

**Knowledge, attitude, and practice regarding preventive dentistry among dental students in Kerala**<sup>1</sup>Dr Arshia Raviraj, Post graduate, Sree Anjaneya Institute of Dental Sciences, Kerala<sup>2</sup>Dr Raju Sunny, Professor, Sree Anjaneya Institute of Dental Sciences, Kerala<sup>3</sup>Dr Sameer Punathil, Professor, Sree Anjaneya Institute of Dental Sciences, Kerala<sup>4</sup>Dr A B Bindu, Assistant Professor, Sree Anjaneya Institute of Dental Sciences, Kerala<sup>5</sup>Dr Bimal Rag, Assistant Professor, Sree Anjaneya institute of Dental Sciences, Kerala**Corresponding Author:** Dr Arshia Raviraj, Post graduate, Sree Anjaneya Institute of Dental Sciences, Kerala**How to citation this article:** Dr Arshia Raviraj, Dr Raju Sunny, Dr Sameer Punathil, Dr A B Bindu, Dr Bimal Rag, “Knowledge, attitude, and practice regarding preventive dentistry among dental students in Kerala”, IJMACR- June-2024, Volume – 7, Issue - 3, P. No. 131 – 136.**Open Access Article:** © 2024 Dr Arshia Raviraj, et al. This is an open access journal and article distributed under the terms of the creative common’s attribution license (<http://creativecommons.org/licenses/by/4.0>). Which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.**Type of Publication:**Original Research Article**Conflicts of Interest:** Nil**Abstract****Background:** The old saying “prevention is better than cure” holds true when applied to preventive dentistry. Taking necessary steps to prevent major dental problems is crucial for an individual's overall health and well-being.**AIM:** To evaluate knowledge, attitude, and practices regarding preventive dentistry among dental students in Kerala.**Methods:** The study was conducted among the final year students and interns of 4 dental colleges in Kerala. A questionnaire consisting of 20 questions which were based on the knowledge, attitude, and practices of preventive dentistry was used to collect data from the study participants.**Result:** On the average there is 85.8% knowledge in preventive dentistry among dental students in Kerala. There is a positive correlation between Knowledge andAttitude, the correlation coefficient is 0.109 with p value 0.185. There is a positive significant correlation between Knowledge and Practice, the correlation coefficient is 0.252 with p value  $0.002 < 0.05$ . There is a no correlation between Attitude and Practice, the correlation coefficient is 0.079 with p value 0.334.**Conclusion:** Students and interns have good knowledge and positive attitude towards preventive dentistry, but they lack in practice.**Keywords:** Preventive Dentistry, Dental Students, Interns, Knowledge.**Introduction**

Preventive dentistry is an aspect of dentistry that concentrates on practices and procedures that ensure dental diseases do not occur or progress to a more severe form. It includes two aspects of dental care. It helps the patients to avoid dental disease or to target them in their

early more treatable stages. Preventive dentistry also encompasses what is done by the dentist in the clinic to help patients maintain oral health. In both cases, the objective is to stop the development of oral disease and to diagnose it at an early stage.<sup>1</sup>The reorientation of oral health services towards prevention and health promotion is one of WHO's priority action areas for the continuous improvement of oral health.<sup>2</sup> However, However, focusing on the primary prevention of oral diseases presents a significant challenge for many countries, especially developing nations and those with transitioning economies and health systems.<sup>3</sup> In the present scenario, dentists encounter numerous patients of various age groups and backgrounds in their daily practice or during their course of study. They prefer to adopt more curative approaches than preventive approaches. The rationale in the preventive approach is considered too simple, often ineffective, and less economical than curative approaches. In addition, dental students, the upcoming peer group, also tend to preconceive this idea of preventive dentistry in their curriculum which focuses primarily on curative approaches.<sup>4</sup>

### **Aim**

To assess knowledge attitudes and practice toward preventive dental care among final year dental students and interns of various dental colleges in Kerala.

### **Objectives**

- To evaluate knowledge attitudes and practice toward preventive dental care among final year dental students of various dental colleges in Kerala
- To evaluate knowledge attitudes and practice toward preventive dental care among interns of various dental colleges in Kerala
- To compare the knowledge attitudes and practice toward preventive dental care among final year

dental students and interns of various dental colleges in Kerala.

### **Materials and Methods**

A cross-sectional study was conducted among final year dental students and interns of five dental colleges in Kerala to assess the knowledge, attitude, and practice regarding preventive dentistry. The participants were selected randomly and included equal participation from north and south Kerala. The study was conducted over a period of three months (July-September) in 2022 and a total of 150 participants (75 final year dental students and 75-Interns) were randomly selected for the study. All participation was purely voluntary. Ethical approval was obtained from the Institutional Ethical Review Board, and permission to conduct the study in the dental colleges was obtained from the respective dental colleges. Informed consent was obtained from the participants before the commencement of the study. Participants were assured of the confidentiality of their responses. A Google form questionnaire used in this study was developed by Abuja et al (3), and modifications were then made accordingly and was validated. The questionnaire consisted of two parts. The first part consisted of demographic information which included name, age, gender, and qualification. The second part included 20 questions which were framed to assess the knowledge, attitude, and practice of participants toward preventive dentistry. Out of which nine questions assess the knowledge of participants towards preventive dentistry, seven questions to assess their attitude towards various preventive treatments in dentistry, and four questions to assess their practice in preventive dentistry.

**Results**

All data obtained were statistically analysed by SPSS version 26. Here Mann-Whitney U Testis used to compare the knowledge, attitude, and practices regarding preventive dentistry among dental students in Kerala. In Knowledge, the mean score in percentage is 84.404 with standard deviation 14.958 for Students and for Interns the mean score in percentage is 87.562with standard deviation 14.150. The calculated Z value is -1.460 with p value 0.144. So, there is no significant difference in Knowledge between students and interns. In Attitude, the mean score in percentage is 71.256 with standard deviation 11.698 for Students and for Interns the mean score in percentage is 71.642 with standard deviation 13.505. The calculated Z value is-0.174 with p value 0.864. So there is no significant difference in Attitude between students and interns. In Practice, the mean score in percentage is 48.996 with standard deviation15.421 for Students and for Interns the mean score in percentage is 59.826 with standard deviation 15.415. The calculated Z value is -4.308 with p value 0.001. So, there is a significant difference in Practice between students and interns.

150 completed questionnaires were obtained and statistical analysis was done. 95.2% felt that practicing preventive Dentistry provides betterment for your patients. Table 1 shows the levelof knowledge regarding preventive dentistry.87.6% think there is a need for change in dental curriculum toward preventive Dentistry. Only 56.6% attend CDE /Seminars about recent advancements in caries prevention. 88% interns and 80% of students are aware that sealant placement prevents pit and fissure caries. Table 2 shows the level of attitude regarding preventive dentistry. Table 3 shows the level of practice regarding preventive dentistry. Table4 and 5

show the mean and standard deviation of knowledge, attitude and practice among the participants. Table 6 shows the comparison between students and interns in their knowledge, attitude and practice regarding preventive dentistry. When comparing the knowledge attitude and practice among interns and students, Interns show higher values.

Table 1

<i>The Level of knowledge regarding preventive dentistry</i>	<i>Frequency</i>	<i>Percent</i>
Aware of preventive dentistry	No	4 2.7
	Yes	146 97.3
Possibility of remineralization of initial carious lesions	No	9 6.0
	Yes	141 94.0
Using fluoridated toothpaste is more important than brushing technique for preventing caries	Disagree	57 38.0
	Agree	93 62.0
Sealant is effective in the prevention of pit-and-fissure caries in newly erupted molars	Disagree	15 10.0
	Agree	135 90.0
Care of deciduous dentition and timely restoration of carious teeth are important to prevent malocclusion in permanent teeth	Disagree	17 11.3
	Agree	133 88.7
Prolonged retention of deciduous teeth is a risk factor for malocclusion	Disagree	10 6.7
	Agree	140 93.3
The frequency of sugar consumption plays a greater role in producing caries than does the total amount of sugar consumed	Disagree	4 2.7
	Agree	146 97.3
Having dental problems can lead to general health problem	Disagree	16 10.7
	Agree	134 89.3
Examining a newly-erupted tooth with a sharp explorer will damage enamel rods and predispose the tooth to caries	Disagree	59 39.3
	Agree	91 60.7
Total	150	100.0

Table 2

<i>The level of attitude regarding preventive dentistry</i>	<i>Frequency</i>	<i>Percent</i>
Regular dental checkups are important in preventing oral disease	Disagree	5 3.3
	Agree	145 96.7
Practicing preventive dentistry provides betterment for your patients?	Disagree	7 4.7
	Agree	143 95.3
Motivate patients to receive preventive care measures in your future practice?	Yes	138 92.0
	No	12 8.0
Integrate preventive dental procedure into future practice	Yes	143 95.3
	No	7 4.7
There a need of change in dental curriculum toward preventive dentistry	Disagree	19 12.7
	Agree	131 87.3
In causing caries, the sugar consumption frequency is more important than amount of sugar consumed	Disagree	126 84.0
	Agree	24 16.0
Plaque removal has no role in preventing caries.	Disagree	124 82.7
	Agree	26 17.3
Total	150	100.0

Table 3

The level of practice regarding preventive dentistry	Frequency	Percent	
Placed pit-and-fissure sealants	Yes	79	52.7
	No	71	47.3
Counsel patients about healthy dietary practices	Yes	145	96.7
	No	5	3.3
Do you feel competent in performing the preventive dental practices?	Never	22	14.7
	Sometimes	112	74.7
	Often	13	8.7
	Always	3	2.0
Have you done fluoride therapy in children?	Never	36	24.0
	Sometimes	85	56.7
	Often	22	14.7
	Always	7	4.7
Total	150	100.0	

Table 4

	Minimum	Mean	Std. Deviation	Maximum
Knowledge	33.333%	85.815%	14.639%	100.0%
Attitude	28.571%	71.429%	12.496%	100.0%
Practice	8.333%	53.833%	16.288%	100.0%

**Discussion**

Prevention at the primary level is important in dentistry, especially in pediatric dentistry. Since the use of preventive measures can avert future complications, dental professionals share an important responsibility toward early screening, prompt referral, and treatment, and this knowledge must transfer into the practice of dentistry. The attitude of dental practitioners toward preventive dentistry significantly influences their decision to implement preventive care and potentially affects their ability to motivate patients to adopt such measures.<sup>5,6</sup>

Therefore, this study was conducted to evaluate knowledge, attitudes, and practices regarding preventive dentistry among final year dental students and interns in Kerala. Today’s dental students will be future dental professionals. So developing a positive attitude towards

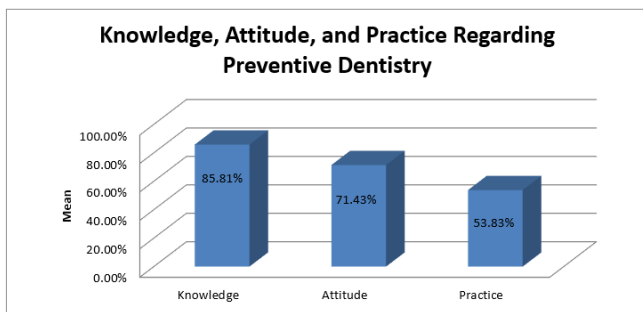
preventive dentistry and improving their knowledge is of utmost importance.

A total of 150 dental students and interns were participated in this questionnaire study, 52% out of which were females. The gender difference of our study participants did not appear to influence knowledge, attitude, and practice toward preventive dentistry. This is in accordance with the study conducted by Bhardwaj et al in 2019[5].But there were previous studies which shows females were more positive towards preventive dentistry than males.<sup>7,8</sup>

The results of the present study shows that 94% students were generally aware of the possibility of remineralization in initial carious lesions, which is more when compared to studies by Sushanth et al<sup>9</sup>. About 97% of the participants in this study acknowledge that frequency of sugars has an important role in etiology of dental caries rather than the amount which is more when compared with previous studies by Sushanth et al 64.9% and Bhardwaj et al (60.95%).<sup>5,9</sup>

Regarding the attitude of dental students, regular dental checkups were considered important for preventing oral disease by both interns and final-year students. About 95% of participants felt competent in performing preventive procedures. Regarding integration of preventive procedures into routine practice give betterment for the patients. But contradictory results were obtained in a study conducted by Sushanth et al, it shows that nearly 60% of the participants were not willing to integrate preventive procedure into routine practice.<sup>9</sup> About 87.3% Interns and final-year students think that there is a need of change in dental curriculum toward preventive dentistry so that they get exposure to preventive procedures and also promote oral health. These results were similar to the study conducted by

Chavan et al in 2019.<sup>4</sup> In the current study, final year dental students and interns were included and through questionnaire their knowledge regarding preventive dentistry was assessed. They had 85.81% knowledge, 71.43% attitude and 53.83% practice regarding preventive dentistry. Among students knowledge is 84.466%, attitude is 71.256%, practice 48.996% and interns had 87.562% knowledge, attitude 71.642% and practice 59.816%. The results of the present study is in accordance with the study done by Chavan et al in 2019. Even though the students have knowledge and a positive attitude about preventive dentistry, they lack in practice. A study was conducted by Pratiwi et al in 2018 regarding knowledge and self perception about preventive dentistry among Indonesian dental students. The results of the study indicate that students exhibit high competence (94-99%) in providing education and preventive care to their patients, but there is still a lack of knowledge.<sup>9,10</sup>

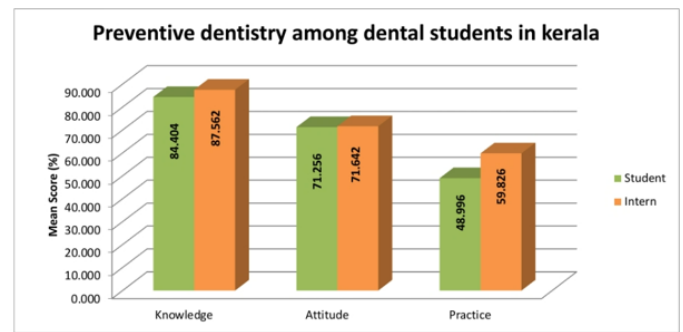


Graph 1

		Knowledge	Attitude	Practice
Knowledge	Correlation Coefficient		0.109	0.252**
	Sig.		0.185	0.002
Attitude	Correlation Coefficient			0.079
	Sig.			0.334

Spearman's rho Correlation, \*\*Correlation is significant at the 0.01 level (2-tailed).

Table 5



Graph 2

The study had a few limitations, including

1. Small sample size
2. The study included only participants from five dental colleges in Kerala.

### Conclusion

Based on the results of this study, it can be concluded that Students and interns have good knowledge and positive attitude towards preventive dentistry, but they lack in practice. It was evident from the study that interns have better knowledge, attitude and practice regarding preventive dentistry when compared to final year students.

The following measures may be taken to improve the knowledge of dental students about preventive dentistry and to improve their practice in the same.

1. Emphasizing more on preventive dentistry topics in the dental curriculum
2. Compulsory participation in continued dental education programs.
3. Encourage them to read Preventive dentistry articles published in journals.

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