

# Practice of Preventive Dentistry among Private Dental Professionals in Chennai—A Questionnaire Survey

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## ABSTRACT

**Aim:** To assess the practice of preventive dentistry among the private dental professionals in Chennai.

**Materials and methods:** A cross-sectional questionnaire survey was conducted among the private dental practitioners in Chennai. A sample size of 200 private dental practitioners was randomly selected. Percentage responses were calculated and mean percentages were obtained.

**Results:** Of 200 dentists, only 120 responded (response rate = 60%). The majority of the respondents were MDS holders (60.8%) and also the majority had experience in private practice for about 1 to 10 years (60%). The desirable practices followed are self-applied fluoride, pit-and-fissure sealant, oral hygiene measures, recall reinforcement, tobacco cessation counseling, screening for a premalignant lesion, and preventive orthodontics. The undesirable practices are diet counseling, professional fluoride application, and nicotine replacement therapy. Most of the dentists opted for preventive measures, only on a risk basis and in cases of absolute indications, thereby giving a desirable response.

**Conclusion:** The study concluded that the practice of preventive measures was encouraging and toward a path of change. Constant efforts must be made by the private dental practitioners to create a path along with preventive dentistry.

**Keywords:** Dental caries, Malocclusion, Oral cancer, Periodontal disease, Preventive dentistry.

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## INTRODUCTION

Preventive dentistry is now considered the foundation of modern dental practice.<sup>1</sup> Although prevention of diseases is a dream that can be realized only by the combined action of the dentist, patient, and community, dentists play a lead role.<sup>2</sup>

Dentists' clinical decision influences the oral health and the overall health of the population. Therefore, dentists are increasingly being expected to apply preventive measures in their daily routine practice. However, some dentists seem to underestimate preventive measures and risk-based approaches in their practice.<sup>3</sup>

With regard to the current burden of oral diseases in India, it is recommended that a sharper focus on oral health promotion programs based on the recently developed concept of preventive oral care is much needed.<sup>4</sup>

A dentist must have a thorough idea about the usage of available preventive measures. A very little idea exists about the views of dentists on prevention and also about the practice and the ability to deliver preventive dental measures to their patients in a cost-effective manner.<sup>4</sup>

There exists a lack of data on the opinion of Indian dentists regarding the practice of preventive dentistry.<sup>4</sup> Hence, the present study aims to analyze the practice of preventive dentistry among the private dental practitioners in Chennai, India.

## MATERIALS AND METHODS

A cross-sectional questionnaire study was conducted among the private dental professionals in Chennai. Chennai city was divided into five regions; central, northern, southern, eastern, and western. The dentists were selected by random sampling from each region. The survey was conducted for a period of 4 months, during the month of June 2019 to September 2019.

The study was approved by the ethics committee of MadhaDental College and Hospital.

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A total of 20 questions were framed, and most of them were close-ended questions, except the name and the age of the participant. The questionnaire used for the survey was pretested, validated, and customized before administration.

## Questionnaire Structure

The questionnaire contained 20 questions which was divided into five sections. First section includes the demographic details of the participants, second section about the practice of preventive care for dental caries, third section pertaining to the practice of preventive care for periodontal disease, fourth section regarding the practice of preventive care for oral cancer, and fifth section about the practice of preventive care for a malocclusion.

## Study Sample

Prior to the main study, a pilot study was conducted among 50 dentists to evaluate the questionnaire for any flaws and also to check for the validity and reliability of the questions. Consent was obtained from the participants who accepted to participate in the survey.

The study aimed to include about 200 private dental practitioners in Chennai and the 200 dentists were selected through random sampling, and the questionnaire was distributed personally by the chief investigator and also shared through Google forms.

## Inclusion Criteria

Private dental practitioners, consultant dentists, private dental practitioners attached to an academic institution, and dentists who volunteered to participate in the survey were included in the study.

## Exclusion Criteria

Nonpracticing dental academicians, dentists those unwilling to participate in the study, and dentists who did not respond even after two reminders were excluded.

## Questionnaire Administration

The questionnaire was administered to the dentists in person by the chief investigator and also the website link was shared through Google forms so that it could cover a wide range of dentists in Chennai. The purpose of the study and also the procedure to fill the form were explained to the participants.

The private practitioners were requested to fill it either at once or later within a week. The filled forms were collected in person by the principal investigator after a time period of one week. A reminder was sent to the dentists twice and follow-up was done. The dentists who did not respond even after two reminders were considered nonrespondents. Some of them could not respond because of their busy schedule.

## Data Analysis

Two-option practice scale was classified as desirable (yes) and undesirable (no) response. Four-option practice scale was also classified as desirable (all patients, if indicated, patients at risk) and undesirable response (sometimes, never).

The mean percentages were calculated.

## RESULTS

Of the 200 participants, only 120 private dental practitioners responded. The response rate of the study was 60%.

### Demographic Data

Of 120 respondents, the majority of the respondents were men (55%) and women constituted about 45%. Majority of the respondents were MDS holders (60.8%) and BDS holders constituted about 37.5%. Majority of the respondents had a private clinical experience of around 1 to 10 years (60%) and the least being respondents above 20 years of clinical experience (5%).

### Practice of Preventive Measures for Dental Caries

The most desirable practice among the respondents was prescribing patients the use of self-applied topical fluorides. And 77.5% of the respondents prescribed self-applied topical fluorides, of which majority of them (66.6%) preferred only fluoride-containing toothpastes.

**Table 1:** Practice of preventive measures for dental caries

Q. No.	Questions	Choices	Response	
			n	%
5	Diet counseling	All patients	11	9.2%
		Patients at risk	39	32.5%
		Sometimes	65	54.2%
		Never	5	4.1%
6	Pit-and-fissure sealant	If indicated	47	39.2%
		Patients with early lesion	30	25%
		Sometimes	28	23.3%
		Never	15	12.5%
7	Topical fluoride	Yes	52	43.3%
		No	68	56.7%
8	Self-applied fluoride	Yes	93	77.5%
		Toothpaste	62	66.6%
		Mouthwash	19	20.4%
		Both	12	12.9%
		No	27	22.5%

Also, 54.2% of the respondents gave diet counseling on an occasional basis. Pit-and-fissure sealant was one of the least desirable practices being followed by the private professionals. Only 39.2% of the respondents opted for pit-and-fissure sealant if it is indicated and 12.5% of the respondents never used the pit-and-fissure sealant in their private practice.

The most undesirable practice among the respondents was the use of topical fluorides, and 56.7% of the respondents do not use topical fluorides in their private practice.

Table 1 represents data on the practice of preventive measures for dental caries.

### Practice of Preventive Measures for Periodontal Disease

About 43.3% of the respondents educate their patients about ideal brushing technique on an occasional basis. Only 33.3% of the respondents educate all their patients about ideal brushing technique. About 91.7% of the respondents demonstrate brushing techniques to their patients, of which 70% of the respondents use models to demonstrate the brushing technique to their patients.

Also, 57.5% of the respondents prescribe mouthwashes to their patients after oral prophylaxis, and 75.8% of the respondents prescribe interdental aids to their patients, out of which 47.2% of the respondents prescribe floss as an interdental aid.

Table 2 represents data on the practice of preventive measures for periodontal disease.

### Recall Reinforcement

Majority of the respondents (92.5%) recall their patients. Out of which 62% of the respondents recall their patients every 6 months and 7.5% of the respondents do not recall their patients.

Table 3 represents data on recall reinforcement.

### Practice of Preventive Measures for Oral Cancer

About 68.3% of the respondents provide tobacco cessation counseling to all tobacco users, of which majority (48.9%) of the

**Table 2:** Practice of preventive measures for periodontal disease

Q. No.	Questions	Choices	Response	
			n	%
9	Educate about ideal brushing technique	All patients	40	33.3%
		Patients at risk	28	23.3%
		Sometimes	52	43.3%
		Never	0	0
10	Demonstrate brushing technique	Yes	110	91.7%
		Only model	77	70%
		Only videos	1	0.9%
		Only poster	15	13.6%
		Combinations of above	17	15.5%
	No	10	8.3%	
11	Prescribe mouthwash	All patients	7	5.8%
		After oral prophylaxis	69	57.5%
		Sometimes	39	32.5%
		Never	5	4.2%
12	Prescribe interdental aids	Yes	91	75.8%
		Interdental brushes	28	30.8%
		Floss	43	47.2%
		Water irrigation devices	2	2.2%
		More than one	18	19.8%
		No	29	24.2%

**Table 3:** Recall reinforcement

Q. No.	Questions	Choices	Response	
			n	%
13	Recall reinforcement	Yes	111	92.5%
		Every 3 months	32	29%
		Every 6 months	69	62%
		Every 1 year	10	9%
		No	9	7.5%

respondents give tobacco cessation counseling only once and 70% of the dentists do not prescribe nicotine replacement therapy for their patients to quit tobacco.

And 87.5% of the respondents screen their patients for a premalignant lesion, of which majority of them (70.5%) do only visual examination to screen for a premalignant lesion.

Table 4 represents data on the practice of preventive measures for oral cancer.

### Practice of Preventive Measures for Malocclusion

About 44.2% of the respondents advise habit-breaking appliances to their patients if it is indicated. Also, 42.5% of the respondents educate their patients regarding harmful habits if it is indicated, and 61.7% of the dentists follow up their patients regarding the eruption and shedding pattern of tooth.

Table 5 represents data on the practice of preventive measures for a malocclusion.

The desirable preventive dentistry practices followed are self-applied fluorides, pit-and-fissure sealant, oral hygiene measures,

**Table 4:** Practice of preventive measures for oral cancer

Q. No.	Questions	Choices	Response	
			n	%
14	Tobacco cessation counseling	Yes	82	68.3%
		No	38	31.7%
15	How many sessions of tobacco cessation counseling?	Once	45	48.9%
		Twice	24	26.1%
		Thrice	7	7.6%
		Four times	0	0
		Until they quit	16	17.4%
16	Prescribe nicotine replacement therapy	Yes	36	30%
		Tablets/lozenges	32	88.9%
		Patches	3	8.3%
		Inhalers	1	2.8%
	No	84	70%	
17	Screening for a premalignant lesion	Yes	105	87.5%
		Visual examination	74	70.5%
		Vital staining	2	1.9%
		Biopsy	15	14.3%
		More than one	14	13.3%
	No	15	12.5%	

**Table 5:** Practice of preventive measures for malocclusion

Q. No.	Questions	Choices	Response	
			n	%
18	Habit-breaking appliances	If indicated	53	44.2%
		Risk of future malocclusion	35	29.2%
		Sometimes	27	22.5%
		Never	5	4.1%
19	Educate consequences of harmful habits	If indicated	51	42.5%
		Risk of future malocclusion	35	29.2%
		Sometimes	33	27.5%
		Never	1	0.8%
20	Follow-up regarding the shedding and eruption pattern of teeth	Yes	74	61.7%
		No	46	38.3%

recall reinforcement, tobacco cessation counseling, screening for a premalignant lesion, and preventive orthodontics. The undesirable preventive dentistry practices are diet counseling, professional fluoride application, and nicotine replacement therapy. The results are encouraging; however, more efforts need to be taken to move a step forward toward prevention.

### DISCUSSION

Treatment-based approach has always been the scenario in case of private practice. With rising standards of education on preventive dentistry and constant efforts by the dentists in motivating patients

more toward early treatment, practice of preventive dentistry can be established.

The response rate of the current study is 60%, which is higher than that of Ramya et al.<sup>2</sup> (57.8%) and Patil et al.,<sup>4</sup> (55%) and lower than that of Ghasemi et al.<sup>5</sup> (64%).

Majority of the respondents were MDS holders (60.8%) and had an experience range of 1 to 10 years (60%), which revealed that young postgraduates had greater participation in the study and showed a positive sign toward the practice of preventive dentistry.

In the current study, 54.2% of the dental practitioners provided diet counseling only on an occasional basis. A study by Franki et al.<sup>6</sup> showed a similar response that many dental practitioners provided either limited dietary advice or nothing at all. In contrast, studies by Saeed et al.,<sup>1</sup> Ramya et al.,<sup>2</sup> Janak et al.,<sup>7</sup> and Arheiam and Bernabe<sup>8</sup> showed that diet counseling was better implemented.

Moreover, 39.2% of the dental practitioners provided pit-and-fissure sealants to their patients if indicated. Dentist's negligence and patient's unawareness seem to be the major cause. A study by Janak et al.<sup>7</sup> (44.4%) and Patil et al.<sup>4</sup> (73.4%) showed a greater response.

In the current study, only 43.3% of the dental practitioners administered topical fluoride application to their patients. This is higher when compared to the study by Janak et al.<sup>7</sup> (36.7%) and lower when compared to studies by Saeed et al.<sup>1</sup> (49.7%) and Patil et al.<sup>4</sup> (83.2%). The decline in the practice of topical fluorides is mainly due to the use of specialized materials and also the patient's objection to the preventive procedures.

Majority of the dentists prescribe self-applied topical fluorides (77.5%), which is still lower than that shown by Saeed et al.<sup>1</sup> Of which many prefer fluoride-containing toothpaste.

In this study, 91.7% of the dental practitioners demonstrate brushing technique to their patients. This is higher when compared to studies by Patil et al.<sup>4</sup> (86.5%). Many preferred to use models (70%), which is similar to that of any other studies.

Majority of the dentists recall their patients for regular visits. In this study, about 92.5% of the dentists recall their patients, especially for every 6 months. This records to be the highest compared to studies by Patil et al.<sup>4</sup> (88.3%) and Janak et al.<sup>7</sup> (58.9%).

And 68.3% of the dentists in the study provided tobacco cessation counseling to their smoking patients, which is similar to the study by Janak et al.<sup>7</sup> This is comparatively lower than those studies done by Saeed et al.<sup>1</sup> (83.9%) and Ramya et al.<sup>2</sup> (65.85%).

Only 30% of the dentists provide nicotine replacement therapy to their patients. Not many studies have spoken about the use of nicotine replacement therapy but this really seems to be less.

Majority of the dentists about 87.5% screen their patients for the presence of a premalignant lesion. This records to be the highest when compared to studies by Ramya et al.<sup>2</sup> (84.15%). Similar to any other studies, visual examination is the most preferred method (70.5%).

In this study, 44.2% of the dental practitioners advise habit-breaking appliances to their patients. This is lower when compared

to the study by Janak et al.<sup>7</sup> (76.7%). And 61.7% of the dentists in this study had recalled patients for follow-up regarding the shedding and eruption pattern of the tooth. A study by Janak et al.<sup>7</sup> showed that 22.2% of the dentists do it for all their pediatric patients.

Less sample size is one major limitation of the study. It is highly recommended to carry out the study covering a larger area with a wide range of dentists so that better results could be arrived. As stated in other studies, the practitioners may give favorable responses rather than actual response, leaving the study biased.

## CONCLUSION

The study conducted among the private dental professionals of Chennai laid down encouraging results. Preventive approach has found its path along the modern practice and constant efforts must be made to well establish it. However, there are downsides of the graph in cases of certain preventive approaches, like professional fluoride application and nicotine replacement therapy. The cost of preventive dentistry is almost the same as that of the curative approach. The dentists need to keep their patients well motivated and educate them about a prevention-based approach. This is where the private practitioners play a major role. The study results in urban areas, like Chennai, are, however, convincing. Similar studies must be carried out in rural areas to check out the exact scenario.

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