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RESEARCH ARTICLE

Job Stress Assessment and Analyzing the Factors Influencing Health Care Workers during COVID-19 Pandemic in Saudi Arabia

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HIGHLIGHTS

- *Stress affected health care workers negatively during COVID-19*
- *Reliable sources of information can improve workers' efficiency*
- *A financial plan can help reduce work-related stress during COVID-19*
- *Statistical approaches were employed to balance the psychological, economic, and work-related stress.*

Keywords:

- Job Stress Assessment
- COVID-19 Pandemic
- Financial Factor
- Work-related Stress
- Structural Equation Model

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GRAPHICAL ABSTRACT

This study was undertaken to explore the influences of socio-demographics, psychological and financial factors on work-related stress; amongst health employees in Saudi Arabia in due course of the pandemic. The study was conducted in some hospitals on 204 health workers. The techniques mainly include the statistical methods and a self-administered questionnaire held in the hospitals. Figure A shows the factors influencing work-related stress.

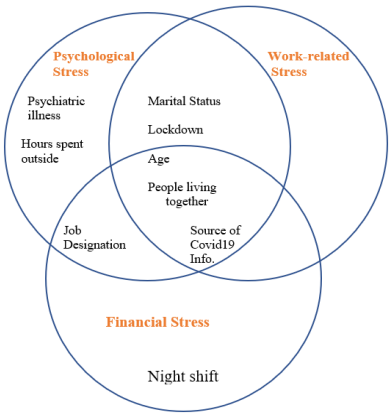

Figure A. The factors influencing work-related stress

Aim of Article: *The prevalence and identification of potential factors contributing to mental health problems, financial impact, and work-related stress of healthcare workers.*

Theory and Methodology: *Descriptive analysis explores the levels of factors. Also, Cluster analysis and chi-square examine the effects factors on stress. Finally, the regression model and a multivariate structural equation model peer the influence of financial and psychological factors on work-related stress.*

Findings and Results: *Financial factors have the most significant relationship with work-related stress (Correlation= 0.401, p-value = 0.001). financial and phycological burden increases by 1 unit, the work-related stress increase by (0.289) unit on average. Not all sociodemographic factors are linked to work-related stress among health workers.*

Conclusion: *Health workers should avoid living alone and get COVID-19 information from reliable sources such as the Ministry of Health and trusted Journals to improve their work efficiency.*

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ABSTRACT

This study was undertaken to explore the influences of sociodemographic, psychological, and financial factors on work-related stress amongst health employees in Saudi Arabia during the COVID-19 pandemic. The study was conducted in two hospitals on 204 health workers. The techniques mainly include the statistical methods and self-administered questionnaires held in the hospitals. The analysis was carried out using Regression Model, a multivariate Structural Equation Model. Descriptive statistics, chi-square distribution, and correlation of the factors were employed to assess the factors. The preliminary analysis depicted that the financial factors have the most significant effects. It was found that the work-related stress increases by 0.280 units on average when the overall psychological stress level increases 1 unit negatively when all other constraints (financial, people living with workers, and hour's spending outside) are kept fixed. Linguistic terms such as "Moderate, high, low, etc." were used to analyse the data for qualitative factors.Moreover, a cluster analysis was carried out to determine the level of financial stress and the factors causing psychological stress. In contrast, the structural equation model depicted that not all sociodemographic factors are linked to work stress among health workers. This study will indorse all related bodies to establish a new approach to relieving health workers of financial burdens and provide them with efficient counseling and psychosocial management interventions.

Keywords: Job Stress Assessment, COVID-19 Pandemic, Financial Factors, Work-related Stress, Structural Equation Model.

I. INTRODUCTION

Infectious illness waves such as COVID-19 may lead to psychological stress and a range of mental disorders combined in the workplace. The workers have been affected, especially from the mental health, financial perspective, and work-related perspectives during the COVID-19 pandemic [1]. Posttraumatic stress (PTSS) signs may develop beyond human control after traumatic events such as poignant physical attacks,

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excruciation, mishaps, infringement, or natural catastrophes, and can be identified by persistent trauma, avoidance of stimuli, emotional numbness, and physiological hyperarousal [2]. More than a few studies have explored the work-related stress and effects on psychological healthiness on the PTSS in due course of former pandemics. For instance, during SARS, 3.7% of the public was found to have depression [3], while around 18 % of the medical employees had psychological symptoms [4], and 41% of the SARS survivors had lived through Posttraumatic stress disorder (PTSD) in due course of the outbreak [5]. A full-scale work in the U.K. showed that (PTSD) predominance during the prologue COVID-19 pandemic is about 4.4%, and no difference between the genders was found in this study [6]. For instance, current work by Liu *et al*. [7] divulged that most of the population in the areas hardest hit by the COVID-19 epidemic had PTSS within four weeks following the epidemic, with a higher predominance among females who had inadequate sleeping conditions.

Furthermore, some researchers have expressed their concerns about the extensive scale and transmission of COVID-19, which may cause an actual psychological health emergency, affecting work performance, particularly in nations with heavy workloads [8]. To achieve this, large-scale psychosocial initiatives will have to be implemented in the future and include psychological healthcare programs into catastrophe prevention strategies and practices. The experiences about COVID-19 regarding compatibility with the isolation circumstances, challenges, mental repercussions, financial impacts, work-related stresses, and psychological impact need to be researched in detail with the advanced approaches. It is worth mentioning that very few have examined the psychological impact, work-related stress, and financial impact on hospital workers, more importantly in due course of the pandemic.

The objectives of this study include;

- To examine the level of work-related, financial, and psychological stress among health workers during the COVID-19 pandemic
- To determine the factors that contribute to stress among health workers in Saudi Arabia
- To provide a practical recommendation that facilitates stress management among health workers

We established a conjecture that states COVID-19 causes trouble and negatively affects workers. This trouble and negativity have cause not only psychological effects but also had a financial impact and job-related stress on the staff employed in the hospitals. It also causes various mental disorders such as depression and anxiety signs. In our research, the predominance and characterization of possible variables that lead to psychological healthiness disturbances, financial outcomes, and work-related stress of healthcare workers at hospitals are carefully addressed. Findings from this research will inform the concerned authorities and help them develop strategies for early identification of distress and thus prevent work-related problems; performance diminishes, mental or psychological issues, and other difficulties among health care workers.

Hence the hypothesis is formulated as follows:

- Hypothesis 1 (H_1) = COVID – 19 has adverse effects on workers' performance
- Hypothesis 2 (H_2) = COVID – 19 does not have adverse effects on workers' performance

We used the SPSS package (version 27). Statistical tools were used to derive insights from the data set. First, we carried out a descriptive analysis to explore work-related stress, financial factors, psychological factors, and the distribution of demographic characteristics amongst the respondents. Secondly, cluster analysis and chi-square (bivariate analysis) was conducted to determine demographic factors' impacts on work-related stress. Lastly, a multivariate linear regression model and a multivariate structural equation approach were employed to examine the influence of financial and psychological factors on work-related stress during the COVID-19 pandemic.

Mainly, testing hypotheses about individual care effects will not be very significant since they are designated randomly. In this work, we are more interested in considering the population of remedies to test the hypotheses about the variance of components. This work carried out cluster analysis to find the homogenous distribution datasets. Hence, correspondence analysis was found for the levels in financial stress that have significant high dimensions across all levels of stress analysis. Linguistic terms such as "Moderate, high, low, etc." have been used to quantify and analyze the data and factors in this study. The survey participants who have "a little bit" financial burden also considered "a little bit" work stress. Those who claimed to have "moderate" psychological stress and high financial stress have been deemed to have high work stress, and those who claimed to have "high" work stress and "high" level financial problems were considered to have "high" psychological stress. Additionally, the structural equation model determined

that not all sociodemographic factors are linked to work-related stress among health workers.

Therefore, this study recommends that the official bodies investigate relieving health workers of financial burdens and provide them with efficient counseling and psychosocial management interventions. Viewed by the workers, the study also recommends that health workers avoid living alone and get COVID-19 information from reliable sources such as the ministry of health, T.V.s, and trusted journals to improve their work efficiency.

II. THE LOGICAL FRAMEWORK OF WORK-RELATED STRESS:

Cooper [9] determined six variables as accurate Occupational Stress Indicators (OSI) to assess the stress. They can be considered fundamental to the duty, organizing function, relationships with other peoples, organizing process and atmosphere, work/home integration, and career advancement. Hence, the stress-related factors can be divided into six categories: inheriting job stress, role within the management, career advancement, climate in the workplace, interpersonal relations within the organization, and individual variables [10]. The stress-creating factors can be put into four categories: job/organization-related, links at the workplace, and career advancement [11].

Various factors impacting employees' stress and work performance were examined in this study. A review of the literature was carried out to develop the theoretical background of this study. The elements employed for this study as the stress creators were identified, and then the association between the response and independent variables was predicted. The summary is given in Figure 1 and Figure 2, as follows:

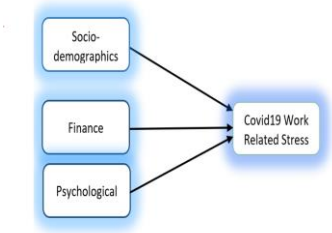

Figure1: The logic perspective of this study

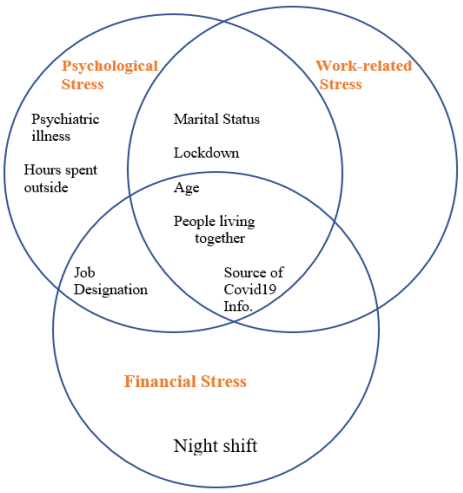

Figure. 2: The factors influencing work-related stress

III. LITERATURE REVIEW

A. The COVID-19 Pandemic:

After initially discovering it in Wuhan, Hubei Province in China, the COVID-19 virus, known as SARS-CoV-2, started transmission in due course of the study in the last month of 2019 and was formally diagnosed designated by the World Health Organization (WHO) in the commence of 2020. It has symptoms such as mild fever, dry cough, sore throat, severe acute respiratory syndrome (SARS), and an expanding range of associated circumstances associated with inflammatory diseases in kids [12]. The virus is readily transmitted from one to another globally, and several mutants have been discovered until now. After the WHO declared COVID-19 a pandemic, a large number of countries have started to adopt heightened social distance, enforcing "blockades" (i.e., prohibiting unneeded transportation, suspending education, and critical business activities), and ordering "wait-at-home [13]." The pandemic caused the highest amount of people simultaneously lockdowns/shutdowns in the past in the globe. It is estimated that by the beginning of April 2020, the lockdown would have affected 3.9 billion people, including 90% of the U.S. population [14] and more than 50% of the global population [15]. Although the vaccination has contributed a lot to reducing mortality, the number of cases increases with the new COVID-19 mutants, and there might be a further lockdown restriction. The health workers are directly affected by this virus.

There has been recent growing concern about the state

of psychological health globally; therefore, certain top-level survey activities have targeted average degrees of stress [16]. Another focus was on anxiousness and depressive disorders at elevated levels [17]. The others were concerned about the possibility of heightened self-injury and self-annihilation, given the recent studies on joblessness due to a former drop in the economy [18]. A general conclusion was reached in some studies that there was a 'perfect storm' of pandemic anxieties, social exclusion owing to lockdowns, layoffs, or the concern of unemployment that put American people's psychological wellness at risk during the pandemic. Many of these studies ignored the consequences of an abrupt switch to remote working during the pandemic. Company managers were already considering making work a standard feature of workers, despite the incomplete data [19].

B. Job-related stress:

After the announcement of the COVID-19 limitations implemented throughout the globe, people found themselves faced with significant alterations in their daily life, both at home and at work [20]. Chronic workplace stress has been demonstrated to have inverse influences on both the employee and the employer, particularly in the helping professions, such as nurses, psychologists, teachers, social workers, and even librarians [21-26]. Some insights were gained for those who unexpectedly moved to work remotely after conducting preliminary research that determined the causal link between distance employment and job-related stress. There are three insights provided by the analyses: the role-stress and role overwork in managing workplace and home challenges [27-29], the physical environmental effect on employee productivity [30], and the effect of an individual impression of time on workplace stress [31]. Each of these problems needs to be searched based on different theoretical frameworks that propose stress analysis affecting probably the "overload of roles" [28] and "spillover" from home-to-work and work-to-home [27], to generate or exacerbate work-family struggles [32, 33]. However, some research recommends that work-related activities positively affect households [34].

It is not surprising that the measurable, sentimental, and psychological factors associated with job stress are also related to job-related stress factors [35]. For instance, exhaustion is a mental symptom caused by prolonged, work-related, physiological, and psych emotional fatigue, which results in detachedness, skepticism, and a diminished sense of competence and achievement, leading to adverse effects on work productivity and motivation [22 24]. Medical and humanitarian vocations have extensively been studied for reasons for burnout since both roles tend to entail substantial levels of specialized competence and many interpersonal interactions [21-24, 26].

Sora et al. [36] suggested that personal feelings of job uncertainty and insecurity may be like an infection in an organizational structure, particularly those with a solid organizational structure. It can make employees less likely to interact within the organization and even cause employees to leave, which are signs of stress [27, 33, 37]. Women who work part-time and are in lower socioeconomic classes [33, 38] have higher stress levels mainly because of overburdened roles [27, 28] and inadequate assistance from their employers and colleagues [35], resulting in family-work tensions [37]. A recent study showed that women are severely affected by family-work stress throughout the COVID-19 restriction period, which is in line with the existing research and other recent COVID-19 results [38]. As the authors reported in their study, some employers (52%) emphasized more flexibility in their policies while only 35% of managers allowed for any accommodation.

C. Stress in organization

There are several reasons workers may have to deal with stress, including pressures or other kinds of requirements imposed on them [39]. Additionally, work-related stress has been demonstrated to adversely affect the performance of events and their constituents [40, 41]. People's performance is affected by stress because of their reaction to the environment. Stress from a job can cause differences in how demands on families are distributed among them, as well as those who can maintain their position [40], as well as those who feel their job security is uncertain (because they fear losing their job), or those whose marriage is strained. Stress occurs either huge or tiny in every organization or workplace and is so complex for several reasons, has been searched in the U.K. to deal with a specific scenario [43] to solve the problems. Eleven factors were found to constitute the background of stress: overburden, role uncertainty, pandemic, liability for employees, involvement, shortage of guidance, keeping pace with rapid technological advancement, entering a position of leadership, career

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progression, organizational design, environment, and periodic events. An overload is an unmanageable task or task beyond a person's capabilities [44-46]. Rose's view [47] revealed that employees are inclined to experience considerable stress in terms of time, spending long hours, which diminishes their desire to perform better. Managing approaches help reduce or contribute to increasing the tension of employees. Several explanations may cause stress on employees' families and contribute to intentions to leave [48, 49] the job. A few scientific investigations have shown a link between anxious stress and employee productivity, showing that employees at different administrative levels could improve their productivity under reduced nervous pressure [50].

IV. Research Design and Methodology

A. Study Design:

To gain data for the survey, a questionnaire was designed [51] to measure stress levels among employees and to categorize the factors which might cause stress under the circumstances. These allow the study of elements with the assistance of random samples of the target population and can be used to derive predictions about the intended people based on the sampling responses [52].

B. self-administrated questionnaire

Self-administered questionnaires have some potential benefits in comparison with conventional questionnaires. It is generally recognized that questionnaires, compared to interviews, are more cost-effective. In addition, the questionnaire is well suited for this project since it can carry out the social distance regulation induced by the pandemic. Furthermore, it is also beneficial in terms of saving resources. The other advantage is that questionnaires tend to be more diverse than interview schedules, given that questionnaires have the option to be as private as possible. This approach has several merits, such as asking hypersensitive or highly personal questions [53].

C. Population and sample

The study collected samples from health workers working at Saudi Arabia's Prince Mohammed Bin Abdul Aziz Hospital, run by the Ministry of National Guard's Health Affairs in Al Madina and Al-Hikma General Medical in Makkah. An appropriate sampling strategy has been used in the study. Conclusion: there are several agile methods for selecting participants, but one of the most effective methods is convenient sampling, which acts as a non-probabilistic method involving the invitation to only those capable and eager to participate in the study. Because of the current outbreak, Google forms were used to collect survey data. Remarkably, the sample was composed of health employees with diverse employment positions; the included clusters have no specific numbers. Thus, it can be inferred that a higher percentage of physicians can be found in the research than nurses. A researcher managed to contact the health workers and get their responses after gaining the cooperation of the hospital managers and directors without requiring anyone to identify themselves.

D. Data Collection Technique:

This study aims to perform an investigation project from the perspective of a health worker. This study involves a web-based questionnaire created with the help of Google forms to gather primary data. Google form is a useful web-based application that allows one to design forms that can be used to collect data. It is an online tool that can be used by students, academics, scientists, and individuals to create surveys or registration forms for activities. This form is multi-platform and allows users to share it with respondents in varied ways, including sending a link, emailing a message, or incorporating it as a part of a website or blog. A spreadsheet is usually used to record the information collected using the form. Amongst all the options for an Internet-based questionnaire software, Google Forms is an exceptional cost-free alternative.

E. Variables in the Study:

All respondents at the hospital were provided with a self-administrable questionnaire designed. Both English and Arabic versions of the questionnaire were provided. Each participant can select the language they wish to use in their responses. Several studies were reviewed to develop the questionnaire, and the survey was calibrated so it could be used with a previously-established accuracy [54 – 56].

Afterward, the questionnaire was examined and verified to ensure its accuracy. Also, the survey was reviewed for its content and relevance by several experts, a family medicine doctor, and a public health specialist who helped improve the survey questions before release. Four categories make up this questionnaire:

a. Several sociodemographic characteristics were addressed in the questionnaire, including gender, age, marital status, profession, number

of individuals residing in the home, and hours spent outdoors before the quarantine. Further, the questionnaire members answered whether they thought the lockdown was an intelligent decision.

b. The respondents were asked if they had any anxiety associated with COVID-19. On a five-point Likert scale, we evaluated participants' level of the psychological impact associated with the COVID-19 pandemic, with the scores of (0) "not at all," (1) "a little bit," (2) "moderate," (3) "quite a bit," and (4) "extreme." As part of the survey, we assessed the fear of being infected with COVID-19, the excessive use of antiseptic liquids, and the accessibility of knowledge regarding the pandemic.
c. Additionally, we asked if the worker's financial impact may have affected their work time and if such an impact may have affected their financial position.
d. Additionally, three questions relating to sleeping characteristics were incorporated into the study. Among them were "the nature of shift work," "whether it was common practice for employees to employ their mobile phones before going to bed," and 'the pandemic might have caused disruptions to their sleep or wake pattern before the quarantine was put into effect.
e. Moreover, the survey also contained questions that sought to understand better their moods and any possible depressive symptoms (these articles involved if they have regret feelings, whether they sense hopelessness and disinterest in their lifetime, and their sorrow and crying-bouts).

F. Dependent Variable

Several questions were asked about occupational stress. These consist of: 'Does the amount of work you have had experienced during COVID-19 impact your stress levels at work? Are you experiencing high levels of stress at the workplace due to poor managers? Does the shortage of assistance provided by your workplace throughout the pandemic impact your stress levels in the workplace? Do you experience high levels of stress due to poor management? Is the technology used at the hospital affecting your stress levels at work? Is teamwork a factor that affects your stress levels in the workplace?

G. Statistical Data Analysis

Research-based theory validation relies on applying statistical methods as its most crucial components. Statistics are indispensable because they are the ones that are essential to validate assumptions. Several statistical methodologies were used in this study to confirm our hypothesis and develop a scientific theory based on our findings. In total, there are 204 samples in this study. The analysis includes descriptive (frequency, charts, mean, and others), inferential analysis (chi-square and correlation), and predictive analysis (regression model). A statistical package called SPSS 27 is used to perform statistics, draw tables, plot graphs, and interpret results. Various techniques for multivariate analysis are also examined in further detail (Cluster analysis, Structural equation model, and multi-dimension scaling _ correspondence analysis). Some analyses are used to verify the results of other investigations.

V. RESULTS AND FINDINGS

Data were collected from the participants regarding their perceptions about the COVID-19 and its impact on psychological wellbeing, financial wellbeing, and work-related stress. Before the actual survey questionnaire, 13 demographic questions were asked to know participants' background characteristics. As seen in Figure 3, more than 51% (n = 105) of participants were female, and 74.5% (n = 152) of them were Saudi citizens. 70.6% (n = 144) of participants worked in Government Hospitals. In addition, the distribution of marital status is that 54% (n = 110) of participants were married.

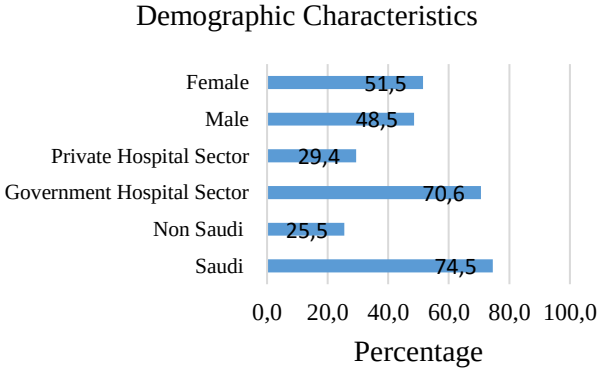

Figure 3. The distribution of demographic characteristics of participants

As presented in Table I, participants are mostly from medical field including: 20% nurses (n = 41), 10% doctors (n = 21), 9% health technicians (n = 19), 8% medical secretary (n = 16), and 22% dentists (n = 44), 6% Physiotherapist (n = 12), 8% medical secretary (n = 16). The participants working in hospital, but not in medical field are: 16% employee (n = 22), and 5% engineer (n = 11).

Table I. The percentage & number of job designation of the participants

Job Designation	N	%
Dentist	44	21.6
Nurse	41	20.1
Employee	22	10.8
Doctor	21	10.3
Technician	19	9.3
Pharmacist	18	8.8
Medical Secretary	16	7.8
Physiotherapist	12	5.9
Engineer	11	5.4

As shown in Table II, participants (39%) are mainly between the age of 31-40 years; 33% (*n* = 87) represent participants in the 18-30 age group. Almost 98% of participants have not been diagnosed with psychiatric illness. Thus, they were psychiatrically normal. 92% percent (*n* = 187) of participants believe that lockdown during COVID-19 is a good idea. Similarly, 3 out of every 10 (30%) participants said they are currently on the night shift. Concurrently, 4 out of every 10 (40%) participants claimed to be shift workers. Participants were also asked about where they got information about COVID-19. Around 41% (*n* = 83) reported that they got COVID-19 information from social media, while 30% got it from the internet and journals. The average family size in each participant's home is (5.57), which means most participants have (5-6) people living in the same house. On average, participants spend 7.44 hours with a standard deviation of 1.77 hours outside the home before the lockdown.

Table II. The frequencies, percentages, and mean of the sociodemographic distribution of participants

Socio-demography		Frequency	Percentage	Mean (S.D.)
Age	18-30 years	67	32.8	2.08 (0.994)
	30-45 years	80	39.2	
	45-55 years	31	15.2	
	55-70 years	26	12.7	
Diagnosed with psychiatric illness	No	199	97.5	0.02 (0.155)
	Yes	5	2.5	
Lockdown is a good idea	No	17	8.3	0.92 (0.277)
	Yes	187	91.7	
Currently on night shift	No	150	73.5	0.26 (0.442)
	Yes	54	26.5	
Shift worker	No	128	62.7	0.37 (0.485)
	Yes	76	37.3	
Source of COVID-19 information	Social Media	83	40.7	2.29 (1.195)
	Journal	20	9.8	
	Ministry of Health T.V.	60	29.4	
	Internet	41	20.1	
Time spends outside before lockdown	1-2 hours	3	1.5	7.44 (1.770)
	3-4 hours	8	3.9	
	5-6 hours	43	21.1	
	7-8 hours	97	47.5	
	9-10 hours	53	26	
Number of people living with participants	1-2 people	26	12.8	5.57 (2.255)
	3-4 people	30	14.7	
	5-6 people	73	35.8	
	7-8 people	57	27.9	
	9-10 people	18	8.8	

A. Psychological Impact

73% of participants feel that catching infection during their COVID-19 has the highest mean (2.98). Followed by 33% are using the phone or the internet before sleeping has a mean of (2.90). And then, getting morning sunlight exposure has a mean of (2.88). Conversely, collecting data about COVID-19 all day has the least mean of (0.47), as seen in Figure 4.

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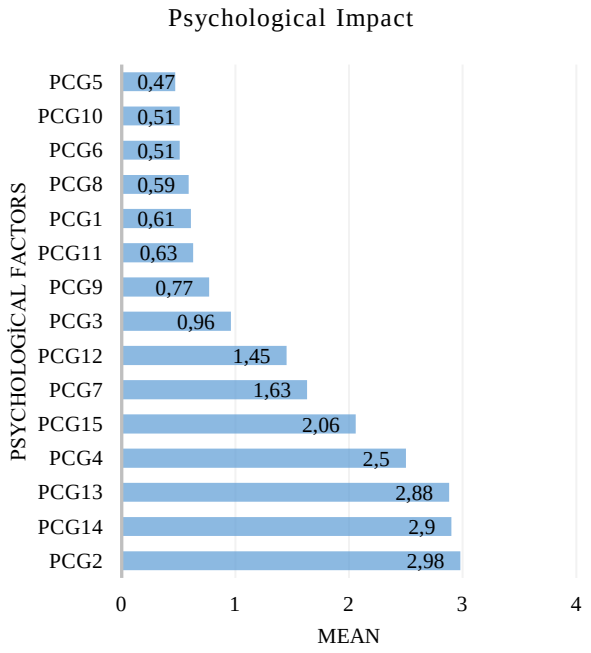

Figure 4. The mean of the psychological impact of questions

B. Financial Impact of COVID-19

The health workers were also asked questions related to financial stress faced during the COVID-19 pandemic. Six questions were asked to measure health workers' opinions about their financial stress during COVID-19, which indicated that COVID-19 had affected the economic status significantly more than 50% with a mean of (2.41). The distress follows this in job changes with a mean of (2.40). However, the impact of COVID-19 on mortgage and rent has the least mean of (1.25). There are not so many discrepancies in the mean of all questions asked under financial stress compared to psychological stress, as seen in Figure 5.

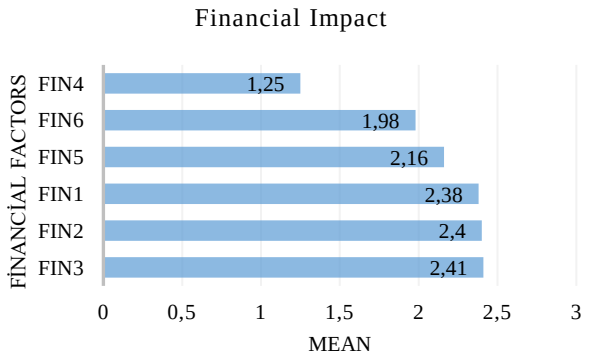

Figure 5. The distribution of financial factors

C. Work-related Stress

Most health workers, 73%, reported that their workplace stress level had affected their workload during COVID-19. This indicates that workload, poor managers, and lack of support have the highest mean (2.75) for work-related stress. On the other hand, teamwork and workplace technology has the least means of (1.02) and (1.37) respectively in Figure 6.

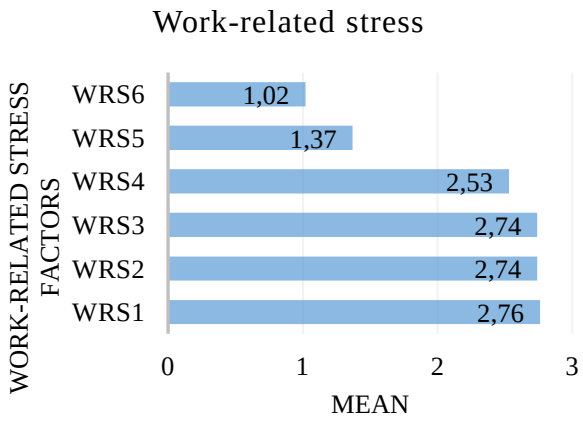

Figure 6. The findings o work-related stress

The effects of psychological and financial factors on Work-related stress can be stated that the economic level is 40.1% positively correlated with work-related stress, which is a higher financial burden, and the most increased work-related stress reported. Similarly, the psychological stress level is 37.6% positively correlated with work-related stress. Conversely, the number of people living together with the participants is 26.9% and is negatively associated with work-related stress .

D. Regression Model

As appears in Table III., all variables have P - values less than (0.05) except those spending four hours outside before lockdown. Regardless of the time spent outside, work-related stress is not improved or diminished. Implies that including hours spent outside before lockdown will not affect the level of work-related stress. This explains why the coefficient is extremely low, and the P-value is greater than 0.05. Conversely, when the financial burden increases by 1 unit, the work-related stress increases 0.289 on average. When psychological stress rises, the rise in work-related stress is 0.280 on average. The more people living with workers, the less work-related stress is observed in Table III.

Table III.
Summary of Regression Model

	B	Std. Error	Standardized Coefficients Beta	t	Sig	Tolerance	VIF	Decision
Constant	1.479	0.237		6.231	0			
PCG	0.28	0.077	0.244	3.622	0	0.826	1.21	Supported
FIN	0.289	0.066	0.29	4.401	0	0.865	1.156	Supported
People living with you	-0.045	0.017	-0.169	-2.66	0.008	0.931	1.074	Supported
Hour spent outside before lock down	-0.005	0.022	-0.169	-0.243	0.808	0.915	1.093	Rejected

Table IV shows that the regression model is valid and can make decisions and theories. The significant value is (0.000), which indicates that the R^2 is the coefficient of determination, which shows 0.252, implying that 25.2% of variations in work-related stress are explained by psychological anxiety, financial stress, people living together, and hours spent outside before lockdown.

Table IV. The summary of the regression model

R	R Square	Std. Error	F	Sig.
.502[a]	0.252	0.51901	16.735	0.00

The regression equation predicts the event given the same circumstances built upon. In the study, work-related stress is built upon financial stress, psychological stress, time spent outside before lockdown, and the number of people living together, as seen in Table III. If there is a scenario where all values of the predictors are retrieved, then the overall work-related stress can be predicted using Eq. 1 .

$$Work\ related\ stress = 1.479 + 0.280PCG + 0.289FIN - 0.045(people) - 0.005(hours\ outside) \quad (1)$$

The estimated coefficient for PCG is 0.280. This implies that, holding all other constraints fixed, when the overall psychological stress level increases by 1, work-related stress increases by 0.280 units on average.

E. Cluster Analysis

Using the K-means clustering algorithm, which uses a mean threshold. In other words, a cluster mean is specified, then cases within a certain threshold are grouped as one cluster. The data set was divided into two homogenous clusters; cluster 1 has 172 cases while cluster 2 has 32 points. These clusters have distinct features that can be ascribed to them. In the subsequent sub-heading, sets based on socio-demography are classified in Figure 7.

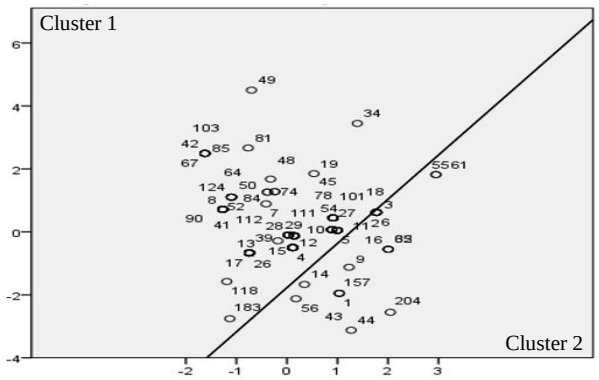

Figure 7. Cluster analysis of participants

F. Correspondence Analysis

The cluster analysis previously presented showed the relationship between the respondents (health workers). The correspondence analysis in this session demonstrates the relationship between the factors and the response rating of the variables. There exists less discrimination between the psychological stress. This implies that the levels are close to each other, and work-related stress has the most bias among the cases. Yet again, this means that the levels are far from each other. The groups in financial stress have a significant high dimension across all levels except for "moderate." For example, the "not at all" and "extremely" levels are far from the rest, as presented in Figure 8.

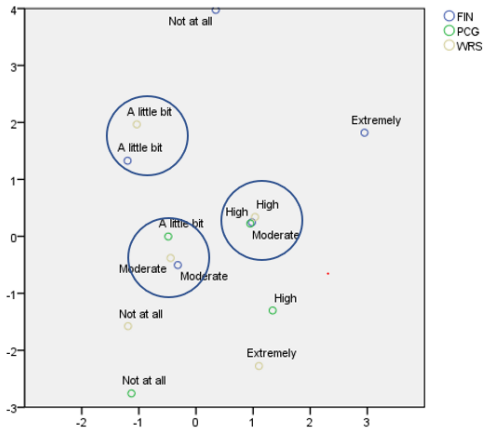

Figure 8. The correspondence analysis of psychological, financial, and work-related stress

G. Structural Equation Model

The path of the structural equation model of each latent variable's standardized regression weights to their measurement variable is presented. The connecting arrows between the measurement variables (factors) represent the correlation coefficients. The model fit measures CMIN/DF = 2.775, RMSE = 0.09 and p-value = 0.000 suggest that the model is fit and can be used for decision making. Conversely, the reliability CFI = 0.75 and GFI = 0.82 are slightly below the threshold fitness of the model. As shown in Table V, we can conclude that the model is a good fit.

Table V. The summary of regression model

Model fit index	χ^2/df	GFI	CFI	RMSEA	p-value
Model value	2.78	0.8	0.8	0.09	0
Recommended value	<5	>0.9	>0.9	<0.09	<0.05

The factor loadings thresholds can be formulated based on the sample size. According to Hair et al. (2006) [44, 45], for a sample size of 200, a standard factor loading of 0.35 to 0.4 seems adequate. In the initial model consisting of all the question items (WRS1, WRS2, WRS3, WRS4, PCG2, PCG13, and FIN5) which refers (workload, poor manager, lack of support, poor management, imagining catching infection, getting morning sunlight, and fund an emergency), respectively, have low regression weight and negative factor loadings. Hence, these variables were eliminated from the final model. The implication is that these items (questions) are not a significant measure of their respective variables.

Moreover, FIN3 and FIN6, which are "Has COVID-19 impacted you financially?" and "Has COVID-19 impacted you paying your debt?" respectively, have the highest effect – over 85% - on financial stress among health workers in Saudi Arabia. Of all 15 variables identified in the psychological factors, 'PCG10 and PCG11' refer to depression and pessimistic cases, stating that 'I sometimes cry along with losing motivation and interest in aspects of life' that affects over 80% of people. As for work-related stress, 'WRS5 and WRS6', ' the technology and Teamwork' respectively, have 70% effects on work-related stress, as seen in Table VI.

This structural equation model further reveals that financial stress does not significantly predict work-related stress among health workers in Saudi Arabia. This may be caused by the inner effects and correlation that are included in the structural equation model. Meanwhile, the correlation between the demographics and financial and psychological stress is negative and significant.

Table VI. The summary of the regression model

	Finance	Psychological Stress	Work-related Stress
Work-related Stress	0.204	0.664	0
WRS5	0.142	0.463	0.697
WRS6	0.152	0.495	0.745
FIN6	0.63	0	0
FIN4	0.412	0	0
FIN3	0.85	0	0
FIN2	0.466	0	0
FIN1	0.173	0	0
PCG1	0	0.59	0
PCG3	0	0.632	0
PCG4	0	0.393	0
PCG5	0	0.628	0
PCG6	0	0.482	0
PCG7	0	0.35	0
PCG8	0	0.606	0
PCG9	0	0.464	0
PCG10	0	0.848	0
PCG11	0	0.81	0
PCG12	0	0.39	0
PCG14	0	0.238	0
PCG15	0	0.346	0

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VI. CONCLUSION

People are different in many ways. There can be changes of opinion lifestyle changes at every stage of life. Also, each gender has its preference for career socioeconomic lifestyle. In our study, some sociodemographic lifestyles were significantly linked to work-related, psychological, and financial stress. Further investigation suggests that psychological stress plays a more significant role in the work-related stress of health workers in Saudi Arabia compared to financial stress. Sociodemographic factors that lead to psychological stress lead to work-related stress but not financial stress. However, not all sociodemographic factors are essential determinants of work-related stress. The analysis supported all three hypotheses in the framework of this study. This claim is also backed up by previous research. Financial burdens have shown the most substantial effect on work-related stress. When workers feel financially drained, they have a high chance feel stressed with their work which affects their efficiency. The impact of psychological stress is not far from financial stress. These two factors are undoubtedly essential to address for optimal health sector results. This is because the medical industry heavily relies on human resources rather than other resources. The sociodemographic factors are often cannot be changed by external factors. Instead, the reverse is possible. Socio-demography influences the other external factors. Therefore, it is imperative that even if age affects work-related stress, nothing can be done individually.

As one gets older, the work-life activities would balance up [46]. Also, one's belief about lockdown is a personal factor. This study has shown that accepting lockdown as an excellent way to curb the pandemic helps to relieve work-related stress. Significantly, getting the correct information about COVID-19 from a reliable source can impact the stress level. This study suggests that reading scientific journals about COVID-19 will reduce work stress by 29.1% relative to getting information from the internet. Finally, living within the family can help reduce psychological stress, which leads to decreased work-related stress. Increasing the number of people living together with the work decreases psychological stress by 21% and reduces work-related stress by 26.9%.

The demographic work showed that the number of people living with the health workers plays a crucial role in their general stress level. The health workers living with few people reported more stress overall. A disturbing fact is a psychiatric illness among the younger generations, which requires high-level attention. One leading cause can be excessive social media and the internet, as the younger health workers reported relying on social media and the internet as their primary source of COVID-19 information. In the psychological items, feeling sad and depressed (PCG10) and losing motivation (PCG11) are the leading causes of psychological stress. These two items are interwoven. Feeling sad and depressed due to the current pandemic can cause loss of motivation. As earlier mentioned, one way to curb this is to have more people around who can support and help in times like this—as for financial stress, not having enough credit (FIN3) and the weight of the debt (FIN6) are the two significant influences on overall financial stress. The study revealed that the work night shift and younger have more financial stress. It is often expected that financial problems can make health workers unwillingly work at night, especially when young and single.

A. Limitations

The sampling technique might not accurately picture work-related stress among health workers. This is because the job designations are not evenly represented. There are more doctors and nurses compared to other titles. The model also indicates 25.2% variations in work-related stress, which is explained by financial and psychological stress. This means that other factors truly affect work-related stress but were not included in the study to make the result accurate and the correlation coefficient (R^2) higher. In addition, some questions (item) in the study have shown to be insignificant. However, these questions have been validated in previous studies. Our results indicated that not all the questions accurately measure the variables (work-related, psychological, and financial stress). Also, some of the model fitness criteria are outside the required threshold.

CONFLICTS OF INTEREST

They reported no conflict of interest between the authors and their respective institutions.

RESEARCH AND PUBLICATION ETHICS

In the studies carried out within the scope of this article, the rules of research and publication ethics were followed.

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REFERENCES

[1] Brooks SK, Webster RK, Smith LE, Woodland L, Wessely S, Greenberg N, *et al. (*2020). The psychological impact of quarantine and how to reduce it: Rapid review of the evidence. Lancet, Vol. 395, pp. 912-20.

[2] Mitchell KS, Wolf EJ, Bovin MJ, Lee LO, Green JD, Rosen RC, *et al. (*2017). Network models of DSM-5 posttraumatic stress disorder: Implications for ICD-11. J Abnorm Psychol, Vol. 126, pp. 355-66.

[3] Ko CH, Yen CF, Yen JY, Yang MJ (2006). Psychosocial impact among the public of the severe acute respiratory syndrome epidemic in Taiwan. Psychiatry Clin Neurosci Vol. 60, pp. 397-403.

[4] Lu YC, Shu BC, Chang YY (2006). The mental health of hospital workers dealing with severe acute respiratory syndrome. Psychother Psychosomatics, Vol.75, pp. 370-5.

[5] Mak IW, Chu CM, Pan PC, Yiu MG, Ho SC, Chan VL (2010). Risk factors for chronic posttraumatic stress disorder (PTSD) in SARS survivors. Gen Hosp Psychiatry, Vol. 32, pp. 590-8.

[6] Shevlin M, McBride O, Murphy J, Miller J.G, Hartman T.K, Levita L. *et al. (*2020). Anxiety, Depression, Traumatic Stress, and COVID-19 Related Anxiety in the U.K. General Population During the COVID-19 Pandemic.

[7] Liu N, Zhang F, Wei C, Jia Y, Shang Z, Sun L, *et al (*2020). Prevalence and predictors of PTSS during COVID-19 outbreak in China hardest-hit areas: Gender differences matter. Psychiatry Res, Vol. 287, pp. 112-921.

[8] Dong L, Bouey J (2020). Public mental health crisis during COVID-19 pandemic, China. Emerg Infect Dis, Vol. 26,10-3201.

[9] Cooper, C.L. and J. Marshall, 1976. Occupational sources of stress: A review of the literature relating to coronary heart disease and mental ill-health. J. Occup. Psychol., Vol. 49, pp. 11-28.

[10] Card, H.L.(2002) Effective Stress Management: A Personal Guide, An Occupational Psychology Division, USA.

[11] Joy, J., and Radhakrishnan, D.(2013) A Study on Causes of Work Stress among Tile Factory Workers in Kannur District in Kerala, International Journal of Scientific and Research Publications, Volume 3, Issue 9, September 2013.

[12] Centers for Disease Control and Prevention. (2020). Frequently Asked Questions - Coronavirus Disease 2019 (COVID-19). Retrieved May 18, 2020, from cdc.gov: https://www.cdc.gov/coronavirus/2019-ncov/faq.html.

[13] Centers for Disease Control and Prevention. (2020). Symptoms of Coronavirus - Coronavirus Disease 2019 (COVID-19). Retrieved 2020 May, from cdc.gov: https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html.

[14] Secon, H., & Woodward, A. (2020, March 27). A map of the US cities and states under lockdown — and those that are reopening. Retrieved May 18, 2020, from msn.com: https://www.msn.com/en-sg/news/other/about-90-of-americans-have-been-ordered-to-stay-at-home-this-map-showswhich-cities-and-states-are-under-lockdown/ar-BB11MqgH.

[15] Sandford, A. (2020, April 3). Coronavirus: Half of humanity now on lockdown as 90 countries call for confinement. Retrieved May 18, 2020, from euronews.com: https://www.euronews.com/2020/04/02/coronavirus-in-europe-spain-s-death-toll-hits-10-000- after-record-950-new-deaths-in-24-hours.

[16] CVS Health. (2020, June 16). Most adults are experiencing more stress than same time last year, new report shows. Retrieved June 17, 2020, from cvshealth.com: https://cvshealth.com/newsroom/articles/most-adults-are-experiencing-more-stress-sametime-last-year-new-report-show.

[17] Center for National Health Statistics. (2020, June). Mental Health: Household Pulse Survey. Retrieved June 17, 2020, from cdc.gov: https://www.cdc.gov/nchs/COVID19/pulse/mental-health.htm.

[18] Petterson, S., Westfall, J., & Miller, B. (2020, May 8). Projected Deaths of Despair During the Coronavirus Recession. Retrieved June 17, 2020, from WellBeing Trust: https://wellbeingtrust.org/wpcontent/uploads/2020/05/WBT_Deaths-of-Despair_COVID-19-FINAL-FINAL.pdf.

[19] Lavelle, J. (2020, April 3). Gartner CFO Survey Reveals 74% Intend to Shift Some Employees to Remote Work Permanently. Retrieved July 2020, from gartner.com: https://www.gartner.com/en/newsroom/press-releases/2020-04-03-gartner-cfo-survey-reveals74-

percent-of-orgs-to-shift-some-employees-to-remote-work-permanentl.
[20] Rigotti, T., De Cuyper, N., & Sekiguchi, T. (2020). The Corona Crisis: What Can We Learn from Earlier Studies in Applied Psychology? Applied Psychology: An International Review, Vol. 69(3), pp. 1-6. https://doi.org/ 10.1111/apps.12265.
[21] Gray, J. A., & Muramatsu, N. (2011). Work Stress, Burnout, and Social and Personal Resources among Direct Care Workers. Research in developmental disabilities, Vol. 32, pp. 1065-74. https://doi.org/10.1016/j.ridd.2011.01.025.
[22] Kristensen, T., Borritz, M., Villadsen, E., & Christensen, K. (2005). The Copenhagen Burnout Inventory: A new tool for the assessment of burnout. Work & Stress, Vol. 19, No. 3, pp. 192-207. https://doi.org/10.1080/02678370500297720.
[23] Maslach, C., & Jackson, S. E. (1984). Burnout in organizational settings. Applied Social Psychology Annual, Vol. 5, pp. 133-153.
[24] Maslach, C., & Leiter, M. P. (2016). Understanding the burnout experience: Recent research and its implications for psychiatry. World psychiatry: official journal of the World Psychiatric Association (WPA), Vol. 15, No. 2, pp. 103–111. https://doi.org/10.1002/wps.20311.
[25] Shirom, A., Nirel, N., & Vinokur, A. (2010). Work hours and caseload as predictors of physician burnout: The mediating effects by perceived workload and by autonomy. Applied Psychology: An International Review, Vol. 59, No. 4, pp. 539–565. https://doi.org/10.1111/j.1464-0597.2009.00411.x.
[26] Wood, B. A., Guimaraes, A. B., Holm, C. E., Hayes, S. W., & Brooks, K. R. (2020). Academic Librarian Burnout: A Survey Using the Copenhagen Burnout Inventory (CBI). Journal of Library Administration, Vol. 60, No. 5, pp. 512-531. https://doi.org/10.1080/01930826.2020.1729622.
[27] Bolger, N., DeLongis, A., Kessler, R. C., & Wethington, E. (1989). The contagion of stress across multiple roles. Journal of Marriage and the Family, Vol. 51, No. 1, pp. 175-183. https://doi.org 10.2307/352378.
[28] Duxbury, L., Stevenson, M., & Higgins, C. (2018). Too much to do, too little time: Role overload and stress in a multi-role environment. International Journal of Stress Management, Vol. 25, No. 3, pp. 250. https://doi.org/10.1037/str0000062.
[29] Stamper, C. L., & Johlke, M. C. (2003). The impact of perceived organizational support on the relationship between boundary spanner role stress and work outcomes. Journal of Management, Vol. 29, No. 4, pp. 569-588. https://doi.org/10.1016/S0149-2063_03_00025-4.
[30] Vischer, J. C. (2007). The effects of the physical environment on job performance: Towards a theoretical model of workspace stress. Stress and Health: Journal of the International Society for the Investigation of Stress, Vol. 23(3), pp. 175-184. https://doi.org/10.1002/smi.1134.
[31] Eldor, L., Fried, Y., Westman, M., Levi, A. S., Shipp, A. J., & Slowik, L. H. (2017). The experience of work stress and the context of time: Analyzing the role of subjective time. Organizational Psychology Review, Vol. 7, No.3, pp. 227-249. https://doi.org/10.1177/2041386617697506.
[32] Lim, V., & Kim, T. (2014). The long arm of the job: Parents' work-family conflict and youths' work centrality. Applied Psychology: An International Review, Vol. 63, No. 1, pp. 151-167. https://doi.org/10.1111/j.1464-0597.2012.00527.x.
[33] Fan, W., Lam, J., & Moen, P. (2019). Stress Proliferation? Precarity and Work-Family Conflict at the Intersection of Gender and Household Income. Journal of Family Issues, Vol. 40, No. 18, pp. 2751-2773. https://doi.org/10.1177/0192513X19862847.
[34] Ilies, R., Keeney, J., & Goh, Z. (2015). Capitalizing on positive work events by sharing them at home. Applied Psychology: An International Review, Vol. 64, No. 3, pp. 578–598. https://doi.org/10.1111/apps.12022.
[35] Peeters, M. C., Montgomery, A. J., Bakker, A. B., & Schaufeli, W. B. (2005). Balancing work and home: how job and home demands are related to burnout. International Journal of Stress Management, Vol. 12, No. 1, pp. 43-61. https://doi.org/10.1037/1072-5245.12.1.43.
[36] Sora, B., Caballer, A., Peiro, J. M. (2010). The consequences of job insecurity for employees: the moderator role of job dependence. Int. Labour Rev. 149, 59-72.
[37] Karkoulian, S., Srour, J., & Sinan, T. (2016). A gender perspective on work-life balance, perceived stress, and locus of control. Journal of Business Research, Vol. 69, No. 11, pp. 4918-4923. https://doi.org/10.1016/j.jbusres.2016.04.053.
[38] Flesia, L., Fietta, V., Colicino, E., Segatto, B., & Monaro, M. (2020, May 5). Stable psychological traits predict perceived stress related to the COVID-19 outbreak. Retrieved from https://psyarxiv.com: https://psyarxiv.com/yb2h8/download/?format=pdf.
[39] Logan, M. S., & Ganster, D. C. 2005. An experimental evaluation of a control intervention to

alleviate job-related stress. Journal of Management, Vol. 31, pp. 90-107.
[40] Anderson E.S., Coffey S.B., & Byerly T.R. (2002). Formal Organizational Initiatives and Informal Workplace Practices: Links to Work-Family Conflict and Job-Related Outcomes. Journal of Management, Vol. 28, pp. 787.
[41] Kahn, R. L., Wolfe, D. M., Quinn, R. P., Snoek, J. D., & Rosenthal, R. A. 1964. Organizational stress: Studies in role conflict and ambiguity. New York: John Wiley.
[42] McCubbin, H. I., & Figley, C. R. (Eds.). (1983). Coping with normative transitions (Vol. 1). New York: Brunner/ Mazel.
[43] Anderson R. (2003). Stress at work: the current perspective. The Journal of The Royal Society for the Promotion of Health, Vol. 123, pp. 81.
[44] French, J.R.P., Jr., and Caplan, R.D. (1972). Organizational Stress and Individual Strain. in A.J. Marrow, ed., The Failure of Success, AMACOM, New York, New York.
[45] Margolis, B.L., Kroes, W.H., & Quinn, R.P. (1974). Job Stress: An Unlisted Occupational Hazard. Journal of Occupational Medicine, Vol, pp. 659-661.
[46] Kasl, S.V. (1973). Mental Health and the Work Environment. Journal of Occupational Medicine, Vol 15, pp. 509-518.
[47] Rose M. (2003). Good Deal, Bad Deal? Job Satisfaction in Occupations. Work Employment Society, Vol. 17, pp. 503.
[48] Stamper L.C., & Johlke C.M. (2003). The Impact of Perceived Organizational Support on the Relationship Between Boundary Spanner Role Stress and Work Outcomes. Journal of Management, Vol. 29, pp. 569.
[49] Ivancevich M.J., & Donnelly H. J. (1975). Relation of Organizational Structure to Job Satisfaction, Anxiety-Stress, and Performance. Administrative Science Quarterly, Vol. 20, No. 2, pp. 272-280.
[50] Beehr A. T, Jex M.S., Stacy A. B., & Murray A.M. (2000). Work Stressors and Coworker Support as Predictors of Individual Strain and Job Performance. Journal of Organizational Behavior, Vol. 21, No. 4, pp. 391-405.
[51] Dempsey, P. and A. Dempsey, (1996). Nursing Research Text and Workbook. 4th Edn., Little, Brown and Co., Boston, USA.
[52] Brink, P. and M. Wood, (1990). Advanced Design in Nursing Research. The International Professional Publ., London, UK.
[53] Polit, D.F., and B.P. Hungler, (1991), Nursing Research Principles and Methods. 4th Edn., Lippincott Co., Philadelphia.
[54] Reynolds DL, Garay JR, Deamond SL, Moran MK, Gold W, Styra R. Understanding, (2008), compliance and psychological impact of the SARS quarantine experience. Epidemiol Infect, 136: 997–1007.
[55] Jeong H, Yim HW, Song Y-J, et al (2016), Mental health status of people isolated due to Middle East respiratory syndrome. Epidemiol Health, 38: e2016048.
[56] Work-related stress: Work-related Stress Questionnaire, Work Stress, accessed 03 June 2020, < Work-related Stress Questionnaire (http://www.workstress.net/sites/ default/files/1510-workstress-SurveyForm-Discrimination- factors.pdf)>