Evaluation of oral health behavior, knowledge and attitude among dental and nursing preclinical students

Burcu BAKIR [a,*], Mustafa KARACA [b]

a,b Burdur Mehmet Akif Ersoy University, Faculty of Dentistry, Periodontology, Burdur, Turkiye

ARTICLE INFO

[a]https://orcid.org/0000-0003-3082-4118

[b]https://orcid.org/0000-0001-5853-2366

*Correspondence: Burcu BAKIR

[a]Burdur Mehmet Akif Ersoy University, Faculty of Dentistry, Periodontology, Burdur, Turkiye
e-mail: bbakir@mehmetakif.edu.tr

ABSTRACT

Aim: This study aimed to assess and compare the sociodemographic characteristics, oral health behaviors, knowledge, and attitudes of first- and second-year students from the Faculty of Dentistry and the Nursing Department.

Methods: In the study, a 26-item questionnaire, consisting of the "Hiroshima University Dental Behavioral Inventory (HU-DBI)" and an additional six questions, was distributed to the dental and nursing students of Burdur Mehmet Akif Ersoy University. Students were requested to voluntarily complete the questionnaire.

Results: Total HU-DBI scores were analyzed based on participants' gender and year of education. No statistically significant difference was found in the total HU-DBI scores with respect to gender or year of education. However, it was observed that first-year nursing students had the highest HU-DBI scores (5.85 ± 1.46). The percentage of nursing students who agreed with the statements "I brush each of my teeth carefully" (p = 0.006) and "I put off going to a dentist until I have a toothache" (p = 0.002) was statistically higher than that of dental students. The percentage of second-year dental students (9.1%) who agreed with the statement "My gums tend to bleed when I brush my teeth" was lower than that of second-year nursing students (42.0%).

Conclusion: The results of this study show that the behaviors and attitudes of dental and nursing students, who would guide and contribute to the future oral health of the society, should be enhanced.

Keywords: Dental students, HU-DBI, nursing students, oral health

1. INTRODUCTION

Oral diseases have significant negative impacts on individuals and communities and are highly prevalent in low- and middle-income countries despite being largely preventable (1). Although dental and periodontal diseases are not life-threatening, they can significantly compromise the life quality of an individual, affecting self-esteem, nutrition, and overall health. Oral diseases are associated with severe pain, anxiety, and impaired social functioning (2, 3). Lifestyle changes, access to dental care services, socioeconomic status, education, personality, age, gender, and stress are among the factors that influence oral health and oral health behaviors (3-8). Health education is recognized as one of the key elements of the success of disease prevention and health promotion in various fields of health services, including dental and oral health (9). The behaviors and attitudes of oral health providers towards their own oral and dental health are considered a reliable way of providing oral health education and can contribute to improving the oral health of the public. Additionally, oral health providers can offer advice to increase awareness among patients about the

prevention of oral diseases and provide good examples of good oral practices (9, 10). Dental students are prospective health professionals, and as future oral care providers, it is their responsibility to be a positive role model for their family members, friends, and patients. This includes providing accurate information about oral habits and raising awareness regarding the prevention of oral diseases. Therefore, it is crucial for dental students to adopt a correct approach to oral hygiene (11).

Nurses play a significant role in disseminating information related to the improvement and promotion of health. Therefore, it is important for their personal oral health knowledge to be sound, and their behaviors should serve as a source of inspiration for individuals in the community (12). Nurses are healthcare professionals having a direct contact with patients and the potential to influence large population groups; hence, they can serve as role models. Therefore, nursing students can establish a solid foundation for improving personal oral health care and providing oral health care to patients. It has been demonstrated that nurses who practice oral health behaviors and exhibit positive attitudes toward oral health can influence beneficial oral health behaviors and attitudes in patients, leading to positive behavioral changes. Emphasizing role modeling early in nursing education will have a significant impact on patients' oral health care (13).

In a study comparing the oral health behaviors and attitudes of dental and nursing students, it was reported that dental students had significantly higher HU-DBI scores compared to nursing students (p<0.001), indicating better oral health behaviors and attitudes among dental students compared to nursing students (14). In another study conducted by Althobaiti et al. (2019), it was reported that there was a significant difference in the mean HU-DBI scores between dental and nursing students (p<0.001) (15). In another study aimed at determining and comparing the oral health attitudes and behaviors of dental, medical, and nursing students, the findings revealed significant differences among the three groups.

Dental students exhibited the highest mean HU-DBI score (7.79 ± 1.58), followed by nursing students (6.99 ± 1.46) and medical students (6.42 ± 1.58). The mean HU-DBI score for all clinical students (7.04 ± 1.75) was significantly higher than those in their preclinical years (6.64 ± 1.56) (16).

Healthcare professionals play a crucial role in the education of individuals at an early age for the preservation of community oral health. Considering that students who choose health-related schools are future health professionals, it can be expected that they will have more knowledge about dental and oral health and engage in accurate dental practices (17). The aim of this study was to assess and compare the sociodemographic data, oral health behaviors, knowledge, and attitudes of first- and second-year students from the Faculty of Dentistry and the Nursing Department at Burdur Mehmet Akif Ersoy University through a survey.

2.MATERIALS AND METHODS

2.1. Data collection

This study is a descriptive type of research. The data in this study were collected in the fall semester of the 2023–2024 academic year. The survey form was sent online to first- and second-year students of the Faculty of Dentistry and the Nursing Department at Burdur Mehmet Akif Ersoy University. Following the explanation of the study's purpose and methodology, students who consented to take part were requested to provide online approval before completing the survey. The first part of the questionnaire consisted of six questions on sociodemographic characteristics. The second part of the form consisted of the 20-item Hiroshima University Dental Behavior Inventory (HU-DBI) translated into Turkish to evaluate the attitudes of individuals toward oral health and their oral health habits (18,19). HU-DBI is a questionnaire originally developed by Kawamura to assess patients' oral health attitudes and behaviors, mainly during the brushing of teeth. It uses a binary response format (agree/disagree) (19). When calculating HU-DBI scale scores, each "agree" response to items 4, 9, 11, 12, 16, and 19 is assigned 1 (one) point, and each "disagree"

Bakır. B. and Karaca. M. /Turkish Journal of Health Science and Life (2024), 7(1), 10-17.

12

response to items 2, 6, 8, 10, 14, and 15 is assigned 1 (one) point. The maximum score is 12 and the minimum score is 0. Higher scores indicated that individuals have better oral health behaviors (19).

2.2. Statistical Analysis

Data were analyzed using SPSS 25.0 (IBM Corp, New York, NY, USA). Data are presented as percentage, mean, and standard deviation. Chi-square test, independent samples t-test, one-way analysis of variance (ANOVA), and post-hoc tests (Turkey HSD multiple comparison test) were used to compare variables between groups. P < 0.05 was considered statistically significant in all analyses.

3. RESULTS

Of the 447 students, 367 chose to take part in the study, including 172 dental (99 females and 73 males) and 195 nursing students (125 females and 70 males) to whom the survey was sent. Of the dental students, 86 were in the first year and 86 were in the second year, whereas among nursing students, 99 and 96 were in the first and second year, respectively. Majority of the participants were females (61.0%), of whom 53.1% were studying in the nursing department, and 50.4% were first-year students. Of the participants, 47.4% and 34.6% had mothers and fathers with primary education, respectively (Table 1). The average age of the participants was 19.56 ± 1.37 years (range, 17–30 years). For the 179 participants (48.8%) who responded to the question about the family monthly income, the average family monthly income was 22,169.29 TL ± 16,422.71 TL (range, 0.00–90,000.00 TL).

The mean HU-DBI scores of the participants were 5,57±1,69. The mean HU-DBI scores were found to be 5.7 ± 1.23 in nursing students and 5.47 ± 1.45 in dental students, and there was no significant difference between them.

There was a statistically significant relationship between the father's education level and the HU-DBI total score among nursing students (p = 0.011). The students whose fathers were university graduates had statistically significantly higher HU-DBI total scores than those whose fathers were primary school graduates (p = 0.028) (Table 2).

Table 3 shows a comparison of the HU-DBI total scores of the participants with respect to gender and year of education. No statistically significant difference was observed between genders in either group (p = 0.334). Comparison of HU-DBI scores across different years of education revealed that first-year nursing students recorded the highest scores (5.85 ± 1.46). However, no statistically significant differences were evident within or between the groups (p = 0.087) (Table 3).

Table 4 shows the distribution and statistical significance values of dental and nursing students' agreement with the items of the HU-DBI according to their year of education. A significant difference was found for three items (numbers 2, 9 and 15) between dental and nursing students. However, significant difference was not found in the HU-DBI total mean scores between the groups.

Table 1: Sociodemographic characteristics of participants

Characteristics		N	%
Gender	Female	224	61.0
	Male	143	39.0
Course of Education	Dentistry	172	46.9
	Nursing	195	53.1
Year of Education	First year	185	50.4
	Second year	182	49.6
Mother's Educational Status	Primary school	174	47.4
	High school	108	29.4
	University	85	23.2
Father's Educational Status	Primary school	127	34.6
	High school	126	34.3
	University	114	31.1
Total		367	100.0

Table 2: Distribution of HU-DBI scores and significance levels with respect to sociodemographic characteristics of dental and nursing students

		Dental Students	*P-value*	*Nursing Students*	*P-value*
Year of Education	First year	5.27±1.81 (86)	[1]0.110	5.85±1.46 (99)	[1]0.074
	Second year	5.69±1.59 (86)		5.42±1.86 (96)	
Gender	Female	5.53±1.53 (99)	[1]0.688	5.50±1.63 (125)	[1]0.115
	Male	5.42±1.95 (73)		5.90±1.74 (70)	
Mother's Educational Status	Primary School	5.25±1.76 (56)	[2]0.381	5.49±1.76 (118)	[2]0.283
	High school	5.50±1.54 (52)		5.89±1.59 (56)	
	University	5.68±1.81 (64)		5.85±1.35 (21)	
Father's Educational Status	Primary School	5.17±1.83 (39)	[2]0.133	*5.27±1.79 (88)*	*30.011*
	High school	5.25±1.65 (44)		*5.86±1.52 (82)*	
	University	5.74±1.67 (89)		*6.24±1.53 (25)*	

[1]Independent Sample t test, [2]One-way analysis of variance, [3]One-way analysis of variance and TUKEY's HSD Test.

As described in Table 4, a significant disparity was noted between the "I agree" responses to the 2nd item of HU-BDI and the statement "My gums tend to bleed when I brush my teeth" (p < 0.001). The percentage of first-year dental students (26.1%) who reported bleeding gums while brushing their teeth was higher than that of first-year nursing students (22.7%). In contrast, the percentage of second-year dental students concurring with this statement (9.1%) was lower than that of second-year nursing students (42.0%).

It was observed that the percentage of first-year (20.5%) and second-year dental students (20.1%) agreeing with the 9th item of HU-DBI "I brush each of my teeth carefully" was lower than that of first-year nursing students (30.5%) and second-year nursing students (28.9%), and there was a significant difference between the groups in terms of "I agree" responses (p = 0.006) (Table 4).

The percentage of first-year nursing students (28.8%) and second-year nursing students (28.4%) agreeing with the 15th item of HU-DBI "I put off going to a dentist until I have a toothache" was higher than that of first-year dental students (24.1%) and second-year dental students (18.7%), and there was a statistically significant difference between the groups in terms of "I agree" responses (p = 0.002) (Table 4).

Table 3: Distribution of gender, year of education, and HU-DBI averages and significance levels

Characteristics (n=367)	*Course*			*HU-DBI* Mean±SD	*P-value*
Gender	Dentistry	Female	99	5.53±1.53	[1]0.334
		Male	73	5.42±1.95	
	Nursing	Female	125	5.50±1.63	
		Male	70	5.90±1.75	
Academic year	Dentistry	First year	86	5.27±1.81	[1]0.087
		Second year	86	5.69±1.59	
	Nursing	First year	99	5.85±1.46	
		Second year	96	5.42±1.86	

[1]One-way analysis of variance.

Table 4: Distribution of HU-DBI scores and significance levels with respect to sociodemographic characteristics of dental and nursing students

No. Item descriptions	Course	1st year (%)	2nd year (%)	Total (%)	P-value
1. I don't worry much about visiting the dentist	D	62 (25.2)	58 (26.8)	120(52.0)	[1]0.593
	N	66 (23.6)	60 (24.4)	126(48.0)	
2. *My gums tend to bleed when I brush my teeth**	*D*	*23 (26.1)*	*8 (9.1)*	*31 (35.2)*	[1]*<0.001*
	N	*20 (22.7)*	*37 (42.0)*	*57 (64.8)*	
3. I worry about the color of my teeth	D	43 (25.6)	43 (25.6)	86 (51.2)	[1]0.479
	N	43 (25.6)	39 (23.2)	82 (48.8)	
4. I have noticed some white sticky deposits on my teeth*	D	18 (19.8)	18 (19.8)	36 (39.6)	[1]0.393
	N	26 (28.6)	29 (31.8)	55 (60.4)	
5. I use a child sized toothbrush	D	10 (13.7)	20 (27.4)	30 (41.1)	[1]0.176
	N	21 (28.8)	22 (30.1)	43 (58.9)	
6. I think that I cannot help having false teeth when I am old**	D	22 (25.9)	14 (16.5)	36 (42.4)	[1]0.382
	N	24 (28.2)	25 (29.4)	49 (57.6)	
7. I am bothered by the colour of my gums	D	11 (17.5)	17 (27.0)	28 (44.5)	[1]0.555
	N	16 (25.4)	19 (30.21	35 (55.5)	
8. I think my teeth are getting worse despite my	D	25 (24.3)	32 (31.1)	57 (55.4)	[1]0.106
	N	21 (20.4)	25 (24.2)	46 (44.6)	
9. *I brush each of my teeth carefully*.	*D*	*51 (20.5)*	*50 (20.1)*	*101(40.6)*	[1]*0.006*
	N	*76 (30.5)*	*72 (28.9)*	*148(59.4)*	
10. I have never been taught professionally how to brush**	D	38 (25.7)	30 (20.3)	68 (46.0)	[1]0.526
	N	38 (25.7)	42 (28.3)	80 (54.0)	
11. I think I can clean my teeth well without using toothpaste*	D	4 (9.1)	11 (25.0)	15 (34.1)	[1]0.098
	N	16 (36.4)	13 (29.5)	29 (65.9)	
12. I often check my teeth in a mirror after brushing*	D	79 (23.8)	75 (22.6)	154(46.4)	[1]0.694
	N	91 (27.4)	87 (26.2)	178(53.6)	
13. I worry about having bad breath	D	61 (25.0)	62 (25.4)	123(50.4)	[1]0.239
	N	59 (24.2)	62 (25.4)	121(49.6)	
14. It is impossible to prevent gum disease with toothbrushing alone**	D	57 (21.0)	66 (24.3)	123(45.3)	[1]0.117
	N	71 (26.1)	78 (28.6)	149(54.7)	
15. *I put off going to the dentist until I have a toothache**	*D*	*67 (24.1)*	*52 (18.7)*	*119(42.8)*	[1]*0.002*
	N	*80 (28.8)*	*79 (28.4)*	*159(53.2)*	
16. I have used a dye to see how clean my teeth are*	D	1 (9.1)	1 (9.1)	2 (18.2)	[2]0.200
	N	3 (27.3)	6 (54.5)	9 (81.8)	
17. I use a toothbrush which has hard bristles	D	24 (29.3)	13 (15.9)	37 (45.2)	[1]0.229
	N	24 (29.3)	21 (25.5)	45 (54.8)	
18. I don't feel I've brushed well unless I brush with strong strokes	D	39 (27.5)	35 (24.6)	74 (52.1)	[1]0.369
	N	33 (23.2)	35 (24.7)	68 (47.9)	
19. I feel I sometimes take too much time to brush my teeth*	D	18 (20.0)	21 (23.3)	39 (43.3)	[1]0.194
	N	20 (22.2)	31 (34.3)	51 (56.7)	
20. I have had my dentist tell me that I brush very well	D	21 (18.9)	27 (24.3)	48 (43.2)	[1]0.149
	N	38 (34.2)	25 (22.6)	63 (56.8)	

D: Dentistry , N: Nursing

* One point is given to each of the agree responses in the total score calculation of the scale. ** One point is given to each of the disagree responses in the total score calculation of the scale. Items with no marking are not included in the total score calculation of the scale.

[1]Pearson chi-square test, [2] Fisher chi-square test.

When some items of the HU-DBI were evaluated, it was observed that the percentage of dental students agreeing with the 4th item of HU-DBI "I have noticed some white sticky deposits on my teeth" was lower than that of nursing students (dental students 39.6%, nursing students 60.4%, p = 0.393). The percentage of dental students who agreed with the item "I use a child-sized toothbrush" was 41.1%, whereas the percentage of nursing students who agreed with this item was 58.9% (p = 0.176); however, the difference was not significant.

Similarly, the percentage of dental students agreeing with the items "I think that I cannot help having false teeth when I am old" (item 6, p = 0.382), "I am bothered by the color of my gums" (item 7, p = 0.555), "I have never been taught professionally how to brush" (item 10, p=0.526), "I think I can clean my teeth well without using toothpaste" (item 11, p=0.098), "I often check my teeth in a mirror after brushing" (item 12, p=0.694), "it is impossible to prevent gum disease with tooth brushing alone" (item 14, p=0.117), "I have used a dye to see how clean my teeth are" (item 16, p=0.200), "I use a toothbrush that has hard bristles" (item 17, p=0.229), "I feel I sometimes take too much time to brush my teeth" (item 19, p=0.194), and "I have had my dentist tell me that I brush very well" (item 20, p=0.149) were lower than that of nursing students, but the difference was not significant (Table 4).

When the other items of HU-DBI were evaluated, it was observed that nursing students were more worried about going to the dentist (item 1, p = 0.593) and less worried about the color of their teeth (item 3, p = 0.479) compared to dental students. The percentage of nursing students who thought that their teeth got worse despite daily tooth brushing (item 8, p = 0.106), who were worried about bad breath (item 13, p=0.239), and who felt that their teeth were not cleaned unless they brushed with strong strokes (item 18, p=0.369) was lower than that of dental students, but the difference was not significant (Table 4).

4. DISCUSSION

To ensure the prevention of oral diseases and the maintenance of oral health, it is imperative that dental and nursing students possess adequate knowledge and skills regarding the enhancement of individuals' oral care behaviors and habits within the community (20). This study aimed to assess the oral health attitudes and behaviors of dental and nursing students using the HU-DBI scoring system.

According to the results of the study, the mean HU-DBI score was 5.45 ± 1.55. These findings are consistent with the scores reported in studies conducted in Turkey by Yildiz et al. (2011) (5.8 ± 1.5) and Surme et al. (2023) (5.95 ± 1.65) (10,21). Additionally, the mean scores obtained in this study are similar to the scores reported in studies conducted in Japan by Kawabata et al. (1990) (5.67) and Kawamura et al.(2000) (5.88) (22,23). In a study conducted by Halboub et al. (2016) in Yemen, the reported mean HU-DBI score was 4.9, which is lower compared to the findings of the present study (20). Based on these results, it can be inferred that the differences in HU-DBI scores may result from cultural diversity and variations in oral care education levels.

The mean HU-DBI scores of the participants were found to be 5.7 ± 1.23 in nursing students and 5.47 ± 1.45 in dental students, with no significant difference between them. Similar to this study, Kawabata et al. (1990) reported mean HU-DBI scores of 5.33 and 5.49 in dental and nursing students, respectively (22). However, Doğan (2013), Noorani et al. (2018) and Camgöz et al. (2021) reported higher mean scores for dental students in their respective studies (14,16,24). The lack of a significant difference between dental and nursing students in this study may be attributed to both student groups receiving oral and dental health education in their first two years of education (25).

In the evaluation of HU-DBI total mean scores based on gender, no statistically significant difference was observed. This finding aligns with the results reported by Yusuf et al. (2021) (26). However, in their respective studies, Doğan (2013), Surme et al. (2023), and Al

Kawas et al. (2010) all concluded that female students demonstrated superior oral health behaviors and attitudes compared to their male counterparts (14,21,27).

Additionally, a marked disparity was identified in the HU-BDI total score with respect to the father's education level. Accordingly, students with fathers who were university graduates were noted to achieve higher HU-DBI scores in comparison to those whose fathers lacked a university degree. Similarly, Ronis et al. (1993) reported that HU-DBI scores increased as socioeconomic status increased (28). In contrast to the present study, Halboub et al. (2016) reported that students with low socioeconomic status had higher HU-DBI scores and better oral health behaviors and attitudes (20). Accordingly, the reason for the difference in HU-DBI scores in the present study with respect to sociodemographic status may be attributed to difficulties in accessing dental care and inadequate awareness regarding oral and dental health.

A significant disparity was observed between the groups regarding their responses to the HU-DBI items "My gums tend to bleed when I brush my teeth" (item 2), "I brush each of my teeth carefully" (item 9), and "I put off going to a dentist until I have a toothache" (item 15). Based on these findings, although there were no disparities in the perspectives on oral health between first-year dental and nursing students, a divergence emerged in the second year among dental students, indicating an enhancement in knowledge that subsequently influenced oral health behaviors and attitudes when compared to nursing students. These outcomes corroborate the findings of Doğan (2013) and Noorani et al. (2018) (14,16).

The limitations of the study include the disparity in the number of dental and nursing students participating in the survey, the inability to demonstrate students' attitudes toward long-term oral health, and the absence of intraoral clinical examinations. Therefore, a more comprehensive study is needed, incorporating both students' self-reports and intraoral examinations, to evaluate the data obtained in conjunction.

4. CONCLUSION

According to the results of the study, the oral health behaviors and attitudes of dental students, who will shape the future oral health of the community and serve as role models for the society, should be improved. Since the groups evaluated in the study were preclinical dental students, it can be assumed that individual oral health awareness and behaviors will improve positively as the duration of their education and clinical experience increases. Considering the size of the patient population that nursing students will encounter throughout their professional careers, nurses, being the healthcare professional group that can have the most positive impact on patients, should have high oral health awareness. Therefore, providing more oral and dental health education in the curricula of nursing programs at the faculty level would be valuable for this professional group.

Conflicts of Interest: The authors declared no conflict of interest.

Ethical Statement: The research was carried out with the approval of the Non-Invasive Clinical Research Ethics Committee of Burdur Mehmet Akif Ersoy University (Number: GO 2023/334, Date: 2023/06). The study was conducted in accordance with the guidelines of the Helsinki Declaration.

REFERENCES

1. Peres, M. A., Macpherson, L. M., Weyant, R. J., Daly, B., Venturelli, R., & Mathur, M. R. Oral diseases: a global public health challenge. The Lancet. 2019;394(10194):249-260. https://doi.org/10.1016/S0140-6736(19)31146-8.

2. Kelly, M., Steele, J., Nuttall, N., Bradnock, G., Morris, J., & Nunn, J (2000). Adult Dental Health Survey.: Oral Health in the United Kingdom. The Stationary Office, London.

3. Chen, M. S., Andersen, R., Barmes, D. E., Leclerq, M., & Lyttle, C (1997). Comparing oral health care systems: a second international collaborative study: World Health Organization; 1997.

4. Mohtasham, G., Nasirzadeh, M., Sakineh, R., & Ramezankhani, A.

Bakır. B. and Karaca. M. /Turkish Journal of Health Science and Life (2024), 7(1), 10-17.

17

Unacceptable status of oral and dental health-related knowledge among Iranian primary school students. Biosci Biotechnol Res Commun. 2017;10(1):260-266.

5. Peltzer, K., & Pengpid, S. Oral health behaviour and social and health factors in university students from 26 low, middle and high income countries. International journal of environmental research and public health. 2014;11(12):12247-12260. https://doi: 10.3390/ijerph111212247.

6. Zimmermann, H., Zimmermann, N., Hagenfeld, D., Veile, A., Kim, T. S., & Becher, H. Is frequency of tooth brushing a risk factor for periodontitis? A systematic review and meta-analysis. Community dentistry and oral epidemiology. 2015;43(2):116-127. https://doi: 10.1111/cdoe.12126.

7. Cademartori, M. G., Gastal, M.T., Nascimento, G. G., Demarco, F. F., & Correa, M.B. Is depression associated with oral health outcomes in adults and elders? A systematic review and meta-analysis. Clinical oral investigations. 2018;22(7):2685-2702. https://doi: 10.1007/s00784-018-2611-y.

8. Deinzer, R., Granrath, N., Spahl, M., Linz, S., Waschul, B., & Herforth, A. Stress, oral health behaviour and clinical outcome. British journal of health psychology. 2005;10(2):269-283. https://doi: 10.1348/135910705X26858.

9. Menegaz, A. M., Silva, A. E. R., & Cascaes, A. M. Intervenções educativas em serviços de saúde e saúde bucal: revisão sistemática. Revista de Saúde Pública. 2018;52(2):52. https://doi: 10.11606/s1518-8787.2018052000109.

10. Yildiz, S., & Dogan, B. Self reported dental health attitudes and behaviour of dental students in Turkey. European journal of dentistry. 2011;5(03):253-259.

11. Karem Hassan, B., Jabbar Ali, B., Mahmood Alwan, A., & Badeia, R. A. Self-reported oral health attitudes and behaviors, and gingival status of dental students. Clinical, cosmetic and investigational dentistry. 2020;25(5):225-232. https://doi: 10.2147/CCIDE.S249708.

12. Khatoon, S., Shah, S. Y., Javaid, H., Rajput, Z. A., Ali, Z., & Ahmed, I. Oral Health Behavior and Practice among Nursing Students in Hyderabad City, Pakistan. Journal of the Dow University of Health Sciences (JDUHS). 2019;13(1):17-23. https://doi.org/10.36570/jduhs.2019.1.636.

13. Walker, K. K., & Jackson, R. D. Oral health beliefs and behaviors of nurse and nurse practitioner students using the HU-DBI inventory: An opportunity for oral health vicarious learning. 2017;7(1):5-11. https://doi: 10.5430/jnep.v7n8p19.

14. Dogan, B. Dişhekimliği ve hemşirelik öğrencilerinin ağız sağlığı hakkındaki davranış ve düşüncelerindeki farklılıklar. Clinical and Experimental Health Sciences. 2013;3(1):34-40. https://doi.org/10.5455/musbed.20130102082831.

15. Athobaiti, F, A, A., Manjunatha, B, S., Amith, H, V., Alshamrani, A, S., Alotaibi, H, A, H., Alharthi M, R., &Alhumaidi, A, T, M. Merit Research Journal of Medicine and Medical Sciences. 2019;7:483-488. Attitude and Behavior of Oral Hygiene among Taif University Students -A questionnaire study. 10.5281/zenodo.3590809.

16. Ng, J. V., Noorani, T. Y., Ghani, N. R. N. A., & Moheet, I. A. Self-reported differences in oral health attitudes and behaviors of health-care students at a University in Malaysia. European Journal

of General Dentistry. 2018;7(01):7-13. DOI: 10.4103/ejgd.ejgd_85_17.

17. Üstünkol, İ., Doğan, B.G., & Gökalp, S. Sağlıkla İlgili Fakültelerin Birinci Sınıfındaki Öğrencilerin Ağız-Diş Sağlığı İle İlgili Uygulamaları. ADO Klinik Bilimler Dergisi. 2012;5(4):993-1000.

18. Kateeb, E. Gender-specific oral health attitudes and behaviour among dental students in Palestine. EMHJ-Eastern Mediterranean Health Journal. 2010;16 (3): 329-333.

19. Kawamura, M. The relationship between perceptions of oral health and oral status in adults. Hiroshima Daigaku shigaku zasshi The Journal of Hiroshima University Dental Society. 1988;20(2):273-86.

20. Halboub, E. S., Al-Maweri, S. A., Al-Jamaei, A. A., Al-Wesabi, M. A., Shamala, A., & Al-Kamel, A. Self-reported oral health attitudes and behavior of dental and medical students, Yemen. Global journal of health science. 2016;8(10):143. doi: 10.5539/gjhs.v8n10p143.

21. Surme, K., & Akman, H. Evaluation of Self-Reported Oral Health Attitudes and Behavior of Dental Students in Antalya, Turkey. Cureus. 2023;15(8): 15-24. doi:10.7759/cureus.44589.

22. Kawabata, K. The dental health behavior of university students and test-retest reliability of the HU-DBI. J Dent Hlth. 1990;40:474-475. doi: 10.2334/josnusd.47.1

23. Kawamura, M., Ikeda-Nakaoka, Y., & Sasahara, H. An assessment of oral self-care level among Japanese dental hygiene students and general nursing students using the Hiroshima University–Dental Behavioural Inventory (HU-DBI): Surveys in 1990/1999. European Journal of Dental Education. 2000;4(2):82-88. doi: 10.1034/j.1600-0579.2000.040206.x.

24. Camgoz, M. Oral Healthcare Behaviors of Dental and Non-dental Turkish Students: A Comparative Study. Int J Experiment Dent Sci. 2021;10(1):1-7.

doi: 10.5005/jp-journals-10029-1222.

25. Özveren, H., Gülnar, E., & Özden, D. Hemşirelik öğrencilerinin ağız diş sağlığı algılarının belirlenmesi. Kırıkkale Üniversitesi Tıp Fakültesi Dergisi. 2017;19(3):158-166. https://doi.org/10.24938/kutfd.320014.

26. Yusuf, A. U., Iqbal, S. S., Hussian, M., Butt, F., & Adnan, S. T. A. Assessment of oral health behaviour & self practice among hazrat bari sarkar medical & dental students using the hiroshima university-dental behavioural inventory (HU-DBI). Annals Of Abbasi Shaheed Hospital And Karachi Medical & Dental College. 2021;26 (2):57-64.

doi: https://doi.org/10.58397/ashkmdc.v26i2.462.

27. Al Kawas, S., Fakhruddin, K. S., & Rehman, B.U. A comparative study of oral health attitudes and behavior between dental and medical students; the impact of dental education in United Arab Emirates. Journal Of International Dental And Medical Research. 2010;3(1):6-10.

28. Ronis, D. L., Lang, W. P., Farghaly, M. M., & Passow, E. Tooth brushing, flossing, and preventive dental visits by Detroit-area residents in relation to demographic and socioeconomic factors. Journal of public health dentistry. 1993;53(3):138-45.

doi: 10.1111/j.1752-7325.1993.tb02692.x.