RESEARCH ARTICLE

F.U. Med.J.Health.Sci.
2022; 36 (1): 07 - 12
http://www.fusabil.org

A Comparative Study on the Effect of Education on Nursing Students' Oral and Dental Health Awareness

Elif YEĞİN [1, a]
Mustafa Hayati ATALA[1, b]
Elif Ülkü DEMİR ŞERAN [2, c]
Nagehan ATALA [2, d]

[1] İstanbul Medeniyet University,
Faculty of Dentistry,
Department of Prosthodontics,
İstanbul, TÜRKİYE

[2] Kırıkkale University,
Faculty of Dentistry,
Department of Restorative Dentistry,
Kırıkkale, TÜRKİYE

[a] ORCİD: 0000-0002-2865-372X
[b] ORCİD: 0000-0003-1194-0703
[c] ORCİD: 0000-0003-3488-2112
[d] ORCİD: 0000-0003-1317-2023

Objective: The aim of this study was to evaluate the effect of "Community Oral and Dental Health" course on the oral and dental health awareness of nursing students from two different faculties.

Materials and Methods: 164 nursing students who took "Community Oral and Dental Health" course at Kırıkkale University and 230 nursing students from Bolu Abant İzzet Baysal University who did not take the same course were subjected to the questionnaire. The questionnaire consisted of multiple choice questions based on oral and dental health awareness. The statistical analysis was performed with Pearson or Fisher's exact chi square tests.

Results: Although, there was no statistically significant difference ($p>0.05$) between the mouthwash and dental floss use, there was a statistically significant difference between tooth brushing habits of the students ($p<0.05$). Also, the groups' awareness of the symptoms and affective factors of periodontal diseases did not indicate statistically significant differences ($p>0.05$). The concept "Children who have dental caries in their mothers are more likely to have it" was better known by the students taking the course ($p<0.001$). There was a statistically significant difference between two groups in terms of the cause of dental caries (being infected with caries bacteria at an early age, $p=0.001$).

Conclusions: The oral and dental health awareness increased among nursing students taking the "Community Oral and Dental Health" course. Since, the nurses are potential candidates for public health education and even oral health assessments, inclusion of this course in the nursing curriculum will increase public awareness and improve oral health.

Key Words: *Awareness, education, nursing student, oral health*

Eğitimin Hemşirelik Öğrencilerinin Ağız ve Diş Sağlığı Farkındalıklarına Etkisi Üzerine Karşılaştırmalı Bir Çalışma

Amaç: Bu çalışmanın amacı, "Toplum Ağız ve Diş Sağlığı" dersinin iki farklı fakültedeki hemşirelik öğrencilerinin ağız ve diş sağlığı farkındalıklarına etkisini değerlendirmektir.

Gereç ve Yöntem: Kırıkkale Üniversitesi'nde "Toplum Ağız ve Diş Sağlığı" dersi alan 164 hemşirelik öğrencisi ile Bolu Abant İzzet Baysal Üniversitesi'nden aynı dersi almayan 230 hemşirelik öğrencisi ankete tabi tutuldu. Anket, ağız ve diş sağlığı farkındalığı ile ilgili çoktan seçmeli sorulardan oluşmaktadır. İstatistiksel analiz Pearson veya Fisher's exact chi square test ile yapıldı.

Bulgular: Öğrencilerin gargara ve diş ipi kullanma oranları arasında istatistiksel olarak anlamlı bir fark yok iken ($p>0.05$), diş fırçalama alışkanlıkları arasında vardı ($p<0.05$). Grupların periodontal hastalıkları etkileyen faktörler ve semptomları konusundaki farkındalıkları ($p>0.05$) istatistiksel olarak anlamlı farklılık göstermedi. "Annesinde diş çürüğü olan çocuklarda çürük görülme olasılığı daha yüksektir" kavramı dersi alan öğrenciler tarafından daha iyi bilinmektedir ($p<0.001$). Diş çürümesinin nedeni açısından iki grup arasında istatistiksel olarak anlamlı fark vardı (erken yaşta diş çürüğü bakterileri ile enfekte olma, $p=0.001$).

Sonuç: "Toplum Ağız ve Diş Sağlığı" dersi alan hemşirelik öğrencilerinde ağız ve diş sağlığı farkındalığı artmıştır. Hemşireler, halk sağlığı eğitimi ve ağız sağlığı değerlendirmeleri için potansiyel aday olduklarından, bu dersin hemşirelik eğitimi müfredatına dahil edilmesi halkın farkındalığını artırıp ağız sağlığını iyileştirmeye katkı sağlayacaktır.

Anahtar Kelimeler*: Ağız sağlığı, eğitim, farkındalık, hemşirelik öğrencisi*

Received : 06.08.2021
Accepted : 07.12.2021

Correspondence
Yazışma Adresi

Elif YEĞİN
İstanbul Medeniyet University,
Faculty of Dentistry,
Department of Prosthodontics,
İstanbul - TÜRKİYE

dtelifyegin@gmail.com

Introduction

Oral health is considered as an integral part of general health. World Health Organization (WHO) defines oral health as a condition in which craniofacial defects such as chronic orofacial pain, mouth sore and cancer, periodontal diseases, dental caries, tooth loss or other affecting diseases are eliminated (1). American Surgical Association has declared oral and dental diseases as a silent epidemic due to the prevalence of oral health diseases and the relation between oral health and systemic diseases such as diabetes and heart diseases (2). WHO has demonstrated that interdisciplinary collaboration practices in healthcare services strengthen patient

management practices (3). For this reason, the instructions and regulations issued by the Ministry of Health in Turkey have demanded primary care healthcare services to prepare preventive and therapeutic programs related to oral and dental health, to educate the society and to conduct periodic screening for oral and dental diseases (4).

Oral health education for midwives and nurses has recently gained importance in programs all over the world. Nursing undergraduate education includes few oral health courses and the content is only about understanding the healthy oral cavity (5). Another problem in improving dental health and providing daily oral hygiene is that individuals and their families, nurses, doctors and caregivers do not give enough priority to oral health. Educating nurses can be difficult and problematic under these conditions (6). However, educating midwives and nurses on oral and dental health is essential because of their responsibilities. So, they can be confident and provide convenient service (7).

In the light of this information, the aim of this study was to evaluate the effect of “Community Oral and Dental Health” course on the oral and dental health awareness of nursing students, its relation with general health, its effect on their habits and attitudes.

Materials and Methods

Research and Publication Ethics: The present study was conducted to evaluate the oral and dental health awareness of nursing students of Kırıkkale University and Bolu Abant İzzet Baysal University. The junior and senior nursing students were included in the study. Ethics committee approval (Date: 13.03.2019, No:2019/47) was received from Bolu Abant İzzet Baysal University Clinical Research Ethics Committee and informed consent form was obtained from the participants.

164 junior students who took “Community Oral and Dental Health” course at Kırıkkale University, Faculty of Health Sciences, Department of Nursing and 230 junior and senior students from Bolu Abant İzzet Baysal University, Faculty of Health Sciences, Department of Nursing who did not take the same course were subjected to the questionnaire. The sample size was determined as 188 with a 95% confidence interval and a 5% margin of error.

The questionnaire consisted of questions based on oral and dental health awareness (4) and was divided into two sections: Single-answer Multiple-choice questions and Multiple-answer Multiple-choice questions.

Statistical Analyses: The statistical analysis was performed with SPSS Statistics (SPSS IBM, Turkey). Pearson or Fisher’s exact chi square tests were used to compare two groups. The statistical significance level was accepted as 0.05 in all tests.

Results

394 volunteer junior and senior nursing students (age 19–30 years) participated in the questionnaire (Table 1). The statistical analysis of answers to single-answer multiple-choice questions is shown in Table 2, and those of the multiple-answer multiple-choice questions are shown in Table 3.

Although both groups gave a positive answer to the question “the effect of mothers’ oral health on their child’s oral health”, the response rate was higher for the students taking the course (82.60% - 92.78%, $p<0.05$). Both groups knew “the importance of oral health for preschoolers.” The rate of going to a dental checkup in the last year was 33.53% for students who took the course and 43.04% for those who did not. Although, there was no statistically significant difference ($p>0.05$) between the mouthwash ($p=0.512$) and dental floss use ($p=0.533$), there was a statistically significant difference between tooth brushing habits of the students ($p<0.05$). They knew that poor oral hygiene and sugar consumption caused dental caries. There was a statistically significant difference between two groups in terms of “being infected with dental caries bacteria at an early age” ($p=0.001$). This rate was 57.39% for the students who did not take the course, and 74.39% for the students taking the course.

In the question of preventing dental caries, a significant difference was found only between the rates of "Chewing sugar-free gum" ($p<0.001$) and "Regular use of fluorine-containing products" ($p<0.001$). The view that “Children who have dental caries in their mothers are more likely to have it” was better known by the students taking the course ($p<0.001$). There was a statistically significant difference in “Dental caries in pregnancy is important for both mother and child” ($p<0.001$).

There was no statistically significant difference between the groups' awareness of the symptoms and affective factors of periodontal diseases ($p>0.05$). Although there was a statistical difference ($p=0.023$, $p<0.05$), “Dental caries is a preventable disease during pregnancy” was not exactly perceived by both groups.

Table 1. Gender distribution of the students participated in the study

		Bolu Abant İzzet Baysal University		Kırıkkale University	
		n	%	n	%
Gender	Female	184	80%	141	86%
	Male	46	20%	23	14%

Table 2. The statistical analysis of the single-answer multiple-choice questions

Questions	Answers	Bolu Abant İzzet Baysal University		Kırıkkale University		p
		n	%	n	%	
Is the oral health of mothers important for the oral health of their children?	Not important	1	0.43	0	0	0.006*
	No matter whether it is good or not	1	0.43	1	0.60	
	Important	38	16.52	11	6.70	
	Very important	190	82.60	152	92.68	
What do you think about starting oral hygiene practices for children aged between 0-3?	Absolutely impossible, it is very early age	3	1.30	8	4.87	0.056
	No matter whether it is started or not	34	14.78	14	8.53	
	Can be started after the age of 6	19	8.26	13	7.92	
	Must be started absolutely	174	75.65	129	78.65	
When do you think tooth brushing should be taught?	Around the age of 6	11	4.78	10	6.09	0.872
	Around the age of 5	11	4.78	10	6.09	
	Between 4 and 5	66	28.69	45	27.43	
	After age of 2	142	61.73	99	60.36	
Who do you think should teach children to brush teeth?	Mother or father	223	96.95	164	100	0.841
	Siblings	0	0	2	1.21	
	Aunt or uncle	1	0.43	1	0.60	
	Teacher	4	1.73	1	0.60	
Should we go to the dentist for a dental checkup even if we do not have a toothache?	Agree	226	98.26	161	98.17	1.000
	Not agree	4	1.73	3	1.82	
In the recent year,	I have not seen a dentist	67	29.13	54	32.92	0.138
	I had a dental checkup	55	23.91	32	19.51	
	I had dental checkups twice	44	19.13	23	14.02	
	I had at least one filled tooth	21	9.13	29	17.68	
	I had at least one tooth extraction	6	2.60	4	2.43	
	I had at least one root-filled tooth	25	10.86	12	7.31	
	No operation has been made	12	5.21	10	6.09	
How many times a day do you brush your teeth?	I do not	5	2.17	1	0.60	0.006*
	I am not in the habit of brushing my teeth regularly	12	5.21	0	0	
	Once a day	49	21.30	31	18.90	
	Twice a day	145	63.04	113	68.90	
	Three times a day	13	5.65	17	10.36	
	More than three times a day	6	2.60	2	1.21	
Do you use mouthwash?	No, I do not	139	60.43	93	56.70	0.512
	I use irregularly	68	29.56	55	33.53	
	Once a day	12	5.21	12	7.31	
	Twice a day	3	1.30	2	1.21	
	Once a week	8	3.47	2	1.21	
Would you recommend a dental examination to a mother who has just given birth?	Yes, I do	209	90.86	152	92.68	0.522
	No, I do not	21	9.13	12	7.31	
Do you use dental floss?	No, I do not	150	65.21	108	65.85	0.533
	Once a week	30	13.04	27	16.46	
	Once a month	23	10	9	5.48	
	Once a day	24	10.43	19	11.58	
	Twice a day	2	0.86	1	0.60	
	Three times a day	1	0.43	0	0	
Which is correct for a patient undergoing radiotherapy from the head and neck region?	The risk of dental caries is quite high	137	59.56	129	78.65	<0.001*
	The risk of dental caries is low	16	6.95	7	4.26	
	The risk of dental caries is the same as in healthy individuals	77	33.47	28	17.07	

Table 3. The statistical analysis of the multiple-answer multiple-choice questions

Questions	Answers	Bolu Abant İzzet Baysal University		Kırıkkale University		p
		n	%	n	%	
Which one(s) of the following is correct in your opinion?	If regular oral care is not performed, upper respiratory infections may occur	201	87.39	139	84.75	0.453
	If regular oral care is not performed, it triggers blood pressure problems	24	10.43	11	6.70	0.200
	The irregular oral hygiene routine effects the pregnancy	59	25.65	70	42.68	<0.001*
	The irregular oral hygiene routine increases the risk of heart attack	34	14.78	34	20.73	0.123
What are the causes of dental caries in your opinion?	The frequent consumption of sugar containing foods and beverages	202	87.82	148	90.24	0.453
	Calcium-poor diet	163	70.86	96	58.53	0.009*
	Poor oral hygiene	211	91.73	146	89.02	0.363
	The absence of dental floss use	99	43.04	60	36.58	0.198
	Pregnancy	77	33.47	57	34.75	0.792
	Being infected with dental caries bacteria at an early age	132	57.39	122	74.39	0.001*
How can you prevent your teeth from decay?	Regular tooth brushing is sufficient	50	21.73	37	22.56	0.864
	Limiting sugar consumption	170	73.91	110	67.07	0.140
	Chewing sugar-free gum	43	18.69	61	37.19	<0.001*
	Regular use of fluorine-containing products	100	43.47	125	76.21	<0.001*
	Regular tooth brushing and dental floss use	199	86.52	145	88.41	0.578
Which of the following statement(s) is absolutely correct?	Children who have dental caries in their mothers are more likely to have it	23	10	64	39.02	<0.001*
	Primary dental caries is not important	22	9.56	8	4.87	0.084
	Dental caries occurs in the mother because, the unborn baby gets calcium from her teeth	172	74.78	104	63.41	0.015*
	Those who do not have caries and fillings can brush their teeth without using toothpaste.	18	7.82	7	4.26	0.153
What are the causes of periodontal diseases?	Sugar containing foods and drinks	145	63.04	101	61.58	0.768
	Bacteria in dental plaque	186	80.86	134	81.70	0.834
	Poor nutrition	149	64.78	76	46.34	<0.001*
	Pregnancy	85	36.95	53	32.31	0.341
	Poor oral hygiene care	211	91.73	139	84.75	0.030*
Which factors affect periodontal health?	Diabetes	153	66.52	106	64.63	0.653
	Hypertension	63	27.39	37	22.56	0.267
	Drug use	194	84.34	103	62.80	<0.001*
	Trauma	98	42.60	74	45.12	0.647
	Pregnancy	135	58.69	81	49.39	0.060
	Plaque accumulation	212	92.17	153	93.29	0.785
What are the symptoms of periodontal disease?	Malodor	199	86.52	150	91.46	0.157
	Easily bleeding gingiva during tooth brushing	207	90	144	87.80	0.413
	Swollen gingiva	207	90	139	84.75	0.089
	Diastema	120	52.17	65	39.63	0.012*
	Sensitive teeth	165	71.73	104	63.41	0.069
	The loss of teeth	170	73.91	123	75	0.864
	Loose tooth	154	66.95	115	70.12	0.546
	Teeth grinding	70	30.43	47	28.65	0.683
What is your opinion about primary dental caries?	It doesn't matter, the new one will replace it	30	13.04	10	6.09	0.024*
	It doesn't matter, I can have the tooth filled	4	1.73	3	1.82	0.951
	It doesn't matter, I can have the tooth extracted	20	8.69	6	3.65	0.046*
	It matters, it guides for the permanent teeth	176	76.52	138	84.14	0.075
	It matters, it affects speech	106	46.08	88	53.65	0.150
	It matters, it also causes permanent dental caries	92	40	78	47.56	0.145
Which one(s) is correct for dental caries in pregnancy?	Pregnant woman definitely suffers from dental caries	8	3.47	11	6.70	0.143
	Dental caries during pregnancy is important for both mother and child.	153	66.52	139	84.75	<0.001*
	Dental caries is a preventable disease during pregnancy	149	64.78	88	53.65	0.023*
	Every pregnant woman has at least one dental caries	6	2.60	1	0.60	0.139

Discussion

The present study evaluated the oral and dental health knowledge and attitude of nursing students who are candidates for healthcare professionals. The most important limitation was the participants' responses, which could be subjected to verification bias and be affected by social acceptability. Nevertheless, the results of present study will be useful in educational programs that aim to change students' approaches and attitudes towards oral and dental health.

In present study, questions about oral hygiene in children were answered correctly by both groups at similar rates in contrast to a previous study (8). The rate of brushing teeth two or more times a day was lower than Mohd-Dom et al. (9) and higher than Oyetola et al.(10). It can be concluded that tooth brushing habits of the students taking the course were relatively better. These studies of well-educated young adults reflect much better oral hygiene behavior than the national average, as 15% of adults in a national study did not have a toothbrush, and only half of those with a toothbrush used it every day. In addition, it is stated that only 26% of people in our country brush their teeth two or more times a day (11). In present study, the oral hygiene behaviors of the nursing students were sufficient and the results of the students taking the course were similar to other studies (8, 12, 13). On the other hand, the use of dental floss and mouthwash was found to be lower in both groups compared to other studies (14, 15). The effects of tooth brushing and flossing on caries prevention and nutrition on caries were perceived by both groups. As in the previous study, this may be related to basic nutrition courses (5). Although, it was stated that dental caries is a driving factor in going to the dentist (14-16), approximately 98% of the students in both groups stated that regular visits are necessary for oral and dental health, and this was higher than in other studies (17, 18).

In present study, the use of fluorine-containing products in the prevention of dental caries was better known by the students taking the course. This was confirmed by Kim et al., but they stated that a lack of information was also observed (13). In the literature, the response rate regarding the role of fluoride in dentistry is considered low (14, 19).

Sharda and Shetty (17) and Kılınç and Günay (20) concluded that the knowledge level of university students who received health education was higher than those who did not. In another study, it was stated that the lower oral health knowledge of medical students compared to dental students may be due to the absence of an oral health course. Therefore, oral health education should be included in the medical curriculum (21). This was confirmed by the results of the present study as the radiotherapy question, which is a more detailed question, was better known by the students taking the course.

In oral health services, it is essential to inform and guide mothers during pregnancy as the mother's oral hygiene has a significant impact on the child's future oral hygiene status (22). For this reason, midwives and nurses should have sufficient knowledge about dental problems that are common during pregnancy and early childhood (5). This was relatively well known to the students taking the course. Both groups stated that they would highly recommend a dental examination to mothers who gave birth. They also had more information about the gingival health of pregnant women, the importance of dental caries in pregnancy and primary tooth. However, both groups did not have sufficient information about the relation between oral health and general health, unlike the previous study (4). For this reason, these subjects should be included more in the course content.

Andhare et al. stated that oral health attitudes and behaviors were related to education (21). Therefore, the level of oral health can be improved with education programs for various professionals. The motivation of the next generation of professionals to maintain excellent oral health practices may be possible with the oral health motivation program that is part of the academic curriculum of universities and colleges (23). It was also stated that oral health education should be improved and strengthened as nurses and caregivers must be able to meet oral health standards (24). This was confirmed by a study in New Zealand that analyzed the effects of implementing the oral health curriculum on nurses' knowledge and concluded that most nurses had the right knowledge (25). Various studies have demonstrated that continuing and regular education programs help to provide comprehensive knowledge both in the short and long-term (26, 27). In this respect, this study seems to be compatible with them.

While most children in many countries are not examined by a dentist before age 3, they are in frequent contact with primary care providers, including nurses, for routine checkups and vaccinations before age 1. These routine check-ups give healthcare professionals an opportunity to assess children's oral and dental health and refer them to the dentist when a disease is diagnosed. Therefore, it is crucial to train these healthcare professionals to enable them to provide appropriate advice and promote oral and dental health in the community (8).

Since the inclusion of oral and dental health education in healthcare curricula has been discussed all over the world (28), there is a need for further studies evaluating oral and dental health education in nursing in order to determine the content of the curriculum and to plan educational programs for the society.

As a result, the oral and dental health awareness increased among nursing students taking the "Community Oral and Dental Health" course. Since, the nurses are potential candidates for public health education and even oral health assessments, inclusion of this course in the nursing curriculum will increase public awareness and improve oral health.

Acknowledgement

We would like to thank all the participating students. The authors declare no competing interest.

References

1. Maharajan MK, Rajiah K, Khoo SP, et al. Attitudes and readiness of students of healthcare professions towards interprofessional learning. PloS One 2017; 12: e0168863.
2. Nicolau B, Thomson W, Steele J, Allison P. Life-course epidemiology: concepts and theoretical models and its relevance to chronic oral conditions. Community Dent Oral Epidemiol 2007; 35: 241-249.
3. Bridges D, Davidson RA, Soule Odegard P, Maki IV, Tomkowiak J. Interprofessional collaboration: three best practice models of interprofessional education. Med Educ Online 2011; 16: 6035.
4. Türkoglu Ö, Dülgergil ÇT. The Nursing Education Society-Oral-Dental Health Course Evaluation of the Effect of Oral Health Awareness of Students. Turkiye Klinikleri J Den Sci 2015; 21: 221.
5. George A, Lang G, Johnson M, et al. The evaluation of an oral health education program for midwives in Australia. Women Birth 2016; 29: 208-213.
6. de Lugt-Lustig KH, Vanobbergen JN, van der Putten GJ, et al. Effect of oral healthcare education on knowledge, attitude and skills of care home nurses: a systematic literature review. Community Dent Oral Epidemiol 2014; 42: 88-96.
7. Stowers BA, Giblin L, Laspina L, Perry K. Perceptions of Program Directors and Educators Regarding the Adequacy of Oral Health Education in Nursing Assistant Curricula. J Dent Hyg 2017; 91: 21-28.
8. Ayık Y, Özçelik SK, Akyüz S, Bahçecik AN. Oral and Dental Health Knowledge of Nursing and Midwifery Students. Clin Exp Health Sci 2017; 7: 166-170.
9. Mohd-Dom TN, Ying NY, Ming LS, Moho-Said S, Yusof N. Oral health literacy and behavior of health sciences university students. J Dent Indones 2015; 22: 56-62.
10. Oyetola EO, Oyewole T, Adedigba M, et al. Knowledge and awareness of medical doctors, medical students and nurses about dentistry in Nigeria. Pan Afr Med J. 2016; 23: 172
11. Gökalp S, Guciz Dogan B, Tekçiçek M, Berberoglu A, Ünlüer Ş. National survey of oral health status of children and adults in Turkey. Community Dent Health 2010; 27: 12.
12. Bal MV, Bengi U, Acıkel C, Saygun I. Oral hygiene and oral health status of the nursing students in Turkey. Gulhane Med J. 2015;57:264-8.
13. Kim H-Y, Chun D-I, Kwak Y-S. Factors that cause influence on the knowledge of oral health of university students. Biomed Res 2017; 28: 5565-5571.
14. Bashiru BO, Omotola OE. Oral health knowledge, attitude and behavior of medical, pharmacy and nursing students at the University of Port Harcourt, Nigeria. J Oral Res Rev 2016; 8: 66.
15. Kawas S, Fakhruddin KS, Rehman BU. A comparative study of oral health attitudes and behavior between dental and medical students; the impact of dental education in United Arab Emirates. J Int Dent Med Res 2010; 3: 6-10.
16. Ali DA. Knowledge of the Relationships between Oral Health, Diabetes, Body Mass Index and Lifestyle among Students at the Kuwait University Health Sciences Center, Kuwait. Med Princ Pract 2016; 25: 176-180.
17. Sharda AJ, Shetty S. A comparative study of oral health knowledge, attitude and behaviour of non-medical, para-medical and medical students in Udaipur city, Rajasthan, India. Int J Dent Hyg 2010; 8: 101-109.
18. Timmerman E, Hoogstraten J, Meijer K, Nauta M, Eijkman M. On the assessment of dental health care attitudes in 1986 and 1995, using the dental attitude questionnaire. Community Dent Health 1997; 14: 161-165.
19. Usman S, Bhat SS, Sargod SS. Oral health knowledge and behavior of clinical medical, dental and paramedical students in Mangalore. J Oral Health Comm Dent 2007; 1: 46-48.
20. Kılınç G, Günay T. Oral and dental health knowledge of medical students in dokuz eylul university. J DEU Med Fac 2010; 24: 131-137.
21. Andhare MG, Dhonge RP, Dhuldhwaj RM, Dede RA, Sayyad IFN. A comparative evaluation of awareness regarding periodontal health and oral hygiene practices among dental and medical undergraduate students in Beed District of Maharashtra. Indian J Dent Sci 2017; 9: 215.
22. Vamos CA, Walsh ML, Thompson E, et al. Oral-systemic health during pregnancy: exploring prenatal and oral health providers' information, motivation and behavioral skills. Matern Child Health J 2015; 19: 1263-1275.
23. Sarkar P, Dasar P, Nagarajappa S, et al. Impact of dental neglect scale on oral health status among different professionals in Indore City-A cross-sectional study. J Clin Diagn Res 2015; 9: ZC67.
24. Lewis A, Edwards S, Whiting G, Donnelly F. Evaluating student learning outcomes in oral health knowledge and skills. J Clin Nurs. 2018; 27: 2438-2449.
25. Drummond B, Clarke H, Maxwell-McRae A, Konthasinghe P, Thomson W. Oral health knowledge of Plunket nurses in New Zealand: evaluation of an oral health module. New Zeal Dent J 2002; 98: 64-66.
26. Kuronen R, Jallinoja P, Patja K. Use of and attitudes toward current care guidelines among primary and secondary care nurses in Finland. Clin Nurs Res 2011; 20: 310-325.
27. Marinopoulos SS, Dorman T, Ratanawongsa N, et al. Effectiveness of continuing medical education. Evid Rep Technol Assess (Full Rep) 2007; 149: 1-69.
28. George A, Duff M, Ajwani S, et al. Development of an online education program for midwives in Australia to improve perinatal oral health. J Perinat Educ 2012; 21: 112-122.