Original paper

Assessments of Self -Esteem and Stress among Babylon Medical College students

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Abstract

Background: medical students experience a high level of stress during their undergraduate course. High level of stress may have a negative effect on cognitive functioning and learning of students in the medical school.

The objectives: to assess stress, self-esteem among medical students and some factors effect on them and the effect of stress on self -esteem.

Material and method: (185) undergraduate students of medical college Babylon university that were selected randomly. A written questionnaire about some socio-demographic information, assess the stress and the self -esteem. Weight and height of the participant students was also taken.

Results: (49%) of participants have normal Self-esteem and (57%) of participants have medium stresses and low level of high stress (14.8%) with no significant associations of stress with participant gender , study level and residence and with body mass index with increase in frequency of high stress in underweight students. There was significant association of Self-Esteem Scale with study level, delay in academic years and using computer and reduce level of self-esteem with increased level of stress

Conclusion: about half of students reported normal self -esteem with medium stress and low level of high stress during period of examination and reduce level of self-esteem with increased level of stress.

Key words: Rosenberg Self-Esteem Scale, Perceived Stress Scale, medical students.

Introduction

Stress is defined as an imbalance between environmental conditions necessary for survival and the ability of individuals to adapt to those conditions. Stress among medical students has been recognized for a long time. There are three issues considered the most important for the development of stress in medical students. First is the fact that they have to learn a lot of new information in a short time, Second they have exams (evaluation period), and the last one is that they have little or no time to review what they learn [(1)].

Medical students are overloaded with a tremendous amount of information. They have a limited amount of time to memorize all the information studied. The overload of information creates a feeling of disappointment because of the inability to handle all the information at once. Many medical students struggle with their own capacity to meet the demands of medical curriculum [(1)].

The most stressful period that medical students have is when they need to bridge the gap between graduation from secondary school and being in medical college. The Resident Service Committee of the Association of Program Directors in Internal Medicine (APDIM) divided the common stressors of residency into three categories: situational, personal, and profession [(2)]. Situational stressors include inordinate hours, sleep deprivation,

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excessive workload, overbearing clerical and administrative responsibilities, inadequate support from allied health professionals, too many difficult patients, and conditions for learning that are less than optimal [3]. Third and fourth stage students have other stress situations because they start to interact with the patients. This interaction includes moments when the medical students face their patients with bad news [2].Personal stressors include family, who may be a source of support, but can also be a source of conflict and negative stress. Financial issues, as many residents carry heavy educational debts, and they feel compelled to have a secondary job in order to repay their debts. Other stressors include limited free time to relax or develop new support systems, psycho-social concerns brought by the stress of residency, and inadequate coping skills. Professional stressors include responsibility for patient care, supervision of more junior residents and students, difficult patients, information overload and career planning [4].

The students make an effort to counteract the impact of stressful situations with various coping skills. The coping includes both cognitive and behavioral efforts against the problem of the stress encountered during examinations [5] Medical students who fail to manage their stress levels have a prevalence to be less competent in their work. Students may do not manage the time limits for examinations well and lack time for exercise and social interactions because those points they be more stress [4]

An optimal level of stress is considered good because medical students develop coping abilities [6]. Feelings of disappointment academically are most prevalent in those students who have poor academic performance [1].

Stress may also harm professional effectiveness. It decreases attention, reduces concentration, impinges on decision-making skills, and reduces the ability to establish strong physician–patient relationships. [7] Medical students have also noticed changes in their behavior when they are stressed. Irritability and depression are common in students in later semesters, and those mental disturbances increase when examinations start. [8]

The objective of this study was to assess stress, self-esteem among medical students and some factors effect on them and the effect of stress on self -esteem.

Material and Methods

The current study was analytic cross sectional study conducted at Babylon medical college students/Babylon university, Iraq". Data collection was carried out in about mid-examination period from 1st -15th of February 2015.

The sample included in present study was (185) Babylon medical students of all stages, the sample were chosen by stratified random sampling.

The questionnaire contains some socio-demographic data with specific questions referring to the objectives of the study that were collected by some fourth year medical students.

Two scores were used in the current study; Cohen, S. and Williamson [9] that recommended:

(Stress Free (≤10), Low Stress (11-20), Medium Stress (21-30) and High Stress (>30))

The other score was to assess the self-esteem is Rosenberg's self-esteem scale.

Rosenberg self-esteem scale (Rosenberg, 1965): It is a ten item Likert type scale. The higher the score higher the self-esteem. Scores were analyzed as:

(Low self-esteem (<15), normal self-esteem (15-25) and high self-esteem (>25))

Ethical considerations

Ethical issues of this study depend of the following:

1- Approval of scientific committee of family and community medicine departments.

2- Approval of the ethical Committee of College of Medicine Babylon University

The objective and methodology of this study were explained to all participants in the study to gain their verbal acceptance**.**

Data Analysis

Recorded information was checked for missing values and data entry errors. Statistical analysis was performed using Statistical Package for Social Science software (SPSS, version 17). Variables were described using frequency distribution and percentage for the patients according to their characteristics. Chi square test was used for the assessment of the association between the variables studied. A p- value of less than 0.05 was significant statistically.

Results

The overall mean age of participant was (20.15±2.78) years old the distribution of participants by gender was (69.8%) of participants were females and (30.2%) were male and (69.2%), (30.8%) of students lived in urban, rural areas respectively.

Table 1 shows the distribution of participants by history of delay in academic years, medical problems, smoking history. (8.2%) of participants were having one year delay in their study, (20.9%) having medical problems, (13.7%) of participants were working and (8.8%) were smokers, (20.3%) having sport for more than three hours/ week, (64.8%) were overweight/ obese, (70.3%) were watching TV more than three hours/week. (67.6%) of participants were using computer more than three hours/week.

Figure 1 shows the distribution of participants by Rosenberg Self-Esteem Scale, (48.9%) of participants have normal Self-esteem.

Figure 2 shows the distribution of participants by Perceived Stress Scale, (56.6%), (14.8%) of participants have medium and high stress respectively.

Table 2 shows that there were no significant associations of Perceived Stress Scale with participant gender, study level and residence.

Table 3 shows that there was significant association of Perceived Stress Scale with having sport (p value ≤ 0.05 is significant).

Table 1. Distribution of participants by some variables

Variable	frequency (%)
Delay in years	
Yes	15(8.2)
No	167(91.8)
Medical problem	
Yes	38(20.9)
No	144(79.1)
Working	
Yes	25(13.7)
No	157(86.3)
Smoking	
Yes	16(8.8)
No	166(91.2)
Having sport	
>3hours/week	37(20.3)
≤3hours/week	145(79.7)
Body mass index	
Underweight	19(10.4)
Normal weight	45(24.7)
Overweight/obese	118(64.8)
Watching TV	
>3hours/week	128(70.3)
≤3 hours/week	54(29.7)
Using computer	
>3hours/week	123(67.6)
≤3hours/week	59(32.4)

Table 2. Association of Perceived Stress Scale with participant gender, study level and residence

Variable	Perceived Stress Scale				χ^2	*P* values
	Stress Free (%) ≤ 10	Low Stress (%) 11-20	Medium Stress (%) 21-30	High Stress (%) < 30		
gender						
male	1 (50.0)	20 (40.0)	25 (24.3)	5 (18.5)	5.963	0.113
female	1 (50.0)	30 (60.0)	78 (75.7)	22 (81.5)		
Study level						
1st level	0 (0.0)	6 (12.0)	15 (14.6)	10 (37.0)	22.122	0.105
2nd level	0 (0.0)	13 (26.0)	18 (17.5)	2 (7.4)		
3rd level	0 (0.0)	8 (16.0)	18 (17.5)	2 (7.4)		
4th level	2 (100.0)	13 (26.0)	23 (22.3)	4 (14.8)		
5th level	0 (0.0)	6 (12.0)	20 (19.4)	4 (14.8)		
6th level	0 (0.0)	4 (8.0)	9 (8.7)	5 (18.5		
Residence						
rural area	1 (50.0)	19 (38.0)	28 (27.2)	8 (29.6)	2.212	0.530
urban area	1 (50.0)	31 (62.0)	75 (72.8)	19 (70.4)		

P-value≤0.05 was significant

Table 3. Association of Perceived Stress Scale with participant variables

Variable	Perceived Stress Scale				χ^2	*P* values
	Stress Free (%) ≤ 10	Low Stress (%) 11-20	Medium Stress (%) 21-30	High Stress (%) < 30		
Delay in academic years						
Yes	0 (0.0)	5 (10.0)	8 (7.8)	2 (7.4)	0.440	0.932
No	2 (100.0)	45 (90.0)	95 (92.2)	25 (92.6)		
Medical problem						
Yes	2 (100.0)	38 (76.0)	85 (82.5)	19 (70.4)	2.796	0.424
No	0 (0.0)	12 (24.0)	18 (17.5)	8 (29.6)		
Working						
Yes	0 (0.0)	8 (16.0)	7 (6.8)	1 (3.7)	4.816	0.186
No	2 (100.0)	42 (84.0)	96 (93.2)	26 (96.3)		
Smoking						
Yes	0 (0.0)	8 (16.0)	7 (6.8)	1 (3.7)	4.816	0.186
No	2 (100.0)	42 (84.0)	96 (93.2)	26 (96.3)		
Having Sport						
> 3 hour/week	0 (0.0)	17 (34.0)	12 (11.7)	8 (29.6)	**12.511**	**0.006***
≤ 3 hour/week	2 (100.0)	33 (66.0)	91 (88.3)	19 (70.4)		
BMI						
Underweight	0 (0.0)	8 (16.0)	72 (69.9)	20 (74.1)	9.502	0.147
Normal weight	0 (0.0)	18 (36.0)	22 (21.4)	5 (18.5)		
Overweight/obese	2 (100.0)	24 (48.0)	9 (8.7)	2 (7.4)		
Watching TV						
> 3 hours/week	1 (50.0)	36 (72.0)	73 (60.9)	18 (66.7)	0.651	0.885
≤ 3 hour/ week	1 (50.0)	14 (28.0)	30 (29.1)	9 (33.3)		
Using Computer						
> 3 hours/week	2 (100.0)	30 (60.0)	74 (71.8)	17 (63.0)	3.389	0.336
≤ 3 hour/ week	0 (0.0)	20 (40.0)	29 (28.2)	10 (37.0)		

P value ≤ 0.05 is significant, BMI: body mass index

Table 4 shows that there was significant association of Rosenberg Self-Esteem Scale with study level (p value ≤ 0.05 is significant).

Table 5 shows that there was significant association of Rosenberg Self-Esteem Scale with delay in academic years and using computer (p value = 0.04 and 0.012) respectively.

Table 4. Association of Rosenberg Self-Esteem Scale with participant gender, study level and residence

Variable	Rosenberg Self-Esteem Scale			χ^2	*P* values
	Low (%) < 15	Normal (%) 15-25	High (%) > 25		
gender					
Male	17 (21.5)	30 (33.7)	4 (28.6)	3.085	0.214
Female	62 (78.5)	59 (66.3)	10 (71.4)		
Study level					
1st level	9 (11.4)	19 (21.3)	3 (21.4)	29.549	**0.001***
2nd level	14 (17.7)	19 (21.3)	0 (0.0)		
3rd level	5 (6.3)	22 (24.7)	1 (7.1)		
4th level	23 (29.1)	12 (13.5)	7 (50.0)		
5th level	17 (21.5)	12 (13.5)	2 (14.3)		
6th level	11 (13.9)	5 (5.6)	1 (7.1)		
Residence					
Rural area	21 (26.6)	31 (34.8)	4 (28.6)	1.371	0.504
Urban area	58 (73.4)	58 (65.2)	10 (71.4)		

P value ≤ 0.05 is significant

Table 5. Association of Rosenberg Self-Esteem Scale with some variables

Variable	Rosenberg Self-Esteem Scale			χ^2	*P* values
	Low (%) < 15	Normal (%) 15-25	High (%) > 25		
Delay in academic years					
Yes	11 (13.9)	3 (3.4)	1 (7.1)	6.188	**0.04***
No	68 (86.1)	86 (96.6)	13 (92.9)		
Medical problem					
Yes	61 (77.2)	70 (78.7)	13 (92.9)	1.785	0.410
No	18 (22.8)	19 (21.3)	1 (7.1)		
Working					
Yes	12 (15.2)	9 (10.1)	4 (28.6)	3.728	0.155
No	67 (84.8)	80 (89.9)	10 (71.4)		
Smoking					
Yes	6 (7.6)	9 (10.1)	1 (7.1)	0.382	0.826
No	73 (92.4)	80 (89.9)	13 (92.9)		
Having Sport					
> 3 hour/week	18 (22.8)	17 (19.1)	2 (14.3)	0.693	0.707
≤ 3 hour/week	61 (77.2)	72 (80.9)	12 (85.7)		
BMI					
Underweight	5 (6.3)	13 (14.6)	1 (7.1)	4.770	0.312
Normal weight	22 (27.8)	18 (20.2)	5 (35.7)		
Overweight/obese	52 (65.8)	58 (57.1)	8 (57.1)		
Watching TV					
> 3 hours/week	58 (73.4)	61 (68.5)	9 (64.3)	0.743	0.690
≤ 3 hour/ week	21 (26.6)	28 (31.5)	5 (35.7)		
Using Computer					
> 3 hours/week	60 (75.9)	51 (57.3)	12 (85.7)	8.917	**0.012***
≤ 3 hour/ week	19 (24.1)	38 (42.7)	2 (14.3)		

P value ≤ 0.05 is significant, BMI: body mass index

There was no significant association of Perceived Stress Scale with Rosenberg Self-Esteem Scale as show in table 6 and negative correlation between Perceived Stress Scale and Rosenberg Self-Esteem Scale as shows in figure 3.

Discussion

Stress is also an important factor to take into consideration during life turning points. Appropriate stress is essential in maintaining physical and mental health as well as making positive academic achievements .Medical students are overloaded with a tremendous amount of information. They have a limited amount of time to memorize all the information studied. The overload of information creates a feeling of disappointment because of the inability to handle all the information at once and therefore it may effect on successful during the examination period [(1)].

The prevalence of stress in current study was (27.5 %56.6 %, and 14.8 % with low, medium, high stress respectively), other study reported (61.4%) of students had some degree of stress and (2.4%) reported a high level of stress [(10)]. Other study done in College of Medicine in Saudi Arabia reported stress was (63%), and the prevalence of severe stress was (25%) [(11)] and other study done in India that reported (46.3%) of the participants were in the group of more stressed [(12)] and other study of El-Gilany AH, 2008 in Egypt that reported (43.7%) of medical student's had stress [(13)].

Table 6. Association of Perceived Stress Scale with Rosenberg Self-Esteem Scale

Variable	Perceived Stress Scale				χ^2	*P* values
	Stress Free (%) ≤ 10	Low Stress (%) 11-20	Medium Stress (%) 21-30	High Stress (%) < 30		
Rosenberg Self-Esteem Scale						
Low < 15	1 (50.0)	19 (38.0)	45 (43.7)	14 (51.9)		
Normal 15-25	1 (50.0)	27 (54.0)	50 (48.5)	11 (40.7)	1.603	0.952
High > 25	0 (0.0)	4 (8.0)	8 (7.8)	2 (7.4)		

P value ≤ 0.05 is significant

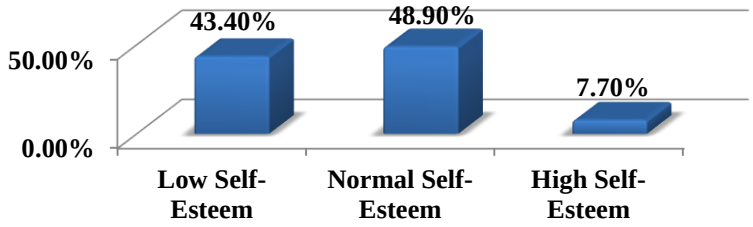

Figure 1. Distribution of participants by Rosenberg Self-Esteem Scale

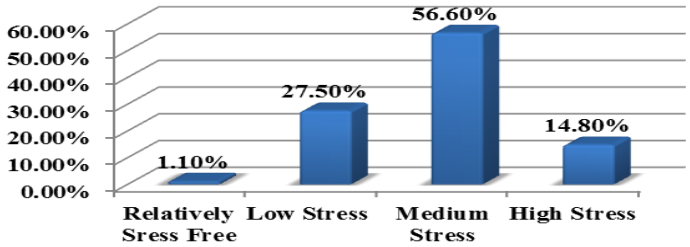

Figure 2. Distribution of participants by Perceived Stress Scale

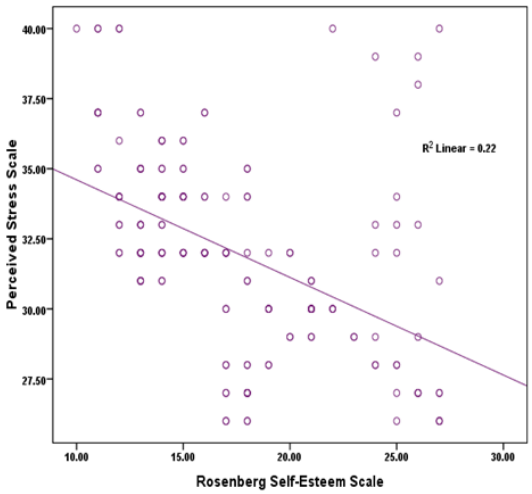

Figure 3. Correlation between Perceived Stress Scale and Roseberg Self –Esteem Scale

This could be either due to the different instruments used in other studies or it could be a real difference and a mediun level of stress in the current study may be because it done at period of mid –year examination but to be focus on that the student during examination faced a lot of stress that may be effect on their performance.

The mean Perceived Stress Scale (PSS) in this study were higher in girls than in boys with no significant differences between them regarding stress and no significant difference between students lived in urban and in rural area that may be due the precipitant students were from the same medical college facing the same challenge and duties regardless residence and gender, this results agree with other study Hamza M, *etal*. 2011 that reported the prevalence of stress was higher among females (75%) than among males (35%) (odds prevalence of stress was and highest among the first-year students (78.7%) followed by the second year (70.8%),third-year (68%), fourth-year (43.2%)and fifth-year students (48.3%)[11].with a high significant association between the study year and the stress levels, while in the current study there was no significant difference regarding PSS according to level of study and between those medical problem, working and with delay in academic year, smoking and having sport.

The current study reported that the level of stress is general highest in first study level but then increased from second level of study as the as the students reach six level and low self -esteem in sixth level as table 4 shows .the self -esteem in the first level is better than the sixth level because the students in the first level come from secondary school after getting high marks and in our college the new design courses that start for the first year were applied to those 1styear student and were comfortable to the student with good marks at the end of each courses.

This is agree to the finding of another study where the level of stress increased progressively during the course, to reach as high as 40% by the end of the clinical training period [14]and disagree with other study that reported the level of stress decreased as the year of study progressed [11].

The high stress in last level of college that is the final year in the college and gains a higher score than second, third, fourth and fifth level of study in college is very important for the students' practical life and usually the history of failure rates or delayed in years in college make students less confident and more stressed. The delay in academic year affecting the students' personality, increase in family blame and may feel inferiority with peers .Personal stressors include family, who may be a

source of support, but can also be a source of conflict and negative stress [15].

The current study also reported the stress in its highest level among underweight students that could be due to medical students during an examination period can experience insomnia, fatigue, and nausea. Moreover, metabolism is disturbed by diarrhea or constipation [16].

Numbers of studies have given evidence regarding self-esteem and its inverse relationship with psychological problems among university students and low self-esteem is correlated with numeral negative results, such as depression [17-19].

Self-esteem plays a vital role in one's personality development. It is a major pillar in construction of one's personality. It indicates how much a person gives significance and worth to him or her. Person with good self-esteem take positive attitude towards self and others that in turn protect them developing pathologies [19].

The current study reported low self- esteem was about 34% and 7.7% of student reported high self- esteem, other study reported Low self- esteem was reported by 18% of students [20], with the overall prevalence of low self -esteem had been found to be 18% with a distribution of 20%in male and 15.75% in female (2=1.416, p=0.493) [20].

From a general perspective, a high self-esteem causes better performance and interpersonal success in turn leading to improved happiness and a healthier lifestyle.

In current study the females reported high level of low self -esteem than male (78.5%Vs 21.5%) that was agree with other study that has been reported that rates of depression and self-esteem differ by gender, women were more susceptible to depression and their self-esteem was lower than male students (Jeon & Bae2007) [24].

Self-esteem is an especially important factor for development and application of stress management strategies [25].Thus the enhancement of self-esteem has the advantage of increasing satisfaction with campus life and decreasing depression in college students. For that reason, a preventive approach to mental health through the improvement of self-esteem is necessary and a clinical approach could be used. Women are particularly sensitive to the stresses of campus life, and thus it has been found that these stressors are more likely to lead to depression in women [21].

The limitation of current study is the difficult to generalize because the participants were from one university and it was done during the mid- exam period that make the students more stress than the other period of academic years.

Conclusion: about half of students reported normal self -esteem with medium stress and low level of high stress during period of examination and reduce level of self-esteem with increased level of stress.

Recommendation

1-the results in this study should be verified by future studies including a broader range of medical college students and to consider other college rather than medical colleges.

2-practical mental health promotion programs for college students could be developed.

3-increase awareness of all academic medical staff about the effect of stress during the examination period and put recurrent workshop to students to how to deal with stress during examination period to lower the stress among students.

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