Stress and academic performance among MCST male medical students 2015-2016

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Abstract— **Background:** It is widely acknowledged that the medical students are predisposed to enormous stress due to different stressors such as academic, psychosocial, financial or health related, etc. Stress has a negative effect on the academic performance of the students. **Objective:** To determine the different type of stressors and stress level among MCST male medical students. **Methods:** It was a cross-sectional study conducted among Al-Maarefa colleges' male medical students from years 2 to 6. Random sample of 119 male medical undergraduates were assessed for the common sources of stress and the level of stress using a specially designed questionnaire and a stress scale. The stress levels were compared and correlated with various variables like stress factors, demographic factors, academic grades, etc. Chi square test with significant level (P-value 0.05) was used for statistical correlation amongst different variables. **Results:** Academic-related, Psychosocial-related and Health-related Stressors counts for high stress in 42%, moderate stress in 49.6% and low stress in 8.4% respondents respectively, responded have shown statistical relation with decrease GPA with P-value =0.001 And no statistical relation of stress among pre-clinical and clinical students. **Conclusion:** The study showed a diversity of stress sources and a high and moderate stress levels in the medical students. The results also show that higher level of stress is associated with poor academic performance.

Index Terms— Performance, Stress, Students.

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1 INTRODUCTION

Medical students' time is spread across multiple activities: attendance at lectures and placement, exams, extracurricular activities, jobs, family, and social life. Striking a balance between these commitments impacts upon academic performance and quality of life, which also influence each other [1]. It is a common belief that medical profession is a stressful field and this stress starts right from the very first day when a medical student enters the medical school. Undergraduate medical students are the most distressed group in comparison to students of any other undergraduate program. Medical students are expected to learn a huge amount of knowledge and facts, which is the leading factor that keeps them under tension. Moreover, the social and personal sacrifices they make for their studies also put them at high risk to be stressed [2].

Academic performance is one of the most vital considerations among students in higher education level [3]. Academic achievements of the medical students can be measured in the form of academic scores and their learning of various skills. High level of stress can obstruct the learning of medical students by impairing their concentration; problem solving and decision-making skills Level of stress may be variable among students of various academic achievement groups [2].

Many studies have revealed that the greatest source of stress for medical students is the medical curriculum. The top three sources of stress found in previous studies were examinations, learning large amounts of content, and lack of time to review what had been learnt. These studies showed that medical students were overloaded with the tremendous amount of information to be learnt in a limited time for examinations. The overload of information created feelings of academic disappointment because most medical students never perceived themselves as being able to revise sufficiently in the subjects they had studied in order to attain personal examination performance goals. Therefore, many medical students struggle with questions about their ability to meet the demands of medical curricula. The reported sources of stress for medical students seem to be linked with medical training and are related particularly to academic requirements. The demanding and intense environment of medical training creates excessive pressures on medical students that eventually lead to unfavorable consequences either at personal or professional levels, possibly resulting in poor academic performance and/or impaired cognitive ability [4].

Generally, academic stress inculcates a sense of competition and motivation among students and promotes learning. However, sometimes this stress produces anxiety and feelings of helplessness, leading to stress-related disorders and adversely

affecting performance, academic and non-academic. As a consequence of academic pressure, students have been reported to resort to academic misconduct and even substance abuse as a coping method. Some withdraw from their studies altogether, unable to cope with the stress, while others even attempt/commit suicide [5].

However, stress management training in medical school is needed to promote learning through coping of stress, which is called 'favorable stresses' [3]. Positive responses to stress will enhance people's internal equilibrium. This is possible only through appropriate coping strategies. There are two categories of coping strategies, including problem-oriented strategies (based on one's ability to manage the environmental event) and emotion-focused strategies (that focus on changing the emotions caused by a stressful situation) [6].

This study aims to determine different types of stressors and stress level among MCST male medical students.

2 METHADOLIGY

Our study is descriptive cross-sectional institutional study, conducted at February 2016. The sample size was 119 participants who are students affiliated to Almaarefa colleges. Excluding first year and graduated students, Almaarefa staff, Non-active students and other colleges' medical students. Random sampling is the technique used to choose participants. In this study we used self-administered questionnaire (a series of close-ended questions directed at the students that will aid in gathering information's about the levels of stress and their academic performance). Which was subjected to a probe firstly to test for reliability and validity. The data was analyzed using statistical package for social science (SPSS) version 20 and Microsoft Excel was used to gather figures and charts. Chi square test was the statistical test used with significant level (P-value 0.05). Consent was obtained before data collection emphasizing each participant right to withdraw from the study at any point of time.

TABLE 1
THE RELATIONSHIP BETWEEN LEVEL OF STRESS IN PRECLINICAL AND CLINICAL YEARS:

		Years				Total
		Preclinical (2,3,4)		Clinical (5,6)		
Stress	Low	7	8%	3	8.5%	10
	Moderate	42	50%	17	48.5%	59
	High	35	42%	15	43%	50
Total		84	100%	35	100%	119

Table (1): Showed that the relationship between the stress level in preclinical and clinical years is insignificant because the P-value=0.901, and also showed that 50% of preclinical and 48.5% of clinical students were under moderate stress, and that 42% of preclinical and 43% of clinical students were under high stress.

3 RESULTS

TABLE 2
THE RELATIONSHIP BETWEEN THE LEVEL OF STRESS AND GPA DIFFERENCE (PREVIOUS & CURRENT YEAR)

		GPA difference (Previous & current year)										Total
		Improved		Not change		Decreased						
						Slightly decreased (<0.5)		Moderately decreased (0.6-1)		Significantly decreased (>1)		
Stress level	Low	0	0%	3	30%	4	13.8%	3	9.1%	0	0%	10
	Moderate	13	81.25%	4	40%	18	62.1%	16	48.5%	8	25.8%	59
	High	3	18.75%	3	30%	7	24.1%	14	42.4%	23	74.2%	50
Total		16	100%	10	100%	29	100%	33	100%	31	100%	119

Table (2): Showed that the relationship between the stress level and GPA difference (Previous & current year) is significant because the P-value =0.001, and also showed that students with decreased GPA in current year as compared with previous year were 78.15% and students with not changed GPA were 8.4%, while that students with improved GPA were 13.45%. Most of the students with improved and not changed GPA in current year as compared with previous year were under moderate stress. While students with decreased GPA 47.3% of them were under high stress, 45.2% were under moderate stress and 7% were under low stress.62.1% and 48.5% of students with slightly and moderately decreased GPA were under moderate stress respectively, while 74.2% of students with significantly decreased GPA were under high stress.
While 55% and 71.4% of students who sometimes feel comfortable and totally feel comfortable with college were under moderate stress respectively.

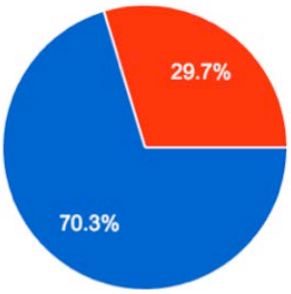

Figure (1): preclinical and clinical years:

Fig. 1. Showed that 84 (70.3%) of students were in preclinical years and that 35 (29.7%) of students were in clinical years.

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4 Discussion

Our study revel that half of pre-clinical and almost half of clinical year students were under moderate stress and almost the same percentage of pre-clinical and clinical students were under high stress, this goes in line with study by Koochaki in Iran among medical students, 2011[7], there study showed no statistical relation between level of stress among clinical and pre-clinical phases students. In the other hand our study geos contrary with study by Marjani et al.'s study in the Islamic Republic of Iran', 2008 [8] which revealed that there was statistically significant association between the year of study and the stress levels.

Our study found that there is association between level of stress and GPA difference from previous year to the current year, this result geos in line to study done by Sohail, 2013[9] in that study demonstrate high level of stress is associated with poor academic performance, however it gose in contrary with study by Hamza M. Abdulghani, 2011[10] which found no association between level of stress and GPA.

5 Conclusion

It was found that the majority of the students were under moderate level of stress despite their grade. The most important factor that affected the level of stress among the students from different levels were the social stress. And at the end all of these factors reflect an effect on academic performance, which may be either good or bad.

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References

[1] Lumley, S[1] and Ward, P[2]. "Self-reported extracurricular activity, academic success, and quality of life in UK medical students." *International journal of medical education* 2015; 6: 111-117.

[2] Sajid, Aisha[1] and Tanvir Ahmad[2]. "Stress in medical undergraduates; its association with academic performance." *Bangladesh Journal of Medical Science* 2015; 14 (2): 135-141.

[3] Siraj, Harlina Halizah[1] and Abdus Salam[2]. "Stress and its association with the academic performance of undergraduate fourth year medical students at UniversitiKebangsaan Malaysia." *The International Medical Journal of Malaysia* 2014; 13(1): 19-24.

[4] Yusoff, Muhamad SB[1]. "Associations of pass-fail outcomes with psychological health of first-year medical students in a malaysian medical school." *Sultan Qaboos University Medical Journal* 2013; 13(1): 107-114.

[5] Ali, Madiha[1] and Hamna, Asim[1]. "Does academic assessment system type affect levels of academic stress in medical students? A cross-sectional study from Pakistan."*Medical education online* 2015; 20: 10.3402/meo.v20.27706.

[6] Niknami, Maryam[1] and Fatemeh Dehghani[1]. "An assessment of the stressors and ways of coping in Iranian medical sciences students." *Iranian journal of nursing and midwifery research* 2015; 20(4): 521-525.

[7] Koochaki, G. M[1].,and A. Charkazi[2]. "Prevalence of stress among Iranian medical students: a questionnaire survey/Prévalence du stress chez les étudiantsenmédecineiraniens: uneenquête par questionnaire". *Eastern Mediterranean Health* Journal2011 Jul 1; 17(7): 593.

[8] Marjani, A[1].,and A. M. Gharavi[2]. "Stress among medical students of Gorgan (South East of Caspian Sea). " Iran.*Katmandu University Medical Journal* 2008, 6:421–425.

[9] Sohail, Nudrat[1]. " Stress and academic performance among medical students. " *J Coll Physicians Surg Pak* 2013; 23(1): 67-71.

[10] Abdulghani, Hamza M[1].,and Abdulaziz A. AlKanhal[2]. "Stress and its effects on medical students: a cross-sectional study at a college of medicine in Saudi Arabia." *Journal of health, population, and nutrition* 2011; 29(5): 516-522