



The Mental Health Situation of Hospital Librarians During COVID-19 Pandemic

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Abstract

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Introduction: COVID-19 pandemic has many physical and psychological effects on medical workers around the world. As other health workers, supporting the hospital librarians' mental health are necessary. This study aimed to evaluate anxiety, stress, and depression levels in hospital librarians and compare it with academic librarians in Tehran.

Methods: This cross-sectional study recruited 60 hospital librarians and 60 age and gender-matched academic librarians working at Shahid Beheshti University of Medical Sciences, Tehran University of Medical Sciences, and Iran University of Medical Sciences from May 2020 to July 2020. An online questionnaire was used to measure librarians' mental problems (stress, anxiety, and depression) and evaluate welfare services and facilities, which hospital/faculty administrators provide during the COVID-19 pandemic. Chi-square and t-test were used to compare categorical and continuous variables between hospital and academic librarians, respectively. Multivariable regression was used to adjust the confounding variables.

Results: Of 120 librarians, 12 (10%) librarians screened positive for stress, and 23 (19.2%) for anxiety. No cases of depression were observed in librarians. The prevalence of stress was higher among hospital librarians than academic ones (16.6% versus 3.3%, $P=0.032$). Similarly, the prevalence of anxiety was higher among hospital librarians (38.3% versus 0, $P<0.001$). The mean scores of stress (9.13 ± 6.63 versus 2.70 ± 3.48), anxiety (4.66 ± 4.89 versus 1.83 ± 1.85), and depression (1.63 ± 2.34 versus 1.40 ± 1.65) were significantly higher among hospital librarians. After adjustment for age, marital status, and librarians' medical history, higher stress ($B=-0.19$, $P=0.001$), anxiety ($B=-0.27$, $P=0.037$), and depression ($B=0.52$, $P=0.010$) were observed in hospital librarians.

Conclusion: The findings revealed that hospital librarians are at high-risk for psychological disorders. Accordingly, early administrative and psychological interventions targeting hospital librarians may be beneficial.

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Introduction

The COVID-19 is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (1). The COVID-19 outbreak was first identified in December 2019 in Wuhan, China (2). The virus spread very rapidly around the world and affected the health system of all countries. Healthcare workers (frontline and non-frontline) fight against COVID-19 in long hours of intensive work, while several studies have reported that people exposed to life-threatening conditions may have a high risk of psychological morbidities (3-8). Healthcare workers grappled with multiple concerns, including a shortage of personal protective equipment, mortality and morbidity

associated with COVID-19 among their colleagues, and fear of transmitting the virus to their family members (9). Evidence from previous outbreaks suggests that pandemics affect healthcare workers' short- and long-term mental health (10-13). At the time of conducting the present study, Iran is the 14th country globally in terms of the prevalence of COVID-19 and the 9th in terms of mortality due to this disease (14). The educational services in schools and universities have been changed, and many organizations have created remote or shift working conditions for their employees. However, the workload of healthcare workers has been raised during the



current pandemic. As health professionals, hospital librarians are considered as one of the essential staff in educational hospitals. During the current pandemic, some libraries are not functioning to handle infection control while others increase the use of disinfecting methods at work while remaining open (15). Health/hospital libraries, as part of the hospital organization, have continued to provide normal services from the beginning of the COVID-19 outbreak so far in Iran. Hospital librarians, along with health professionals play an important role in the management and control of the disease. They support medical staff, academics, research teams and, paramedical staff by preparing and distributing valid information about preventive measures, vaccination, diagnostic kits, and the latest studies published in medical journals (16). They also help health professionals and patients avoid misinformation about COVID-19 by sharing reliable information (17).

A recent study in China found that nearly one-sixth of 4679 medical staff had psychological distress and therefore needed to seek help from psychologists or psychiatrists. The prevalence of psychological distress, anxious symptoms, and depressive symptoms were 15.9%, 16.0%, and 34.6%, respectively (18). It is claimed that frontline healthcare workers had higher rates of mental problems, anxiety symptoms, depressed mood, and insomnia than non-frontline medical workers during the COVID-19 outbreak in China (19). Based on the findings of a study in Singapore, nonmedical healthcare workers (allied health professionals, pharmacists, technicians, administrators, clerical staff, and maintenance workers) had a higher prevalence of anxiety, depression, and stress than health care personnel (physicians and nurses) (20). Nevertheless, the variation in the previous studies' results indicates that healthcare workers of all types face a greater risk of exposure, so it is critical to support their physical and psychological health. The physical and mental health of health workers is essential to overcoming the current crisis. In this regard, identifying hospital librarians' mental health situation and recognizing the related risk factors during the current pandemic may allow the administrators and managers to develop targeted approaches to provide specific support to their health care workforce. Hence, this study aimed to evaluate and compare anxiety, stress, and depression levels in hospitals and academic librarians.

Methods

This cross-sectional study was conducted between May to July 2020. In total, 120 hospitals and academic librarians from Shahid Beheshti University of medical science, Tehran University of Medical Sciences, and Iran University of Medical Sciences participated in this study. According to the information provided on the hospital libraries' websites, approximately 70 hospital librarians were working in educational hospitals affiliated with the three medical universities. Based on Krejcie and Morgan (1970) table for determining sample size, 60 female hospital librarians were selected by convenience sampling as a case group (21). Controls were 60 female academic librarians working in the college or university libraries of the three medical universities. They were individually matched with each case for sex and age (± 3 years). All participants completed an online self-administered questionnaire, including three sections. The first section collected the demographic characteristics and medical history of participants. The second section included the validated Depression, Anxiety, and Stress Scales (DASS-

21) (22). The DASS-21 is a 21-item self-report scale that purports to measure levels of depression, stress, and anxiety in the population. Each seven-item scale has four response options ranging from 0 (did not apply to me at all) to 3 (applied to me sometimes, often, or all of the time). A maximum score of 42 (i.e., each scale is multiplied by 2 to make scores comparable to the DASS-42) on each scale indicates elevated depression, anxiety, or stress. The cutoff scores >14 , >7 , and >9 indicate a positive screen for stress, anxiety, and depression, respectively. In Iran, the reliability of DASS-21 in a sample of undergraduate nursing students in Hamadan University of Medical Sciences for depression, anxiety, and stress was 0.83, 0.86, and 0.85, respectively (23). Mehdipour-Rabori (24) and Najafi Kalyani (25) confirmed the validity and reliability of this scale. The third section of the questionnaire includes 12 statements about welfare services and facilities, which hospital/faculty administrators provide during the COVID-19 pandemic. Each statement has two response options (Yes, they provide it, or No, they do not provide it). The link to the online questionnaire was sent to the heads of the hospital or academic libraries, and then they were asked to share it with their colleges. In the present study, it was assumed that there is a statistically significant difference between the hospital and academic librarians' mental health situation. In this regard, Chi-square and t-test were used to compare categorical and continuous variables between medical and academic librarians, respectively. Multivariable regression was used to adjust the confounding variables (age, marital status, and medical history). The value of $P < 0.05$ was considered statistically significant. All statistical tests were performed using SPSS version 22.0 for windows (26).

Results

Table 1 presents the demographic characteristics of the participants.

Comparing the welfare services provided to librarians showed that hospital librarians received personal protective equipment more than academic librarians. Hospital librarians were also more likely to have access to COVID-19 diagnostic tests if they had symptoms. Access to authentic medical information sources to avoid transmitting the infection to the family was significantly higher in the hospital librarians as well. Supporting the librarians' childcare needs and providing their emotional and psychological needs were significantly higher in-hospital librarians. Besides, hospital librarians received more organizational support than the academic librarians if they needed quarantine. There was no statistically significant difference between the two groups in other welfare services (Table 2).

The results showed that 12 (10%) librarians screened positive for stress and 23 (19.2%) for anxiety. No cases of depression were observed in librarians. The prevalence of stress was higher among hospital librarians than academic librarians (10 (16.6%) versus 2 (3.3%), $P = 0.032$). Similarly, the prevalence of anxiety was higher among hospital librarians (23 (38.3%) versus 0, $P < 0.001$). Table 3 presents the crude comparison of stress, anxiety, and depression scores among hospitals and academic librarians. The means of stress, anxiety, and depression scores were significantly high among hospital librarians.

After adjustment for age, marital status, and medical history, higher stress, anxiety, and depression subscale scores were observed in hospital librarians (Table 4).



Table 1. Demographic characteristics of case and control groups

	Overall (n=120)	Case group (n=60)	Control group (n=60)
Median age (year)	40.50 (25-54)	37 (25-52)	42 (27-54)
Marital status n (%)			
Single	51 (42.5)	30 (50)	21 (35)
Married	69 (57.5)	30 (50)	39 (65)
Medical history n (%)			
Hypertension	19 (15.8)	5 (8.3)	14 (23.3)
Hyperlipidemia	10 (8.3)	5 (8.3)	5 (8.3)
Diabetes mellitus	6 (5)	6 (10)	0
Asthma	8 (6.7)	3 (5)	5 (8.3)
Ischemic heart disease	4 (3.3)	0	4 (6.7)
Other comorbid conditions	4 (3.3)	3 (5)	1 (1.7)

Table 2. Welfare services received by case and control groups

	Case group n (%)	Control group n (%)	P-value
Hospital/faculty administrators listen to and act on librarians' critics and suggestions during the COVID-19 pandemic.	12 (20)	16 (26.66)	0.38
Hospital/faculty administrators visit the library and evaluate its health condition during the COVID-19 pandemic.	12 (20)	12 (20)	1.00
Hospital/faculty administrators provide adequate personal protective equipment for librarians.	39 (65)	24 (40)	0.006
Librarians have rapid access to occupational health with efficient evaluation and testing if symptoms warrant.	44 (73)	4 (6.66)	<0.001
Librarians have information and resources to avoid taking the infections home to family members.	24 (40)	12 (20)	0.01
Hospital/faculty administrators accommodate librarians at high risk because of age or health conditions.	36 (60)	29 (48.33)	0.20
Hospital/faculty administrators provide rapid training about COVID-19 prevention.	36 (60)	28 (46.66)	0.14
Librarians have access to healthy meals and hydration while working.	48 (80)	46 (13.33)	0.65
Librarians have access to safe transportation from house to work and vice versa.	24 (40)	16 (26.66)	0.12
Hospital/faculty administrators provide support for librarians' childcare needs.	12 (20)	4 (6.66)	0.03
Hospital/faculty administrators provide emotional and psychological needs for librarians during the COVID-19 pandemic.	24 (40)	4 (6.66)	<0.001
Hospital/faculty administrators provide holistic support for the librarians when they need to be quarantined.	48 (80)	36 (60)	0.01

Table 3. A crude analysis of stress, anxiety, and depression levels in case and control groups

	Case group	Control group	P-value	95% CI	
				Lower	Upper
Stress	9.13±6.63	2.70±3.48	<0.001	4.51	8.34
Anxiety	4.66±4.89	1.83±1.85	<0.001	1.49	4.17
Depression	1.63±2.34	1.40±1.65	0.037	-0.50	0.96

Table 4. Adjusted analysis of stress, anxiety, and depression levels in case and control groups

	B	P-value	95% CI	
			Lower	Upper
Stress	-0.19	0.001	0.73	0.92
Anxiety	-0.27	0.037	0.58	0.98
Depression	0.52	0.010	1.135	2.495

Discussion

This study focused on hospital librarians' mental health working in educational hospitals in Tehran. The findings revealed that hospital librarians had higher levels of stress, anxiety, and depression even after adjustment for possible confounders. Similar to the findings of the present study, a lot of studies demonstrate the dramatic psychological impact of the COVID-19 pandemic on healthcare workers (18, 19, 27-29). In addition, the findings showed that hospital librarians had received more facilities and welfare services than academic librarians. Compared with academic librarians, hospital librarians might be exposed to much more physical and mental stress, contributing to their higher mental problem rates. Numerous stressors include working with physicians who treat patients with COVID-19, observing the death of patients with COVID-19, losing colleagues due to disease, the impossibility of remote or shift work, and fear of transmitting the disease other family members may affect the mental health of hospital librarians. Therefore, we can conclude that the high levels of stress, anxiety, and depression among hospital librarians may not be due to a lack of facilities or welfare services. It may be due to working in a high-risk hospital environment.

As the pandemic continues, practical strategies are needed to support hospital librarians-some of these strategic changes related to libraries' services and workflow. For example, services such as training delivery, print circulation, and the interlibrary loan must be modified (15). Medical libraries can operate library tasks in a paperless way and switch their services to remote access and free electronic resources. Also, hospital/library administrators should pay attention to librarians' physical and psychological health. They can provide flexibility in librarians' work arrangements and plan a mixture of remote working and physical attendance at the workplace to suit staff individual needs. The training plans for working in the COVID-19 condition are essential for librarians to ensure the understanding and use of infectious control measures. The previous experiences with a disease outbreak such as SARS, medical workers with a good awareness of the disease had relatively fewer psychological symptoms (5, 30, 31). Therefore, authoritative knowledge about COVID-19 should be disseminated among medical workers as early as possible.

Iran's Ministry of Health developed a national guideline for social distancing and health essentials in all types of libraries (32). The guideline includes instructions on personal health, prevention methods, introducing personal protective equipment (PPE), and methods of disinfecting the library building and equipment. Utilizing the mentioned guideline can increase librarians' awareness of COVID-19 disease and ways to overcome it in libraries.

Psychological supports are important too. Librarians should have access to therapists and support for mental health through online medication visits. Also, fun activities can motivate librarians and prepare them to work in strict conditions. For example, a health library in Australia used more informal team support methods, such as hosting online virtual morning tea or lunch catchups during the COVID-19 outbreak (33). Besides, a long-term investigation should be provided to monitor the mental health of medical librarians. Self-screening tools, including the Beck depression index (BDI), IES-15, DASS, and PSS, can be used to monitor and evaluate levels of stress, depression, anxiety, and PTSD during and after the pandemic (9).

The present study has some limitations. First, the DASS-21 scale is a self-reported questionnaire, so the data obtained from it were not verified with clinical findings. Second, the study was performed only in Tehran, which may limit the generalizability of the findings.

Conclusion

This study highlights that hospital librarians' mental health is not worrying, but they are at high risk for psychological disorders (stress, anxiety, and depression) during the COVID-19 outbreak. Early administrative and psychological interventions targeting hospital librarians may be beneficial.

Ethical statement

The research questionnaire did not request any identifying information about participants. Also, the participants were free to do not participate in this study. Confidentiality of information was observed in the whole research process.



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Conflicts of Interests

The authors declare that they have no conflict of interests.

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