mean values. [11]

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MATERIALS AND METHODS

This is a prospective and observational study was conducted in the Department of Department of General Medicine, Shadan Institute of Medical Sciences, Teaching Hospital and Research Center. With this broad perspective in mind, to grasp the complexity of the problem, we performed, as also suggested by our colleagues among FHWs who are directly involved in the triage, screening, diagnosing, and treatment of COVID-19 patients and suspects. The online questionnaire was designed on Google Forms and circulated in multiple WhatsApp groups, targeting doctors and nurses involved in triage, screening, diagnosing, and treatment of COVID-19 patients and suspects.

Inclusion criteria: Participants were either gender and age ≥18; Ability to read, understand text and communicate language; and consent to personal data processing.

Exclusion criteria: Lack of access of internet. Inability of complete an online survey. Incomplete data in any section of the questionnaire.

Study Procedures: The link to the online questionnaire was circulated. A maximum of three reminders were sent in all WhatsApp groups. To limit the number of FHWs who inadvertently answer the questionnaire without being involved in COVD-19 work, a specific yes/no question confirming their work in COVID-19 was asked. Those who marked the answer as "Yes" were allowed to continue answering the questionnaire.

RESULTS

Table 1: Distribution of Gender (N=90).

Gender	Frequency (Percentage)
Female	25 (27.8%)
Male	65 (72.2%)

Table 2: Distribution of Age group (N=90).

Age groups (years)	Frequency (Percentage)
25-34	19 (21.1%)
35-44	35 (38.9%)
45-54	22 (24.4%)
>55	14 (15.6%)

Table 3: Distribution of Various Parameters (N=90).

Family status	
Only spouse/single	35 (38.9%)
Small family with children	26 (28.9%)
Joint family with elderly and children	29 (32.2%)

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Spouse	
Health worker	45 (50%)
Non-health professionals	45 (50%)
Addiction habits	
Smoking	20 (22.2%)
Alcoholism	9 (10%)
Both	33 (36.7%)
None	28 (31.1%)
Consider quitting of addiction	
Yes	50 (55.6%)
No	40 (44.4%)
Feel harassed	
Yes	25 (27.8%)
No	65 (72.2%)
Feel proud	
Yes	60 (66.7%)
No	30 (33.3%)
intervention for prevention	
Life style modification	22 (24.4%)
Home remedies	60 (66.7%)
Nothing	8 (8.9%)
Financial input	
Significantly less	9 (10%)
Little bit less	19 (21.1%)
Not affected	44 (48.9%)
Increased	18 (20%)
Most missed event	
Get together with family/friends	21 (23.4%)
Dining out	30 (33.3%)
Vacations	12 (13.3%)
Nothing	27 (30%)
Definitive cure or vaccine will possible in recent future (one year)	
Yes	35 (38.9%)
No	55 (61.1%)
How long will this continue?	
Next six months	31 (34.4%)
Next one year	27 (30%)
Never like before, live with this	32 (35.6%)

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Table 4: Professional characteristics of questionnaire (N=90).

Characteristics	**Frequency**
working specialty	
Medicine and allied	27 (30%)
Surgery and allied	38 (42.2)%
Para clinical/public health	25 (27.8%)
Type of work setting	
Private clinic/Only OPD	16 (17.8%)
Multispecialty hospital	20 (22.2%)
Medical college and hospital	24 (26.7%)
Public sector hospitals	30 (33.3%)
Continuation of practice	
Continue as before pandemic	19 (21.1%)
Discontinue for short period (1-3 months)	33 (36.7%)
Discontinue for >3 months	22 (24.4%)
Yet to resume	16 (17.8%)
Felt worried about family members	
Yes	45 (50%)
No	45 (50%)
Work with corona patients	
Yes	60 (66.7%)
No	30 (33.3%)
Felt worried about them	
Yes	70 (77.8%)
No	20 (%22.2)
Felt worried about family members	
Yes	65 (72.2%)
No	25 (27.8%)
Continuation of practice	
Continue as before pandemic	81 (90%)
Precaution is taken while facing patients (at doctor level) Wearing a face mask only (N-95, triple-layer, or other types)	
Wearing a face mask only (N-95, triple-layer,	10 (11.1%)

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or other types)	
Wearing a face mask, face shields, and gloves	30 (33.3%)
PPE kit	35 (38.9%)
Not using anything	15 (16.7%)
Precaution is taken while facing patients (at patient level)	
Attendant not allowed	12 (13.4%)
One meter distance while attending	13 (14.4%)
Mask compulsory for all patients	18 (20%)
Sanitize hands before attending	36 (40%)
All of the above compulsory	2 (2.2%)
I don't mind	9 (10%)
type of surgeries done (for surgeons)	
Only elective after Covid test negative	29 (32.2%)
Emergency with Covid test	31 (34.4%)
Emergency without covid with safety guidelines	6 (6.7%)
Doing as before this pandemic	24 (26.7)
Know about telemedicine?	
Yes	81 (90%)
No	9 (10%)
ever practiced telemedicine?	
Yes	36 (40%)
No	54 (60%)
know about guidelines of the board of governors, mCi for telemedicine	
Know very well	45 (50%)
Didn't hear	19 (21.1%)
I hear but didn't go into details	26 (28.9%)

DISCUSSION

To our knowledge, this study is the first to report on four time points within a pro- jected two-year study designed to capture predictors of weight change, physical activity, psychological factors and eating behavior-related adaptations among FHWs in the United States during the COVID-19 pandemic. Studies to date that have investigated comparable measurements have been largely cross-sectional and during the initial months of the pandemic, and targeted the general adult population. [12] In addition, studies that are longitudinal have either not spanned the

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duration of this current study or have not focused specifically on FHWs, rendering this research a valuable and warranted addition to the literature library on this topic. [13]

The longitudinal study design, when compared to similar research on this target population, is intended to detect developments, changes and/or reversals of these variables at both the group and the individual level, with COVID-19 being the change impetus. Identifying and monitoring health-related indicators during the pandemic is necessary to assess the physical and mental health changes in a population known to have experienced heightened job-related stress, potentially impacting emotional and physical health. [14]

It is clear that psychological factors were impacted during the pandemic and many sources have reported a pattern of increased anxiety and depression notably during the beginning months of the pandemic. [15] One systematic review estimated more than 53 million additional cases of major depressive disorders and 76 million additional cases of anxiety disorders globally in 2020. [16] This study investigated the mental health burden of the pandemic on FHWs and, not surprisingly, showed negative health habits, such as less exercise and snacking changes, and generally worse feelings about one's health, associated with higher levels of depression, anxiety, and insomnia. These results are comparable to studies of COVID-19-induced psychological stress among HCWs which demonstrated moderate and high levels of stress, anxiety, depression, sleep disturbances, and burnout. [17]

Our study also indicated that despite many individuals reporting increased depression, anxiety, and insomnia at the height of the pandemic, by improvements in these psychological factors, with a greater percentage of individuals in the "none" depression and anxiety categories. These findings follow trends to a systematic review and meta-analysis of longitudinal cohort studies examining changes in mental health among both non-clinical and clinical populations before versus during the pandemic that similarly found an increase in mental health symptoms soon after the pandemic outbreak, which then decreased and was comparable to pre-pandemic levels.

The importance of identifying and monitoring health-related indicators during the pandemic is necessary to assess the trajectories of weight and health habits. Additionally exploring the data by BMI categories may provide new insight into stress responses or coping mechanisms related to individuals of different body weights, a topic that deserves further exploration and understanding. This study reinforces the importance of recognizing changes in healthy lifestyle behaviors, including eating patterns, physical activity, and weight changes, as well as monitoring the prevalence of sleep disturbances, stress, and anxiety brought on by stressful circumstances in the HCW population, which may increase the risk of chronic disease. Based on our study findings, the impact of the pandemic accentuated work-life and self-care challenges for some HCWs, worsening lifestyle behaviors and increasing psychological stressors. Prioritizing the provision of wellness support programs for health care workers to facilitate psychological

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support, resilience, and adaptability may help offset the impact of stress and pandemic-related disruptions on overall health and well-being. [18]

CONCLUSION

In our study longitudinal study of weight changes, eating patterns, physical activity, and psychological factors among a specified group of FHWs. The findings contribute to the current body of growing evidence to best understand how pandemic-induced life style disruptions shape health behaviors and weight change among FHWs. The ability to track our participants over the peak of the pandemic serves two purposes: (1) to identify modifiable risk factors and health indicators to inform public health programs and preventative efforts during the current crisis and potential future pandemics, and (2) to assess whether changes or lapses extend to a permanent cessation of those behaviors throughout the duration of the study. Thus far, based on these findings, it appears that despite many initial impacts related to negative eating patterns, weight gains, decreased physical activity, and negative psychological factors in response to the pandemic, most of these behaviors normalized or even improved over time.

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