

## ASSESSING THE UTILIZATION OF DENTAL SERVICES BY THE DENTAL STUDENTS IN A DENTAL INSTITUTION IN BANGALORE, INDIA

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### ABSTRACT

**Background:** Dental care utilization is the percentage of the population who access dental services over a specified period of time. Measures of actual dental care utilization describe the percentage of the population who have seen a dentist during given periods of time. The utilization of dental services is also essential to promoting and maintaining overall health and well-being. Patients with regular dental visits are more likely to have oral diseases detected in the earlier stages and obtain restorative care as needed.

**Methodology:** A closed ended self-administered validated questionnaire was used. A structured proforma of the questionnaire consisted of demographic details and questionnaire. **Results:** The study subjects were taken from 1<sup>st</sup> year, 2<sup>nd</sup> year, 3<sup>rd</sup> year, 4<sup>th</sup> year and internship in equal proportion. Removal of the tooth was the most opted purpose of the visit to the dentist and was found statistically significant ( $p = 0.032$ ).

**Conclusion:** Utilization of the dental services among the dental students in the first and second year of BDS was found to be low. However, the awareness amongst the students improved as the students were promoted to higher grade.

**KEYWORDS:** Utilization; dental services; patient satisfaction

### INTRODUCTION

Oral health is an important part of overall health and quality of life across the life span.<sup>[1]</sup> A pattern of regular dental visits complements self-care as a

critical factor in achieving and maintaining good oral health. The utilization of dental services is also essential in promoting and maintaining overall health and well-being. Patients with regular dental visits are more likely to have oral diseases detected in the earlier stages and obtain restorative care as needed. Non receipt of dental services or a delay in receiving such services can result in delayed diagnosis, untreated oral diseases and conditions, compromised health status.<sup>[2]</sup> Patients' perceptions, views, and satisfaction with dental health care services, in addition to the professional judgment, became recognized measures of the quality and central component of quality assurance programs.<sup>[3]</sup> The factors influencing dental care utilization have been well documented in previous studies.<sup>[2]</sup> A survey of the utilization of dental services among university students in Helsinki showed that during the previous 12 months 59% of the students had had a dental appointment, mostly on their own initiative. Generally, the dental utilization rate was higher among females; it increased with income and educational level, and decreased with age.<sup>[4]</sup> Various methods have been used to assess the adequacy of patients' utilization of health services, with patient satisfaction being considered an important indicator of the efficient utilization of health services, as it assesses an individual's attitude to the health services received.<sup>[4]</sup> There is deficient data available for determining the factors and there is dearth of questionable resources available to evaluate the utilization of dental care services. Hence the study was undertaken. This study aims to assess utilization of dental services among dental students in a dental institution.

**Table 1: Sample distribution according to age group**

Age Group	N	%
<20 yrs	94	53%
20-24 yrs	81	46%
25-30 yrs	2	1%
Total	177	100%

**Table 2: Sample distribution according to the gender**

%	N	Gender
22%	39	Male
78%	138	Female
100%	177	Total

**Table 3: Demonstrates the purpose of the visit**

Q2	1st yr		2nd yr		3rd yr		4th yr		Intern		$\chi^2$	P-Value
	n	%	n	%	n	%	n	%	n	%		
Non response	10	23%	11	18%	5	11%	3	8%	2	4%	38.285	0.032*
Filling	11	26%	11	18%	12	27%	10	26%	13	26%		
Removal of tooth	4	9%	18	30%	9	20%	6	16%	10	20%		
Orthodontic treatment	2	5%	3	5%	4	9%	8	21%	7	14%		
Cleaning of teeth	8	19%	11	18%	10	22%	6	16%	14	28%		
Root Canal Treatment	1	2%	4	7%	3	7%	3	8%	4	8%		
Other treatment	7	16%	3	5%	2	4%	2	5%	0	0%		
Total	43	100%	61	100%	45	100%	38	100%	50	100%		

*\*denotes significant association*

## METHODOLOGY

A cross sectional study was conducted to assess utilization of dental services among dental students in a dental institution. A closed ended self administered validated questionnaire was used. Face validity was checked by asking experts to scrutinize the questions, while content validity was checked by ensuring that the questions covered all the areas of knowledge mapped out by initial objective. A structured proforma of the questionnaire consisted of demographic details and questionnaire. The questions were pertaining to the students visit to the dentist, the purpose of visit, number of times of visit, when was the visit, was the visit before the BDS course, age at the first visit, was there any post operative complication, was the treatment satisfactory, their opinion about the recall visits, have the students underwent any treatment procedures in their institute and their preference with regards with general dentists or specialists and their recommendation about their college to their family members or friends. Subsequently the data was analysed by using SPSS statistical software.

Frequencies and proportions were calculated. Associations between discreet variables were tested by chi square test.

## RESULTS

Statistical software SPSS 18.0, was used for the analysis of the data and Microsoft word and excel have been used to generate graphs and tables. Chi square test was applied to check for significance of the quantitative data. In a total sample of 177, 94 (53%) of the students fell in the age group of less than 20 years (Table 1). Out of 177 subjects, 39 (22%) were males and 113 (78%) were females (Table 2). Study subjects were taken from 1<sup>st</sup> year, 2<sup>nd</sup> year, 3<sup>rd</sup> year, 4<sup>th</sup> year and interns pursuing BDS course in equal proportion. Removal of the tooth was the most opted purpose of the visit to the dentist and was found statistically significant ( $p = 0.032$ ) (Table 3). It showed that the first visit to the dentist was before joining the BDS course and was statistically significant ( $p < 0.001$ ) (Table 4). It showed that 45% of the students opted for specialist dentist and was found significant ( $p = 0.024$ ) (Table 5). The first visit to the dentist by the students was at

**Table 4: Demonstrates the first visit to the dentist**

Q5	1st yr		2nd yr		3rd yr		4th yr		Intern		$\chi^2$	P-Value
	n	%	n	%	n	%	n	%	n	%		
Non response	10	26%	11	22%	6	19%	3	10%	2	7%	66.954	<0.001*
Before joining BDS course	27	69%	32	65%	13	42%	8	27%	4	14%		
After joining BDS course	1	3%	0	0%	4	13%	8	27%	12	43%		
Both the times	1	3%	6	12%	8	26%	11	37%	10	36%		
Total	39	100%	49	100%	31	100%	30	100%	28	100%		

\*denotes significant association

**Table 5: Demonstrates the most preferred dentist by the students**

Q6	1st yr		2nd yr		3rd yr		4th yr		Intern		$\chi^2$	P-Value
	n	%	n	%	n	%	n	%	n	%		
Non response	9	23%	8	16%	10	32%	6	20%	10	36%	23.450	0.024*
General dentist	8	21%	7	14%	8	26%	0	0%	7	25%		
Specialty dentist	16	41%	21	43%	6	19%	18	60%	5	18%		
Not so particular	6	15%	13	27%	7	23%	6	20%	6	21%		
Total	39	100%	49	100%	31	100%	30	100%	28	100%		

\*denotes significant association

**Table 6: Age of first dental visit**

Q7	1st yr		2nd yr		3rd yr		4th yr		Intern		$\chi^2$	P-Value
	n	%	n	%	n	%	n	%	n	%		
Non response	9	23%	11	22%	6	18%	3	10%	2	7%	39.345	0.001*
<6 years	3	8%	5	10%	3	9%	0	0%	0	0%		
6-12 years	17	43%	13	27%	8	24%	10	33%	13	45%		
12-18 years	9	23%	19	39%	9	27%	10	33%	3	10%		
>18 years	2	5%	1	2%	7	21%	7	23%	11	38%		
Total	40	100%	49	100%	33	100%	30	100%	29	100%		

\*denotes significant association

**Table 7: Signifies that recall visits were important**

Q10	1st yr		2nd yr		3rd yr		4th yr		Intern		$\chi^2$	P-Value
	n	%	n	%	n	%	n	%	n	%		
Non response	9	23%	8	16%	6	19%	3	10%	2	7%	26.442	0.009*
Important	17	44%	20	41%	19	61%	15	50%	13	46%		
Very Important	5	13%	19	39%	3	10%	12	40%	10	36%		
Not Important	8	21%	2	4%	3	10%	0	0%	3	11%		
Total	39	100%	49	100%	31	100%	30	100%	28	100%		

\*denotes significant association

the age of 6-12 years and was found significant ( $p < 0.001$ ) (Table 6). About 55% of the students found that recall visits were important and was statistically significant ( $p = 0.009$ ) (Table 7). Most of the students have not got the dental treatment done in their institution and was found statistically significant ( $p < 0.001$ ) (table 8). About 60% of the students were found to have visited a specialist dentist after joining BDS course and

was found statistically significant ( $p < 0.002$ ) (Table 9). 97% of the students recommended their family members or friends for dental treatment in their institute and was found statistically significant ( $p < 0.001$ ) (Table 10).

## DISCUSSION

Understanding the patients views, desires, opinion and satisfaction with the dental care provides information to the examiners in understanding the

**Table 8: Denotes if the students opted for the treatment in their institution**

Q11	1st yr		2nd yr		3rd yr		4th yr		Intern		$\chi^2$	P-Value
	n	%	n	%	n	%	n	%	n	%		
Non response	3	8%	2	4%	2	6%	1	3%	0	0%	42.390	<0.001*
Yes	5	13%	5	10%	9	29%	16	53%	19	68%		
No	31	79%	42	86%	20	65%	13	43%	9	32%		
Total	39	100%	49	100%	31	100%	30	100%	28	100%		

\*denotes significant association

**Table 9: Most commonly preferred dentist after joining the program**

Q13	1st yr		2nd yr		3rd yr		4th yr		Intern		$\chi^2$	P-Value
	n	%	N	%	n	%	n	%	n	%		
Non response	14	36%	26	53%	7	23%	7	23%	2	7%	30.480	0.002*
General dentist	2	5%	0	0%	3	10%	0	0%	0	0%		
Specialty dentist	19	49%	18	37%	16	52%	18	60%	22	79%		
Not so particular	4	10%	5	10%	5	16%	5	17%	4	14%		
Total	39	100%	49	100%	31	100%	30	100%	28	100%		

\*denotes significant association

**Table 10: Determines if the students recommended family members to get their treatment done in their college**

Q14	1st yr		2nd yr		3rd yr		4th yr		Intern		$\chi^2$	P-Value
	n	%	N	%	n	%	n	%	n	%		
Non response	1	3%	0	0%	1	3%	1	3%	0	0%	26.618	0.001*
Yes	23	59%	41	84%	26	84%	29	97%	27	96%		
No	15	38%	8	16%	4	13%	0	0%	1	4%		
Total	39	100%	49	100%	31	100%	30	100%	28	100%		

\*denotes significant association

need for oral health promotion as well as the behaviour of the patients.<sup>[4]</sup> Several studies have been conducted with regards to the patients satisfaction by Saeed *et al.*,<sup>[6]</sup> and studies to evaluate how subjects use and perceive the oral health care delivery services available.<sup>[7,8]</sup> A study conducted to evaluate the quality of the dental care was conducted by Butters *et al.*<sup>[9]</sup> Our study was conducted to understand the factors affecting the utilization of the dental services by the dental students in their dental college. In our study removal of the tooth was found to be the most common reason of visit to the dentist which did not go in accordance with any study. In contrast, the study conducted by Bamise *et al.*,<sup>[4]</sup> showed that the students reported with the chief complaint of missing teeth, decayed teeth or both. We found that utilization of the dental services gradually improved as the students were promoted to third and final year of BDS which was in accordance with the study conducted by Bamise *et al.*<sup>[4]</sup> In

this study, the respondents visited the dentist before their admission in the dental school which was in accordance with the study conducted by Venta *et al.*<sup>[10]</sup> In our study it shows that 60% dental students opted for specialist dentist after enrolling into the dental program. Similar results were found by Scott *et al.*<sup>[11]</sup> Most of the dental students visited the dentists in their institution after enrolling in a dental school which was in accordance with study conducted by Gopalakrishna *et al.*<sup>[12]</sup> In the study conducted by the Schuurs *et al.*,<sup>[13]</sup> it was proved that the subjects visited the dentists in their childhood had better exposure and reduction in the fear and thus utilized the dental services frequently. These results were in accordance with our study which showed that statically significant amount of students visited the dentist in the age of 6-12 years. The respondents found that recall visits were important and considered them as an integral part of the treatment plan. Similar results

were obtained by the study conducted by Lathi *et al.*,<sup>[14]</sup> and Hashmin *et al.*<sup>[15]</sup> It was also found that the students recommended their family members and friends to be treated in their institution as they found the staff friendly which was found significant.<sup>[16]</sup> This went in accordance with the Mahfouz *et al.*,<sup>[17]</sup> and Awliya *et al.*<sup>[18]</sup>

### CONCLUSION

Utilization of the dental services among the dental students in the first and second year of BDS was found to be low. However, the awareness amongst the students improved as the students were promoted to higher grade. Our major finding of low utilization of our dental services underscores the need to urgently improve oral health care awareness in the university community; primarily through postal and hand bills on oral health, oral health education brochures for new students, increasing campus activities of the dentistry students. Also, improving the quality of care, e.g., better pain control, use of more conservative treatment approaches, better staff-patient interaction, subsidization of charges for students, and availability of materials and equipment will probably be required to increase the level of utilization of our services by all users.

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