

Stress Among Preclinical Medical Students of University Sultan Zainal Abidin

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ABSTRACT

It is well known that medical students often face many difficulties during their studies in medical school. Stress is the feeling which is created when a person react to the particular events. It makes you feel threatened or upset. Stress is a combination of psychological, physiological and behavioral reactions that people have in response to event that challenge them. This is a cross sectional study and was conducted in FPSK, UniSZA, Kuala Terengganu, Malaysia. An instrument on stress assessment was developed through extensive review of literatures. Questionnaire was pretested and validated. A total of 60 questionnaires were given to the preclinical medical students of UniSZA. Study subjects were selected randomly. Current study found out that 47 (78.3%) students might be having stress related problem. Major cause of stress is academic because of curricular overload. The dominant approach to cope with stress is prayer in this medical school. Coping stress in medical student life is one of most important quality. Therefore students should be taught different stress management techniques to improve their ability to cope with a demanding professional course. The hostel related issues and recreational facilities should be improved as far as possible within limited funds.

INTRODUCTION

A place in medical school in many countries is very highly expressively difficult. Therefore admission to final professional exam in medical school life is quite stressful (Niaura *et al.*, 1991). It is not clear whether medical education is particularly more stressful than other higher education (Firth-Cozens, 2001). Furthermore university life is much different especially medical school than high school. As students need to live alone and less supported condition, and copying with the high pressure of study demands of the programme is often tough for

young folks (Barikani, 2008; Wolf, 1994). Medical students are predominantly suffers from stress during their undergraduate course as because of academic pressure, classicist criteria and tough nature of medical practice which requires involvement with human suffering, death, sexuality and fear (Shah and Trivedi, 2009; Takeichi and Sato, 2000; Abdulghani *et al.*, 2011; Rosal *et al.*, 1997; Stewart *et al.*, 1999; Singh *et al.*, 2004; Wilkinsos *et al.*, 2006; Styles, 1993; Vitaliano *et al.*, 1984). At many occasion stress lead to poor physical health, mental distress, reduce students' self-esteem and have a negative effect on cognitive functioning and learning of students in the medical school (Silver and Glicker, 1990; Niemi and Vainiomaki, 1999; Dahlin *et al.*, 2005; Dyrbye *et al.*, 2006; Velayudhan *et al.*, 2010; Fish and Nies 1996; Chew-Graham *et al.*, 2003; Saipanish, 2003). Multiple researches reported that stress damages mental health. Therefore causes anxiety and depression in medical students not only in advance countries (Rosal *et al.*, 1997; Vitaliano *et al.*, 1984;

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Vitaliano *et al.*, 1989; Murphy *et al.*, 1984; Bramness *et al.*, 1991; Firth-Cozens *et al.*, 1989; Peterlini *et al.*, 2002) but also developing countries (Stewart *et al.*, 1995; Stewart *et al.*, 1997).

Medical students are exposed to diverse varieties of stress. It is reported during undergraduate medical education stress is related to academic, financial and social. Sometime stress arises from compulsion to succeed and also in difficulties of integrating education system (Singh *et al.*, 2010; Inam *et al.*, 2003). Researcher identified stress of medical students are mainly due to curricular overload but not due to personal difficulties (Coles, 1994; Guthrie *et al.*, 1995; Kaufman *et al.*, 1998). It is because of demanding, intense environment of medical education has created excessive pressure on medical students (Yusoff, 2013). There are number of reports available indicates that medical school's environment is not congenial and friendly to enhance psychological and physical health of students (Guthrie *et al.*, 1998; Given *et al.*, 2002; Vitaliano *et al.*, 1989). It is less than 3% in any population suffers from psychiatric diseases. Similar figure also observed with medical students before taking admission in medical school (Institute for Health System Research, 2002; Yusoff *et al.*, 2013a; Yusoff *et al.*, 2013b; Smith *et al.*, 2007).

However, psychological morbidity in medical students rises sharply to 21% to 56% (Yusoff and Rahim, 2011). There are reports that at the end of first year it is doubled which very alarming (Vitaliano *et al.*, 1989; Yusoff, 2011). Currently there are lot of discussions regarding stress of medical students because mental health ensures total health (WHO, 2003). Research reported three main areas of stress; academic pressures, social issues and financial problems (Vitaliano *et al.*, 1984). A number studies emphasis on the quality of life of medical students which will ensure quality of medical education and henceforth better prescriber on basis of rational use of medicine for this earth (Vitaliano *et al.*, 1984; Guthrie *et al.*, 1995; Firth, 1986).

Information on regarding stress of medical students is imperative as because therefore authority controls medical education can take necessary preventive measures for vulnerable future medical doctors. This study aimed to evaluate the prevalence of stress among pre-clinical medical students and how each student copes with their stress in FPSK, UniSZA.

MATERIALS AND METHODS

This study is a cross sectional study and was conducted in FPSK UniSZA, Kuala Terengganu, Terengganu, Malaysia. Total study population was 117. Out of 117 preclinical medical students 60 were selected randomly, from Year-I and Year-II of session 2012-2013, from MBBS programme. The period of study was from 9 July to 16 July 2013. The data was conducted by medical students of Year-II as part of elective programme.

An instrument on stress assessment was developed through extensive review of literatures. Questionnaire was pretested and validated. This study was conducted by distributing the questionnaire to the participants. The questionnaires were divided into three sections: section A was for demography, section

B was for the Stress Test, section C was for the questionnaires on stress level, causes of stress and strategies to cope stress. The data was then compiled and analysed using SPSS version-16. The study was approved by the committee of the FPSK, UniSZA for medical-students in-course research.

RESULTS

Out of 60 respondents, 36 (60%) were from Year-I and 24 (40%) were from Year-II. Among them 20 (33%) were male and 40 (67%) were female. Majority [47 (78%)] of study population were Malay and rest were either Chinese [6 (10%)] or Indian [7 (12%)]. Again among our respondents majority [47(78%)] were Muslim but UniSZA have other religion like Hindu [7 (12%)], Buddhist [4 (7%)] and Christian [2 (3%)] students also. Our study participants were from 11 different states [Johor 8 (13.3%), Kedah 7 (11.7%), Kelantan 5 (8.3%), Kuala Lumpur 3 (5%), Malacca 1 (1.7%), Negeri Sembilan 2 (3.3%), Pahang 5 (8.3%), Perak 6 (10%), Sarawak 2 (3.3%), Selangor 16 (26.7%), and Terengganu 5 (8.3%)]. Therefore majority were from Selangor.

The prevalence of the stress among the medical students and its level were evaluated by using the stress test. Stress test was based on the scoring of the behavior and symptoms of stress. The students that experienced more than 3 symptoms with scores of 2 or 3 were labeled as suffering from stress related problem. Study found that 47 students experienced stress related problem which is 78.3% in total and majority of them experienced moderate level of stress (Table 1).

Majority of the respondents 33 (55%) were having teaching and learning related source of stress due to too many lectures to attend every day (Table 2). Other stressor that had been identified was too much assignment [19 (31.7%)], Problem Based Learning (PBL) sessions [21 (35%)], lecturers asking question during class [19 (31.7%)] and infrastructures [17 (28.3%)] (Figure 1 & Table 2).

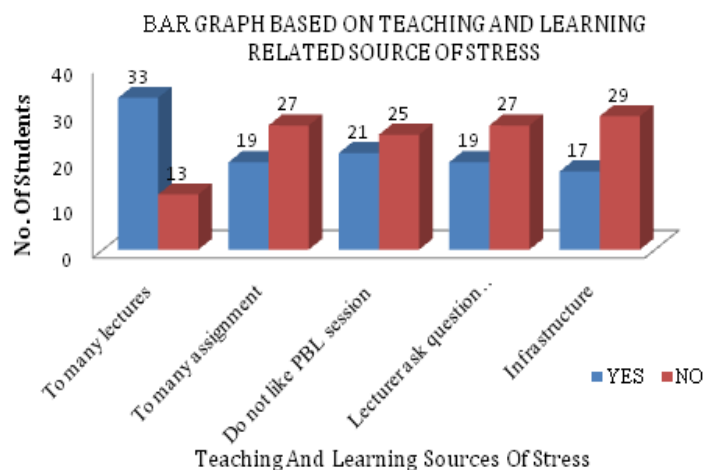


Fig. 1: Teaching and Learning Related Source of Stress.

Regarding the studying related sources of stress, memorizing subjects was the most stressful problem [42 (70%)] (Figure 2 &

Table 2). Difficulty in understanding the subjects, not enough time for revision and uncomfortable hostel environment for studying had also been identified as an important stressor with the percentage of 51.7%, 65% and 41.7% respectively (Table 2).

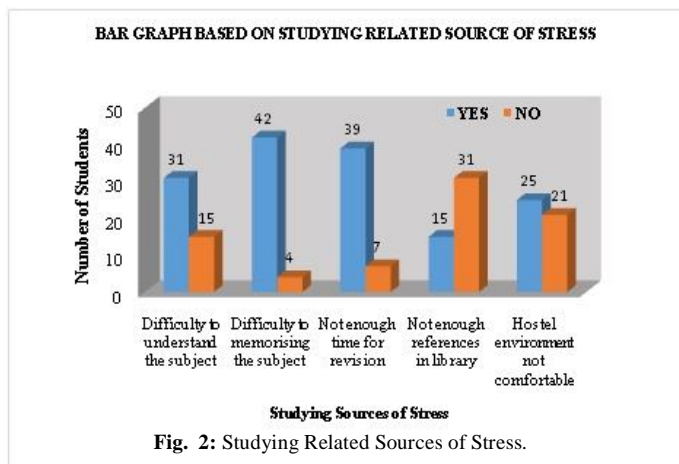


Fig. 2: Studying Related Sources of Stress.

Personal problem had also been identified as a cause of stress among preclinical medical students. The significant stressor that had been identified under this group was very high price for the food [33 (55%)], homesick [(28 (46.7%))] and difficulty in

getting food [(27 (45%))] (Figure 3 & Table 2). There were some other sources of stress; such as financial problem [(20 (33%))] and used to walk every day to campus [12 (20%)]. Relationship with family and boyfriend or girlfriend was not seems to be serious problem to the students.

Our 50% study population also developed stress due to uncomfortable hostel environment (Table 2). Present study detected that lack of recreational facilities also contributed for the development of stress among pre-clinical students. A few other factors that had contributed to stress among medical students had been identified. These include social problems, poor networking at the hostels and campus as well as lack of facilities. Some students also felt that they had failed in managing their time thus lead to stress problem.

Present work had been identified a few ways to overcome the stress. One of the examples was religious rituals such as recite Quran, praying as well as practicing Dzikir. Beside religious practice students overcome their stress by eating, singing, dancing, listening to music, playing games and going outside of the campus like walking along the beach. Lastly, a few students felt that their stress can be relieved by crying (Table 2).

Table. 1: Respondent's stress level (n=60).

Stress level	1	2	3	4	5	6	7	8	9	10	Total
No. of respondents	0	1	7	6	14	5	8	4	1	1	47
n (%)		(1.7)	(11.7)	(10.0)	(23.3)	(8.3)	(13.3)	(6.7)	(1.7)	(1.7)	(79%)

1-2=Mild stress; 3-8=Moderate Stress; 9-10=Most stress

Table. 2: Factors related to the stress and how they overcome the stress.

Teaching and learning, n (%)			Studying, n (%)			Personal, n (%)		
Factors	Yes	No	Factors	Yes	No	Factors	Yes	No
Too many lectures	33 (55.0)	12 (20.0)	Difficulty understand subjects	31 (51.7)	15 (25.0)	Family problems	10 (16.7)	36 (60.0)
Too many assignments	19 (31.7)	27 (45.0)	Difficulty memorizing facts	42 (70.0)	4 (6.7)	Homesick	28 (46.7)	18 (30.0)
Do not like the PBL session	21 (35.0)	25 (41.7)	Not enough time for revision	39 (65.0)	7 (11.7)	Girl/boyfriend problems	10 (16.7)	36 (60.0)
Lecturer ask questions during class	19 (31.7)	27 (45.0)	Not enough references in library	15 (25.0)	31 (51.7)	Difficulty in getting food	27 (45.0)	19 (31.7)
Infrastructure	17 (28.3)	29 (48.3)	Hostel environment not comfortable	25 (41.7)	21 (35.0)	Food price is very high	33 (55.0)	13 (21.7)
						Financial problem	20 (33.3)	26 (43.3)
						Walking every day to campus	12 (20.0)	34 (56.7)
Hostel, n (%)			Recreational activities, n (%)			Other factors		
Factors	Yes	No	Factors	Yes	No			
Uncomfortable environment	30 (50.0)	30 (50.0)	Lack of facilities	34 (57.0)	26 (43.0)	Social problems, Poor networking at the hostel and campus, Lack of facilities, Failure in time management		

Overcome the stress

Recite Quran,
Praying as well as practicing Dzikir,
Eating, singing, dancing, listening to musics,
Playing games,
Going outside the campus like walking along the beach,
Crying .

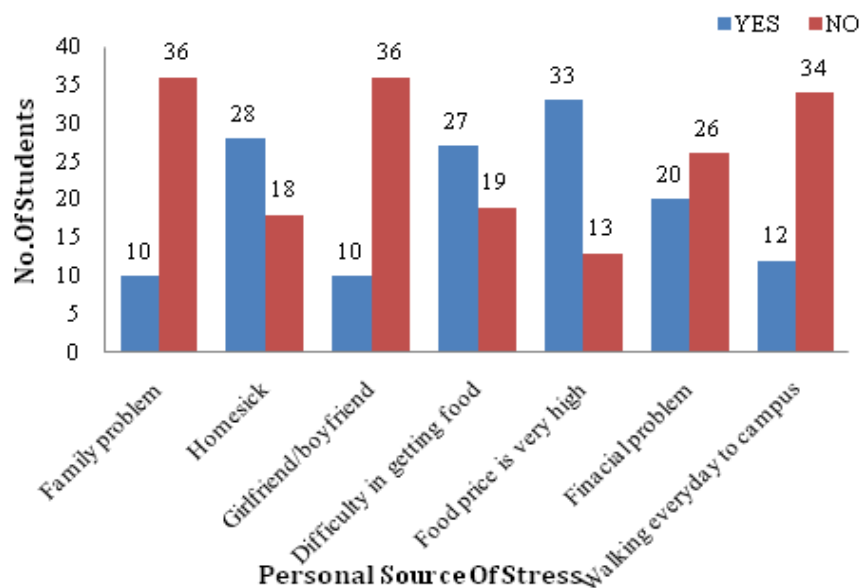


Fig. 3: Bar Graph Based on Personal Related Source of Stress.

DISCUSSION AND CONCLUSION

World Health Organization define 'mental health is a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively, and is able to make a contribution to his or her community' (WHO, 2005). Almost all language and community the term stress has been deep-seated as like part of life (Al-Sowaygh 2013). The term stress is use for 50 years as common jargon widespread dialect. Hans Selye in the early 1930s first started to use the term stress. Researcher mean with stress 'is a bio-psychosocial model that refers to the consequence of failure of an organism to respond adequately to mental, emotional or physical demands, whether actual or imagined' (Selye, 1982). People even in absence of major psychiatric disorders also suffer from socio-culturally and lead to poor physical health and education status (Kozier, 2008; Kitchener and Jorm, 2002). Good mental health status is imperative to progress and maintain a quality life for each individual (Kitchener and Jorm, 2002). Most common psychiatric health disorders related to stress are depression and anxiety (Richards *et al.*, 2010). There is alarming report that at least 50% of world population is some kind of poor mental health (Storrie *et al.*, 2010).

Present study found 47 (78.3%) students suffers from stress. Similar study conducted in Saudi Arabia reported 63.8% suffers from all form of stress but 25.2% is severe stress (Abdulghani *et al.*, 2011). Therefore current study finding is almost similar with Arabian study. Academic stress is much higher than other thing causing stress. Multiple similar studies also reported (Coles 1994; Guthrie *et al.*, 1995; Kaufman *et al.*, 1998). The stressor of current study includes teaching and learning, studying and personal problems. Based on teaching and learning source of stress, too many lectures become the main problem that

caused they stress. The entire problems that are classified in teaching and learning session had occurred due to problem in managing their time properly. Most of the students can't arrange their daily schedule properly.

In study session, some problems like difficulty in understanding and memorizing subjects, not enough time and references for revision and uncomfortable environments become the source of stress among the students. These may be occurred due to lack of preparation that has been done by the students before starting the study session. The students must give the full of interest in their study to avoid these entire problems from occur.

Personal matters sometimes may become sources of stress among students. Some of the problems that always been faced by the students are relationship problems either with family or lover, homesick, difficulty in getting food, expensive food, financial and transportation matters. To overcome these problems, the students should have to control their emotional status properly. Our study population reduces stress by taking different measures. A few solutions are listed by the respondents. Every student has different ways in reducing their tension. Based on the stress level of the students, it shows that most of the preclinical medical students are able to manage their tension properly even though they are having some stress related problems. The ability in controlling stress and emotion is the most important skill that must be having by each of preclinical medical students.

Current study finds 78.3% of preclinical medical students experienced stress. The most common sources of stress faced by UniSZA preclinical medical students is study related stress. This study related stress mainly due to too much lectures which in turn gives them problem in memorizing all the facts. On the other hand, coping stress is closely related to the religious activity. Majority of our respondents are Muslim and prefer to recite Holy Quran or Dzikir in order to have calmness while experiencing stress.

Meanwhile, for others religion they prefer to eat, recreation or sports activity and play games. But, there is similarity of their way facing the stress is by sleep. Coping stress in medical student life one of most important quality. The students should be taught different stress management techniques to improve their ability to cope with a demanding professional course. The hostel related issues and recreational facilities should be resolved as far as possible within limited resources. Therefore authors hope & believe that, medical students will do much better in their academic and personal life. Well-designed prospective study is suggested for this burning issue of medical students to ensure more community oriented rational medical doctor for Malaysia and rest of the world.

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