Biomedical Research 2017; 28 (7): 3318-3321 *ISSN 0970-938X*
www.biomedres.info

Evaluation of depression levels of dental students.

Zeynep Ozkurt-Kayahan[1*], Fatih Cabbar[2], Ceyda Ozcakir-Tomruk[3], Semanur Dolekoglu[3]

[1]Department of Prosthodontics, Yeditepe University, Faculty of Dentistry, Istanbul, Turkey

[2]Department of Oral and Maxillofacial Surgery, Yeditepe University, Faculty of Dentistry, Istanbul, Turkey

[3]Department of Dentomaxillofacial Radiology, Yeditepe University, Faculty of Dentistry, Istanbul, Turkey

Abstract

Purpose: The aim of this study was to determine the depression levels of dental students in Yeditepe University and to examine the effect of demographic factors on depression levels.
Methods: All students enrolled in Yeditepe University Faculty of Dentistry in 2015-2016 educational period were included in the study. A Zung Self-Rating Depression Scale consists of 20 items for depression level measurement was used. Only age and gender were asked in order to protect the confidentiality, and students filled out the form voluntarily. In the scale, each item was evaluated according to the 4-point Likert-type scale; never or rarely, sometimes, often, always; and depression scores were recorded. One-way ANOVA with Tukey HSD test were used to analyse the data. Demographic factors were analysed using Chi-square test.
Results: The response rate was 87.4%. There were 235 students, 72 (30.6%) were male and 163 (69.4%) were female, with the mean age of 21.58 ± 2.02 years. Of the participants, 30.2% were mildly, 13.2% were moderately, and 5.1% were severely depressed. Mean depression scores for females (51.77 ± 10.14) were significantly higher than males (47.99 ± 9.95) ($p<0.05$). Mean depression scores for the first-year students were significantly lower (47.47 ± 8.67) than third-year (54.24 ± 11.39) and fourth-year students (52.74 ± 11.23) ($p<0.05$).
Conclusions: It can be concluded that 18.3% of dental students showed symptoms of moderate or severe depression. These findings suggest that a need exists for mental healthcare services for dental students.

Keywords: Dental, Students, Depression, Scale.

Accepted on January 6, 2017

Introduction

Depression is a serious psychiatric disorder which is the leading cause of disability worldwide [1]. It is more common among adolescents (up to 28%) [2,3], and it is claimed that dental students are more prone to depression than other young people in the same age group due to various sources of stress such as; volume of material to be learned in a short time, academic performances, and preclinical or clinical practices during their education [4-6]. Dentistry is considered as a highly stressful profession [7], and it has been stated that stress negatively affects the physical and mental health of dental students [8]. Students with high levels of depression may intend to change their current major or not to plan to continue their postgraduate education [9]. The depressed students may show symptoms such as reduced concentration, loss of interest, loss of energy and disorder in sleep pattern, which could negatively affect students' school performance [10]. It is very important to determine the depressed individuals before more serious psychiatric disorders will happen, because students in depression need serious attention.

The Zung Self-Rating Depression Scale (ZSDS) is commonly used to screen for the presence of depression [11]. Although there are studies evaluating stress among Turkish dental students [9,12,13], none of these used the ZSDS to measure the depression levels before. Therefore, the aim of this study was to determine the depression of the students in Yeditepe University by using ZSDS in different classes, and to examine the effect of demographic factors on depression levels.

Materials and Methods

Subjects

The study was approved by Ethical Committee of Yeditepe University, in accordance with the principles of Helsinki Declaration (Research no. 1198-602). Two hundred and thirty five dental students (163 males, 72 males) in years 1 to 5 were included to study enrolled in Yeditepe University, Faculty of Dentistry (Istanbul, Turkey) in 2015-2016 academic year. The participating students voluntarily agreed to fill the forms, and their responses remained anonymous. The only demographic information gathered was age, gender and year of students in

order to protect the confidentiality. The students who used antidepressants for more than 2 months were excluded from the study.

Data collection

The Turkish version of ZSDS, the validity and reliability of which was approved by a Turkish researcher before was used for the study [14]. The forms were filled in a lesson in the middle of the spring semester, and collected at the end of the lesson. The scale consisted of 20 items and each item was evaluated according to the 4-point Likert-type scale; none/a little of the time, some of the time, good part of the time, most/all of the time (Table 1). All researchers of the study evaluated the collected forms. According to the obtained scores; the levels of depression were classified as; level 0-no depression (<50 points), level 1-mild depression (50-59 points), level 2-moderate depression (60-69 points), and level 3-severe depression (>70 points).

Table 1. *Zung self-rating depression scale.*

		None/a little of the time	Some of the time	Good part of the time	Most/all of the time
1	I feel downhearted, blue and sad	1	2	3	4
2	Morning is when I feel best	4	1	3	2
3	I have crying spells or feel like it	1	2	3	4
4	I have trouble sleeping through the night	1	2	3	4
5	I eat as much as I used to	4	1	3	2
6	I enjoy looking at, talking to and being with attractive won	4	1	3	2
7	I notice that I am losing weight	1	2	3	4
8	I have trouble with constipation	1	2	3	4
9	My heart beats faster than usual	1	2	3	4
10	I get tired for no reason	1	2	3	4
11	My mind is as clear as it used to be	4	1	3	2
12	I find it easy to do the things I used to do	4	1	3	2
13	I am restless and can't keep still	1	2	3	4
14	I feel hopeful about the future	4	1	3	2
15	I am more irritable than usual	1	2	3	4
16	I find it easy to make decisions	4	1	3	2
17	I feel that I am useful and needed	4	1	3	2
18	My life is pretty full	4	1	3	2
19	I feel that others would be better off if I were dead	1	2	3	4
20	I still enjoy the things I used to do	4	1	3	2

Statistical analysis

All statistical analysis was performed by using IBM SPSS Statistics 22 (IBM SPSS, Turkey) program. Shapiro Wilks test evaluated the normality of data. One-way ANOVA was used to test whether there are any significant differences between the groups, and post-hoc analyses were performed with Tukey HSD test. Student-t test was used to compare the data between two groups, and demographic factors were analysed using Chi-square test (α: 0.05)

Results

The response rate was 87.4%. There were 235 students, 72 (30.6%) were male and 163 (69.4%) were female, with the mean age of 21.58 ± 2.02 years. Of the participants; 51.5% had no depression, while 30.2% were mildly, 13.2% were moderately, and 5.1% were severely depressed (Table 2). Mean Self-Rating Depression Scale (SDS) scores for each class and gender are presented in Table 3. Mean SDS scores for female participants (51.77 ± 10.14) were significantly higher than male participants (47.99 ± 9.95) ($p<0.05$). Mean SDS scores for the first-year students were significantly lower (47.47 ± 8.67) than third-year (54.24 ± 11.39) and fourth-year students (52.74 ± 11.23) ($p<0.05$). There were no statistically

significant differences between the mean SDS scores of other classes (p>0.05).

Table 2. *Sample description by year of students and gender.*

		N	%
Gender	Male	72	30.6
	Female	163	69.4
Year	1st year	62	26.4
	2nd year	38	16.2
	3rd year	46	19.6
	4th year	47	20
	5th year	42	17.9
Depression level	No depression	121	51.5
	Mild depression	71	30.2
	Moderate depression	31	13.2
	Severe depression	12	5.1

Table 3. *Mean SDS scores of gender and each class.*

		Mean ± SD	p-value
Gender	Male	47.99 ± 9.95	10.009*
	Female	51.77 ± 10.14	
Class	1	47.47 ± 8.67	20.005*
	2	49.58 ± 8.62	
	3	54.24 ± 11.39	
	4	52.74 ± 11.23	
	5	49.81 ± 9.77	

[1]Student t-test; [2]Oneway ANOVA test;0 *p<0.05

Discussion

The results of this study indicate that 48.5% of dental students suffered from depression with different levels. The present findings seem to be in agreement with other researches [6-9,12,13,15]. Factors leading to depression may be high workload in dental students associated with lots of examinations, assignments, both theoretical and clinical knowledge acquisition process or scarcity of spare time [16]. In addition, the SDS scores differ in respect to demographic variables. The depression scores were higher in females (51.77 ± 10.14) than males (47.99 ± 9.95), in accordance with several studies [9,12,13,16-18]. This is an almost universal observation, independent of region or culture, that major depressive disorders have greater prevalence in females than males [19]. Gender differences on emotional exhaustion might serve as a function of stress difference among genders [9].

During their first and second years, students in dental school in Turkey learn preclinical didactic and laboratory exercises before clinical practice. There was no statistically significant difference between the responses of preclinical years in the study. The first year students' scores were lower than those of students in third and fourth years. It was found that the students in the third year had more depressive symptoms than the other classes. Similarly, it was found in another study that, depressive symptoms were highest in third year medical students [20]. The third year students begin the clinical training and they would be more stressed about patient treatment [12,17]. This class has also excessive theoretical schedules. The transition into clinical setting may be difficult for many students, and it can be recommended to provide specific supportive programs or strategies to decrease the negative effect of this clinical transition in the dental students' education. The depression points decreased as clinical competence increased with each passing clinical year (from third to fifth), and this finding is consistent with another study conducted in another Turkish dental school [12].

Four levels of depression were investigated in the present study. Level 0 represents no symptoms, level 1 (mildly depression) represents definite symptoms present during the month, level 2 (moderately depression) represents a greater degree of depressive symptoms and level 3 (severely depression) represents depressive symptoms present to a marked degree, dominating the clinical picture [21]. Takayama et al. [15] reported that about 30% of dental students showed level 2 (moderate) or level 3 (severe) depressive symptoms. The percentage of students with moderate or severe depression was lower in the present study (18%). Stress factors may vary among different schools. A private school's atmosphere might offer more comfortable studying and practicing opportunities which might help decrease possible stress that students are likely to experience. A state school's limited facilities might aggravate the burden and stress level of students. Therefore, further research could be conducted in different dental schools to determine the generalizability of these findings.

The results of this study cannot ben generalized to all dental students because the study only investigated dental students in one region of Turkey. Thus, this is the limitation of this study. Although it was conducted in a private dental school accepting students from all-over Turkey, the environment where they live may influence the state of depression. Social background and family income also differ among students.

The findings of the present study suggest that the awareness of students and academic staffs about depression and its negative effects should be increased. The dental curriculum may need to be revised to reduce overload, and different strategies in the educational program may be useful to provide a less stressful academic environment, particularly at the point of transition from the preclinical to the clinical setting. The dental school administrations should enable social activities and mental healthcare services for dental students.

Acknowledgement

The authors deny any conflicts of interest.

References

1. Ustun TB, Kessler RC. Global burden of depressive disorders: the issue of duration. Br J Psychiatry 2002; 181: 181-183.
2. Peltzer K. Depressive symptoms in relation to alcohol and tobacco use in South African university students. Psychol Rep 2003; 92: 1097-1098.
3. Inam SN, Saqib A, Alam E. Prevalence of anxiety and depression among medical students of private university. J Pak Med Assoc 2003; 53: 44-47.
4. Henning K, Ey S, Shaw D. Perfectionism, the imposter phenomenon and psychological adjustment in medical, dental, nursing, and pharmacy students. Medical Educ 1998; 32: 456-464.
5. Freeman RE. Dental students as operators: emotional reactions. Med Educ 1985; 19: 27-33.
6. Newbury BD, Lowry RJ, Kamali F. The changing patterns of drinking, illicit drug use, stress, anxiety, and depression in dental students in a UK dental school: a longitudinal study. British Dent J 2002; 192: 646-649.
7. Polychronopoulou A, Divaris K. Perceived sources of stress among Greek dental students. J Dent Educ 2005; 69: 687-692.
8. Piazza-Waggoner CA, Cohen LL, Kohli K, Taylor BK. Stress management for dental students performing their first pediatric restorative procedure. J Dent Edu 2003; 67: 542-548.
9. Atalayin C, Balkis M, Tezel H, Onal B, Kayrak G. The prevalence and consequences of burnout on a group of preclinical dental students. Eur J Dent 2015; 9: 356-363.
10. Bostanci M, Ozdel O, Oguzhanoglu NK, Ozdel L, Ergin A, Ergin N, Atesci F, Karadag F. Depressive symptomatology among university students in Denizli, Turkey: prevalence and sociodemographic correlates. Croat Med J 2005; 46: 96-100.
11. Zung WW. A Self-Rating Depression Scale. Arch Gen Psychiatry 1965; 12: 63-70.
12. Peker I, Alkurt MT, Usta MG, Turkbay T. The evaluation of perceived sources of stress and stress levels among Turkish dental students. Int Dent J 2009; 59: 103-111.
13. Uraz A, Tocak YS, Yozgatligil C, Cetiner S, Bal B. Psychological well-being, health, and stress sources in Turkish dental students. J Dent Educ 2013; 77: 1345-1355.
14. Gencdogan B, Oren N. Factor analysis with validity and reliability and for high school and university students of zung depression. Int J Res Teacher Educ 2011; 2: 1-16.
15. Takayama Y, Miura E, Miura K, Ono S, Ohkubo C. Condition of depressive symptoms among Japanese dental students. Odontology 2011; 99: 179-187.
16. Bathla M, Singh M, Kulhara P, Chandna S, Aneja J. Evaluation of anxiety, depression and suicidal intent in undergraduate dental students: A cross-sectional study. Contemp Clin Dent 2015;6:215-22.
17. Naidu RS, Adams JS, Simeon D, Persad S. Sources of stress and psychological disturbance among dental students in the West Indies. J Dent Educ 2002; 66: 1021-1030.
18. Gorter R, Freeman R, Hammen S, Murtomaa H, Blinkhorn A, Humphris G. Psychological stress and health in undergraduate dental students: fifth year outcomes compared with first year baseline results from five European dental schools. Eur J Dent Educ 2008; 12: 61-68.
19. Sadock BJ, Sadock VA. Mood disorders. Kaplan and Sadocks synopsis of Psychiatry (9th edn.) Lippincott Williams Wilkins 2003; 535.
20. Chandavarkar U, Azzam A, Mathews CA. Anxiety symptoms and perceived performance in medical students. Depress Anxiety 2007; 24: 103-111.
21. Barrett J, Hurst MW, DiScala C, Rose RM. Prevalence of depression over a 12-month period in a nonpatient population. Arch Gen Psychiatry 1978; 35: 741-744.

*Correspondence to

Zeynep Ozkurt-Kayahan

Department of Prosthodontics

Faculty of Dentistry

Yeditepe University

Turkey