



ORIGINAL ARTICLE

## The Relationship Between Occupational Factors and Stress and its Effect on Occupational Performance during Covid-19 Pandemic: A Case Study of Saveh University of Medical Sciences

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### ABSTRACT

**Introduction:** Occupational stress can cause psychological pressure and subsequently affects the work performance of healthcare workers, especially when unexpected events like contagious disease pandemics occur. Because of the stressful nature of unpredictable life events, it increases the hospital admission rate, which results in heavy workload for employers and this add up to their stress. The present study was conducted with the aim of investigating the relationship between occupational factors and also work stress on occupational performance during covid-19 pandemic using the employees of the Saveh Medical Sciences Health Department in covid-19 epidemic.

**Methods:** The present research is a cross-sectional study that 316 employees from the health department of Saveh Faculty of Medical Sciences were given their opinion in 1401. In order to investigate occupational stress management and employee performance, the standard occupational stress assessment questionnaires and Patterson's performance assessment questionnaires were used, respectively. Data analysis was done using SPSS<sub>26</sub> software and through frequency report, mean and standard deviation, linear regression test and Stepwise multiple regression model done.

**Results:** the average and standard deviation of the total occupational stress management score of the participants was  $3.09 \pm 0.46$ , which was in the average range. The variables of the frequency of workplace change and the amount of stress determine 10% of the changes in job performance. (PES=0/1) Examination of the interaction effect of the frequency of workplace change and the amount of stress on job performance did not show a significant relationship. (P-value =0.4) The main effect of the frequency of workplace change (P-value=0.007 ) and the main effect of stress (P-value =0.001) on job performance showed a significant relationship.

**Conclusion:** The results of this study showed that there was a significant relationship between types of employment and job performance. To be precise, the lowest mean and standard deviation in job performance observed in the contractual employees who had high levels of stress. While, the highest mean and standard deviation regarding job performance were related to the Permanent employees who had low levels of stress (P-value <0.001). **Since** increasing job security among contractual employees and corporate contracts and also changing their status can improve their performance, in order to manage job stress, introducing more policies regarding employment is suggested.

**Keywords:** Occupational Stress, Occupational Factors, Saveh University of Medical Sciences, job Performance, covid-19

### Introduction

Nowadays people spend more than half of their life in work environment and they are under stressful

working conditions. Five of the most important workplace stressors are physical, chemical,

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ergonomic, biological and psychological which affect human's health in any working environments. In fact, having adverse impact on body and spirit, these factors can cause disease and illness for employees. One of the work-related psychological risk factors for all professionals is occupational stress (1). As the International Labor Association has estimated, financial costs of job stress are about 1 to 3.5 percent of GDP.

According to the studies, roughly 30% of workforce in developed countries suffers from occupational stress and this measure is even higher in developing countries. (2) One of the major stressors is working condition that we will focus in the present study. Working conditions include work experience, type of employment, number of job rotations, function in organisation and position. Severity of stressors on employees' performance varies during normal situations and emergency ones such as the Covid-19 pandemic. Studies on workforce stressors in the treatment units of the Ministry of Health and Health during pandemic are highly overrated while the health sector has been completely neglected and yet no studies has done on occupational stressors and their adverse effect on employees performance in the Health unit of Saveh University of Medical Sciences. Thus, the present study was conducted with the aim of identifying the relationship between workplace stressors and job stress on job performance in Saveh University of Medical Sciences during Covid-19 pandemic.

The negative mental impact of COVID-19 on people, patients and hospital staff has been reported in many studies. (4) Kim has proved that stress has a significant relationship with productivity that eventually decreases the organisational productivity. Therefore, COVID-19 is an international Public Health Emergency and there are many records on adverse impact of these pandemics on body and spirit of people especially those who work in healthcare unit. Since this issue directly and indirectly targets public health, studying job stress and its impact on their performance during COVID-19 pandemic can help

us know stress management techniques and be prepared for coping with next contagious diseases. By keeping employees healthy physically and psychologically it can also alleviate the harmful impacts of stress on work performance.

Internal and external threats contribute to impact job performance that stress and boredom are among external factors. Keshavarz and Mohammad (2011) conducted a study on the relationship between stress and work performance and found that high level of stress can reduce employee performance in all aspects especially when expose to constant and long term stress that can induce fatigue and illness in them. Acute psychological stress not only causes physical, mental and behavioural problems, as it harms work performance, it can also negatively affect organisational productivity. Achieving goals in health system is associated with having employees who perform well. Moreover, responding to people's demands in healthcare system and satisfying them can only occur with motivated and satisfied employees. Although many studies show the negative relationship between stress and work performance, there are still some that prove that it can improve work performance. For example Toten and nidermir demonstrated that exposing to high stress can sometimes increase job performance. Stress is defined as body responds to the surrounding environment that can cause positive or negative consequences. Positive impacts can improve work performance and job satisfaction while negative ones can cause psychological stress which can leave workers with physical, behavioural and psychological problems. Employees in many highly stressful professions are under a great deal of psychological stress that will cause problems like job burnout and poor work performance in long term. Employees demand is considered in the famous definitions of job stress which was given by Niosh in 1977, he defined job stress as a harmful physical and emotional response that happens when job demands don't match the employee's needs, resources, or capabilities. The word stress in other studies is

also associated with strain, coping and stressors.

1. Job promotion: getting promotion or demotion can also cause stress for workers.

2. Organizational role:

a. Role conflict: role is defined as every duties that is expected from an employee to do and it occurs when they are given many and incompatible roles at the same time, or their role overlaps with another worker.

b. Role ambiguity: when employees are not fully informed about the organisation goals or the task assigned to do.

c. Inadequate equipment and poor administration: when the employers restrict workplace or don't give them adequate equipment, they can't do their responsibilities well and this can also put them under stress.

3. Task: tasks should be given to employees first and then they can know what they should do at work.

a. Workload: studies showed that high and low workload can both lead to stress.

b. Being responsible for people's life and wellbeing: studies demonstrate that those who have serious responsibilities especially when it is related to people's life, are more prone to experience high levels of stress. For instance, it is proved that those whose job involves making important decisions for people (doctors or Air traffic controllers) are more likely to have diseases like stomach ulcer, high blood pressure, heart attack which are caused by stress.

4. Autonomy in workplace: as it was mentioned earlier having limited authority or autonomy in making decisions can increase the stress level in employees.

a. Workplace conditions: five stress indicators in workplace are:

b. Physical condition of the workplace: bad physical conditions in workplace like poor lighting, noise, the small space to work or unclean

and messy places can lead to work stress.

c. Physical and chemical hazards: emergency services workers like Military personnel, fire-fighters, police officers, employees in health care field or paramedics are prone to physical hazards because of their stressful job.

d. Ergonomic hazards: not only poor ergonomics can cause health problems like boredom and muscle pain, eye irritation, headache, psychological distress and depression, uncomfortable conditions also can make workers be sensitive and vulnerable to stressors.

e. Chemical factors: Exposure to chemicals in workplaces can lead to a variety of short- and long-term health effects. Ambient volatile organic compounds are also another types of stressors.

f. Shift: A typical work schedule is between 7am to 18 and working times out of this schedule are called shifts. As shifts can disrupt biological clock, take sleep time, exclude you from social interactions or separate you from family, can cause problems like stress and poor performance which lead to making mistakes at work.(19)

Abbaszadeh et al (20) proved that job stress decreased work performance which finally results in poor organisational productivity. On the other hand, work stress management can decrease medical errors and improve productivity at Takht Jamshid Hospital in Karaj. The study of stressors and coping strategies by Mohammadzadeh et al (21) in the first wave of COVID-19 pandemic in 2019 among health care workers of Alame Bohloul hospital in Gonaabad was the first study on job stressors during COVID-19 pandemic. During COVID-19 pandemic Paramita and Sodhartiv (22) conducted a research in aviation industry that showed pandemic stress causes job stress and insecurity which affects employee cooperation. In another research on identifying workplace stressors, Eccor et al (23) studied 370 workers in Nigeria and found that role ambiguity causes job stress and can even lead to poor employees' performance.

COVID-19 which is an infectious respiratory illness caused by a coronavirus called SARS-CoV-2 was identified for the first time in 2019 and because of the evidence of inter-transmission of it between humans and animals, it was debated that it is a new mutant or it has adapted that can cause disease in humans. The novel virus was first identified in an outbreak in the Chinese city of Wuhan in December 2019 and then spread around the world. In many references it is called a deadly virus. Fast spread and prevalence of corona virus, being novel and strict quarantine rules in some countries like China and consequently a public panic has increased people vulnerability to disease and since many aspects of life are influenced by this disease, it increased people vulnerability to disease and since it has impacted every aspect of life, in addition to the severe symptoms of this disease which has caused acute physical issues, it has also increased mental illnesses like anxiety disorders and depression. Currently, COVID-19 pandemic is a global health crisis and it caused significant mental pressure in people. Studies on this contagious disease show that psychological stress is increasing among people. It also spread in Iran rapidly and caused many physical and mental issues. Fear of catching the COVID-19 virus, intense fear of death, gossips and misinformation, lifestyle disruption, policy responds to COVID-19, financial crisis all contribute to causing stress which adversely affects daily life. According to Alipour et al (24) predicted a worldwide rapid increase in physical and mental adverse consequences of this disease.

### Materials and Methods

This study was a cross-sectional and applied research that was conducted in 2022 which 410 employees from Health Vice-Chancellor of Saveh Faculty of Medical Sciences were selected as sample size who worked there at least for 6 months during COVID-19 pandemic in any form of employment. For data collection HSE (health and safety executive) INDICATOR TOOL FOR WORK stress and work performance questionnaire was used. The questionnaire encompasses 3

demographic sections (age, sex, marital, education, years of experience, position, function in organisation, status, number of job rotation in one year and also 15 questions about work performance. From these participants 335 were chosen that 19 were illegible that excluded from this research. Thus, 316 people participated in conducting this research. Census sampling was used to include all legible participants in order to increase the accuracy. To investigate stress management and job performance, perceived stress measurement and management standards indicator tool Peterson questionnaires were used respectively.

Mean, quantitative variable and standard deviation were used as descriptive statistics and for qualitative data frequency and present were calculated. The Kolmogorov–Smirnov was used to test the normality of data. Two-way ANOVA was used for analysing interaction effects of independent variables and also job stress management on job performance of employees. The data were analysed by means of SPSS ver 26 with statistical significance of  $< 0.05$  value P.

This paper is derived from a thesis of M.A in Public Administration in specialized research on occupational stress and its relationship with work performance in staff of health deputy of Saveh University of Medical Sciences during Covid-19 epidemic. Approval code: 72272743

### Results

In the present study the participants were between 23 to 55 years old and Mean and standard deviation for the age was between 7.58 and 34.85 respectively. Mean and standard deviation for job stress were between 0.46 and 3.09 respectively that was normal compare to the maximum and minimum acceptable score. Other demographic findings are shown in following tables and charts. Analysing statistical data

According to the demographic results, people between 30-39 years old (39.4%), women (75%), married participants (68.7%), and people with associate and bachelor's degree (57.9%) showed the highest frequency. Table 1

**Table 1.** Demographic profile of health workers of Saveh University of Medical Sciences

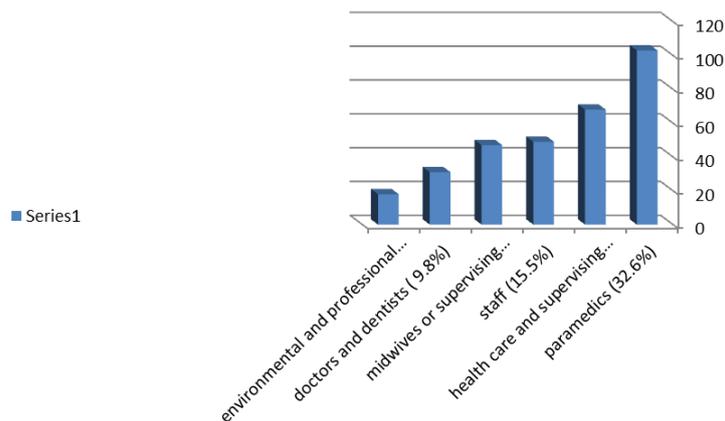
Variable	Frequency	Percentage
Age groups (year)		
20-29	98	31.1
30-39	124	39.4
40 – 49	82	26
> 50	11	3.5
Sex		
Female	237	75
male	79	25
Marital state		
Single	92	29.1
Married	217	68.7
Widow	7	2.2
Education		
Diploma or more	87	27.5
Associate or bachelor degree	183	57.9
Postgraduate or more	46	14.6

Results in this research showed that people with experience of less than 5 years (34.8%), no record of job rotation in the last year (55.7%), residents of

Saveh city (71.8%) and also staff and line function workers (84.5%) showed the highest frequency (Table 2)

**Table 2.** Demographic characteristics of health workers of Saveh University Medical Sciences

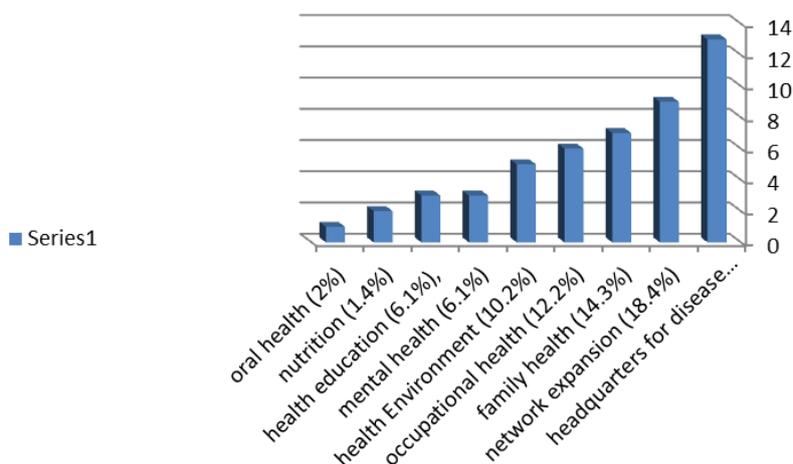
Variable	Frequency	Percentage
Years of experience		
Less than 5 years	110	34.8
5-9 y	75	23.7
10-14 y	38	12
15-19 y	45	14.2
20-24 y	22	7
>25 y	26	8.1
Job rotation in last year		
Yes	140	44.3
No	176	55.7
No. of job rotation in last year		
No rotation	174	55.4
>1	64	20.4
>2	76	24.2
No. of job rotation in last year		
Saveh	227	71.8
Zartadieh	89	28.2
Function in organisation		
Line	267	84.5
Staff	49	15.5



**Figure 1.** Frequency distribution of organizational positions of health workers of Saveh University of Medical Sciences

Distribution of different positions was shown in figure 1, accordingly, paramedics (32.6%), health care and supervising caregivers (21.5%), staff

(15.5%), midwives or supervising caregivers (14.9%), doctors and dentists ( 9.8%) and environmental and professional health (5.7%).



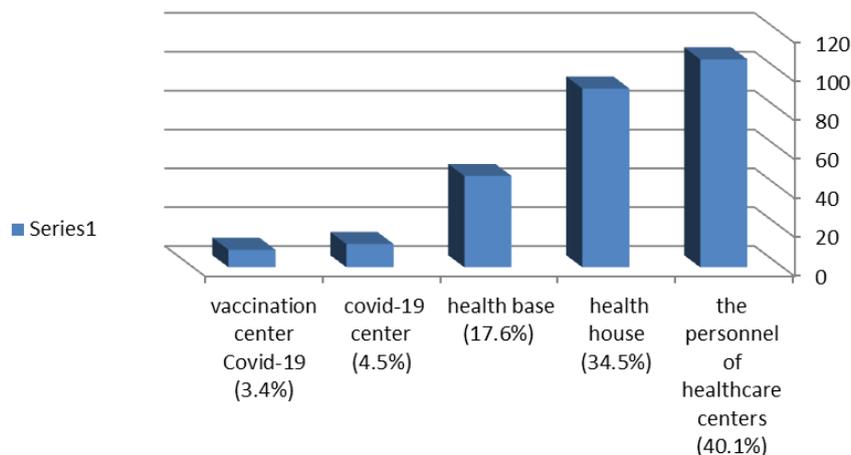
**Figure 2.** Distribution of the frequency of headquarters units in the Vice-Chancellor of Health of Saveh University of Medical Sciences

The distribution of staff organisation was shown in figure (2), headquarters for disease control and prevention (26.5%), network expansion (18.4%), family health (14.3%), occupational health (12.2%), health Environment (10.2%), mental health (6.1%), health education (6.1%), nutrition (1.4%), and oral health (2%).

(40.1%), health house (34.5%), health base (17.6%), covid-19 center (4.5%) and vaccination center Covid-19 (3.4%).

The distribution of line of organisation is shown in figure (3), the personnel of healthcare centers

The normality of distribution of the dependent variable (job performance) was tested using the Kolmogorov-Smirnov test. The results showed that according to the value of  $p < 0.05$ , the data distribution is normal.



**Figure 3.** Distribution of the frequency of line function in the Health Vice-Chancellor of Saveh University of Medical Sciences

**Table 3.** Kolmogorov-Smirnov test to check the normal distribution of data for the dependent variable

Variable	No.	Mean	Standard deviation	Statistics	P value
Work performance	316	36.6	5.85	0.14	0.07

According to Table 4, although there wasn't significant relationship between years of experience, stress level and job performance (P=0.8), the results of this research showed that the lowest average score of job performance (35.76 ±

7.58) observed in employees with less than 5 year experience with high levels of stress. Conversely, the highest average job performance score (44.00 ± 1.53) was for employees with more than 25 years of experience with low stress levels.

**Table 4.** The relationship between job stress and the job performance of the participants according to the years of experience

Years of experience	Stress level	mean	Standard deviation
<5 years	Severe	35.76	6.22
	Moderate	38.46	5.67
	Mild	39.74	5.86
5-9 years	Severe	36.37	7.12
	Moderate	38.56	5.32
	Mild	39.38	4.92
10-14 years	Severe	36	8.16
	Moderate	37.94	5.82
	Mild	39.55	5.66
15-19	Severe	38.9	6.32
	Moderate	38.29	5.34
	Mild	40.7	4.37
20-24	Severe	40	5.06
	Moderate	40.18	3.09
	Mild	40	4.16
>25	Severe	36.4	5.41
	Moderate	42.78	2.48
	Mild	44	1.53

As it is shown in Table 5, 11% of job performance changes were due to the years of experience and stress level, (PES = 0.11). Also, interaction between years of experience and the level of stress was not significant (P=0.8). The major effect of years of experience on job performance was not significant (P=0.12) too. Opposed to the major effect of stress on job performance that was

significant (P=0.004).

According to Table 6, the lowest average score and standard deviation of job performance ( $30.5 \pm 4.64$ ) belonged to the doctors and dentists who had high levels of stress. Also, reversely, the highest average job performance score ( $41.14 \pm 4.64$ ) observed in the organizational position of Behorzan, who had low level of stress.

**Table 5.** The results of the two-way analysis of variance test regarding the relationship between the level of job stress and the job performance of participants according to the years of experience.

Source	df	MS	F	P value	PES
Model	17	72.34	2.25	0.003	0.11
Years of experience	5	55.6	1.73	0.12	0.028
Stress level	2	181.6	5.66	0.004	0.037
Interaction	10	18.06	0.56	0.8	0.019

**Table 6.** Relationship between job stress level and job performance of participants according to the organizational position

Position	Stress level	Mean	Standard deviation	No.
Staff	Severe	38.18	3.94	11
	Moderate	38.76	4.9	17
	Mild	40.57	5.26	21
paramedics	Severe	35.53	6.59	32
	Moderate	38.06	6.38	18
	Mild	40.44	5.26	18
health care and supervising caregivers	Severe	31.81	8.7	16
	Moderate	38.95	5.25	19
	Mild	39.58	4.23	12
midwives or supervising caregivers	Severe	38.94	5.5	33
	Moderate	40.22	4.12	41
	Mild	41.14	4.64	29
doctors and dentists	Severe	30.5	4.64	10
	Moderate	37.33	6.62	12
	Mild	38.67	6.28	9
environmental and professional health	Severe	35.14	5.24	7
	Moderate	33.00	3.6	3
	Mild	38.63	6.54	8

As it is shown in Table 7, 15% of job performance in this model was due to the position and stress level (PES = 0.15) that their interaction was not significant (P=0.4). However, the main effect of position and stress level on job performance (P<0.001) were significant (P<0.001).

According to table 8, the lowest average score and standard deviation of job performance ( $36.67 \pm 6.8$ ) observed in line organisation that showed high stress levels. Opposite to the staff organisation who showed the highest average job performance score ( $40.57 \pm 5.26$ ) with low level of stress.

**Table 7.** The results of the two-way analysis of variance test regarding the relationship between job stress and the job performance of participants according to the organizational position.

Source	Df	MS	F	P value	PES
Model	17	95.16	3.09	0.001<	0.15
Position	5	140.65	4.56	0.001<	0.07
Stress level	2	264.45	8.58	0.001<	0.05
Interaction	10	31.45	1.02	0.4	0.03

**Table 8.** Relationship between job stress level and job performance of participants according to the function in organisation

Function in organisation	Stress level	Mean	Standard deviation	No.
Staff	Severe	36.67	6.8	98
	Moderate	38.94	5.31	93
	Mild	40.17	5.11	76
Line	Severe	38.18	3.94	11
	Moderate	38.76	4.90	17
	mild	40.57	5.26	21

The model in Table 9 shows that 6% of the job performance is affected by function in organisation and stress level (PES = 0.06). But their interaction was not significant (P=0.7). Also, effect of function in organisation on job performance (P=0.52) was not significant. While, impact of stress level on job performance was significant (P=0.03).

In table 10, the lowest job performance average score and standard deviation was for contractual workers ( $32.73 \pm 7.12$ ) who had high levels of stress and the highest job performance average score ( $41.74 \pm 4.08$ ) was related to formal workers who had low stress levels. Type of employment had a significant impact on job performance (P<0.001).

**Table 9.** The results of the two-way analysis of variance test regarding the relationship between the level of job stress and the job performance of participants according to the function in organisation

Source	Df	MS	F	P value	PES
Model	5	129.15	3.94	0.002	0.06
Function in organisation	1	13.04	0.4	0.52	0.001
Stress level	2	110.26	3.36	0.03	0.02
Interaction	2	8.32	0.25	0.7	0.002

**Table 10.** The relationship between job stress level and the job performance of participants according to the type of employment

Type of employment	Stress level	Mean	Standard deviation	No.
Part time	Severe	36.33	6.68	6
	Moderate	41.10	3.63	10
	Mild	36.00	5.01	8
Formal	Severe	38.69	6.07	51
	Moderate	39.43	4.8	47
	Mild	41.74	4.08	42
Conditional	Severe	41.13	2.53	8
	Moderate	41.00	2.94	7
	Mild	37.5	6.59	6

Type of employment	Stress level	Mean	Standard deviation	No.
Avasalamat	Severe	37.11	5.96	9
	Moderate	40.00	4.96	10
	Mild	39.73	5.16	11
Contractual	Severe	32.73	7.12	11
	Moderate	36.64	6.54	11
	Mild	40.57	3.15	7
Mentorship	Severe	33.33	6.44	24
	Moderate	37.04	5.95	25
	Mild	39.91	6.12	23

As it is showed in Table 11, type of employment and stress level can affect job performance about 18% which was shown in this model (PES = 0.18). Interaction of them on job

performance was significant (P=0.02). Also, separate effect of type of employment and stress on job performance was also significant (P=0.001) (P=0.006) respectively.

**Table 11.** The results of the two-way analysis of variance test regarding the relationship between job stress and the job performance of the employees according to the type of employment

Source	Df	MS	F	P value	PES
Model	17	115.33	3.9	0.001<	0.18
Type of employment	5	130.5	4.4	0.001	0.07
Stress level	2	155.2	5.23	0.006	0.03
Interaction	10	61.81	2.08	0.02	0.06

According to Table 12, although the relationship between the number of job rotation, stress level and work performance was not significant (P=0.4), the lowest mean and standard deviation of job performance (34.61 ± 6.83) observed in workers

with more than two times job rotation which high level of stress. While, the highest average job performance score (40.75 ± 4.63) was related to the workers with no job rotation who had low level of stress.

**Table 12.** The relationship between job stress level and job performance of people according to the number of job rotation

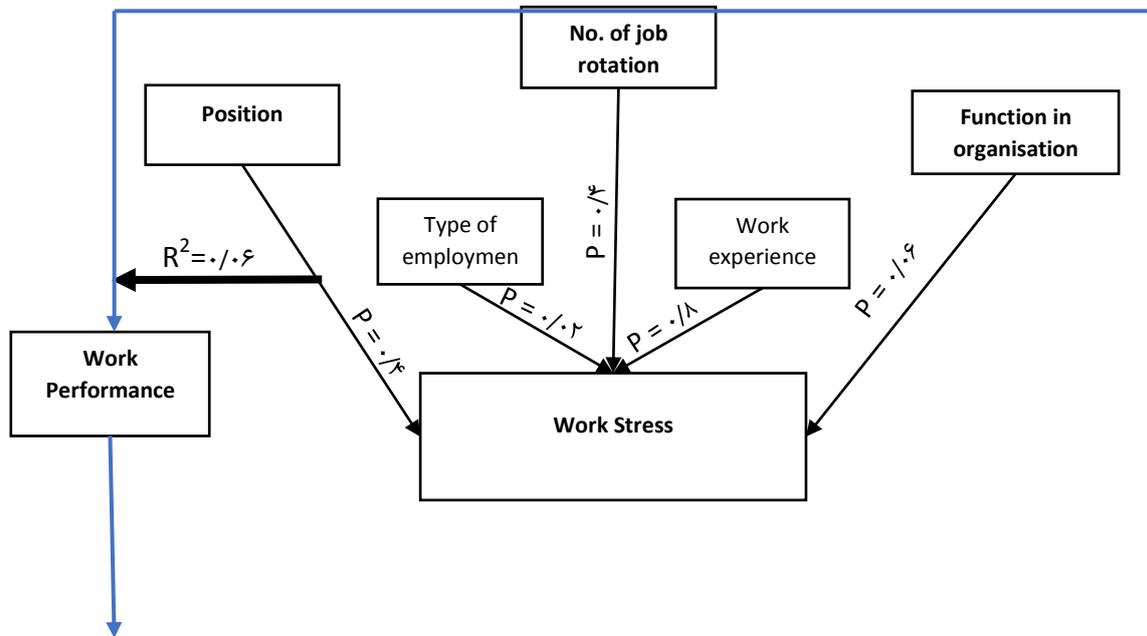
No. of job rotation	Stress level	Mean	Standard deviation	No.
No job rotation	Severe	37.91	6.34	53
	Moderate	39.72	4.03	60
	Mild	40.75	4.63	61
>1	Severe	37.28	6.33	25
	Moderate	40.00	5.95	22
	Mild	39.35	5.95	17
>2	Severe	34.61	6.83	31
	Moderate	36.3	6.28	27
	Mild	39.94	5.64	18

In Table 13, the model shows that 10% of job performance is affected by job rotation and stress level (PES = 0.1). Although their interaction was

not significant (P=0.4), direct effect of job rotation (P=0.007) and stress level on job performance was significant (P<0.001).

**Table 13.** The results of the two-way analysis of variance test regarding the relationship between the level of job stress and the job performance of the employees according to the number of job rotation.

Source	Df	MS	F	P value	PES
Model	8	143.5	4.5	0.001<	0.1
No. of job rotation	2	160.6	5.1	0.007	0.3
Stress level	2	250	7.9	0.001<	0.5
Interaction	4	27.24	0.86	0.4	0.1



**Figure 6.** Structural pattern of relationships between variables based on mean and standard deviation, P value and R2

**Discussion**

Stress is the body response to pressure or unexpected events. Many people experience it through different ways, especially in workplaces. According to the International Labour Organization, because of the worldwide increase in competition, work life imbalance, globalization impact on employment, increasing long working hours and heavy workload, job stress is becoming a serious concern. Employers and administrators and politicians must consider employees satisfaction and organizational level interventions is needed to improve employer productivity.

Since the aim of this study was to identify occupational stressors and their relationship with work performance in COVID-19 pandemic and also comparison between related factors with previous studies, HSE and Peterson were used to collect and then analysis information. In terms of

scoring stress management, higher scores represent lower experienced stress level and the reverse.

Based on results, a significant differences ( $p < 0/001$ ) was between contractual employees and formal employees, in fact, the least mean and standard deviation observed in contractual employees which had higher level of stress and the highest scores for these variables were in formal employees with the lowest amount of stress. Based on founding of the present study, as the total stress management score rises, the total employees performance score increases too. Based on the questionnaire used in this study, the higher given score of participants represent lower stress level which consequently means if they had lower total stress management score, they suffer from higher level of stress and have poorer productivity. Hamidi et al (49) also reported a significant negative relationship between job stress and

performance in healthcare workers in Hamadan. To be precise, when they had lower stress level, performed better.

Dehghani Tafti et al. in 2017 (40) conducted a research to identify the relationship between job stress and the job performance of the employees of the Shahid Sadougi University of Medical Sciences in Yazd. They also used Patterson questionnaire to evaluate job performance. Result showed that there was an inverse correlation between job stress and the job performance between employees. In fact, as the occupational stress score rose, the occupational performance score decreased. The negative significant relationship between job stress and job performance was also shown in the study of Ampofo et al. and results demonstrate occupational stressors have a negative impact on the job performance of employees in health service. However, Shahrastani and Lahrasbi (42) no significant relationship was found between job stress and the organizational performance of employees in Naja Martyr Dastghib Education Center. Accordingly, if employees use their knowledge, skills, ability and attitude to cope with demands and pressures, they can manage their physiological and psychological stress better. Ali et al also reported a positive significant relationship between stress and job performance of 80 managers in different banks in Punjab, Pakistan. However, they stated that non-generalizability of their research was because of the small sample size and thereby, they suggested more studies with larger sample size are needed to identify factors impact job performance. Paramita and Sudhartio (22) studied the effect of job stress, job insecurity and work conflict on the job performance of aviation industry employees during the Covid-19 pandemic in Indonesia results demonstrated that job stress had a significant positive effect on employee performance.

However, they believe that the fear of the Covid-19 pandemic has influenced employees' job performance and in order to improve it, they must be more committed to their work. Also, they suggested that by stress management and

decreasing physical, physiological, financial and social concerns about Covid-19 pandemic, employers can minimise the job insecurity of employees and consequently improve cooperation among them. Since in the present study the job performance score was good, according to the results, although Covid-19 negatively affected job stress, it was not significant to negatively affect the job performance and Work commitment of employees.

In the present study, there was a significant difference between types of employment. In fact, the lowest mean and standard deviation of job performance observed in contractual employees (company) who showed high level of stress. Conversely, the highest measures for these variables were for formal employees who had a low level of stress. Job insecurity was higher in part time or contractual workers; as they know when their contract wills Finnish. Job insecurity can have negative impacts on mental health. Higher job insecurity as main job stressors among part time and contractual workers is also reported in many studies (44; 45; 46; 47; 48). According to the studies, experiencing high levels of stress contributes to anger, anxiety, depression, nervousness, irritability, tension, and hypersensitivity to criticism (44, 49). As a result, it causes poor job performance, fatigue, low self-esteem, inability to focus and make decisions, job burnout and job dissatisfaction among contract employees. Mazaheri and Omeidi's also reported that (2013), part time employees had a higher job stress compared to their full time counterparts. Also, Sila et al. (50) found that part time workers suffer from job stress more than full time ones. Results of meta-analysis also showed that the mental health of people with contractual jobs is lower compared to people with formal works. Associated job insecurity in these jobs affects employees' performance. Wirtnen et al. (51), de Kuyper et al. (52), Kesnel et al. (53) and Ehlert and Schaffner (54). The impact of part time or contractual jobs are not always negative, it can also be like a facilitator, a reason to get experience or

first step to get a formal job. However, it seems that contractual jobs, especially if it lasts for too long, cause constant stress. Interestingly, the job stress is caused in contracted jobs can stay permanently.

Lower job security or lack of it in contractual jobs also increases make the working environment even more stressful and thereby negatively affect job performance. Shakir et al. (55) also examined the relationship between job stress and the contractual jobs of part time teachers and found that low job security in these jobs can lead to job stress and negatively impact people's mental health and also their performance. Along with the resulted of mentioned studies, the present study also shows that psychological stress caused by lack of job security can cause serious and long-term negative impacts on health and well-being of teachers who stay longer in these jobs and also these effects may counteract be positive effects of this type of employment. Regarding the relationship between contract type and job stress on job performance, employees with corporate contract (contracting) and higher level of job stress performed worse than other groups. In this research, it was found that when the stress management score of the employees is lower; the job performance score of them is lower too. Hamidi et al.(39) also studied the health care units in Hamadan city and showed a significant positive relationship between age and work performance (P-value <0.001) but the age and job stress were negatively significant (P-value <0.001). To be precise, as time goes by, their stress levels decrease and their performance improves. Like age, the years of experience also showed a positive significant relationship with work performance (P-value <0.001) and a negative significant relationship (P-value <0.001) with stress level. In fact, more experienced people has less stress level and more improved performance. Since increasing job security in contractual, corporate and part time employees can improve their performance, it is suggested that more policies should be introduced.

### **Conclusion**

From the past until now, the discussion of occupational stress is very common in all organizations and human societies. Job factors are one of the main factors causing stress in organizations. The healthcare staff of hospitals is no exception to this issue. In the hospital, job factors can be stressful if they are not managed properly. Stress weakens the morale and motivation of the healthcare staff and consequently affects and reduces the performance of the group and the quality of services. Based on founding of the present study, as the total stress management score rises, the total employees performance score increases too. In fact, as the occupational stress score rose, the occupational performance score decreased. Also it was found that when the stress management score of the employees is lower; the job performance score of them is lower too. In fact, more experienced people has less stress level and more improved performance. in the present study the job performance score was good, according to the results, although Covid-19 negatively affected job stress, it was not significant to negatively affect the job performance and Work commitment of employees.

The results of this study showed that there was a significant relationship between types of employment and job performance. To be precise, the lowest mean and standard deviation in job performance observed in the contractual employees who had high levels of stress. While, the highest mean and standard deviation regarding job performance were related to the Permanent employees who had low levels of stress (P-value <0.001). Since increasing job security among contractual employees and corporate contracts and also changing their status can improve their performance, in order to manage job stress, introducing more policies regarding employment is suggested.

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### Conflict of interests

The author declared no conflict of interests.

### Authors' contribution

Hosseini R and Azami S designed and conducted research and analyzed data. Hosseini R wrote the paper and had primary responsibility for final content. All authors read and approved the final manuscript.

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