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STRESSORS FACING FEMALE MEDICAL STUDENTS – SAUDI ARABIA

Community Medicine

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ABSTRACT

BACKGROUND: People under stress may report emotional, physical, and mental symptoms. Medical students are more likely exposed to different types of stressors during their academic and social life.

OBJECTIVES: To determine the level of stress and associated factors among female medical students in faculty of medicine, Taif University.

SUBJECTS AND METHODS: Cross-sectional study carried out in the period between 24 - 28 of May, 2015 in the faculty of medicine at Taif University, Saudi Arabia. A total of 325 female medical students of the second to the sixth year invited to participate in this study. 264 students participated and returned the questionnaire. The study utilized Medical Student Stressor Questionnaire (MSSQ) to measure and identify stressors among medical students.

RESULTS: Researchers use Mann Whitney test and Kruskal Wallis test for comparison between data groups. While Spearman correlation test was used to assess the correlation between stressors and numerical variables. The study showed that the total percentage of students report a high and severe stress due to academic reasons was 83%. Different types of stressors were reported with different degrees among female medical students. However, there was a significant difference in the stress level of academic, social and group activity domains between medical students in basic and clinical years.

CONCLUSIONS: Academic stressors reported as a high to a severe source of stress in many studies including present study. This requires re-evaluation of academic process and support those students who suffer from high stress especially in basic years.

KEYWORDS

"stressors" "medical students", "stress", "Saudi Arabia".

Introduction:

Stress defined as a process of interchange between an organism and its environment that involves self-generated or environmentally induced changes that disrupt homeostatic processes in the organism–environment system.[1] A stressor is any real or perceived physical, social, or psychological event or stimulus that causes our bodies to react or respond.[1] People under stress reported emotional, physical, and mental symptoms ranging from lack of interest to depressed or sad mood.[2]

Medical students are more likely exposed to different types of stressors during their academic and social life.[3] Stress is of key interest to faculty decision makers because of the known adverse effects on academic performance and health as a whole.[3] There are several studies conducted internationally and locally to evaluate stress and its effect on medical students. According to O'Reilly E, et al, academic stressors are contributing to depression more than personal stressors.[4] Study and examinations are the most stressful factors reporting by medical students in the study conducted by Walter G, et al.[5] However, Results of studies suggest that stress during medical school training can affect mental well-being, social relationships, and academic performance.[6-7] Al-Dubai SA, et al stated that 46% of medical students in Malaysia having stress as a result of academic and financial reasons.[8] Moreover, a study was conducted in Nepal revealed that the prevalence of psychological morbidity among medical students was 20.9% and it was higher in basic years.[9]

Shaikh BT, et al in Pakistan have documented that more than 90% of medical students felt stress at one time with higher level among seniors. Academics and exams are the main stressors facing medical students.[10]

In United Arab Emirates, Gomathi KG evaluated psychological health and stress sources in first-year medical students. Psychological morbidity was documented in 33.6%. However, Stress and academic related stressors were significantly associated with psychological morbidity.[11]

In Saudi Arabia, Abdul Rahman AG, et al determined that the prevalence of stress in medical students was 53%.[12] Abdul Ghani HM, et al conducted another study about stress and its effect on medical students. They found that the prevalence of stress was 63%. Severe stress prevalence was 25%. Female medical students felt stress more than male medical students (75.7% and 57% respectively). Academic score was not associated with the stress level.[13] Moreover, Al-Dabal BK, et al compared the stress level between female medical and non-medical students. Stress was higher in female medical students (48.6% versus 38.7%) with higher physical and mental health problems.[14]

The aim of this study was to determine the level of stress and associated factors among female medical students in faculty of medicine, Taif University.

METHODOLOGY

The study was carried out in the period between 24 -28 of May, 2015 in the faculty of medicine at Taif University, Saudi Arabia by using an epidemiological cross-sectional study design. All female medical students of the second to the sixth year were enrolled in the study. First year considered as a preparatory year. All students in this year were excluded. Ethical approval was obtained from the ethical committee at Taif Armed Forces Hospitals. All participants signed the consent form which attached to each questionnaire.

The questionnaire consists of two parts. The first part was Socio-demographic data which include all independent variables (Age, level of study, marital status, GPA, family income, residency). The second part was a validated Medical Student Stressor Questionnaire (MSSQ). The questionnaire validity based on a study published in 2011 by Muhamad Saiful Bahri Yusoff to determine the validity, reliability of the Medical Student Stressor Questionnaire (MSSQ) among first-year medical students in Malaysia. The questionnaire showed good psychometric values.[3] The questionnaire contains 20 items which represents 6 domains:Academic related stressors (ARS), Intrapersonal and interpersonal related stressors (IRS), Teaching and learning-

related stressors (TLRS), Social related stressors (SRS), Drive and desire related stressors (DRS), Group activities related stressors (GARS).

The questionnaire was filled by respondents based on the rating scales. Zero means the type of stressor mentioned is not causing stress at all. While 4 means the stressor mentioned cause severe stress and affect daily activity

The mean of the scores given by students for each question in each one of the previously mentioned 6 domains were calculated based on the following:

The range from 0.00 to 1.00 indicate mild stress. The range from 1.01 to 2.00 indicate moderate stress. The range from 2.01 to 3.00 indicate high stress. The range from 3.01 to 4.00 indicate Severe stress.[3] Statistical Package for the Social Sciences (SPSS) version 22.0 was used for data entry and analysis. Frequency and percentages were calculated for categorical variables. Normality of distribution was computed by W Shapiro-Wilk's test for numerical variables. Comparison of quantitative data for 2 groups of data was performed by Mann Whitney test. Comparison of quantitative data for 3 groups of data was performed by Kruskal Wallis test. Spearman correlation was performed to assess correlation between stressors and numerical variables. A p-value of less than 0.05 was adopted for statistical significance.

RESULTS

A total of 325 female medical students invited to participate in this study. 264 students participated and returned the questionnaire. The overall response rate was 81.2%. The age of participant students ranges from 19 – 25 years (SD=1.437).

Table 1: Personal Information

Study Variables	Number	Percentage
Academic Year (n=264)		
2nd year	62	23.5%
3rd year	58	22.0%
4th year	44	16.7%
5th year	60	22.7%
6th year	40	15.2%
Academic Score (GPA) (n=213)		
Excellent	103	48.4%
Very good	89	41.8%
Good	20	9.4%
Fair	1	0.5%
Marital Status (n=264)		
Single	254	96.2%
Married	10	3.8%
Residency (n=264)		
In Taif	260	98.5%
Outside Taif	4	1.5%
Family Income (n=260)		
Less than 5000	12	4.6%
From 5000 to 10000	64	24.6%
More than 10000	184	70.8%

As table 1 shown: The students in basic years represent 45.5%, while clinical year students represent 54.5%. 48.4% of students got excellent academic score. Married students represent 3.8%. However, The majority of medical students lived inside Taif city. 70.8% of students have a family income above 10,000 Saudi Riyals.

Table 2: level of different stressors among female medical students

Type of Stressors	Mild		Moderate		High		Sever	
	N	(%)	N	(%)	N	(%)	N	(%)
ARS	4	1.50	51	15.50	106	40.20	113	42.80
IRS	118	44.7	85	32.2	37	14	24	9.1
TLRS	50	18.9	91	34.5	92	34.8	31	11.7
SRS	57	21.6	111	42	75	28.4	21	8
DRS	136	51.5	83	31.4	29	11	16	6.1
GARS	63	23.9	115	43.6	65	24.6	21	8

As table 2 shown: Academic related stressors cause a severe level of stress to the large number of female students (42.8%). The total percentage of students report a high and severe stress due to academic reasons is 83%.Interpersonal related stressors cause mild level of stress in about 45% of students. Moderate to high level of stress related to teaching and learning process was reported by the majority of female medical students (34.5% and 34.8% respectively). 42% of female medical students reported a moderate level of social related stress, while only 8% reported severe level of social related stress. However, about half of participants reported mild stress level regarding desire and drive to the study. Lastly, 43.6% of participants reported moderate levels of stress regarding group activity related factors.

Table 3: Relation between basic and clinical years and types of stress

Type of Stressors	Basic years		Clinical years		z	p
	x	SD	x	SD		
ARS	3.02	0.62	2.75	0.81	2.6	0.008
IRS	1.56	1.11	1.32	1.06	1.8	0.078
TLRS	2.09	0.88	2	0.95	0.56	0.573
SRS	2.10	0.85	1.72	0.82	4.2	0.000
DRS	1.29	1.14	1.27	1.03	1.9	0.843
GARS	1.98	0.89	1.65	0.92	2.9	0.003

As shown in table 3: There is a statistical significant difference in the stress level of academic, social and group activity domains between medical students in basic and clinical years.

Our study revealed, no relation between academic score, marital status, residence place, and family income with all types of stressor. However, there is a significant inverse relationship between age and academic, social and group activity related stressors.

DISCUSSION

Many studies have confirmed the presence of multiple stresses affecting medical students psychologically and academically, but they vary in accuracy and in the tools and questionnaires used to measure these stressors. Most of the studies were cross-sectional and dealing with the stressors faced by students at the university where the study was conducted. However, it may not be the same stresses and situations that affect students in other medical faculties.

In the present study, the academic related stress was rated as a high to severe level of stress for a large percent of students (83%), which agrees with other studies done in Australia, Malaysia and Nepal.[5,8,9]

Forty two percent (42%) of students in our study reported social stress as a moderate stress level, which was in accordance to the study done in Nepal which demonstrates a high level of social related stress like worry about the future, and becoming a doctor (44.6% and 38.1% respectively).[9]

High parental expectations reported as severe stress source by 52.3% of student in Nepal. This result is against the present study, which 51.1% of students reported this type of stress as a mild stress.[9]

Interpersonal related stress, which include (verbal or physical abuse by other students, teachers, personnel, or conflict with teachers) was rated as mild level in the present study by a large number of students (44.7%). The highest stress sources reported by students in Malaysia were the study in general and interpersonal conflicts (64.6% and 54.3% respectively). The least stress source reported by students was a conflict with teachers (22.6%).[8] In Pakistan, abuse was reported by first year medical students as a stress source by 85% of students. Female report more verbal and emotional abuse (90%).[17]

A local study done at King Saud University in Riyadh, Saudi Arabia by H. Abdul Ghani, et al reported that the stress was decreased as the academic year increased.[13] This result is similar to the present study, which shows that academic, social and group activities related stresses were significantly increased in students in basic years more than clinical years. Our study also shows no significant relationship between levels of stress and academic score, which is in accordance to Abdul Ghani's study.[13]

Preclinical students in a descriptive study done in Germany reported more stress than the clinical students, which is similar findings in the present study.[16] In contrast, a study done in Pakistan by K. Qamar, et al shows insignificant relationship between stress and academic year, which is against the present study results.[15]

A multi-center, cross-sectional study conducted in China concluded that there was a negative correlation between age and stress, which is similar to the present study.[18]

A cross-sectional study done in India by Nandi, et al shows an insignificant relationship between family income, place of residence and presence of stress. [6] This result agrees with the present study that shows no relation between place of residence, family income and level of stress.

There were limitations on the time and data collection because data were collected at the end of the academic year during the exam period.

In conclusion, Suffering with stress during the study period at medial college was demonstrated by many studies. Some stress is beneficial for keeping success. But extreme stress may cause burn out and fail in academic achievement. Academic stressors reported as a high to a severe source of stress in many studies including present study. This requires re-evaluation of academic process and support those students who suffer from high stress especially in basic years.

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