

Original Paper

Determining Stressors among Dentistry Students of Tabriz University of Medical Sciences in Educational Environments and its Relationship with their General Health Condition

Tannaz Pourlak¹, Javad Yazdani², Seyyed Vahid Dehnad¹, Arezou Ghoreishizadeh³, Seyed Ahmad Arta⁴, Fatemeh Dabagh⁵, Mohammad Ali Ghavimi^{2*}, Masoume Amani⁶

¹Resident of Oral and Maxillofacial Surgery, Tabriz University of Medical Sciences, Tabriz, Iran

²Associate of Oral and Maxillofacial Surgery, Tabriz University of Medical Sciences, Tabriz, Iran

³Assistant Professor of Pediatric Dentistry, Tabriz University of Medical Sciences, Tabriz, Iran

⁴Assistant Professor of Oral and Maxillofacial Surgery, Tabriz University of Medical Sciences, Tabriz, Iran

⁵Assistant Professor of Restorative Dentistry

⁶Assistant Professor of Oral and Maxillofacial Surgery, Zanjan University of Medical Sciences, Zanjan, Iran

*Corresponding Author: Mohammad Ali Ghavimi, Email: ghavimim@tbzmed.ac.ir

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ABSTRACT

Background: It is believed that medical students are more faced with stressors during their academic studies. The highest rate of stress and anxiety in clinical education settings may negatively affect the learning and success of these students. The aim of the current study is investigating the stressors dentistry students face within educational settings and its relationship with their general health condition. **Materials and Methods:** The current statistical-analytic study performed upon 180 dentistry students of Tabriz University of Medical Sciences in 2014. A 54-item Student Stressors Questionnaire was used to assess the students stress and a 28-item Goldberg Questionnaire was used to evaluate the general health of the students. Likert 4-item scale (0 to 3) was used for scoring both questionnaires. **Results:** Mean age of the participants was 24.37±2.84. 6.65% of students were female and the mean stress level was 1.2±0.6. 36.7%, 48.3% and 15% of students had low, average and high stress level, respectively. There was no significant relationship between students' stress and sex or their marital status. 50%, 23.3%, 20.6% and 6.1% of students had high, average, poor and very poor general health, respectively. There was no significant relationship between students' gender and their general health. There was also no significant relationship between students' stress and their general health. **Conclusion:** Almost half of dentistry students had average stress and 15% had high stress in which levels its pressure may get sever with increased academic period and difficulty level of the academic units. Correct educational programs, periodic counseling meetings and use of skilled counselors at universities can play influential roles to reduce stress level of dentistry students.

INTRODUCTION

The concept of mental health is in fact an aspect of the total definition of health and it includes all methods and measures taken to prevent being affected by mental diseases. Nowadays, everyone experiences stress in different ways and the mental pressures resulting from personal and environmental stressors are inevitable (1).

In the 20th century, man has much more evolved in lifestyles, social relations and health and medical issues, compared to other eras of history. Growing struggle for industrialization and rapid growth of urbanization and machine life that needs accepting new methods of life has negatively affected the man's health bringing about new health

concerns. Poor social, economical, political and cultural conditions of the world and heavy social, mental and environmental burden has made disease-like reactions of the people and the societies that consequently led to devastating social and bioenvironmental conditions (2,3).

There is no doubt that the people's health is of great importance. Human societies cannot survive without remaining of health and observing hygienic rules. Disease and disability disrupt the human relationships depriving man of social security and correlation. Lack of compatibility and the existence of behavioral disorders are becoming prevalent in human societies. There live unbalanced people in every class, profession and position at the society. Therefore, there is a growing risk of affecting mental diseases. Being aware of

the fact that anyone can be affected with mental diseases does not see enough because mental health is not exclusive to definition of the causes of behavioral disorders but its main goal is preventing from occurrence of the diseases (4).

Medical and dentistry students are much more disposed with stress resulting from hard clinical trainings if experimental educational environments. Clinical education is considered a vital component of their curriculum which plays an important role in creating principle skills and professional abilities in students (5-7). Goal of clinical education would be providing opportunities for the students to bond theoretical information with practical facts, to gain experiences by being present by the beds of patients, to execute those experiences in an interaction with real life situations and transform their theoretical knowledge into mental, psychological and motor skills that would be necessary for the patients (5).

Generally, it is believed that medical students deal with many stressors during their academic studies (8). Results of studies suggest that high rate of stress and anxiety during clinical education may negatively affect the learning and success of medical students (9,10). Due to having much more sources of stressors, medical courses may lead to unsolved challenges or occupational problems in which most part of these stresses may result from interpersonal relationships or problems related with administrative system (11).

Regarding the results of studies mentioning that the stressors are related with psychological health of dentistry students, it shall be attempted to reduce stress of them particularly those resulting from dentistry occupation by psychological interventions including individual counseling, creation of cooperative teams, group therapy, increased skills of coping with stress and also environmental intervention such as improved occupational relationships, increased networks of social and occupational support and changes in working time. Thus, according to studies, variables of occupational features, work-related issues (work hours, occupational history, compact competitions, limitations in improvement and communications) and social supports are influential factors in occupational erosion worn out of dentists which necessitates applying all methods effective in reducing these pressures and saving them from occupational boredom.

Regarding the importance of clinical education in establishing principle skills and occupational abilities of dentistry students and also considering the common and applied nature of medical courses and that interest in mental, social and educational environments is grown such that in recent years, most of the medical universities have put the evaluation of clinical education condition as the basic fundamental of their educational programs, it seems that the first step in quality improvement would be identifying the stressors of clinical education. Therefore, the current study performed to investigate the stressors in clinical education settings of Tabriz University of Medical Sciences and the educational centers related to that university.

MATERIALS AND METHODS

The current statistic-analytical study performed upon all dentistry students of Tabriz University of Medical Sciences

in the second semester of the academic year 2014-2015. Regarding the statistical nature of study, Cochran formula used to investigate the stressor events of students and regarding the results of literature and accuracy of estimation, $d=0.06$ and variances of stressor events of life, $p=0.7$ and $q=0.3$ and confidence level of 0.95%, sample size estimated to be 225.

28-itemed questionnaire of Goldberg was used to evaluate the general health of the students that was scored via 4-itemed Likert scale (0 to 3). Therefore, the scores of participants ranged minimum of 0 and maximum of 84. Scores between 0-22, 23-40, 41-60 and 61-84 were indicative of good, mediate, poor and very poor general health, respectively. 54-itemed Student Stressors Questionnaire was used to test the students' stress and scored by 4-itemed Likert scale (0 to 3). Minimum score obtained was 0 and maximum score was 164. Scores of 0-54, 55-108 and 109-164 were classified as mild, mediate and severe stresses, respectively.

RESULTS

A total of 180 dentistry students of Tabriz University of Medical Sciences, aging 24.37 ± 2.84 participated in the current study in which 65.6% were female and 4.34% were male students. Evaluation of the stress level of students showed that the mean stress level was 6.0 ± 2.1 (of max. score of 3). 36.7%, 84.3% and 15% of students showed lower, mediate and higher stress level, respectively. Table 1 shows stress level of students based on gender. Results of chi-square test indicated that there is no significant relationship between stress level of students and their gender ($p=0.99$).

Evaluation of the stress of students based on their marital status showed in Table 2 that stress levels of single, married, divorced and widowed students were 1.18 ± 0.61 , 1.3 ± 0.66 , 2.12 ± 0.28 and 1.04 ± 0.61 , respectively. Meanwhile, results of Analysis of variance (ANOVA) test showed that there was no significant relationship between stress level of students and their marital status ($p=0.09$) and that the stress level is similar in different groups.

Evaluation of the general health condition of students that was measured using a health questionnaire showed that 50%, 23.3%, 20.6% and 6.1% of students were in higher, mediate, poor and very poor health condition, respectively. Table 3 shows the general health of students based on their gender. Results of chi-square test showed that there is not any significant relationship between general health of the students and their gender ($p=0.23$).

Chi-square test was used to evaluate the general health of the students based on their marital status and the results indicated that there is a meaningful difference between general health of the students and their marital status and that the general health condition of single students was a bit better than other groups of students ($p=0.002$).

Table 5 shows the general health level of students based on their stress. Results of chi-square test indicated that there is not any significant difference between stress levels of students and their general health level ($p=0.78$).

DISCUSSION

Generally, medical universities are known as stressor settings that often negatively affect the students' academic per-

Table 1. Results of the stress level of students and their gender

	Low	Mediate	High	Total
Female				
Number	43	57	18	118
Percent	36.4	48.3	15.3	100
Male				
Number	23	30	9	62
Percent	37.1	48.4	14.5	100

Table 2. Results of the stress level of students and their marital status

	Low	Mediate	High	Total
Single				
Number	36	52	11	99
Percent	11.1	52.5	36.4	100
Married				
Number	23	31	14	68
Percent	33.8	45.6	20.6	100
Divorced				
Number	0	1	1	2
Percent	0	50	50	100
Widowed				
Number	7	3	1	11
Percent	63.6	27.3	9.1	100

Table 3. Results of the general health of the students and their gender

	Very poor	Poor	Mediate	High	Total
Female					
Number	5	32	23	58	118
Percent	4.2	19.5	27.1	49.2	100
Male					
Number	6	14	10	32	62
Percent	9.7	22.6	16.1	51.6	100

formance, physical and psychological health (12). Results of the current study about the experienced stressors after entering into the university suggests that majority of students have experienced mediate level of stressors in their academic period. Reason behind the availability of stress among students includes major change of the person's setting, changes in social relationships and separation from family.

Results of the current study showed that 15% of students had high stress and that there is no meaningful difference between dentistry students' gender and their stress level. Results of the current study are in contrast with the results of studies by Nagata et al (13) and Selby et al (14).

Ashkani described the most prevalent forms stressors in student as high amount of educational materials, boredom

Table 4. General health level of students and their marital status

	Very poor	Poor	Mediate	High	Total
Single					
Number	3	19	24	53	99
Percent	3	19.2	24.2	53.3	100
Married					
Number	4	13	15	36	68
Percent	5.9	19.1	22.1	52.9	100
Divorced					
Number	1	0	1	0	2
Percent	50	0	50	0	100
Widowed					
Number	3	5	2	1	11
Percent	27.3	45.5	18.2	9.1	100

Table 5. Stress level of students and their general health level

	Low	Mediate	High	Total
Higher general health				
Number	36	52	11	99
Percent	11.1	52.5	36.4	100
Mediate general health				
Number	23	31	14	68
Percent	33.8	45.6	20.6	100
Poor general health				
Number	0	1	1	2
Percent	0	50	50	100
Very poor general health				
Number	7	3	1	11
Percent	63.6	27.3	9.1	100

related with academic educations, being away from family, lack of satisfaction from academic major and financial problems (15).

In the current study, 63.3% of students showed high and mediate levels of stress. In a study by Gadzella et al., 194 of 336 had reported mediate stress (16).

6.1% of students had poor general health and there was no meaningful relationship between general health of the students and their gender. Results of the current study showed that general health among single students was better compared to married group. In the current study, there is no relationship between stress level and general health of the students that is in contrast with the results of studies conducted by Beck et al (17), Varna and Vrana S, Lauterbach (18) and Lu (19). Results of study by Beck et al showed that the score of stressors has negative correlation both with the score of general health and the scores of physical symptoms,

anxiety, social function disorder and depression (all are parts of GHO Questionnaire), meaning that the more stressors, the less would be the general health.

Nagata et al showed that stress among female students is higher than their male counterparts; while in a study on the general health of the medical students of Birjand University of Medical Sciences (20) accepted in academic year of 2002-2003, the obtained results conformed to the results of the study by Nagata et al (13). In the current study, no significant difference observed between male and female students based on psychological disorders, academic degree, literacy of family, type of family head and economic problems.

CONCLUSION

Results of the study showed that 48.3% of dentistry students had average stress, while 15% had high stress in which these levels may get sever with increased academic period and difficulty level of the academic units. Correct educational programs, periodic counseling meetings and use of skilled counselors at universities can play influential roles to reduce the stress level of dentistry students.

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