



RESEARCH ARTICLE

Comparison Of Hypochondriasis in The Medical and Administrative Staff of Semnan University of Medical Sciences During Covid-19 Pandemic; A Cross-Sectional Study

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ABSTRACT

Introduction: Covid-19 disease has a variety of consequences for people involved in the treatment of patients. One of these complications is hypochondriasis. This study aimed to compare hypochondriasis in the medical and administrative staff of Kosar Hospital in Semnan during the pandemic in 2020.

Materials & Methods: In this cross-sectional analytical study, 259 medical staff and 65 administrative staff working in Kosar Semnan Educational, Research and Treatment Center in 2020 were selected by simple random sampling and entered into the study. Data collection tools included a demographic information checklist and Evans Hypochondria standard questionnaire. The collected data were analyzed by SPSS software.

Results: The prevalence of hypochondriasis in medical staff was significantly higher than administrative staff (60.2% vs. 51.5%, respectively, and $P=0.007$). Prevalence of hypochondriasis was higher in older, single and lower educated people ($P < 0.001$). Moreover, subjects with a history of infection with covid-19 ($P < 0.001$) or positive family history of infection with covid-19 ($P < 0.001$) had a higher rate of hypochondriasis; however, there was no significant association between gender and hypochondriasis ($P=0.253$).

Conclusion: According to the results of this study, it is crucial to identify people at risk of hypochondriasis during the pandemic, with a critical focus on medical personnel to prevent the incidence of hypochondriasis in medical staff or provide treatment for those already afflicted with it.

KEYWORDS:

Hypochondriasis, Covid-19 Disease, Medical Staff, Administrative Staff

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INTRODUCTION

Hypochondriasis is a disorder in which a person strongly believes that they have a serious or fatal illness, despite the fact that thorough and comprehensive medical examinations have not shown any problems [1]. People with this condition are concerned about their health and suffering from hypothetical physical disorders [2]. These people constantly think that they have a serious illness and even if they have no medical symptoms, they are not convinced about their imaginary essence of their illness [3]. This is considered a

disease when it is almost 6 months after its onset and despite the doctor's confirmation of the body's health, the person still insists on being ill to the extent that the fear of being sick constantly makes them go to various medical centers, which is also called imaginary patient syndrome [4].

This disorder is relatively common and its prevalence in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-iv) is reported to be approximately 5.8% [5]. Although some studies reported physical complaints to be higher in women, the prevalence is relatively equal in men and

women [5]. Symptoms of the disease can begin at any age, however, this disorder is often seen in people in their 20s and 30s [6]. Unfortunately, with the spread of the Corona virus, hypochondriasis has increased dramatically, and even people who are not inherently stressed and anxious have developed the disorder [7]. The main feature of hypochondriasis is a clinical tableau whose prominent disorder is the unrealistic interpretation of physical symptoms and natural sensations as abnormal symptoms that lead to mental occupation or belief in fear of a serious illness [8]. During the covid-19 crisis, work pressure, infection risk and physical and mental stress of medical and hospital staff increased more than other occupations, which certainly had deleterious effects on the mental health of these people [9]. Among these destructive mental effects, hypochondriasis has increased more than ever. Due to the stressful conditions in hospitals and the high rate of fatigue among health care providers and medical staff during the outbreak of Covid-19, this study aimed to determine the effect of this epidemic on the prevalence of hypochondriasis and its related risk factors in this population.

MATERIALS & METHODS

Type of research and study population

This study is a cross-sectional analytical study in which the statistical population included all medical and administrative staff working in the educational, research and treatment center of Kosar Hospital in Semnan in 2020.

Sampling method and sample size

In this study, samples were selected using simple random sampling method. The number of samples according to the study of Creed et al. [10], considering the first type error of 5% and the power of 80%, and according to the number of medical and administrative staff, for every 4 medical staff, one administrative staff entered the study. Thus, out of 400 medical staff and 100 administrative staff working in Kosar Educational, Research and Treatment Center in Semnan in 2020, according to the inclusion criteria, 259 medical staff and 65 administrative staff were selected by simple random sampling and entered into the study. The sample size was obtained from the following equation.

$$n = \frac{\left(z_{1-\frac{\alpha}{2}}\right)p(1-p)}{(d)^2}$$

Inclusion and exclusion criteria

Complete consent, no history of specific and debilitating psychiatric or physical disorders, and no use of psychiatric drugs were among the criteria for inclusion in this study. Also, the existence of a bad experience in the last six months, a history of mental illness or taking sedatives, neurodegenerative diseases such as Alzheimer's and confirmed physical illness were among the exclusion criteria of this study.

Data collection tools

In this study, preliminary information was collected using a checklist containing questions related to demographic information and Evans Hypochondria standard questionnaire, and was followed up at later visits. Evans Hypochondria standard questionnaire has 36 standardized questions. The method of scoring and interpreting this questionnaire was done with the help of multiple-choice Likert. The reliability coefficient of the questionnaire in the research of Talaei et al. (2020), based on Cronbach's alpha, was calculated to be 0.89; furthermore, the high correlation of the questionnaire with other hypochondriasis assessment tests such as the hypochondriasis subscale, the Minnesota Multidimensional Personality Questionnaire and the 90-item symptom checklist indicate the appropriate validity of this questionnaire.

Method

After the approval of the plan in the Research Council of Kosar Educational, Research and Treatment Center affiliated to Semnan University of Medical Sciences and obtaining approval from the Ethics Council of this university, out of 400 medical staff and 100 administrative staff working in Kosar Educational, Research and Treatment Center in Semnan in 2020, according to the inclusion criteria, 259 medical staff and 65 administrative staff were selected and entered into the study by simple random sampling. Following the selection of the research units and after providing a full explanation of the process of this project, a written consent was obtained from the individuals. Preliminary information was collected using a checklist. This information included demographic and clinical information (age, gender, occupation, marital status, education, current work history, and family history of infection with Covid-19). Then, the Persian version of the Evans Hypochondria standard questionnaire was used to evaluate hypochondriasis.

Data analysis method

Data were recorded in pre-compiled collection forms by research colleagues and statistically analyzed using SPSS statistical analysis software version 22.

Ethical considerations

The checklists were anonymous and contained only raw statistics and information. Also, confidential information remains with the researcher and the researcher is committed to maintaining their information confidential.

RESULTS

In this study, out of 330 people, 196 (59.4%) medical staff and 134 (40.6%), administrative staff who met the inclusion criteria were included. Of these, 178 (53.9%) of the participants in the study were under age of 30 years old and 152 (46.1%) were over 30 years old. Considering gender proportions, 56.7% of the participants in the study were female. Among the participants in this study, 52.4% have been working in the current job

category for less than 5 years (Table 1).

Table 1: Distribution of demographic and clinical information of medical and administrative staff working in Kosar Hospital, Semnan during the Covid-19 period (2020)

Variable		Frequency (%)	P-value	Variable		Frequency (%)	P-value
Age (year)	< 30	178 (%53.9)	0.006	Occupation	Doctor	111(%33/6)	0.001
	30 ≤	152(%46/1)			Nurse	51(%15/5)	
Gender	Female	187(%56/7)	0.253		Other	42(%12/7)	
	Male	143(%43/3)			Administrative staff	89(%27)	
Marital status	Single	148(%44/8)	0.001		No response	37(%11/2)	
	Married	147(%45/5)		Work history	< 5	173(%52/4)	0.012
	Divorced	29(%8/8)			10-5	84(%25/5)	
	No response	6(%1/8)			10 <	65(%19/7)	
Educational level	Lower than diploma	39(%11/8)	0.001		No response	8(%52/4)	
	Diploma	23(%7/0)		Infection with Covid-19	Yes	139(%42/1)	0.001
	Associate's degree	30(9/1)			No	147(%44/5)	
	Bachelor's degree	53(%16/1)			No response	44(%13/3)	
	Master's degree	78(%23/6)		Infection of family with covid-19	Yes	161(%48/8)	0.001
	P.H.D	68(%20/6)			No	123(%37/3)	
	No response	39(%11/8)			No response	46(%13/9)	
	No	123(%37/3)					
	No response	46(%13/9)					

Our results showed that rate of hypochondriasis is different in administrative and medical personnel; more precisely, hypochondriasis in medical staff was significantly higher than administrative staff ($P=0.007$). Accordingly, 45 (13.6%) of administrative staff and 71 (21.5%) of medical staff were in the category of "no hypochondriasis"; also, 69 (51.5%) of administrative staff and 118 (60.2%) of medical staff had some degree of hypochondriasis, which showed a significant difference ($P=0.007$). Also, the results of this study showed that considering the age of the individuals, hypochondriasis in medical staff was more than administrative staff with a significant difference ($P=0.006$). In other words, in ages under 30 years old, 30 (22.4%) of administrative staff and 29 (14.8%) of medical staff and at the ages of 30 years and older, 15 (11.2%) of administrative staff and 42 (21.4%) of medical staff were in the category of "no hypochondriasis". In general, the prevalence of hypochondriasis was higher in older individuals in both groups than in younger individuals. It was also identified that hypochondriasis in administrative staff, by gender, is not significantly different from hypochondriasis in medical staff ($P=0.253$). 20 (19.4%) of administrative staff and 35 (17.9%) of medical staff among females, and 19 (14.2%) of administrative staff and 36 (18.4%) of medical staff among males were in the category of "no hypochondriasis". However,

20.9% of administrative staff felt ill and have a special interest in taking medicine, pills and doing medical work.

In the study of marital status, it was found that 12 (9.2%) of administrative staff and 20 (10.3%) of medical staff in single individuals, and 24 (18.5%) of administrative staff and 45 (23.2%) of medical staff in married individuals, and 6 (4.6%) of administrative staff and 5 (2.6%) of medical staff in divorced individuals were in the category of "no hypochondriasis". Accordingly, the prevalence of this disorder in married people was significantly lower than single or divorced people. More precisely, considering the marital status of individuals, hypochondriasis in medical staff was significantly higher than administrative staff ($P < 0.001$). Also, in the study of whether hypochondriasis in administrative and medical staff is related to the level of education or not, it was found that the prevalence of hypochondriasis is inversely and significantly related to education. In other words, the prevalence of hypochondriasis is lower in people with lower education and higher in people with higher education. Also, the prevalence of hypochondriasis was higher in people with higher work experience than people with less work experience.

The results of chi-square test showed that hypochondriasis in administrative and medical personnel varied according to a person's history of infection with Covid-19; more precisely,

considering the history of infection with Covid-19, hypochondriasis in medical staff was significantly higher than administrative staff ($P < 0.001$). Among people with a history of infection with Covid-19, 8 of (6.3%) administrative staff and 24 (15.2%) of medical staff, and among people without a history of infection with Covid-19, 33 (25.8%) of administrative staff and 32 (20.3%) of medical staff were in the category of "no hypochondriasis". In other words, the prevalence of hypochondriasis was higher in people with a history of infection with Covid-19 than in others. Furthermore, the prevalence of hypochondriasis was higher in people with a history of infection with Covid-19 among family members. Considering the history of infection with Covid-19 among family members, hypochondriasis in medical staff was significantly higher than administrative staff ($P / 0.001$). Among people with a history of infection with Covid-19 among family members, 11 (8.7%) of administrative staff and 30 (19.1%) of medical staff, and among those without a history of infection with Covid-19 among family members, 31 (24.4%) of administrative staff and 27 (17.2%) of medical staff were in the category of "no hypochondriasis".

DISCUSSION

According to extensive research in Covid-19, the present study was one of the first studies to investigate and compare hypochondriasis in the medical and administrative staff of the hospital during the Covid-19 outbreak and its relationship with various factors. In other words, according to the extensive review of relevant studies, we recognized that in the studies investigating Covid-19 and its related psychological factors, the comparison of psychological disorders and other independent variables among medical and administrative staff has often been made separately and in a limited way. A study similar to the present study comparing hypochondriasis in medical and administrative staff during the Covid-19 outbreak was not found, adding to the novelty of the present study. Therefore, one of the most important strengths of this study was its recent conduct in the region. On the other hand, differences in the relative frequency of one or more variables and addressing them in different geographical areas with distinct genetic and cultural characteristics have always been fascinating for researchers in health and medicine. Therefore, in the proposed study, descriptive goals were considered to better understand the epidemiology and the burden of this problem in society. Considering that in descriptive epidemiology, the researcher answers three questions of who, when, and where about the disease, conducting this study in the Semnan region was considered a practical work for the first time in a society with a suitable and diverse sample size.

Herein, we showed that hypochondriasis in medical staff is significantly higher than administrative staff; more precisely, 69 (51.5%) of administrative staff and 118 (60.2%) of medical staff had some degree of hypochondriasis. According to the research, a study examining and comparing psychological disorders in medical and administrative staff was not found to be the basis for discussion and comparison. Nonetheless, it

seems that the prevalence of this disorder in medical staff can be due to factors such as direct communication with patients, high workload and fatigue, as well as the impact of thoughts and experiences of other colleagues, but investigating why this is the case requires more and more recent studies. However, different results have been reported in other studies regarding the prevalence of this disease; for example, in a study conducted by Khani et al. In 2020 in Neishabour, the prevalence of depression and its association with the incidence of hypochondriasis in nurses of Neishabour University of Medical Sciences hospitals during the Covid-19 outbreak were investigated. The results of this study showed that 45.4% of the subjects had some degree of hypochondriasis, which is consistent with the results of our study [11]. In a study conducted by Talaei et al. in 2020 in Mashhad, hypochondriasis and its related factors were studied in students of Mashhad University of Medical Sciences during the Covid-19 outbreak. The results of this study showed that, in general, the prevalence of hypochondriasis in the subjects is 16%, which is lower than the present study [12]. This difference can be due to discrepancies in job characteristics and responsibilities assigned in the statistical samples studied in different studies, as well as individual, cultural and social differences.

The results of our study showed that there is a direct and significant statistical relationship between age and the prevalence of hypochondriasis; in other words, the prevalence of this disorder was higher in older people in both groups than in younger people. In a similar study conducted by Delshad Noghabi et al. in 2014 on the general population in Gonabad, the relationship between age and hypochondriasis was significant and direct, which is consistent with the results of the present study [13]. In the studies of Waterman et al. (2012) as well as Fallon et al. (2012), the relationship between age and the prevalence of hypochondriasis was not significant, which is not consistent with the findings of our study [14, 15]. The reason for this difference can be differences in the type of measurement tools as well as cultural and geographical differences in different studies. In a study by Zhang et al. in 2020 on hypochondriasis, he stated that there is a direct relationship between age and the disease [16]. According to statistics published by related organizations, the risk of developing adverse effects of Covid-19 increases with age, so that the mortality rate of people under 31 years of age is reported to be approximately 2%, and this percentage increases with age. Thus, it seems that increasing age increases the fear of Covid-19, and this factor has caused hypochondriasis in people [17].

Deale et al. (2007) and Looper et al. (2001) also addressed hypochondriasis in separate studies. Deale and Looper stated that marital status was not significantly associated with hypochondriasis disorder, which was inconsistent with our results in this study. The reason for these discrepancies may be that most of the participants in their research were single [18, 19].

In a study by Ali Talai et al. entitled hypochondriasis and its related factors in students of Mashhad University of Medical

Sciences, a relatively high prevalence of hypochondriasis was observed in Iranian students compared to global studies [12]. Contrary to available data, hypochondriasis was more common in women in this study. The frequency of hypochondriasis tendencies in people with an associate's degree was significantly higher than those with other levels of education, which could be related to incomplete familiarity with medical knowledge. Despite the high prevalence of hypochondriasis symptoms in medical students, the concern about developing hypochondriasis disorder is limited [20]. Our study revealed that there is no significant difference in hypochondriasis between men and women in the administrative and medical staff. These results are consistent with the results of Fink et al. in 2005 that identified and examined the characteristics of hypochondriasis [21]. The results of this study showed that the prevalence of hypochondriasis was directly and significantly related to a person's history of infection with Covid-19 and also to a history of infection with Covid-19 among family members; more precisely, the prevalence of hypochondriasis in people with a history of infection with Covid-19 or a history of infection with Covid-19 among family members was higher than other people.

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