Archives of Occupational Health | Volume 6 | Issue 2 | April 2022 | 1224-9.

Case Study

The Relationship between Anxiety Symptoms and Demographic Characteristics of Administrative Staff during Covid-19 Pandemic: a Cross-Sectional Study

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ABSTRACT

Background: Due to the Covid-19 pandemic and the increase in anxiety in the community, this study aims to investigate the relationship between anxiety symptoms and demographic characteristics of administrative staff during the Covid-19 pandemic. **Methods:** We selected 193 Administrative staff in Qazvin to participate in a cross-sectional descriptive study, using a multi-stage sampling method. Data collection tools included a demographic information questionnaire and the Corona Disease Anxiety Scale (CDAS). Data were analyzed using SPSS software, independent t-test, ANOVA, and Pearson correlation coefficient. The significance level was considered to be 0.05. **Results:** The mean age of participants was 33.61±8.3. 62.6% were female and 75.2% were married. Anxiety score with a mean and standard deviation of 24.88±7.52 was evaluated to be moderate. There was a significant positive correlation between anxiety score and age (P= 0.007 and r= 0.267), and work experience (P= 0.003 and r= 0.313). Participants with a family member over the age of 65, or a member with a chronic illness, had significantly higher mean anxiety scores than other participants. **Conclusion:** Employees' anxiety in this study was assessed as moderate. To bring anxiety to a low level and increase the general health of individuals, it is suggested that managers and heads of departments consider programs to reduce the anxiety of employees. By reducing anxiety scores, they can increase the productivity of these people.

Keywords: Anxiety; Demographic; Covid-19; Employee; Pandemics

Introduction

In December 2019, a new virus called Covid-19 spread from Wuhan, China. Due to its high transmission rate, in a short time spread around the world [1]. In March 2020, the World Health Organization (WHO) declared Covid-19 as a pandemic [2]. Limited information, unknown treatment, rapid prevalence and high mortality rate of this disease led to severe panic and anxiety in the community [3-5]. More than 340 million people have been infected, and more than 5.5 million have died worldwide, since the emergence of Covid-19 in January 21, 2022. In Iran, by January 21, 2022, the number of patients reached over 6.2 million, and the number of deaths reached over 132 thousand [6]. This contagious respiratory disease is a global health crisis and the greatest challenge facing mankind since World War II [7]. It impacted the economy, companies and employees, and endangered the lives and livelihoods of individuals [7, 8].

Citation: Tabanfar S, Sobhani S. **The Relationship between Anxiety Symptoms and Demographic Characteristics of Administrative Staff during Covid-19 Pandemic: A Cross-Sectional Study.** Archives of Occupational Health. 2022; 6(2): 1224-9.
Article History: Received: 26 January 2022; Revised: 20 April 2022; Accepted: 30 April 2022
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[DOR: 20.1001.1.25883070.2022.6.2.6.9]
[DOI: 10.18502/aoh.v6i2.9472]

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[DOR: 20.1001.1.25883070.2022.6.2.6.9]

[DOI: 10.18502/aoh.v6i2.9472]

During Covid-19 pandemic, employees spend most of their time behind desks, holding online meetings, and doing their work remotely in some cases. This can increase people's anxiety along with limitations such as creating social distance, changing people's daily routine abruptly, worrying about the health of themselves and their loved ones, being isolated and trapped at home, loss of personal freedom and uncertainty in future plans [7, 9, 10]. According to previous studies, anxiety can weaken a person's immune system, and put a person at risk for the disease [3].

The most important asset of any country is its manpower, and special attention should be paid to their health [11, 12]. There are several factors affecting a person's health, one of which is anxiety [13]. One of the most important anxieties today is the anxiety over covid-19 pandemic [14, 15]. The focus of media and health system is generally on the prevalence of epidemics, and mental health problems such as anxiety are largely ignored [16]. Research on employee's anxiety during Covid-19 pandemic is also limited, and published studies focus mainly on the condition of health care workers. Therefore, in order to bridge this gap and respond to the increasing levels of anxiety before the next peak of the pandemic, it is necessary to examine and understand the anxiety experienced by employees during the Covid-19 pandemic. Thus, this study aims to investigate the relationship between anxiety symptoms and demographic characteristics of the administrative staff during the Covid-19 pandemic.

Methods

Type of study, participants and sampling method

This was a cross-sectional study. The target population in this study was employees of Qazvin University of Medical Sciences. Using a multi-stage random sampling, and based on the inclusion criteria, 193 people were selected. The questionnaires were completed in person and individually for approximately 20 minutes. During the time of completing the questionnaire, one member of the research team was present to clear the ambiguity, and answer possible questions, ensuring accurate and complete answers to all questions. Inclusion criteria: having at least one year of work experience, not taking sedatives, not having more than one month off due to illness in the past year, not having a physical disability, not having a history of depression and other chronic diseases. Exclusion criteria were inappropriate completion of questionnaires [17].

Data were collected through the self-report method using demographic information questionnaires and the Covid-19 anxiety scale.

The demographic information questionnaire included gender, marital status, age, work experience (year), BMI (Body Mass Index), level of education, smoking, and exercise. Also, because Covid-19 is more dangerous for the elderly and people with systemic diseases, two questions were asked: 1. Do you have a person over 65 in the family? 2. Do you have a family member with a chronic illness?

Corona Disease Anxiety Scale

To measure anxiety, the Corona Disease Anxiety Scale (CDAS), an 18-item questionnaire which has been validated by Alipour et al. in Iran, was used (20). Questions 1 to 9 measured psychological symptoms, and questions 10 to 18 measured physical symptoms. The instrument was scored on a 4-point Likert scale (never = 0, sometimes = 1, most of the time = 2, and always = 3). As a result, the total anxiety intensity score range was from 0 to 54. Higher scores indicated higher levels of anxiety in individuals. The cut off-point of this questionnaire was determined in Iran, and divided into 3 domains of non-anxiety or mild (0-16), moderate (17-29) and severe (54-30). Cronbach's alpha coefficient of this questionnaire was 0.91 [18].

SPSS software version 24 was used for statistical analysis of the data. Descriptive statistics such as mean and standard deviation were used to describe variables. Then, independent t-test was used to

compare the mean of quantitative variables in two independent groups, and one-way analysis of variance (ANOVA) was used to compare the mean of quantitative variables in three independent groups. Moreover, Pearson correlation test was used to examine the relationship between quantitative variables. The significance level in the present study was considered less than 0.05.

Results

In this study, 193 employees participated, of which 121 (62.6%) were women and 72 (37.4%) were men, with mean and standard deviation of age and work experience being 33.61±8.3 and 8.09±6.2 respectively. Other data related to the contextual and demographic variables of the participants are listed in Table 1.

According to the results, the mean and standard deviation of the employees' CDAS score was 24.88±7.52. The CDAS psychological symptoms score of the employees was 15.17±4.73, and the physical symptoms score was 9.71±5.05. There was no statistically significant difference between employees' anxiety scores and education levels according to the results of ANOVA test (P= 0.671), in Figure 1.

Table 1. Demographic Information of Participants (n= 193)

Variable	Classification	Mean±Standard deviation	Frequency (%)
Age (year)		33.61±8.3	-
Work experience (year)		8.09±6.2	-
BMI* (kg/m^2)		22.38±3.25	-
Gender	Female Man	-	121 (62.6) 72 (37.4)
Marital status	Single Married	-	48 (24.8) 145 (75.2)
Smoking	Yes No	-	22 (11.4) 171 (88.6)
Exercise	Yes No	-	94 (48.7) 99 (51.3)
Education levels	Diploma Bachelor Master PhD	-	27 (14) 103 (53.4) 40 (20.7) 23 (11.9)
Is there a person over 65 in the family?	Yes No	-	76 (39.3) 117 (60.7)
Do you have a family member with a chronic illness?	Yes No	-	42 (21.7) 151 (78.3)

* BMI: Body Mass Index

Table 2. Comparison of CDAS Scores of Participants in Different Groups (n= 193)

Variable	Classification	Number	Mean	Standard deviation	standard error Mean	P
Gender	Female Man	121 72	25.61 23.60	8.3 7.1	1.43 0.96	0.043
Marital status	Single Married	48 145	24.02 25.13	7.8 6.4	1.85 1.10	0.141
Smoking	Yes No	22 171	25.34 24.19	9.2 7.6	1.26 1.66	0.098
Exercise	Yes No	94 99	23.71 25.99	5.1 7.4	1.09 0.96	0.012
Is there a person over 65 years in the family?	Yes No	76 117	26.07 24.12	8.5 8.2	2.13 1.81	0.030
Do you have a family member with a chronic illness?	Yes No	42 151	26.23 24.51	9.1 7.3	1.74 2.08	0.035

CDAS; Corona Disease Anxiety Scale, P; P-value, *p<0.05, **p<0.01

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[DOI: 10.18502/aoh.v6i2.9472]

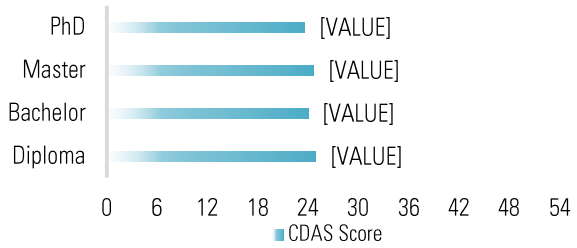

Figure 1. Mean of CDAS Score of Employees with Education Levels (n = 193)

Table 3. Pearson Correlation between CDAS Score and Employee's Demographic Information (n= 193)

CDAS	Age	Work experience	BMI
Total score	0.267**	0.313**	0.171
Psychological symptoms	0.231*	0.293**	0.142
Physical symptoms	0.205*	0.279**	0.159

CDAS: Corona Disease Anxiety Scale; *p<0.05; **p<0.01

Moreover, to evaluate the anxiety score caused by Covid-19 in employees with different demographic characteristics, independent t-test was used for the variables in two groups (Table 2). According to the results of Table 2, there was a statistically significant difference in CDAS score in gender (P= 0.043), exercise (P= 0.012), having a person over 65 years in the family (P= 0.030), and having a chronic disease in one family member (P= 0.035) was observed. However, it was found that the difference in CDAS scores between married and non-smokers was not statistically significant.

Pearson correlation test was used to examine the relationship between age, work experience and BMI, and the employees' CDAS score. Based on the results, it was found that there was a statistically significant positive correlation between employees' CDAS score and its dimensions regarding age and work experience (P<0.05). However, there was no significant relationship between CDAS score and its dimensions, and BMI (P> 0.05). Other information is presented in Table 3.

Discussion

During the Covid-19 pandemic, most of the studies focused on health care. Less attention has been paid to employees, who make up a large percentage of each country's population. Therefore, this study aimed to investigate the relationship between anxiety symptoms and demographic characteristics of employees during the pandemic. One of the differences between the present study and other studies in this field was two questions: 1. Do you have a person with a chronic illness in your family? 2. Do you have a person over 65 in your family? Because people with chronic diseases and the elderly are more prone to the harm caused by Covid-19 virus, by asking these two questions, we tried to identify the difference between anxiety scores of these two groups of people. Accordingly, those who answered these questions positively and those who answered negatively showed a significant difference in their anxiety scores. Thus, people with a positive response had a higher anxiety score. This result was in line with the results of the study by Vitorino et al. conducted in Brazil on adults in the community, as well as the study by Sobhani et al. conducted on the community of workers and employees [13]. People having a person with a chronic disease in the family had a higher anxiety score [19]. Because people with chronic illness are more vulnerable to Covid-19, the fear of getting infected and losing them can affect other family members and increase their anxiety about others.

Anxiety scores in women were higher than men. The study by Mattila et al. as well as the study by Liu et al. reported similar results [20, 21]. In a study regarding anxiety score among married people, the authors found that there was no statistically significant difference between the scores of married and single people. This result was the same for the group of people who smoked. Unlike the study by Gasteiger et al. ,conducted in New Zealand, the anxiety scores in smokers and non-smokers were not statistically significant [22]. However, in a study on people who exercised regularly, the authors demonstrated that the anxiety score of people who

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[DOI: 10.18502/aoh.v6i2.9472]

exercised, in line with other studies, was significantly lower than the score of other people [23, 24]. This can be due to the concentration and relaxation that comes with exercising.

The anxiety score was moderate due to a qualitative classification. According to the results of the correlation test, there was a positive and significant correlation between anxiety score and its dimensions in employees with age and work experience. These results were consistent with the results of other studies [21, 25]. One of the reasons for this can be the increase in the problems of life and the increase of diseases in individuals or their families with age.

Conclusion

Employees are a large part of human resources in any country. In the case of Covid-19 pandemic, due to the enclosed environments such as multi-person rooms, communication with the client and the use of shared office equipment in the workplace, employees are anxious about getting Covid-19. Employees' anxiety in this study was moderate. To reduce the anxiety score and bring it to a low level, authors suggest that managers and heads of departments make plans to reduce the amount of stress in the workforce to increase their productivity. One of the limitations of this study was non-cooperation of some employees in the research.

Conflict of interest

The authors declared no conflict of interest.

Acknowledgement

We would like to thank all the employees who participated in the study and contributed to the realization of this research. The present study has been approved by the Ethics Committee of Qazvin University of Medical Sciences (IR.QUMS.REC.1399.374).

Authors Contribution

All authors contributed equally to the study.

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