Acta Scientific MEDICAL SCIENCES (ISSN: 2582-0931)

Volume 8 Issue 2 February 2024

Research Article

Service Utilization of Stress Management Clinics Among Workers in Tertiary Hospital, Riyadh, Saudi Arabia

Saad Mohammed Bin Own, Abdullah Abdulrahman Al Deailj, Mostafa Kofi*, Shahad Alwathnani and Nouf Aljunaidel

Family Medicine Department, Prince Sultan Medical Military City, Riyadh, Saudi Arabia

***Corresponding Author:** Mostafa Kofi, Family Medicine Department, Prince Sultan Medical Military City, Riyadh, Saudi Arabia.

DOI: 10.31080/ASMS.2024.08.1744

Received: December 26, 2023

Published: January 08, 2024

Abstract

Background: Stress in the workplace is associated with a negative impact on the socioeconomic development of Saudi Arabia. Looking into the causative factors of stress-inducing factors in a tertiary care hospital among healthcare workers allows us to closely examine the factors associated with addressing them. This would provide good data for future policymakers.

Objectives: The study aim is to assess the patterns of service utilization of stress clinics among workers in Tertiary Hospital, Riyadh, Saudi Arabia.

Methodology: This is an observational cross-sectional study. Workers attending the stress management clinic are over 18 years of age. The sample size is 100 patients. Data gathering is a simple random technique. A questionnaire was developed in Arabic language. Data was collected from the clinical records of patients after informed consent.

Results: High stress levels were prevalent among female workers (58.5%) aged 31-45 years (50.8%) and working as nurses (53.8%). The leading causes of stress were identified as heavy workload (27.7%) and job insecurity (24.6%). Most workers (89.2%) accessed stress management clinic services irregularly (78.5%), primarily engaging in counseling sessions (89.2%) less than twice a year (78.5%). Furthermore, certain service features exhibited significant differences across various sociodemographic subgroups (with p-values <0.05).

Conclusions: A tailored approach is required to address the cause of increased stress levels and to improve the beneficial impact of stress management clinics by making healthcare workers regular in their visits.

Keywords: Stress Management; Healthcare Services; Workers; Workplace; Saudi Arabia

Background

One of the most important sources of occupational stress is the workplace [1]. One of the major psychosocial risks at work is stress. Workplace stress is a problem that employees, employers, psychologists, and counselors are all concerned about [2]. Furthermore, job-related stress has been reported to be a "major contributor to the six leading causes of death in the United States: coronary heart disease, cancer, lung ailments, accidental injuries, cirrhosis of the liver, and suicide" [3]. Stress is frequently described as a feeling of being overburdened, tense, tense, and worried [4]. It is a disruptive condition that occurs because of negative influences from either the internal or external environments [5]. Stress is one of the most common behavioral disorders, and it is linked to low mood, loss of interest, guilt and worthlessness, sleep and appetite disturbances, decreased energy, and decreased concentration. Depression and anxiety are the most common psychiatric

disorders, with a general population prevalence of 10 to 20% [6-9a]. Given that workplace stress management can be a valuable component of a health promotion program and is important in avoiding litigation, the availability of these programs will likely increase in the future. Employers, providers, and researchers must also broaden their understanding of the focus of stress management interventions and the potential range of outcomes for these programs. This is necessary because activities aimed solely at individuals' reactions to stressful situations, without also aiming to change the circumstances themselves, will not suffice to avoid the negative legal ramifications just discussed. Extending the scope of investigation also provides a clearer picture of the research topic, provides more avenues for intervention and evaluation, and increases the likelihood of behavior change. In recent years, there has been a significant trend toward greater corporate involvement in such programs, as evidenced by a steady increase in employee health programs. Some programs focus on specific issues, such as alcoholism or hypertension, while others provide more comprehensive services, such as counseling for workers and their families. Corporate expectations for the benefits of health promotion include increased productivity, lower medical and disability costs, lower absenteeism and turnover, and increased worker satisfaction and morale. The workplace is an ideal setting for health promotion and disease prevention programs to be implemented. Work-based programs have access to a large number of people who have established social support networks and facilitate participation among individuals who have significant familial or community commitments that compete for available schedule time [10]. Several studies in Saudi Arabia looked at occupational stress and its causes. However, there is a lack of data on the services provided to workers who attend stress management clinics. An earlier study in Saudi Arabia used responses from 442 employees working in 23 different Saudi organizations to assess stress levels and differences in nationality (Saudis, Arabs, Asians, and Westerners), age, tenure, organization type (public, semiprivate, private), and organizational size (small, medium, large). The findings indicate that: the main source of stress for employees working in private organizations is a lack of knowledge about their performance evaluation results, whereas this is not the case for employees working in public organizations; Saudi employees have the highest levels of stress, followed by Arabs and Asians, while Westerners (Europeans and North Americans) have the lowest levels of stress; employees under 30 years old have the highest levels of stress; and employees over 30 years old have the lowest levels of stress [11]. Our study aimed to assess the patterns of service utilization among workers attending stress management clinic in tertiary hospital in Riyadh, Saudi Arabia. This may contribute to promote the quality of services and interventions which are involved in stress management among works.

Methodology

This will be an observational cross sectional study assessing service utilization stress management clinics among workers in Tertiary Hospital JAN 2018 - DEC 2022, in Riyadh the capital of Saudi Arabia.

- **Study Population:** Workers attending stress management clinics in Tertiary Hospital during the study period will be considered as the study population.
- **Inclusion criteria:** All patients aged 18 years old or more will be included in this study.
- **Exclusion criteria:** children and adolescents aged less than 18 years; patients refuse to give consent to use their clinical records in our study.
- **Sampling:** Sample size for this cross-sectional study will be a minimum of 100 patients. Due to lack of information regarding population size, authors decided to use a simple random sampling technique to gather the data.
- **Data Collection:** After reviewing literature and available information, a questionnaire was developed in Arabic language. The study instrument was validated using alpha Cronbach test. Authors collected the data from clinical records of patients. Verbal consent was obtained from the participants after brief explanation of the purpose of the study, and general objectives.
- **Ethical Considerations:** Ethical approval was obtained from the hospital's management department. In addition, patients' confidentiality was reserved.
- **Statistical Analysis Plan:** The study's aim is to examine how workers at Tertiary Hospital in Riyadh, Saudi Arabia, utilized stress clinics. A comprehensive statistical analysis using both descriptive and inferential methods is applied on the collected data. Since all the variables are categorical, the

analysis involves presenting frequencies and percentages for each variable. To explore the probability of significant associations between socio-demographic factors and patterns of stress clinic service utilization, Chi-square or Fisher's test will be employed. Significance is established at a p-value of 0.05 or below, maintaining a 95% Confidence Interval.

All statistical computations are performed using IBM's SPSS Software, specifically version 27.0.0.

Results

Our research, as shown in Table 1, involved 65 employees at Tertiary Hospital in Riyadh, Saudi Arabia. Slightly over half of them (n = 33, 50.8%) fell within the age range of 31-45 years old. The remainder predominantly consisted of the younger age group, 18-30 years old (n = 20, 30.8%). Many of the participants female (n = 38, 58.5%) and were employed as nurses (n = 35, 53.8%), doctors (n = 15, 23.1%), or in other professions. Additionally, the vast majority were Saudi (n = 54, 83.1%) and Muslims (n = 60, 92.3%).

		Frequency n (%)
Age (Years)	18-30	20 (30.8)
	31-45	33 (50.8)
	46-60	10 (15.4)
	61-75	2 (3.0)
Nationality	Saudi	54 (83.1)
	Non-Saudi	11 (16.9)
Gender	Female	38 (58.5)
	Male	27 (41.5)
Job Title	Doctor	15 (23.1)
	Lab Personnel	5 (7.7)
	Nurse	35 (53.8)
	Pharmacist	7 (10.8)
	Technician	3 (4.6)
Religion	Muslim	60 (92.3)
	Non-Muslim	5 (7.7)

Table 1: Sociodemographic Characteristics of Participants (n = 65).

n: Frequency, %: percentage

Figure 1 illustrates various factors contributing to workers' reported stress. The most common sources of stress reported were heavy workloads (n = 18, 27.7%), job insecurity (n = 16, 24.6%), and inadequate job skills (n = 11, 16.9%). Additionally, workers highlighted other stress-inducing factors, including changes in duties (n = 9, 13.8%), monotonous tasks (n = 4, 6.2%), limited autonomy (n = 4, 6.2%), lack of support (n = 2, 3.1%), and work-related relationships (n = 1, 1.5%).

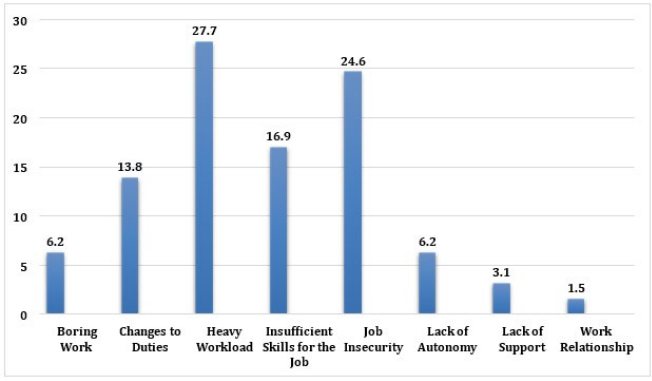

Figure 1: Causes of Stress among Workers.

Table 2 demonstrates the utilization of stress clinics among workers. The majority reported current utilization of these services (n = 58, 89.2%), typically in an irregular manner (n = 51, 78.5%), with a frequency of less than twice per year (n = 51, 78.5%). Among those utilizing these services, most sought Counseling (n = 58, 89.2%). Additionally, a few accessed Counseling along with referral to psychiatric clinics (n = 4, 6.2%), and a small proportion combined Counseling with discharge planning (n = 3, 4.6%).

Table 3 reveals a significant statistical difference across various age groups concerning the utilization of stress clinic services and the chosen service types (p-value<0.001). Age groups ranging from 18 to 30 and 31 to 45 exhibited the highest prevalence in utilizing these services, accounting for 31.0% and 56.9% of the total service usage, respectively. Conversely, workers aged between 61 and 75 showed no utilization of these services. Counseling services emerged as the most sought-after service across all age groups. In terms of utilization patterns, while no significant statistical

		Frequency n (%)
Current Use of Service	Yes	58 (89.2)
	No	7 (10.8)
Type of Service Received	Counseling	58 (89.2)
	Counseling, Discharge	3 (4.6)
	Counseling, Referral to Psychiatric clinics	4 (6.2)
Pattern of Utilization	Regularly	14 (21.5)
	Irregularly	51 (78.5)
Frequency of Utilization	Less than twice a year	51 (78.5)
	Every 4-6 months	14 (21.5)

Table 2: Characteristics of Service Utilization of Stress Clinics among Workers (n = 65).

n: Frequency, %: percentage.

differences were observed among age groups (p-value = 0.950), irregular utilization pattern was predominant. Similarly, no significant differences were found among age groups regarding frequency of utilization (p-value = 0.950); however, less than biannual usage was the prevailing pattern.

		18-30 n (%)	31-45 n (%)	46-60 n (%)	61-75 n (%)	P value[a]
Current Use	Yes No	18 (31.0) 2 (28.6)	33 (56.9) 0 (0.0)	7 (12.1) 3 (42.9)	0 (0.0) 2 (28.6)	<0.001
Type of Service Discharge Referral	Counseling Counseling & Counseling &	18 (31.0) 0 (0.0) 2 (50.0)	33 (56.9) 0 (0.0) 0 (0.0)	7 (12.1) 1 (100.0) 2 (50.0)	0 (0.0) 2 (100.0) 0 (0.0)	<0.001
Pattern of Use	Regularly Irregularly	5 (35.7) 15 (29.4)	7 (50.0) 26 (51.0)	2 (14.3) 8 (15.7)	0 (0.0) 2 (3.9)	0.950
Frequency of Use	<2/ year Every 4-6 months	15 (29.4) 5 (35.7)	26 (51.0) 7 (50.0)	8 (15.7) 2 (14.3)	2 (3.9) 0 (0.0)	0.950

Table 3: Relationship of Age and Service Utilization Patterns in Worker Stress Clinics (n = 65).

n: Frequency, %: percentage, a: fisher's test.

As demonstrated in Table 4, Saudi workers outnumbered their non-Saudi counterparts in visits to stress clinics, yet no statistically significant association existed between nationality and current service utilization (p-value = 0.338). However, significant disparities emerged between Saudi and non-Saudi workers concerning service types (p-value = 0.044), frequency (p-value = 0.049), and regularity of visits (p-value = 0.049). Both groups predominantly utilized counseling and counseling with discharge services, exclusive to Saudis, while counseling combined with referrals to psychiatric clinics was solely sought by Saudis. Irregular service usage was primarily among Saudi natives (88.2%), whereas non-Saudi workers displayed a more regular utilization pattern (35.7%). Saudis tended toward less frequent visits (less than twice/year), while non-Saudis predominantly sought services every 4-6 months (35.7%).

		Saudi n (%)	Non-Saudi n (%)	p-value[a]
Current Use	Yes	49 (84.5)	9 (15.5)	0.338
	No	5 (71.4)	2 (28.6)	
Type of Service	Counseling	49 (84.5)	9 (15.5)	0.044
Discharge	Counseling &	1 (25.0)	2 (75.5)	
Referral	Counseling &	4 (100.0)	0 (0.0)	
Pattern of Use	Regularly	9 (64.3)	5 (35.7)	0.049
	Irregularly	45 (88.2)	6 (11.8)	
Frequency of Use	<2/ year	45 (83.1)	11 (16.9)	0.049
	Every 4-6 months	9 (64.3)	5 (35.7)	

Table 4: Relationship of Nationality and Service Utilization Patterns in Worker Stress Clinics (n = 65).

n: Frequency, %: percentage, a: fisher's test.

As indicated in Table 5, no statistically significant difference was observed between male and female workers regarding their current utilization of stress clinic services (p-value = 0.437) or the types of services accessed (p-value = 0.201). However, statistically significant differences were evident in the utilization pattern and frequency of service usage between male and female workers (p-value = 0.03 for both). Both genders displayed a noteworthy trend towards irregular service usage, with a higher number of workers utilizing services irregularly compared to those with regular usage patterns. Additionally, a greater proportion of male and female workers used services less than twice a year compared to those using services every 4-6 months.

		Female n (%)	Male n (%)	p-value
Current Use	Yes	35 (60.3)	23 (39.7)	0.437[a]
	No	3 (42.9)	4 (57.1)	
Type of Service	Counseling	35 (60.3)	23 (39.7)	0.201[a]
Discharge				
Referral	Counseling &	2 (100.0)	1 (100.0)	
	Counseling &	1 (25.0)	3 (75.0)	
Pattern of Use	Regularly	12 (85.7)	2 (14.3)	0.030[b]
	Irregularly	26 (51.0)	25 (49.0)	
Frequency of Use	<2/ year	26 (51.0)	25 (49.0)	0.030[b]
	Every 4-6 months	12 (85.2)	2 (14.3)	

Table 5: Relationship of Gender and Service Utilization Patterns in Worker Stress Clinics (n = 65).

n: Frequency, %: percentage, a: fisher's test, b: Chi-square test.

According to Table 6 findings, the occupation of the worker showed no significant impact on their current utilization of stress clinic services (p-value = 0.768), the types of services accessed (pvalue = 0.637), the regularity of service utilization (p-value = 0.515), or the frequency of service usage (p-value = 0.515).

		D. n (%)	LP. n (%)	N. n (%)	Ph. n (%)	Tech. n (%)	P value[a]
Current Use	Yes	14 (24.1)	4 (6.9)	30 (51.7)	7 (12.1)	3 (5.2)	0.768
	No	1 (14.3)	1 (14.3)	5 (71.3)	0 (0.0)	0 (0.0)	
Type of Service Discharge	Counseling	14 (24.1)	4 (6.9)	30 (51.7)	7 (12.1)	3 (5.2)	0.637
	Counseling &	1 (100.0)	0 (0.0)	2 (100.0)	0 (0.0)	0 (0.0)	
	Counseling & Referral	0 (0.0)	1 (25.0)	3 (75.0)	0 (0.0)	0 (0.0)	
Pattern of Use	Regularly	4 (28.6)	1 (7.1)	6 (42.9)	3 (21.4)	0 (0.0)	0.515
	Irregularly	11 (21.6)	4 (7.8)	29 (56.9)	4 (7.8)	3 (5.9)	
Frequency of Use months	<2/ year	11 (21.6)	4 (7.8)	29 (56.9)	4 (7.8)	3 (5.9)	0.515
	Every 4-6	4 (28.6)	1 (7.1)	6 (42.9)	3 (21.4)	0 (0.0)	

Table 6: Relationship of Job and Service Utilization Patterns in Worker Stress Clinics (n = 65).

n: Frequency, %: percentage, D: doctor, LP: Lab personnel, N: Nurse, Ph: Pharmacist, Tech: Technician, a: fisher's test.

Table 7 results indicate that the religious affiliation of participants, whether Muslims or nonMuslims, did not demonstrate any significant associations with the current utilization of stress clinic services (p-value = 0.445), the types of services accessed (p-value = 0.240), the pattern of service utilization (regular or irregular) (p-value = 0.292), or the frequency of service usage per year (p-value = 0.292).

		Muslim n (%)	Non-Muslim n (%)	p-value[a]
Current Use	Yes	54 (93.1)	4 (6.9)	0.445
	No	6 (85.7)	1 (14.3)	
Type of Service Discharge	Counseling	54 (93.1)	4 (6.9)	0.240
	Counseling &	2 (75.0)	1 (25.0)	
	Counseling & ferral	4 (100.0)	0 (0.0)	
Pattern of Use	Regularly	12 (85.7)	2 (14.3)	0.292
	Irregularly	48 (94.1)	3 (5.9)	
Frequency of Use	<2/ year	48 (94.1)	3 (5.9)	0.292
	Every 4-6 months	12 (85.7)	2 (14.3)	

Table 7: Relationship of Religion and Service Utilization Patterns in Worker Stress Clinics (n = 65).

n: Frequency, %: percentage, a: fisher's test.

Discussion

The study unveiled how stress clinics are utilized by healthcare workers and the relationship between the socio-demographic variables and prognosis of psychological study among the workers in the Tertiary Care Hospital, Riyadh, Saudi Arabia. We detected differences in the factors contributing to the healthcare-related stressors.

The observed higher stress factor was reported to be the workload among 27.7%. The level of work stress among the staff of the hospital was also found high in another Saudi study that was conducted among hospital staff at MOH [12]. Our research highlighted that stress originates from multiple factors like excessive workloads, job insecurity, and insufficient job skills. Similarly, the aforementioned Saudi study expanded on these by including additional stressors such as a shortage of work resources, lack of appreciation, and hectic work schedules.

Job satisfaction and job security are two interconnected parameters [13]. Being threatened by the insecurity of a job, losing the desired aspects of a job and financial aspects are very significant factors creating job-related stress among healthcare workers [14]. Additionally, inadequate job skills were the third most important factor for stress among healthcare workers. The results were per the study by Sulais., *et al*. (2020) which detected that 67.5% of physicians worry, 56.9% feel isolated, and 49.7% experience a sense of fear [15]. Other factors included changes in duties among 13.8%. Lack of autonomy and boring work were the other factors for stress among 6.2% of the workers. However, lack of support and unhealthy work relations were felt by only a few portions (3.1% and 1.5%, respectively).

The services available in the hospital to deal with work-related stress provided by the stress clinic include counseling, discharge, and referral to psychiatric clinics. Among healthcare workers who are using are young female nurses. More than fifty percent of them are currently using services provided by stress clinics in an irregular pattern making it less than twice a year. In comparison to men, high stress levels are reported in female healthcare workers, before and during COVID-19 in many local and international studies [15-18]. Another study conducted by Shamsan in (2022), reported the higher levels of anxiety and depression among female healthcare workers [19].

Saudi nationals were reported to be in high numbers (49%) approaching stress clinics following the study conducted by Alanazi (2020) [20]. Similar results were reported by a national study conducted in primary healthcare centers [21]. Another study conducted on nurses in critical care centers revealed a statistically significant between burnout and nationality (55.6% and 44%) respectively for Saudi and non-Saudi [22]. However, our results showed statistically significant differences between the Saudi and non-Saudi healthcare workers concerning service types, frequency of utilization, and regularity of usage. Counseling combined with referral to a psychiatric clinic was exclusive to Saudis. Saudis reported to be irregular in their service usage and made less frequent visits.

A significantly high number of younger healthcare workers between the age group 18 to 30 and 31 to 45 were reported to use stress clinic services. This study follows the study conducted by Alanazi (2020) [20]. This could be explained by the effect of years of experience as older healthcare workers (HCWs) may have better knowledge in comparison to the younger participants as demonstrated in Abdulrahman (2003) study [12]. However, the study conducted in China contradicts our results as the older medical individuals reported a high level of psychological stress due to the reason of high exposure risk to infection and complications occurring due to underlying diseases in old age [23].

The nature of the job had no impact on the stress of clinic visits in the current study. Unlike our study, a survey conducted by Alanazi (2020) showed a higher level of burnout and exhaustion among nurses compared to other job categories [20]. Similarly, a Japanese study showed that 40 % of nurses and more than 30% of technologists and pharmacists suffered from work-related stress [17].

The most sought service provided by the stress clinic in our tertiary care hospital is counseling. Only a small percentage of Saudi healthcare workers were referred to psychiatric clinics. Little to no data is available to compare these results among healthcare workers. However, many other screening tools to measure the level of stress can be implicated. Moreover, stress interventions can be made like yoga classes, relaxation rooms, and educational sessions [24]. The purpose of this study was to identify the potential factors for stress that can be managed or eliminated to decrease the stress level among healthcare workers in the future. This should be accompanied by new policies or new recruitment to reduce the workload and ultimately stress levels [25]. Future research is needed to study the impact of high stress level on medical errors and to study the impact of the initiatives made to reduce stress in different work settings.

Limitations

The study has various strengths like the randomized sampling approach, using validated resources to collect data from the stress clinic. Still, the limitations are there. Since the study sample was small, the results cannot be generalized to a larger population of healthcare workers. The data collection method was secure; however, the data was collected from the clinical records and the direct interview method leads to an open approach. The study is cross-sectional design, and a prospective study is needed to confirm the results of our study. The study explored the causes of work-related stress and causes of referrals. However, the coping strategies applied to deal with stress are missing. Future research needs to explore further testing on the sub-variables of stressors which can also directly or indirectly influence the level of stress.

Conclusion

This study aimed to assess the pattern of service utilization of stress clinics among workers of tertiary hospital. The results showed the cause of referral to the stress management clinic is heavy workload seconded by job insecurity. The most sought-after service by the stress clinic was counseling. However, people did not utilize these services regularly. The sociodemographic relations of the study showed that stress management clinic services were utilized more by healthcare workers of young age, mostly females, and by Saudi natives. Religion and job title had no significant impact on the results. A tailored approach is required to address the cause of increased stress levels and to improve the beneficial impact of stress management clinics by making healthcare workers regular in their visits.

Bibliography

1. Moustaka E and Constantinidis T. "Sources and effects of Work-related stress in nursing". *Health Science Journal* 4 (2010): 210-216.

2. Tearle P. "Work-related stress". *European Journal of Business and Social Sciences* 1.10 (2013): 73-80.

3. Jordan F. "Management World". June-August (1987): 13-15.

4. Australian Psychological Association. APS - EQIP - Information sheets -Stress. (2013).

5. Smeltzer SC., *et al*. "Homeostasis, Stress, and Adaptation". Brunner and Suddarth's textbook of medical-surgical nursing. 12th ed. Philadelphia: Wolters Kluwer Health/Lippincott Williams and Wilkins (2010): 78-95.

6. Vilagut G., *et al*. "Screening for depression in the general population with the center for epidemiologic studies depression (CES-D): a systematic review with meta-analysis". *PLoS ONE* 11.5 (2016): e0155431.

7. Zhu J., *et al*. "Prevalence and influencing factors of anxiety and depression symptoms in the first-line hospital staff fighting against COVID-19 in Gansu". *Frontiers in Psychiatry* 11 (2020): 386.

8. Xiao H., *et al*. "The effects of social support on sleep quality of Hospital staff treating patients with coronavirus disease 2019 (COVID-19) in January and February 2020 in China". *Medical Science Monitor: International Medical Journal of Experimental and Clinical Research* 26 (2020): e923549-51.

9. Chew NW., *et al*. "A multinational, multicentre study on the psychological outcomes and associated physical symptoms amongst healthcare workers during COVID-19 outbreak". *Brain Behavior Immunity* 88 (2020): 559-565.

10. PARKINSORN., *et al*. "Managing Health Promotion in the Workplace: Guidelines for Implementation and Evaluation". Palo Alto, CA: Mayfield (1982).

11. Ben-Bakr KA., *et al*. "Occupational stress in different organizations: A Saudi Arabian survey". *Journal of Managerial Psychology* (1995).

12. https://www.kau.edu.sa/Show_Res.aspx?Site_ID=320&Lng=EN&RN=51686

13. Halawani L., *et al*. "Job satisfaction among Saudi healthcare workers and its impact on the quality of health services". *Journal of Family Medicine and Primary Care* 10.5 (2021): 1873.

14. Mahmoud Ibrahim Fallatah., *et al*. "The Impact of Privatization on Employee Job Insecurity: The Case of the Healthcare Sector in Saudi Arabia". *International Journal of Business and Management* 18.6 (2023): 65-65.

15. Al Sulais E., *et al*. "The psychological impact of COVID-19 pandemic on physicians in Saudi Arabia: A cross-sectional study". *Saudi Journal of Gastroenterology* (2020): 249-255.

16. Kulkarni A., *et al*. "Burnout among Healthcare Workers during COVID-19 Pandemic in India: Results of a Questionnaire-based Survey". *Indian Journal of Critical Care Medicine* 24.8 (2020): 664-671.

17. Matsuo T., *et al*. "Prevalence of Health Care Worker Burnout During the Coronavirus Disease 2019 (COVID-19) Pandemic in Japan". *JAMA Network Open* 3.8 (2020): e2017271.

18. Lai J., *et al*. "Factors Associated With Mental Health Outcomes Among Health Care Workers Exposed to Coronavirus Disease 2019". *JAMA Network Open* 2020 3 (3): e203976-6.

19. Shamsan A., *et al*. "Level of anxiety and depression among healthcare workers in Saudi Arabia during the COVID-19 pandemic". *Peer Journal* 10.10 (2022): e14246.

20. H Alanazi K., *et al*. "Prevalence and Risk Factors of Burnout among Healthcare Professionals during COVID-19 Pandemic - Saudi Arabia". *American Journal of Public Health Research* 9.1 (2020): 18-27.

21. AL-Haddad A., *et al*. "Prevalence of burnout syndrome and its related risk factors among physicians working in primary health care centers of the Ministry of Health, Al Ahsa region, Saudi Arabia, 2018-2019". *Journal of Family Medicine and Primary Care* 9.2 (2020): 571.

22. Alotni MA and Elgazzar SE. "Investigation of Burnout, its Associated Factors and its Effect on the Quality of Life of Critical Care Nurses Working in Buraydah Central Hospital at Qassim Region, Saudi Arabia". *The Open Nursing Journal* 14.1 (2020): 190-202.

23. Xing J., *et al*. "Study of the mental health status of medical personnel dealing with new coronavirus pneumonia. Doering S, editor". *PLOS ONE* 15.5 (2020): e0233145.

24. White CH., *et al*. "The Implementation of a Stress Management Program for Health Care Workers Through a Rural Occupational Health Clinic". *Workplace Health and Safety* 69.4 (2021): 216507992098240.

25. M Richardson., *et al*. "Effects of Occupational Stress Management Intervention Programs: A Meta-Analysis". *ResearchGate* (2008).