



## CAUSES FOR NON-USAGE OF FLOSS AMONG UNDERGRADUATE STUDENTS OF A DENTAL INSTITUTION IN VIRAJPET – A QUESTIONARE STUDY

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**ABSTRACT** The purpose of this study is to know the percentage of students who are using dental floss in their daily routine as a part of oral hygiene practise and also to assess students knowledge on flossing for that a survey was conducted by distributing a questionnaire containing 17 questions to the subjects after obtaining informed consent. The questionnaire was prepared by mutual discussion among the examiners. The study concluded that about 80% of dental student were aware of the dental floss but only 17% of the professionals were daily users of dental floss. Also found that fewer participants recommend the use of dental floss to their patients and they were also less educated about how to use dental floss.

### KEYWORDS :

#### INTRODUCTION

Good oral hygiene practices are widely considered important to maintaining good oral health, and flossing has long been considered an indispensable part of an effective oral hygiene routine<sup>1</sup>. Dental plaque is a bacterial biofilm which causes chronic gingivitis and periodontitis, and flossing removes plaque or controls its accumulation<sup>2</sup>. Periodontitis is a common chronic condition characterized by gingival inflammation of the supporting tissues around the teeth. It is a major cause of tooth loss<sup>2</sup>.

The mechanical method of plaque control is indisputably the easiest and most effective measure to prevent periodontal diseases. It has been reported that toothbrush alone is inadequate for effective removal of dental plaque, and hence, use of other oral hygiene aids such as dental floss has been emphasized<sup>3</sup>.

For removal of plaque from interdental areas, using interdental brushes has been shown to be very effective. Waterjets have also been shown to be effective recently in a meta-analysis along with interdental brushing<sup>4</sup>.

Brushing twice daily for 2 minutes with powered toothbrushes using a fluoridated toothpaste. Flossing in teeth with tighter contacts around healthy gingival tissue. Using interproximal brushing especially around inflamed gingival tissue where flossing may cause trauma. Using chemical plaque control agents like mouth rinses<sup>5</sup>.

The concept of interdental cleaning with a filamentous material was first introduced by Levi Spear Parmly (Parmly 1819), as a tool, together with a dentifrice and toothbrush, as a measure for preventing dental disease. Unwaxed silk floss was first produced in 1882, by Codman & Shurtleff, but it was Johnson & Johnson (Johnson 2010) who made silk floss widely available from 1887, as a by-product of sterile silk leftover from the manufacture of sterile sutures.

Since dental floss is able to remove some interproximal plaque (Asadoorian 2006; Waerhaug 1981), it is assumed that frequent regular dental flossing will reduce interproximal caries (Hujoel 2006) and periodontal disease risks. Daily dental flossing in combination with toothbrushing for the prevention of caries and periodontal diseases is frequently recommended<sup>6</sup>.

The purpose of this study is to know the percentage of students who are

using dental floss in their daily routine as a part of oral hygiene practise and also to assess students knowledge on flossing.

#### OBJECTIVES OF THE STUDY

1. To know exact number of dental students who uses floss for dental hygiene.
2. To know the distribution of flossing in dental undergraduates based on their academic year and gender.
3. To know about time taken by students while doing oral hygiene practises
4. To assess students knowledge on flossing.

#### MATERIALS AND METHODS

##### SOURCE OF THE DATA

Dental college students, junior residents and graduate students present and stay in the campus.

##### METHOD OF COLLECTION OF DATA

A survey was conducted by distributing a questionnaire containing 17 questions to the subjects after obtaining informed consent. The questionnaire was prepared by mutual discussion among the examiners. The questionnaires used by previous studies were used as a starting point for discussion. They were then adapted according to the prevailing conditions.

Under graduates were included in the study. Postgraduates were excluded from the study.

##### INCLUSION CRITERIA :

1. Undergraduate students of this college
2. Interns present in the college

##### EXCLUSION CRITERIA:

1. students who are having privacy concerns.
2. Students who are not using dental floss.

##### STATISTICAL TEST

All clinical and biochemical parameters was subjected to statistical analysis by either parametric or non-parametric tests.

##### RESULTS

This student based questionnaire study found that flossing was preferred

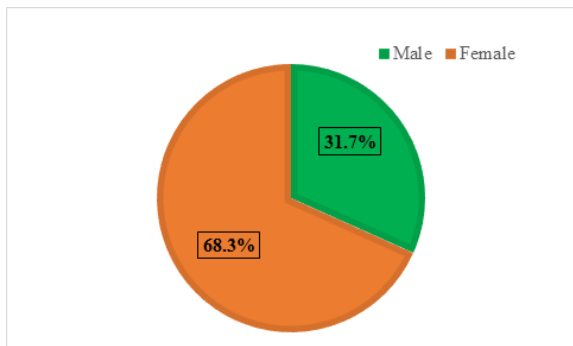
by most of students and also known by them for preventing oral health problems also it was seen that about 79.33% of the students does know about the problems if they are not a dental floss user. Results for the objective of study that is to know the exact no of students who uses floss for dental hygiene it was seen that 88.46% of the students does know about dental floss.

Results for the second objective of the study ie to know the distribution of flossing in dental undergraduate students based on their academic year, for first years it was 82% for second years it was 85%, for third years it was 87%, for fourth years it was 85%, for interns it was 89%.

Flossing is a time taking procedure similarly oral hygiene practises requires time so the average time taken by students to do oral hygiene practices was found to be 5 minutes (majority answer). Also It was found that 79% of the students answered yes for the need of a flossing tutorial.

**Distribution of study subjects based on gender**

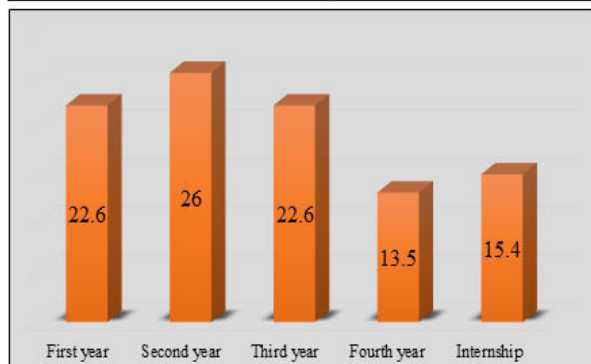
Gender	N (%)
Male	66(31.7)
Female	142(68.3)
<b>Total</b>	<b>208(100)</b>



**Figure 1: Distribution of study subjects based on gender**

**Table 2: Distribution of study subjects based on academic year of BDS**

Academic year of BDS	Frequency (%)
First year	47(22.6)
Second year	54(26)
Third year	47(22.6)
Fourth year	28(13.5)
Internship	32(15.4)



**Figure 2: Distribution of study subjects based on academic year of BDS (%)**

**Table 3: Comparison Of Study Subjects Based On Academic Year Of Bds**

QUESTION	RESP ONSE	Academic year of BDS					Total
		1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	Internship	
Are you aware of the problems caused if you are not a dental floss user	Yes	46	25	44	28	22	165

	No	1	29	3	0	10	43
Have you ever used floss in your life	Yes	46	48	41	24	25	184
	No	1	6	6	4	7	24
If yes how was the experience ?	Good	36	33	32	20	12	133
	Bearable	11	16	12	5	11	55
	Irritating	0	5	3	3	9	20
Do you feel that flosses are overly prized ?	Yes	17	43	39	20	21	140
	No	30	11	8	8	11	68
If you prefer to start flossing do you consider to have a tutorial ?	Yes	20	47	35	22	21	145
	No	27	7	12	6	11	63
Do you think that mouthwash is better tolerable than flossing?	Yes	14	34	17	18	23	106
	No	33	20	30	10	9	102
Do you think that tooth pick is enough to do the needfull compared to flossing?	Yes	15	29	17	14	12	87
	No	32	25	30	14	20	121
Do you think that less usage of flossing among dental professionals and others is because of negligence ?	Yes	21	31	30	25	27	134
	No	26	23	17	3	5	74
Do you think that you don't have much knowledge on how to floss correctly ?	Yes	13	37	33	17	20	120
	No	34	17	14	11	12	88
Do you think that flossing is a sensitive procedure ?	Yes	17	38	41	22	22	140
	No	30	16	6	6	10	68
Do you think flossing is a time taking procedure ?	Yes	16	36	35	23	21	131
	No	31	18	12	5	11	77
How much does it take to floss in your opinion ?	1 minute	15	10	26	9	8	68
	2 minutes	16	18	14	13	8	69
	3 minutes and more	16	26	7	6	16	71
Being a dental student do you recommend flossing to others ?	Yes	37	39	43	26	22	167
	No	10	15	4	2	10	41
What do you prefer more and think its better ?	Flossing	31	33	39	24	17	144
	Interdental brush	16	21	8	4	15	64
Do you think that flossing increases space between teeth ?	Yes	19	20	35	15	14	103
	No	28	34	12	13	18	105
How much time a day are you ready to spend for taking care of your oral health ?	5 minutes	18	19	27	15	14	93
	8 minutes	20	30	9	9	7	75
	12 minutes	7	5	5	3	6	26
	15 minutes	2	0	6	1	5	14
What are the type of floss given below you are aware of ?	Regular floss	19	24	26	19	10	98
	Ergonomic floss	4	14	0	2	3	23
	Specialized plastic wands	2	7	0	3	4	16
	All of the above	22	9	21	4	15	71
Do you know that flossing can reduce the risk of developing halithosis ?	Yes	46	27	42	25	26	166
	No	1	27	5	3	6	42

**DISCUSSION**

In order to achieve oral health benefits , toothbrush and other oral hygiene aids should be used daily in a correct manner. Dental plaque will usually adheres on the surface of teeth and dental appliances. Plaque growth occurs within several hours and it should be removed at least every 48 hours to preserve our teeth from getting any carries or infection. Considerable differences can be found in the level of oral hygiene among dental students from different colleges based on the impact of education on oral hygiene practices<sup>7</sup>. Based on the most of the research, majority of the students only depend on the use of toothbrush and toothpaste in maintaining their oral hygiene There are only a few students that use floss in maintaining their oral hygiene. But in this study we observed a positive attitude towards the use of dental floss that is about 88.6% uses flosses for their oral health. Brushing teeth using toothbrush and toothpaste alone without the use of floss or any interdental cleaning are insufficient to prevent gingival disease as well as periodontal diseases since periodontal lesions are frequently found in interdental location<sup>8</sup>. Apart from that, dental student population most likely to change their toothbrush based on the brand

and design whereas price having the less influence This situation occurs probably because they are influenced by the advertisement that had been showed in television, radio or newspapers. After that, daily oral hygiene practise time among the respondents are differs from one another. few of them state that they have taken about 12 minute for oral hygiene, some of them taken about 8 minute but majority of them answered that they take about 5 minutes for daily oral hygiene practise. There is only a few of them choose option D which is 15 minutes for daily oral hygiene practise. In my opinion, the ideal time of daily oral hygiene practise is about 12 minutes. Based on the study by Saxer<sup>9</sup>, longer brushing time is not good as it will reduce the retention of toothpaste in the brush. Most of the dental students still not aware with the importance of the dental visit and the function of dentist as a crucial one for maintaining their oral health. Approximately half of the respondents demonstrated a positive attitude towards dental recommending dental floss to patients<sup>10</sup>.

In a study by bahadir et al<sup>16</sup> it was concluded that flossing does helps in reducing halitosis which is in accordance with the 79% of the delegates answer in this study which is yes.

In this study the 33% students have concluded that flossing is overly prized dental hygiene aids so the cost, availability, propaganda, and prescription by dentists may play a pivotal role in the use of dental floss by the Indian population. According to a recent report, the percentage of people using toothbrush and toothpaste was significantly more when compared to toothpowder and other indigenous aids, which is a positive health behavior.<sup>11</sup> Earlier, toothbrushes and toothpastes were accessible only in urban areas; but now, due to increased awareness and commercialization, they are easily available even in rural areas where 70% of the Indian population resides.<sup>12</sup> Print and mass media also have influenced the choice of oral hygiene aids in India.<sup>13</sup> In the days ahead, dental floss may also experience a similar trend when adequate importance is given from all sectors.

Flossing requires a proper technique, in this study we know how often subjects floss, but we do not know how well they do it. The benefit of flossing could depend on how well it is done (Lang et al., 1995)<sup>14</sup>. The lack of dose response we observed could be explained by subjects not flossing adequately.

To summarize, most of the dental students from colleges stated that they brushed their teeth twice daily using toothpaste and toothbrush with use of dental floss. Then, majority of them reported that they frequently change their toothbrush once in a three month by considering either the brand or design of the toothbrush. After that, great majority of dental students stated that they prefer dental tooth picks instead of floss. The question we used to assess flossing included not only dental floss but also any other device used to clean between teeth. Studies have shown that the efficacy of flossing and interdental cleaning is different at least in terms of reducing gingivitis, (Salzer et al., 2015)<sup>15</sup> so it would have been ideal if we could have assessed them separately. About half of the respondents given answer that flossing will increase space between teeth.

## CONCLUSION

The study concluded that about 80% of dental student were aware of the dental floss but only 17% of the professionals were daily users of dental floss. Also found that fewer participants recommend the use of dental floss to their patients and they were also less educated about how to use dental floss.

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