PREVALENCE OF STRESS AND ITS ASSOCIATION WITH BODY WEIGHT AMONG HEALTH CARE WORKER IN PRIMARY HEALTH CARE CENTERS, MAKKAH, 2022

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Abstract

Background

In its plan for the prevention, treatment and overcoming of mental health disorders, the World Health Organization described mental health as fundamental to human health. Yet, mental health problems are the first cause of disability and a major public health issue worldwide due to disease progression, difficulties in therapeutic management and increasing prevention. Specifically, depression, anxiety and stress are considered important indicators for mental health which, if untreated, can have a negative effect on individuals. Overweight and obesity among health care worker is a major concern for the health care worker. Although health care worker are required to meet body weight and body composition standards, the prevalence of overweight and obesity has risen such that in 2017, over 17% were considered obese based on a body mass index (BMI) of ≥30 kg/m2.1 health care worker with a higher BMI have an increased risk of injury and illness.

Aim of the study: To assessment of the prevalence of stress and its association with Body Weight Among health care worker in Primary Health Care Centers in makkah 2020

Method: Cross-sectional analytical study has been conducted health care workers at Primary Health Care Centers in Makkah city, that included all health care worker during data collection period 2022 the perceived stress scale-10 questionnaire used to measure the stress score. Weight and height were collected based on self-reported value. The total sample has been (400) nurses, physicians and other

Result: the majority of the respondents were married status were (75.0%) while other were (14.0%). The association between the stress and stress score most of the participant moderate Stress were constitutes (47.75%) followed by low stress the were constitutes (44.75%) while a statistically significant (P-value =0.001)and Chi-square (120.665) ,the Range(5-45) (Mean ± SD (25.441±6.125).

Conclusion: Stress is prevalent among health care worker at Primary Health Care Centers, makkah we found a positive correlation between BMI and stress but no statistically significant association between gender and stress level. Preventive measures should be implanted to reduce the level of stress and interventional studies are needed among health care worker at Primary Health Care Centers.

Key words: Stress, Prevalence, Body mass index, health care worker, Saudi Arabia, health care worker.

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Introduction

Background

Most mental health problems appear by early adulthood, yet young adults rarely get any support for their mental health (1). Furthermore, mental health issues in this population are associated with higher incidence of physical and emotional problems in the mid to long term, labor market marginalization (2), worse quality of sleep (3) and dysfunctional relationships (4), among others. College students are at risk of experiencing stress, anxiety and depression, which cause psychological distress and may impact on their academic performance (5). Worldwide, it is estimated that 12–50% of college students present at least one diagnostic criterion for one or more mental disorders (6). Causes of stress during college life include academic pressure stemming from factors such as exams and workload, lack of leisure time, competition, concerns about not meeting parents' expectations, establishing new personal relationships and moving to a strange location (7); biological factors such as age and gender, specifically being female; and financial burden (8). Globally, studies conducted on different samples of undergraduate students have identified a moderate to high prevalence of depression, anxiety and stress in this population (9). Early diagnosis and management of psychological distress lead to better management and patient outcomes (10) Thus, it is necessary to identify those students who are at a higher risk of developing mental health problems during college life. The association between stress and body weight has been investigated for many years. People alter their caloric intake during stressful events, some engage in negative binge eating in particular of carbohydrates and saturated fats, while others cut down their caloric intake during stressful events. These factors make people respond differently to stress, some gain weight while others lose weight (11,12). There are different theories explaining the pathophysiology of stress and its effect on body weight, but the exact reason is not fully understood. One of the suggested theories is the effect of stress on activation of hypothalamic-pituitary-adrenal axis (HPA-axis) (13-14)

Psychiatric or psychological factors play a role in approximately 30% of Stress ; stress, for example, can affect or exacerbate chronic diseases.(1,3) An international multicenter cross-sectional study across 13 European countries found that 10.1% and 17.2% of health care worker suffered from depression and anxiety, respectively.4 When compared to healthy controls or the general population, chronic diseases patients are more likely to suffer from anxiety and depression; in a Norwegian study, 13% versus 3.7% and 5.8% versus 0.9% of patients versus controls suffered from anxiety and depression, respectively.(15) Another study found the overall prevalence of depression and anxiety in health care worker to be 15% and 12%, respectively; in terms of gender, these negative emotional states were more prevalent in females.(16) Another study explored the factors associated with psychiatric morbidity among 1,389 dermatological outpatients; the overall prevalence of psychiatric morbidity was 20.6%, although nurse subjects with lesions on the face or hands had a greater prevalence over males.(17)

Other psychiatric disorders, such as suicidal ideation, also appear to be more common in the female nurses in comparison to the male doctors(18,19) Anxiety levels and quality of life (QOL) have likewise been shown to be affected by Association with Body Weight in the health care worker suffering from increased anxiety and a poorer QOL when compared to healthy individuals.(20,21) It is crucial to determine the impact of stress on health care worker and how it may affect their health and professional career. No published study was conducted KSA to look into the association between stress and body weight among health care worker.

Literature Review

In recent years, the increase in the prevalence of stress and its Association with Body Weight Among health care worker in Primary Health Care Centers obesity, overweight and their physical and mental health problems has attracted much attention.

Studies in different parts of Iran have reported overall prevalence of overweight (16.34%) and obesity (3.04%) (22). Also, in another study has been reported that the prevalence of obesity and overweight was 3.5% and 16.6%, respectively (Salem et al., 2016), that the prevalence of stress and its association with Body Weight Among health care worker was similar to other studys; however, the prevalence of overweight was highest. In the Rahimi Bashar and Motahari study on the other city of Iran, the prevalence of obesity association stress with Body Weight Among health care worker overweight among the 370 nurses females was 20.8% and 3.4% (23), In Thai study reported the prevalence of highly stressed students in is 36.2% and that of very highly stressed students is 39.1%. For simplicity, if we combine highly and very highly stressed level as stressed and average and low level as non-stressed students, then overall prevalence of stress will be 75.3% in the study, which is higher (61.4%),5 also similar a study in Egypt (43.7%), (8) or a Malaysian

study (41.9%) (4) and a British study (31.2%). (3)This could be either due to the different instruments used in other studies or it could be a real difference.

Both stress and an unhealthy body weight can cause major psychological and physical health issues that will have bad impacts on health care worker in Primary Health Care (3). other studies done in Jizan, KSA (p-value= 0.001) (24) and Egypt (p-value =0.001) (25). A prior study done in Taibah university recommended a continuous supervision of students by their academic supervisors and to dissolve any barriers between the students and staff by strengthening the bonds and trust between them and minimize the stressful environment at the college of medicine (26).

Kiadaliri et al found specific c stress symptoms and overall prevalence or mean scores of stress were scarce and did not turn out to be a significant factor in reporting of stress.(27)
Salehi et al reported several studies have demonstrated heterogeneity in eating behaviors in response to stress; some people eat more when stressed while others eat less.(28), However, we have found a strong correlation between psychological stress and body weight, greater the psychosocial stress more is the body weight(29)
Previous studies have revealed that obesity is among the major cause of Stress, cardiovascular diseases, diabetes, cancers, and the related issues that may lead to morbidity and mortality. In most of the countries, the high total obesity and overweight cost represents a relative economic burden on the GDP. Over the last decade, the prevalence of obesity has increased significantly in several developed and developing countries (30). The current research paper focuses on obesity in Saudi Arabia, which has now one of the highest obesity and overweight prevalence rates and association with stress (10).

Rationale
Studies had an alarming high prevalence rate of stress health care worker in Primary Health Care Centers include complex courses over a long duration of time that made health care worker in Primary Health Care Centers a well-known source of stress to workers. In this study will assessment the prevalence of stress among health care worker in Primary Health Care Centers and to observe the association between the level of stress, gender, GPA and BMI among health care worker in Primary Health Care Center. As there is no study in the literature about it in Makkah , 2022. Thus investing in this topic well fulfills the researcher's aim.

Aim of the study
To assessment of the prevalence of stress and its association with Body Weight Among health care worker in Primary Health Care Centers in makkah 2022.

Objectives:
The current study to assessment of the prevalence of stress and its association with Body Weight Among health care worker in Primary Health Care Centers in makkah 2022

METHODOLOGY

Study design and setting:
A cross sectional study was conducted at primary health care centers in makkah 2022

Study setting:
This study was conducted at in Primary Health Care Centers in makkah 2022

Study population and sampling:
The study has be carried out in the city of Makkah Al-Mokarramah Makkah is the holiest spot on Earth. It is the birthplace of the Prophet Mohammad and the principal place of the pilgrims to perform Umrah and Hajj. It is located in the western area in Kingdom of Saudi Arabia and called the Holy Capital. Contains a population around 2 million. This study was conducted in Makkah primary health–care centers at saudi Arabia, and it reflects a diversified demographic profile with a considerable portion of the population comes from rural descent, while others come from an urban one. This difference translates into biological, socioeconomic and lifestyle differences in the Makkah population

Inclusions and Exclusions criteria:
Inclusion: health care worker in Primary Health Care Centers.

Exclusion criteria: There are no exclusion criteria.
SAMPLE SIZE:
The researcher has used 50%, moreover, based upon a confidence level 95% and margin of error of 5%. The sample size calculated using the Raosoft calculator has be 400 of the agreed to participate in the study

Sampling technique:
The researcher has used simple randomization between all the health care worker in Primary Health Care Centers agreed to participate in the study.
Has been contacted during the study duration between the students agreed to participate in the study to cover the sample size

Data collecting tools:
A stress score questionnaire (perceived stress scale-10) by Sheldon Cohen used to measure the stress level. It consists of 10 Likertlike scale questions and ranges from 0 to 4. The higher the score index, the higher the level of stress.

- Score ranging from 0-13 considered low stress.
- Score ranging from 14-26 considered moderate stress.
- Score ranging from 27-40 considered high stress.

Height and weight data were collected from participant based on their self-reported values. The Body Mass index was calculated by using the equation weight/ height (m2). participants considered underweight if BMI <18.5, normal if BMI <25, overweight if BMI ranged from 25-29.9 and obese if BMI more than or equal 30.

Data analysis:
For the data entry and statistical analysis, the statistical package for the social sciences (SPSS) version 24.0was used. Appropriate statistical tests were used in the analysis based on the types and distribution of the study data. Categorical data were analyzed using chi square test while t-test was used for numerical data. The results will be statistically significant if the P value is <0.05.

Data Collection technique:
The researcher has been distributed the questionnaire personally to all health care worker in Primary Health Care Centers. After approval from higher authorities acquired, during the working hours, specifically between the break time. Where a short introduction about the research and its importance were presented. The response rate was high.

Study variables:
The variables: Body Mass index by using the equation weight/ height (m2). Students considered underweight if BMI <18.5, normal if BMI <25, overweight if BMI ranged from 25-29.9 and obese if BMI more than or equal 30.

Data entry and analysis
The researcher has used the statistical program for social sciences SPSS software 24.0 for data entry and analysis. Necessary statistical tests such as Chi-square T-test and other appropriate tests had been used. A p- value of less than 0.05 has been adopted for statistical significance.

Pilot study
The questionnaire has been applied to 10% of the sample size over the health care worker in Primary Health Care Centers

Ethical considerations:
Permission from the Makkah joint program Family Medicine program has be obtained. Permission from the Directorate of health, verbal consents from all participants in the questionnaire were obtained. All information was kept confidential, and results has be submitted to the department as feedback

Budget: Self-funded

Result

Table (1) Distribution of socio-demographic details among participant health care worker in Primary Health Care Centers Were enrolled in this study. (n=400)

	N	**%**
Age		
<25	44	11
25-35	148	37
35-45	120	30
>45	88	22
Gender		
Female	248	62
Male	152	38
Marital status		
Single	44	11
Married	300	75
Other	56	14
Income		
<5000	72	18
5000-10000	84	21
10000-15000	88	22

>15000	156	39
Job title		
Doctors	124	31
Nurse	236	59
Other	40	10
BMI		
Underweight	40	10
Normal weight	216	54
Overweight	88	22
Obese	56	14

Regarding the age majority of the study groups were in the age range of (25-35) years were (37.0%) while followed by age range of (35-45) were (30.0%).
Regarding the gender many of the respondents were female (62.0%) while male were (38.0%).
Regarding the Marital status, the majority of the respondents were married status were (75.0%) while other were (14.0%). Regarding the income The majority of them had an income more than (>15000SR) were (39.0%)
Regarding the job title the majority of the respondents nurse were (59.0%) while in doctors were (31.0%). Regarding the BMI the majority of the respondents in Normal weight were (54.0%) while Overweight were (22.0%)

Figure (1) Distribution of socio-demographic details among participant health care worker and BMI (obese, underweight, normal weight

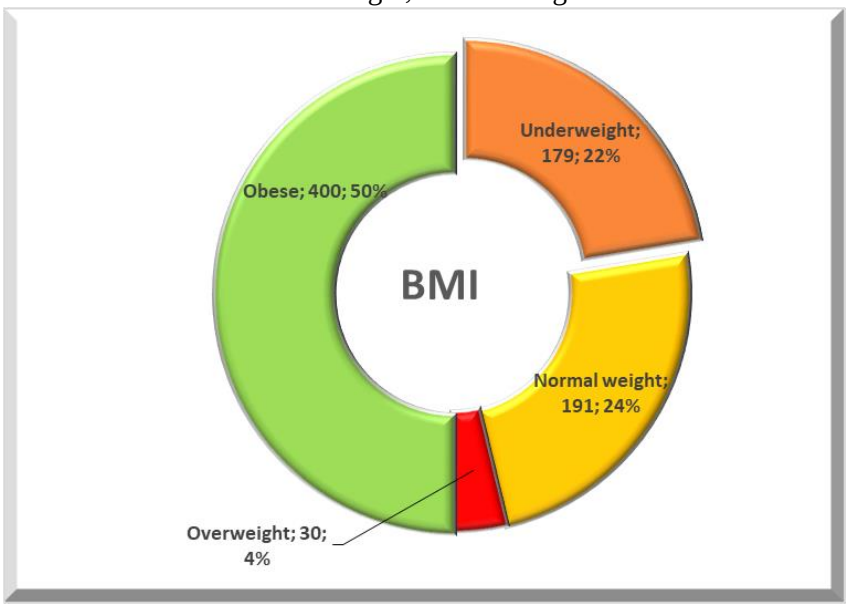


Table (2) Description of Stress groups according to the stress score

	N	**%**
Changed after starting working.		
Yes	352	88
No	48	12
If yes, the change was around:		
More	252	63
Less	84	21
I don't know	64	16
Current GPA		
<2	8	2
2 – 2.74	24	6
2.75 – 3.74	44	11
3.75 – 4.49	156	39

4.5 – 5	168	42
How much time do you spend work per day?		
Less than 1 hour	36	9
1 - 2 hour	80	20
3 - 5 hour	136	34
More than 5	148	37
The numbers of meal per day		
1 meal	32	8
2 meals	200	50
3 meals	144	36
More than 3	24	6
Frequency of snacks between meals (chips, chocolate, sweets)		
Never	40	10
Always	144	36
Sometimes	160	40
Rarely	56	14
Fast food per week		
Never	44	11
1-3.	292	73
4-7.	48	12
More than 7	16	4
How often do you have stimulants (tea, coffee) in a week?		
Never	52	13
1-3.	80	20
4-7.	56	14
More than 7	212	53

Regarding the Changed after starting working the majority of participant answer yes were (88.0%) while followed by not changed were constitutes (12.0%) according to answer yes the change was around most of study answer More were (63.0%) while answer less were (21.0%) followed by I don't know constitutes (16.0%)

Regarding the Current GPA the majority of participant between the (4.5 – 5) were constitutes (42.0%) followed by between the (3.75 – 4.49) were constitutes (39.0%) while participant (<2) were constitutes (2.0%)

Regarding the how much time do you spend studying per day the majority of participant more than 5 hour were constitutes (42.0%) followed by 3.75 – 4.49 hour were constitutes (39.0%) while less than (1 hour) were constitutes (9.0%)

Regarding the numbers of meal per day the majority of participant between the (2 meals) were constitutes (50.0%) followed by (3 meals) were constitutes (36.0%) while (1 meal) were constitutes (8.0%)

Regarding the frequency of snacks between meals (chips, chocolate, sweets) the majority of participant between the sometimes were constitutes (40.0%) followed by always were constitutes (36.0%) while never were constitutes (10.0%)

Regarding The fast food per week the majority of participant between the (1-3) were constitutes (73.0%) followed by between the (4-7) were constitutes (12.0%) while never were constitutes (11.0%)

Regarding how often do you have stimulants (tea, coffee) in a week the majority of participant more than 7 were constitutes (53.0%) followed by between the (1-3) were constitutes (20.0%) while never were constitutes (13.0%)

Table (3) Description the sample characteristics stratified by stress score

	N	**%**
Exercise		
Yes	332	83
No	68	17
What is the total time that you spend in exercising daily?		
Less than 30 minutes	292	73
30-40 minutes	64	16

More than 50 minutes	44	11
What time do you go to bed?		
8-10 pm	24	6
11pm-12 am	136	34
1-3 am	200	50
After 3 am	28	7
irregular	12	3
Sleeping hours per day		
3 hours or less	16	4
4-5 hours	120	30
6-7 hours	196	49
8 hours or more	68	17
Trouble falling asleep		
Yes	184	46
No	216	54
Smoking Status		
Yes	40	10
No	360	90
How often do you smoke daily		
Up to 3 cigarettes	0.4	1
3-10 cigarettes	17.6	44
1 package or more	22	55
You have been smoking for:		
Less than 1 year	8	20
1 - 2 years	20	50
More than 2 years	12	30
Type of smoking		
Tobacco cigarettes	30	75
Electronic cigarettes (Vaping)	6	15
Shesha	4	10

Regarding exercise the majority of participant answer Yes, I play exercises were constitutes (83.0%) while followed answer I do not exercises were constitutes (17.0%)

Regarding the total time that you spend in exercising daily the majority of participant answer less than 30 minutes were constitutes (73.0 %) while followed by answer 30-40 minutes were constitutes (16.0%) while more than 50 minutes were constitutes (11.0%)

Regarding time do you go to bed the majority of participant answer (1-3 am) were constitutes (50.0%) while followed by answer (11pm-12 am) were constitutes (34.0%) while irregular 6 were constitutes (3.0%)

Regarding sleeping hours per day the majority of participant answer (6-7 hours) were constitutes (49.0%) while followed by answer (4-5 hours) were constitutes (30.0%) while (3 hours or less) were constitutes (4.0%)

Regarding Trouble falling asleep the majority of participant answer No I do not have Trouble sleep were constitutes (54.0%) while followed by answer Yes I have Trouble in the sleep were constitutes (46.0%)

Regarding smoking Status the majority of participant answer No I do not smoky were constitutes (90.0%) while followed by answer Yes I smoky were constitutes (10.0%)

Regarding how often do you smoke daily the majority of participant answer (3-10) cigarettes were constitutes (44.0%) while followed by answer Up to 3 cigarettes were constitutes (1.0%) while answer 1 package or more were constitutes (55.0%)

Regarding since when did you smoke the majority of participant answer (1 - 2 years) were constitutes (50.0%) while followed by answer more than (2 years)were constitutes (30.0%) while answer less than(1 year) were constitutes (20.0%)

Regarding Type of smoking the majority of participant answer Tobacco cigarettes were constitutes (75.0%) while followed by answer Electronic cigarettes (Vaping) were constitutes (15.0%) while answer Shesha were constitutes (10.0%)

Table (4) Description the sample characteristics stratified by Stress Scale

	Never		Almost never		Sometimes		Fairly often		Very often		% of finding	Chi-square	
	N	%	N	%	N	%	N	%	N	%		X^2	P-value
How often have you been upset because of something that happened unexpectedly?	40	10	44	11	140	35	88	22	88	22	67	82.800	0.000
How often have you felt that you were unable to control the important things in your life?	24	6	52	13	120	30	104	26	100	25	70.2	81.200	0.000
How often have you felt nervous and "stressed"?	20	5	24	6	116	29	96	24	144	36	76	154.800	0.000
How often have you felt confident about your ability to handle your personal problems?	12	3	60	15	160	40	104	26	64	16	67.4	153.200	0.000
How often have you felt that things were going your way?	16	4	72	18	140	35	84	21	88	22	67.8	98.000	0.000
How often have you found that you could not cope with all the things that you had to do?	32	8	72	18	164	41	96	24	36	9	61.6	145.200	0.000
How often have you been able to control irritations in your life?	16	4	64	16	184	46	96	24	40	10	64	212.800	0.000
How often have you felt that you were on top of things?	36	9	88	22	180	45	76	19	20	5	57.8	195.200	0.000
How often have you been angered because of things that were outside of your control?	20	5	60	15	128	32	112	28	80	20	68.6	91.600	0.000
How often have you felt difficulties were piling up so high that you could not overcome them?	24	6	84	21	144	36	80	20	68	17	64.2	92.400	0.000

Regarding How often have you been upset because of something that happened unexpectedly the majority of participant answer Sometimes were constitutes (35.0%), they was statistically significant were (P-value<0.001) and Chi-square (82.800) while % of finding (67.0)

Regarding How often have you felt that you were unable to control the important things in your life the majority of participant answer Sometimes were constitutes (30.0%), they was statistically significant were (P-value<0.001) and Chi-square (81.200) while % of finding (70.2)

Regarding How often have you felt nervous and "stressed" the majority of participant answer Very often were constitutes (36.0%), they was statistically significant were (P-value<0.001) and Chi-square (154.800) while % of finding (76.0)

Regarding How often have you felt confident about your ability to handle your personal problems the majority of participant answer Sometimes were constitutes (40.0%), they was statistically significant were (P-value<0.001) and Chi-square (153.200) while % of finding (67.4)

Regarding How often have you felt that things were going your way the majority of participant answer Sometimes were constitutes (35.0%), they was statistically significant were (P-value<0.001) and Chi-square (98.000) while % of finding (67.4)

Regarding How often have you found that you could not cope with all the things that you had to do the majority of participant answer Sometimes were constitutes (41.0%), they was statistically significant were (P-value<0.001) and Chi-square (145.200) while % of finding (61.6)

Regarding How often have you been able to control irritations in your life the majority of participant answer Sometimes were constitutes (46.0%), they was statistically significant were (P-value<0.001) and Chi-square (212.800) while % of finding (64.0)

Regarding How often have you felt that you were on top of things the majority of participant answer Sometimes were constitutes (45.0%), they was statistically significant were (P-value<0.001) and Chi-square (195.200) while % of finding (57.8)

Regarding How often have you been angered because of things that were outside of your control the majority of participant answer Fairly often were constitutes (32.0%), they was statistically significant were (P-value<0.001) and Chi-square (91.000) while % of finding (68.6)

Regarding How often have you felt difficulties were piling up so high that you could not overcome them the majority of participant answer Sometimes were constitutes (36.0%), they was statistically significant were (P-value<0.001) and Chi-square (92.400) while % of finding (64.2)

Table (5) Description of the Stress Score Groups and Stress

Stress					
		N	**%**	**Score**	
				Range	**Mean±SD**
Low Stress		179	44.75	5-45.	25.441±6.125
Moderate Stress		191	47.75		
Severe Stress		30	7.5		
Total		400	100		
Chi-square	**X^2**	120.665			
	P-value	<0.001*			

Regarding The association between the stress and stress score most of the participant moderate Stress were constitutes (47.75%) followed by low stress the were constitutes (44.75%) while a statistically significant (P-value =0.001) and Chi-square (120.665), the Range (5-45) (Mean ± SD (25.441±6.125)

Figure (2) Description of the Stress Score Groups and Stress

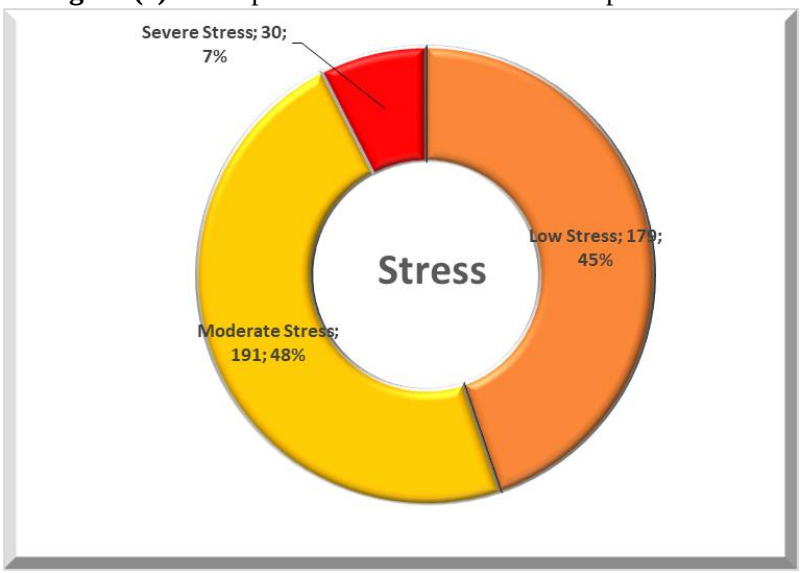


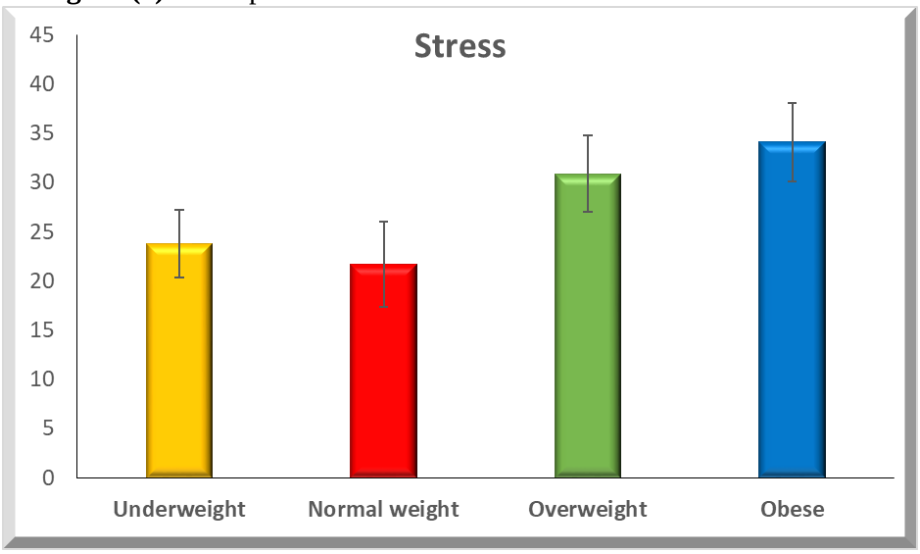
Table (6) Description of the Correlation between BMI and stress level Regarding The association between the stress and BMI score most of the participants statistically significant (P-value =0.001) and F 197.676 while increase in obese were (Mean ± SD 34.107±3.994) and rang 27.00-45.00 follow by Overweight were (Mean±SD30.898±3.919)

	Stress		**ANOVA**	
	Range	**Mean ± SD**	**F**	**P-value**
Underweight	16.00 - 27.00	23.800 ± 3.436	197.676	<0.001*
Normal weight	5.00 - 33.00	21.662 ± 4.316		
Overweight	28.00 - 40.00	30.898 ± 3.919		
Obese	27.00 - 45.00	34.107 ± 3.994		

Underweight & Normal weight	Underweight & Overweight	Underweight	Normal weight &Overweight	Normal weight &Obese	Overweight &Obese
0.014*	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*

Regarding the association between the stress and BMI score all score of the participants statistically significant in the Underweight &Normal weight were (P-value =0.014) followed by Underweight &Overweight were (P-value =0.001), Underweight, Normal weight &Overweight, Normal weight &Obese Overweight &Obese were (P-value =0.001).

Figure (3) Description of the Correlation between BMI and stress level



5. DISCUSSION

This study was conducted to assess Prevalence of Stress and its Association with Body Weight Among health care worker in Primary Health Care Centers, Makkah, 2020. Both stress and an unhealthy body weight can cause major psychological and physical health issues that will have bad impacts on students (10)

This study showed a significant association between BMI and stress (p value=0.010) which is in agreement to other studies done in Jizan, KSA (p-value= 0.001) (32) and Egypt (p-value =0.001) (25) Most of the respondents were female, they accounted for participent (62.0%) and nurse were(59%). The perceived prevalence of stressed respondents in the stress score were 23.3%. The prevalence of stress in this study is lower than the ones from Malaysia (48.6%) (16), Dammam (71.7%) (32), Jizan (71.9), and United Kingdom (31.2%) (19) but higher than Swedish study (12.9%) (17)

In 2014, the College of Medicine at Taibah University started a new curriculum that implemented these recommendations which might have helped in decreasing the stress among medical students.

The association between the stress and stress score most of the students moderate Stress were constitutes (65.8%) followed by low stress the were constitutes (24.1%) while a statistically significant (P-value <0.001) and Chi-square (129.16), the Range(0-40) (Mean ± SD 22.976 ± 5.805) (see table 5)

The average stress score was higher in female (23.35) than male (22.2). This discrepancy between male and female students could be attributed to many factors beside their psychological and physiological differences; female has fewer learning opportunities, poor educational services and lesser recreational activities compared to the male students. This is similar to a study done in Jizan University reported that the prevalence of stress was higher among females (76.9%) than male (63.7%)(32)

There is no significant association between GPA and stress level (P value= 0.118) which is similar to findings from other universities in Saudi Arabia and Pakistan (16).

6. Conclusion

We can conclude that prevalence rate of stress is very high among the medical students of health care worker in Primary Health Care Centers, Makkah, 2022 but without any significant difference between male and female. The prevalence rate of obese and overweight is not very high but there is a strong correlation between stress and BMI. Obesity is regarded as one of the most common health issue in different parts of the world. In Saudi Arabia, there is an increasing trend in the prevalence of obesity and overweight, which are also the sources of various diseases including hypertension, diabetes, obstructive sleep apnea, CVD etc. The research paper evaluates prevalence of obesity in Saudi Arabia by reviewing previous literature. According to the findings, the rate of obesity is significantly high in the country, and expected to increase in future. There is a dire need to raise the issue at the national level, and design efforts and strategies to combat obesity in the country, through involvement of all stakeholders, including policy makers, educators, healthcare providers, and individual citizens.

7. References

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