

INFLUENCE OF DENTAL EDUCATION ON ORAL HEALTH ATTITUDES AND BEHAVIOURS AMONG DENTAL STUDENTS AT ISRA DENTAL COLLEGE HYDERABAD, PAKISTAN

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ABSTRACT:

Objectives: To assess how dental education affects the oral health attitudes and behaviours among dental students as their level of study progresses.

Materials and Methods: This cross-sectional study was conducted on undergraduate dental students at Isra dental college, Isra University in Hyderabad, Pakistan.

A structured self-administered questionnaire was used to conduct a survey among dental students at all study levels (from 1st year to final year) in Isra Dental College, Hyderabad.

Results: Out of 166 students, 32 were males and 134 were female students participated in this study. Majority of the dental students brushed their teeth twice daily (75.3%) for 2 minutes (56%) before breakfast and before going to bed (57.2%) with a medium hardness manual tooth brush using circulatory method. Majority of the students (59.6%) did not use floss to clear the proximal surfaces of their teeth and 61.4% students used mouthwash in order to maintain their oral hygiene. 77.1 % of the students had an idea that a regular dental check-up must be taken every 6 months, but only 8 % of the students had it every 6 months.

Conclusion: Overall knowledge of oral health attitudes and behaviours among dental students at Isra dental college Hyderabad was good, but still students need to improve their oral health attitude and behaviours in a few areas.

Key words: Dental students, oral health attitude, oral behaviours, dental education.



INTRODUCTION

Various factors play an important role in the oral health and general health status, depending on the individual's personal behaviour, attitude and awareness towards health ^[1]. The most important factor that influences behaviour towards oral health is knowledge regarding oral health and as age increases the knowledge increases as well ^[2].

Similarly, as the level of study increases while acquiring dental education; dental student's attitude and behaviour is supposed to improve. They are going to be the future dentists of our country and are expected to be an important part of oral health education and oral health promotion ^[3]. Thus, they should also instruct their patient's family members and the surrounding society to maintain virtuous oral health ^[4, 5].

Generally dental students have been seen to have positive approaches towards oral health but to have positive influence on their families, friends and patients and to serve themselves as a role model for the society, they must improve their own behaviour towards oral health [6].

The capability to deliver oral health knowledge might be influenced by the attitude and behaviour of the dental professionals and hence this might have negative affect on their patient's oral health [7, 8, 9].

A population's oral health condition is significantly determined by the attitude and behaviour of their practicing oral health professional who provide them dental care and awareness regarding oral health [10]. The leading source of oral health information, according to earlier studies; have shown to be dental literature, dentists, dental students, dental auxiliaries and media [11, 12].

Cogently the dental students during their undergraduate study should adapt and improve their attitudes and conduct towards their individual health. This would in thus affect their patient's oral health [13].

Researches have showed that the dental student's knowledge, attitudes and behaviours regarding oral health vary between clinical and preclinical studies [14]. Furthermore the attitude and behaviour of dental students also differed in different culture and countries [14]. While Vangipuram S et

al. [15] found in his study that increasing level of education had no positive impact on the attitude of behaviour of undergraduate dental students in India. Surprisingly, he found better oral health attitudes and behaviours among preclinical students as compared to clinical students and he also found that females had a more positive attitude towards their oral health as compared to males.

Whereas Halawany SH, et al. [16] did not find any significant difference in the oral health attitudes and behaviours between preclinical and clinical students and he also didn't find any noticeable difference in the oral health behaviours between male and female dental students in his study which was conducted in 4 different countries (Saudi Arabia, United Arab Emirates, Yemen and India.)

On contrast, Al-Wahdani MA, et al. [5] found that as the level of study increased, dental students developed more positive oral health attitude. (For instance they started worrying about halitosis and had an idea about regular dental visits) in his study which was carried out in Jordan.

Another study which was also conducted in Jordan to assess the oral health attitudes and behaviours among dental students showed poor dental attitude among dental students [17].

A comparative study between Finnish and Japanese dental students showed a better dental attitude and behaviour of

Japanese students in their final year of dental education as compared to their Finnish peers as assessed by HU-DBI index [18, 19, 20].

Dagli et al. reported that the oral health attitude and behaviour among surveyed dental students was poor and had no significant difference in their attitudes and behaviours with the level of study in his research which was carried out in Rajasthan amongst undergraduate dental students [20, 21].

However due to inadequate data on dental attitude and behaviour of undergraduate dental students in Hyderabad, Pakistan, this study was meant to estimate the dental attitude and behaviour amongst undergraduate students and to evaluate the difference in attitudes and behaviours of dental students according to gender and level of study.

MATERIALS AND METHODS:

The study was conducted on undergraduate's dental students from 1st year to final year, at Isra Dental College Hyderabad. The data were conducted after obtaining permission from the ethical committee and respected dean of institution and informed consent was obtained from students. The dental student's oral health attitudes and behaviour were assessed using the structured self-administered questionnaire (Appendix A). The questionnaire was distributed among first year to final year students of Isra Dental College, Hyderabad. A total 166

students participated in the study and fill the questionnaire. Out of 166 students, 32 students were males and 134 students were female students.

Data was analyzed by SPSS version 21. Descriptive statistics such as percentage, frequency distribution, cross tabulation were included in Data analysis. The level of significance was set at <0.05%.

RESULTS:

Table 1 shows the distribution of dental students in (percentages and numbers) according to their gender and year of study. Out of 210 students, 166 students participated in the study, and filled the questionnaire; thus the response rate of students in this study was 79.05%.

Out of 166 students 32 were males and 134 were female students. Of the 166 students, majority were from 1st year (46 students) while 36, 40 and 44 dental students from 2nd year, 3rd year and final year respectively participated in the study.

The age of the dental students (1st year to 4th year) varied from 18-26 years with a mean of 20.44.

Table 2 shows the attitudes and behaviours of dental students according to gender and year of study.

Majority of the dental students brushed their teeth twice daily (75.3%) for 2 minutes (56%) before breakfast and before going to bed (57.2%) with a medium hardness manual tooth brush using circulatory method.

Greater percentage of females brushed twice daily (79.9%) for 2 min (56.7%) as per international recommendation, compared to males. Those who brushed twice daily were mostly from 2nd year (80.6%). Most of those who brushed for 2 min belonged to 1st year (71.7%), followed by 2nd year (66.7%), 3rd year (50.0%) and final year (36.4%) respectively.

Only 33 students (19.9 %) brushed at recommended times i.e. after breakfast and before sleeping. Out of which majority were females (21.6 %) as compared to males (12.5%) and majority were from final year (38.6%)

Students were asked whether they used any other oral hygiene aids, such as mouth wash, dental floss, tongue cleaning or any other interdental aids. 89.2 % students cleaned their tongue most of them (45.2) used back of the brush for this purpose majority of them were from 2nd year (91.7%) with female preponderance (90.3%).

Only 32.5% students used other interdental aids as well to maintain their oral health. Majority of the students (59.6%) did not use floss to clear the proximal surfaces of their teeth. and 61.4% students used mouthwash in order to maintain their oral hygiene, surprisingly with a male predominance (62.5%) as compared to females (61.2%), most of the students who used mouthwash were from first year.

Students were asked to grade their dental health (very good, good, bad or

don't know) most of the students graded their health as good (60.2 %) and most of them belonged to 3rd year (72.5%).

Greater males had good dental health (65.6%) as compared to females (59 %) while more females had very good dental health (30.6 %) as compared to males (25%).

To check the attitude of dental students they were asked how often a dental regular check-up should be there and further more to check their dental behaviour they were asked how often do they visit to dentist in a year and whether they get hygienist cleaning (scaling) regularly or not? They were also asked that if they get initial carries in any of their teeth, what will be their response.

77.1 % of the students had an idea that a regular dental check-up must be taken every 6 months, but only 8 % of the students had it every 6 months. While majority of the students (75.3%) went to the dentist only when they had some dental problem. Most of them who had an idea of regular dental check-up were from final year (93.2%) and were males (78.1 %) as compared to females (76.9%) with only a slight difference. While those who actually visited the dentist every 6 months were more from 3rd year (10%) as compared to 1st year (4.3%) 2nd year (0%) and final year (4.5%), with a male predominance.

Only 7.2 % if the students got scaling every 6 months with female (7.5%) preponderance with female

preponderance as judged against males (6.3%).most of them were from 2nd year (11.1%) followed by final year (9.1%), 3rd year (7.5%), and then 1st year (2.2%). While majority of them (51.8%) had never gone through scaling.

When it was asked about initial caries 59% of the students answered that they would have treated as soon as possible. While only 3.6 % students replied that they will take preventive measures and treat as soon as possible as well.

Finally they were asked if they had got any dental treatment after they started getting dental education. 53% students did not get any dental treatment after entering dental education, while 38% of them got scaling, 1.2% students got root canal treatments, 0.6 % students got splints for TMJ pain, 0,6% students got extractions of teeth, 0.6% students got scaling, extraction and fixed bridge as well, 1 % students got restoration of some carious teeth and root canal treatment of other carious teeth and also got scaling, 1.2 % students got orthodontic treatment, while 3% students got both scaling and restorations, only 0.6% students got root canal treatment alone for their carious teeth and 0.6% students got only restorations for their carious teeth. This is how dental education influenced their dental behaviour.

To avoid biased results due to more female respondents as compared to males and difference in the number of students in every year, percentages have

been calculated within the gender and within the year of study, to make this study more valid.

DISCUSSION:

Preventive dentistry is an important part of dental education, so that the dental students can motivate their patients to maintain a good oral hygiene, in order to prevent dental disease, as prevention is better than cure. But it's only possible when the students themselves are aware and motivated to dental health [13, 22].

The aim of this study is to assess the impact of dental education on the dental attitudes and behaviours of dental students, as their level of study progresses and to estimate the gender difference regarding this topic. This study is of much importance in this field specially because there is not much data regarding oral health attitude and behaviour of dental students in Hyderabad Pakistan. And this is the first study conducted on Isra student's health attitudes and behaviours.

Various studies have been held in order to compare the oral health attitudes and behaviours of dental students using HU-DBI [20, 23- 27] and have found that, there are cross cultural differences in dental students attitudes and behaviours different countries but this study was meant to see the difference between male and female student's behaviour and how their attitudes and behaviours are effected by level of education.

Considerable differences were seen in the oral health attitudes and behaviours of dental students in different countries [1]. But in this study, no significant improvement in the oral health attitudes and behaviour were seen among dental students. The results of this study concur with the study done on Finnish and Indian students [28], Tunisian students [22], Michigan students [29] and among students in Egypt [30]. It also coincides with the study done by Halawany SH et al. [16]. All noted that dental education did not affect the attitudes and behaviours of dental students.

The results of this study do not correspond to the studies done at the University of Paris [31] and the study carried out on Danish dental students [32], which found a significant improvement in the oral health attitudes and behaviours of dental students during their dental education. Furthermore another study carried out in Saudi Arabia, at a teaching institute also showed that the attitudes and behaviours of clinical students were better than preclinical students [33].

Majority of the dental students had an idea that routine dental check-up must be done every 6 months. Of these most them were males and were from final year. But only 6% of the students actually visited the dentist every 6 months and most of them were from 3rd year, followed by final year and then 1st year.

While majority of the students (75.3%) went to the dentist only when they had a problem. This corresponds to a previous study [27] in which greater than half of the students went to the dentists only when they had a problem. As most of the students graded to have a good dental health, this might explain the reason of visiting the dentist only when they came across some dental problem. Al-Hussani et al. [34] found a similar finding in his study.

166 dental students participated in this study. Out of which 134 were females and only 32 were males. Substantial gender difference was seen with female predominance. Female dental students had better brushing behaviours as compared to male students. Majority of the females brushed twice daily for 2 minutes after breakfast and before going to bed, thus showing an improved oral health attitude and behaviour. These results are concurrent with the studies carried out on dental students in Iran [35], Jordan [36] and Palestine [37]. Fukai et al. [38] and Ostberg et al. [39] also found similar results in their study. But no gender difference was noted in the dental attitudes and behaviours of senior dental students by Tseveenjav et al. [40].

Regarding regular dental visits every 6 months male students showed more positive response as compared to females. This could be partly explained as more females as compared to males reported to have very good dental health. So probably they felt less need to visit a dentist regularly. Though it is

recommended to get a regular dental visit every 6 month but this much excessive visits may lead to unnecessary dental treatments (e.g. Drilling and filling of arrested caries etc.) And it's not proved by any scientific fact as well to have this much frequent visits.

Greater number of students brushed twice daily (75.3%), used mouthwash (61.4%) and cleaned their tongue as well (89.2%). While 59.6% students admitted that they didn't use dental floss and only 32.5% students used other dental aids to maintain oral health. The results of this study do not agree with a previous longitudinal study done for 10 years on final year dental students which showed that the students didn't use mouthwash while they used to floss their teeth [2].

To check the knowledge and behaviour of dental students, they were asked that if they get initial caries in any of their tooth what will be their response. Most of them (59%) answered they would treat it as soon as possible. Whereas only 3.6% students responded that they would take preventive measures as well along with the treatment, which is very important to prevent caries in other teeth. The results of this study are in contrast to a study done by Halawany SH et al. [16].

The students were also asked if they got any dental treatment under the influence of dental education, Most of them got scaling according to according to the results of this study, which showed a positive behaviour. While only

7.2% students get regular hygienist cleaning of teeth every 6 months.

The motivation of dental students is of prime importance in improving their oral health attitudes and behaviours [41].

Dental professors should be given the responsibility to enhance the knowledge attitude and awareness of undergraduate dental students regarding oral health and preventive measures to maintain oral health and prevent diseases and their students in turn should improve their dental behaviours to impart positive influence on their patients and become a motivation for them [42, 43, 44].

Further researches are still needed for determining the relationship between self reported data and intraoral clinical status of the dental students and also put emphasis on importance of preventive oral health behaviour and attitudes in academic and public guidelines as well.

CONCLUSIONS:

This study reported that the overall knowledge of dental education on oral health attitudes and behaviours among dental students at Isra Dental College Hyderabad was good, but still students need to improve their oral health attitude and behaviours in a few areas.

Out of 166 students, 32 were males and 134 were female students. The age of the dental students (1st year to 4th year) varied from 18-26 years with a mean of

20.44. Majority of the dental students brushed their teeth twice daily (75.3%) for 2 minutes (56%) before breakfast and before going to bed (57.2%) with a medium hardness manual tooth brush using circulatory method. 89.2% students cleaned their tongue most of them (45.2) used back of the brush for this purpose majority of them were from 2nd year (91.7%) with female preponderance (90.3%). Majority of the students (59.6%) did not use floss to clear the proximal surfaces of their teeth and 61.4% students used mouthwash in order to maintain their oral hygiene. Students were asked to grade their dental health (very good, good, bad or don't know) most of the students graded their health as good (60.2 %) and most of them belonged to 3rd year (72.5%).

77.1 % of the students had an idea that a regular dental check-up must be taken every 6 months, but only 8 % of the students had it every 6 months. While majority of the students (75.3%) went to the dentist only when they had some dental problem. Finally they were asked if they had got any dental treatment after they started getting dental

education. 53% students did not get any dental treatment after entering dental education, while 38% of them got scaling, 1.2% students got root canal treatments, 0.6 % students got splints for TMJ pain, 0.6% students got extractions of teeth, 0.6% students got scaling, extraction and fixed bridge as well, 1% students got restoration of some carious teeth and root canal treatment, 1.2% students got orthodontic treatment.

This is how dental education influenced their dental behaviour. Limitations of this study included limited sample size, lesser number of male participants as compared to female students and its cross-sectional design. But despite of these limitations this study provides basic information about the oral health attitudes and behaviours of dental students and also provides significant knowledge that might help in future in preventive dentistry education and promotions of preventive measures in this area of country.

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TABLES:

TABLE 1: DISTRIBUTION OF THE STUDENTS ACCORDING TO YEAR OF STUDY AND GENDER

Year of study	Male	Female	Total
1 st year	8 (17.4%)	38 (82.6%)	46 (100%)
2 nd year	5 (13.9%)	31 (86.1%)	36 (100%)
3 rd year	10 (25%)	30 (75%)	40 (100%)
Final year	9 (20.5%)	35 (79.5%)	44 (100%)
Total	32 (19.3 %)	134 (80.7%)	166 (100%)

TABLE 2: ATTITUDES AND BEHAVIOURS OF THE STUDENTS ACCORDING TO GENDER AND YEAR OF STUDY

Attitudes and behaviours	gender		Year of study			
	Male (32)	Female (134)	1st year (46)	2nd year (36)	3rd year (40)	4th year (44)
Brushing Frequency						
Once	10 (31.3%)	20 (14.9%)	3 (6.5%)	6 (16.7%)	14 (35.0%)	7 (15.9%)
Twice	18 (56.3%)	107 (79.9%)	37 (80.4%)	29 (80.6%)	25 (62.5%)	34 (77.3%)
Thrice	2 (6.3%)	5 (3.7%)	5 (10.9%)	1 (2.8%)	1 (2.5%)	0 (0.0%)
after every meal	2 (6.3%)	2 (1.5%)	1 (2.2%)	0 (0.0%)	0 (0.0%)	3 (6.8%)
Brushing Duration						
1 min	4 (12.5%)	22 (16.4%)	3 (6.5%)	4 (11.1%)	6 (15.0%)	13 (29.5%)
2 min	17 (53.1%)	76 (56.7%)	33 (71.7%)	24 (66.7%)	20 (50.0%)	16 (36.4%)
more than 2 min	11 (34.4%)	36 (26.9%)	10 (21.7%)	8 (22.2%)	14 (35.0%)	15 (34.1%)
Brushing Time						
before breakfast	9 (28.1%)	12 (9.0%)	0 (0.0%)	3 (8.3%)	11 (27.5%)	7 (15.9%)
after breakfast	3 (9.4%)	6 (4.5%)	0 (0.0%)	2 (5.6%)	3 (7.5%)	4 (9.1%)
before going to bed	1 (3.1%)	3 (2.2%)	1 (2.2%)	2 (5.6%)	1 (2.5%)	0 (0.0%)
after meal	1 (3.1%)	3 (2.2%)	2 (4.3%)	0 (0.0%)	0 (0.0%)	2 (4.5%)
before breakfast and before going to bed	14 (43.8%)	81 (60.4%)	42 (91.3%)	16 (44.4%)	23 (57.5%)	14 (31.8%)
After breakfast and before going to bed	4 (12.5%)	29 (21.6%)	1 (2.2%)	13 (36.1%)	2 (5.0%)	17 (38.6%)
Tooth brush Hardness						
Soft	18 (56.3%)	43 (32.1%)	15 (32.6%)	18 (50.0%)	12 (30.0%)	16 (36.4%)
medium	12 (37.5%)	86 (64.2%)	29 (63.0%)	18 (50.0%)	26 (65.0%)	25 (56.8%)
Hard	2 (6.3%)	5 (3.7%)	2 (4.3%)	0 (0.0%)	2 (5.0%)	3 (6.8%)
Tooth brush Type						
Manual	31 (96.9%)	126 (94.0%)	42 (91.3%)	34 (94.4%)	39 (97.5%)	42 (95.5%)
Electric	0 (0.0%)	4 (3.0%)	0 (0.0%)	2 (5.6%)	1 (2.5%)	1 (2.3%)
Sonic	1 (3.1%)	4 (2.9%)	4 (8.7%)	0 (0.0%)	0 (0.0%)	1 (2.3%)

Tooth brushing Method						
vertical	3 (9.4%)	10 (7.5%)	5 10.9%	5 13.9%	0 0.0%	3 6.8%
horizontal	2 (6.3%)	27 (20.1%)	20 43.5%	7 19.4%	1 2.5%	1 2.3%
Circulatory	7 (21.9%)	41 (30.6%)	8 17.4%	17 47.2%	7 17.5%	16 36.4%
vibratory	1 (3.1%)	6 (4.5%)	5 10.9%	1 2.8%	1 2.5%	0 0.0%
bass method	6 (18.8%)	10 (7.5%)	1 2.2%	0 0.0%	12 30.0%	3 6.8%
modified bass method	9 (28.1%)	23 (17.2%)	0 (0.0%)	6 (16.7%)	11 (27.5%)	15 (34.1%)
charles method	0 (0.0%)	1 (0.7%)	1 2.2%	0 0.0%	0 0.0%	0 0.0%
Multiple	4 (12.5%)	16 (11.9%)	6 (13.0%)	0 (0.0%)	8 (20.0%)	6 (13.6%)
Mouthwash Use						
yes	20 (62.5%)	82 (61.2%)	42 (91.3%)	19 (52.8%)	17 (42.5%)	24 (54.5%)
No	11 (34.4%)	52 (38.8%)	4 (8.7%)	16 (44.4%)	23 (57.5%)	20 (45.5%)
Sometimes	1 (3.1%)	0 (0.0%)	0 (0.0%)	1 (2.8%)	0 (0.0%)	0 (0.0%)
Dental Floss Use						
Yes	13 40.6%	54 40.3%	17 37.0%	12 33.3%	15 37.5%	23 52.3%
No	19 59.4%	79 59.0%	29 63.0%	24 66.7%	25 62.5%	20 45.5%
Sometimes	0 0.0%	1 0.7%	0 0.0%	0 0.0%	0 0.0%	1 2.3%
Tongue cleaning						
Yes	27 (84.4%)	121 (90.3%)	40 87.0%	33 91.7%	35 87.5%	40 90.9%
No	5 (15.6%)	13 (9.7%)	6 13.0%	3 8.3%	5 12.5%	4 9.1%
Tongue cleaning method						

Tongue scrapper	5 15.6%	9 6.7%	5 10.9%	4 11.1%	2 5.0%	3 6.8%
Brush	9 28.1%	50 37.3%	10 21.7%	7 19.4%	17 42.5%	25 56.8%
Back of brush	13 40.6%	62 46.3%	25 54.3%	22 61.1%	16 40.0%	12 27.3%
None	5 15.6%	13 9.7%	6 13.0%	3 8.3%	5 12.5%	4 9.1%
Other Interdental Aids						
Yes	9 28.1%	45 33.6%	18 39.1%	14 38.9%	9 22.5%	13 29.5%
No	23 71.9%	89 66.4%	28 60.9%	22 61.1%	31 77.5%	31 70.5%
Dental Health						
very good	8 25.0%	41 30.6%	13 28.3%	8 22.2%	9 22.5%	19 43.2%
good	21 65.6%	79 59.0%	22 47.8%	25 69.4%	29 72.5%	24 54.5%
bad	1 3.1%	2 1.5%	2 4.3%	0 0.0%	1 2.5%	0 0.0%
don't know	2 6.3%	12 9.0%	9 19.6%	3 8.3%	1 2.5%	1 2.3%
Regular check-up						
every 6 month	25 78.1%	103 76.9%	26 56.5%	28 77.8%	33 82.5%	41 93.2%
once a year	1 3.1%	14 10.4%	8 17.4%	2 5.6%	3 7.5%	2 4.5%
when necessary	6 18.8%	17 12.7%	12 26.1%	6 16.7%	4 10.0%	1 2.3%
Your visit						
when I have a dental problem	24 75.0%	101 75.4%	31 67.4%	32 88.9%	24 60.0%	38 86.4%
once a year	5 15.6%	24 17.9%	13 28.3%	4 11.1%	8 20.0%	4 9.1%
twice a year	3 9.4%	5 3.7%	2 4.3%	0 0.0%	4 10.0%	2 4.5%
never	0 0.0%	4 3.0%	0 0.0%	0 0.0%	4 10.0%	0 0.0%
Initial caries						
Take preventive measures	10 31.3%	31 23.1%	3 6.5%	4 11.1%	14 35.0%	20 45.5%

Wait and watch	3 9.4%	18 13.4%	15 32.6%	0 0.0%	2 5.0%	4 9.1%
Treat as soon as possible	19 59.4%	79 59.0%	27 58.7%	32 88.9%	22 55.0%	17 38.6%
Take preventive measures and treat as soon as possible	0 0.0%	6 4.5%	1 2.2%	0 0.0%	2 5.0%	3 6.8%
Scaling						
Twice a year	2 6.3%	10 7.5%	1 2.2%	4 11.1%	3 7.5%	4 9.1%
Once a year	10 31.3%	33 24.6%	8 17.4%	6 16.7%	11 27.5%	18 40.9%
Every 2 years	6 18.8%	19 14.2%	5 10.9%	2 5.6%	7 17.5%	11 25.0%
Never	14 43.8%	72 53.7%	32 69.6%	24 66.7%	19 47.5%	11 25.0%
Dental Education						
Scaling	18 56.3%	45 33.6%	8 17.4%	8 22.2%	25 62.5%	22 50.0%
Root canal treatment	0 0.0%	2 1.5%	0 0.0%	1 2.8%	0 0.0%	1 2.3%
Splint for TMJ pain	0 0.0%	1 0.7%	0 0.0%	1 2.8%	0 0.0%	0 0.0%
Extractions	1 3.1%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 2.3%
Scaling, extractions and FPD (bridge)	0 0.0%	1 0.7%	0 0.0%	0 0.0%	0 0.0%	1 2.3%
Root canal treatment, restorations and scaling	0 0.0%	1 0.7%	0 0.0%	0 0.0%	0 0.0%	1 2.3%
Orthodontic treatment and scaling	0 0.0%	2 1.5%	0 0.0%	0 0.0%	0 0.0%	2 4.5%
Restorations and scaling	0 0.0%	5 3.7%	1 2.2%	0 0.0%	1 2.5%	3 6.8%
Root canal treatment and restoration	0 0.0%	1 0.7%	0 0.0%	0 0.0%	0 0.0%	1 2.3%
Restorations	0 0.0%	1 0.7%	0 0.0%	0 0.0%	1 2.5%	0 0.0%
No treatment	13 40.6%	75 56.0%	37 80.4%	26 72.2%	13 32.5%	12 27.3%