

## A COMPREHENSIVE EVALUATION OF DENTAL INSURANCE AWARENESS AMONG UNDERGRADUATES IN FARIDABAD POPULATION

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### KEYWORDS

Dental insurance, awareness, undergraduate students, oral health, India, Public Health, healthcare accessibility

### ABSTRACT

**Background:** Oral health plays a critical role in overall well-being; yet high treatment costs often limit accessibility, particularly in developing nations like India. Dental insurance, though a potential solution to these challenges, remains underutilized and underappreciated.

**Objective:** This study evaluates the awareness and perceptions of dental insurance among BDS undergraduate dental students in Faridabad.

**Methodology:** A cross-sectional survey was conducted from October to December 2024 among 650 BDS students at Manav Rachna Dental College, Faridabad. A validated, structured questionnaire assessed demographics, knowledge, attitudes, and perceptions regarding dental insurance. Data were analyzed using SPSS 27, employing descriptive statistics and chi-square tests for inferential statistics to summarize findings.

**Results:** The findings reveal that a significant proportion of participants (75.4%) were aware of dental insurance, though only 5.7% were enrolled

in such plans. Most respondents (68%) recognized the importance of dental insurance in mitigating treatment costs, and 66.8% identified its broader benefits, such as cost-effectiveness and improved access to routine dental care. However, misconceptions and uncertainties persisted, with 40.6% unable to confirm whether dental insurance offers comprehensive coverage akin to health insurance.

Patterns of dental visits highlighted gaps in preventive care practices. While 28.3% of participants adhered to biannual check-ups, 21.8% delayed visits until problems arose, often citing barriers such as financial constraints (13.5%) and busy schedules (28%). Furthermore, 46.2% of respondents were unsure about policy exclusions, indicating the need for greater awareness and education regarding dental insurance coverage.

**Conclusion:**

This study underscores the critical need for targeted educational initiatives to enhance understanding and utilization of dental insurance among young dental professionals. Integrating dental insurance into the broader healthcare framework and addressing informational deficits could significantly improve preventive and therapeutic dental care access, fostering better oral health outcomes in the population.

## INTRODUCTION

Despite being essential to general physical health, oral health is sometimes disregarded, especially by young individuals. Maintaining good dental hygiene is critical to our daily lives. People's appearance, self-esteem, and quality of life are all significantly impacted by their oral health. Teeth are crucial for everyone, from infants and toddlers to adults.<sup>1</sup> Almost 3.5 billion people are affected by oral diseases and conditions, including dental caries, periodontal disease, malocclusion, facial deformities, dental fluorosis, tooth loss, temporomandibular joint issues; face trauma, and oral cancers.<sup>2</sup>

Developing nations like India have not yet fully embraced comprehensive dental insurance systems, even though many wealthy nations have implemented various strategies, including different types of insurance, to address these concerns. Team Acko provides insights into the benefits, coverage, and claims of dental insurance in India. For instance, dental insurance is offered through the website (Acko Health Insurance).<sup>3</sup> However, dental insurance remains a relatively new concept in Southeast Asia. Its introduction into the Indian market requires a thorough analysis of its potential impact on the affordability and quality of dental care.<sup>4</sup>

In India, dental insurance is still a relatively new idea that is not fully understood or acknowledged, particularly by college students. Examining the degree of awareness on this topic is appropriate in Faridabad, a rapidly growing urban center that is home to a sizable number of undergraduates from a variety of socioeconomic backgrounds.

According to the National Health Centre for Statistics' National Health Interview Survey, dental coverage is the single most significant factor influencing whether or not a person visits the dentist.

Even though there are about 25,000 dental graduates in India each year, most people lack access to basic oral health care. Dental education in India, Sivapathasundharam B. Indian J Dent Res 2007; 18:93. 10.4103/0970-9290.33782 (Website) India is a price-sensitive market, so affordable insurance there would be a huge blessing in the long run.<sup>5</sup>

To learn more about how dental insurance may impact various sociodemographic groups and their access to dental care, this study intends to evaluate dental healthcare students in Faridabad, India, on their awareness, knowledge, attitudes, and need for dental insurance.<sup>6</sup> Finding out how well-informed this group is about dental insurance is crucial since it has a big influence on the decisions they make about maintenance and preventive dental treatment. This study aims to give useful insights to healthcare professionals and policymakers by identifying knowledge gaps and the variables influencing those gaps.

## METHODOLOGY

This study employed a cross-sectional survey design to evaluate the awareness and perceptions of dental insurance among undergraduate dental students in Faridabad. The research was conducted at Manav Rachna Dental College over six months, from January to June 2024, and included a target population of 650 BDS students. Ethical clearance for the study was obtained from the Institutional Ethics Committee to ensure compliance with ethical research standards.

A systematically sampled, validated questionnaire was developed and administered to participants. The questionnaire was structured in three sections:

1. **Demographics:** This section collected data on participants' age, gender, year of study, and field of study.
2. **Awareness:** Questions assessed participants' knowledge of dental insurance, including definitions, available options, and perceived benefits.
3. **Perceptions:** This section explored participants' attitudes toward dental insurance, its importance, and the barriers they perceived in adopting or utilizing such plans.

To ensure reliability and validity, the questionnaire underwent several stages of refinement. The initial version included 15 questions but was revised following feedback from 9 dental experts in the Department of Public Health Dentistry. This process resulted in a final version with 9 questions. The questionnaire's content validity was confirmed through expert review, and its reliability was assessed using Cronbach's alpha, which yielded a score of 0.78, indicating good internal consistency.

Before the full-scale study, the questionnaire was pre-tested on a small group of students to evaluate clarity and usability. The sample size for the survey was determined using the formula  $n = 4pq/d^2$ , resulting in a calculated sample size of 633, which was rounded up to 650 to ensure robust data collection.

Participants were recruited using a systematic random sampling method to ensure equal representation across various years of study. Inclusion criteria required participants to be aged 18 years or older and present at the college during the study period. After obtaining informed consent, the survey was distributed via Google Forms to facilitate ease of access and maximize response rates.

Data collection was carried out systematically, and the completed responses were exported for analysis. The data were analyzed using SPSS software version 27. Descriptive statistics were employed to summarize demographic information and awareness levels. Inferential statistics, specifically chi-square tests, were used to examine associations between demographic variables and awareness levels, with statistical significance set at  $p < 0.05$ .

This methodological approach ensured a comprehensive assessment of the awareness and perceptions of dental insurance, providing valuable insights into the gaps and opportunities for improvement within this demographic.

## RESULTS

The study was conducted among 650 undergraduate BDS students at Manav Rachna Dental College, Faridabad, from January to June 2024. The demographic distribution is detailed in **Table 1**, which shows that the majority of the participants were female (74.2%,  $n=482$ ), while males accounted for **25.8%** ( $n=168$ ).

**Table 1: Demographic data**

Question	Options	Frequency (n)	Percent (%)
Gender	Male	168	25.8
	Female	482	74.2

The participant's awareness and understanding of dental insurance were assessed, and the findings are summarized in **Table 2**. A significant proportion, **75.4%** ( $n=490$ ), reported being aware of dental insurance, while **24.6%** ( $n=160$ ) were unaware. Despite this awareness, only **5.7%** of participants were enrolled in dental insurance plans. Regarding the perceived benefits of dental insurance, **68%** ( $n=442$ ) believed it helps pay for dental treatment, **4.6%** ( $n=30$ ) disagreed, and **27.4%** ( $n=178$ ) were uncertain. When asked if dental insurance covers all expenses after a deductible, similar to health insurance, **41.8%** ( $n=272$ ) responded affirmatively, **17.5%** ( $n=114$ ) disagreed, and **40.6%** ( $n=264$ ) expressed uncertainty.

Participants were also asked about their dental visit habits. Approximately **20.3%** ( $n=132$ ) visited the dentist every four months, **28.3%** ( $n=184$ ) every six months, and **21.2%** ( $n=138$ ) once a year. Conversely, **21.8%** ( $n=142$ ) visited the dentist only when a problem occurred, and **8.3%** ( $n=54$ ) had never visited a dentist.

When queried about reasons for delaying or avoiding dental treatment, **13.5%** ( $n=88$ ) cited financial constraints, **13.2%** ( $n=86$ ) mentioned fear or anxiety, and **28%** ( $n=182$ ) attributed it to a packed schedule. However, **40.6%** ( $n=264$ ) stated they had never delayed or avoided treatment, while **4.6%** ( $n=30$ ) mentioned other reasons.

Regarding the necessity of dental insurance, **22.2%** ( $n=144$ ) considered it cost-effective, **8.3%** ( $n=54$ ) emphasized its role in maintaining oral hygiene through routine visits, and **2.8%** ( $n=18$ ) appreciated the discounts it offers on routine dental procedures. A majority, **66.8%** ( $n=434$ ), agreed with all the listed benefits.

Participants' understanding of exclusions in dental insurance in India was varied. About **21.2%** ( $n=138$ ) believed it provides unlimited free dental consultations, **10.8%** ( $n=70$ ) mentioned coverage for managing mild infections and lesions, and **16.3%** ( $n=106$ ) assumed

it included free lifetime treatment for families. A smaller group, **5.5%** (n=36), thought it covered unlimited digital X-rays and OPG facilities, while **46.2%** (n=300) were uncertain about exclusions.

Finally, when asked about factors influencing the choice of dental insurance, **18.8%** (n=122) emphasized appropriate coverage, **5.2%** (n=34) prioritized comparing plans, and **3.4%** (n=22) highlighted eligibility criteria. The majority, **58.5%** (n=380), agreed with all these factors, while **14.1%** (n=92) remained unsure.

**Table 2: Inferential data**

Question	Options	Frequency (N)	Percent (%)	Chi-Square	P-Value
Have You Heard About Any Dental Insurance?	Yes	490	75.4	48.055	0.000
	No	160	24.6		
Do You Think Dental Insurance Helps Pay For Dental Treatment?	Yes	442	68	68.123	0.000
	No	30	4.6		
	May Be	178	27.4		
Does Dental Insurance Cover All Expenses After A Deductible Like Health Insurance?	Yes	272	41.8	39.434	0.000
	No	114	17.5		
	May Be	264	40.6		
How Often Do You Visit The Dentist For Routine Check-Ups?	Every 4 Months	132	20.3	28.304	0.000
	Every 6 Months	184	28.3		
	Once A Year	138	21.2		
	Only When There Is A Problem	142	21.8		
	Never Visited	54	8.3		
Have You Ever Delayed Or Avoided Dental Treatment? If Yes Then Why?	Yes, Due To Financial Problems	88	13.5	10.149	0.038
	Yes, Due To Fear/Anxiety	86	13.2		
	Yes, Due To Packed Schedule	182	28.0		
	No	264	40.6		
	Others	30	4.6		
Which One Doesn't Come Under the Benefits Of Dental Health Insurance In India?	Provides Unlimited Free Dental Consultation (Till Your Policy Lasts)	138	21.2	16.435	0.002
	Management Of Mild Infections And Lesions	70	10.8		
	Free Treatment Throughout Your Lifetime Including Your Family.	106	16.3		



	You Can Get Coverage For Unlimited Digital X-Ray And OPG Facility.	36	5.5		
	Don't Know	300	46.2		
Why Do You Think You Need Dental Insurance?	Because They Are Cost-effective	144	22.2	1.547	0.671
	Routinely Visits For Maintaining Oral Hygiene	54	8.3		
	To Enjoy Discounts With Routine Dental Check-Up Procedure	18	2.8		
	All Of The Above	434	66.8		
What Things Should You Consider When Buying Dental Insurance?	Appropriate Coverage	122	18.8	17.938	
	Comparison Of Plans/ Policies	34	5.2		
	Eligibility Criteria	22	3.4		
	All Of The Above	380	58.5		
	Not Sure	92			

These findings, supported by **Table 1** and **Table 2**, highlight a significant gap in awareness and utilization of dental insurance among participants. They underscore the need for targeted educational interventions to promote a better understanding of dental insurance benefits and their relevance in routine oral healthcare.

## DISCUSSION

Research demonstrates that dental insurance coverage is available and used in developed nations. For example, in Austria, 99 percent of the population is covered by mandatory health insurance programs.<sup>7</sup> Dental care is covered by the National Health Service in the United Kingdom, which is a state-funded public oral healthcare system that is largely financed by general taxes.<sup>8</sup> However, there is a dearth of information on dental insurance coverage in India.<sup>9</sup> This may be because dental care is not commonly covered by health insurance policies in India. Furthermore, the Indian public is still unaware of the benefits of health insurance.<sup>10</sup>

Moreover, many people don't generally tend to avail of health insurance, especially dental insurance, because dental health is neglected.<sup>11</sup> Hence fee-for-service has remained a significant mode of payment for dental services in India.

Dental insurance is the prime determinant of oral health care accessibility. According to the literature, those who have dental insurance visit their dentists more frequently than those who do not.<sup>12</sup> Most insurance plans exclude cosmetic surgeries and orthodontic treatment for children (if they do, the premiums are usually considerable).<sup>13</sup> Despite the high frequency of oral disorders and the significant amount of money spent on dentistry, dental care policy alternatives were mostly overlooked in public health policy debates.<sup>14</sup>

According to the study responses, the majority of patients seek dental care only when necessary, rather than as a preventive measure and dentists concur on this. Patients avoid dental check-ups because they believe it is too expensive, preferring to wait until their dental

health deteriorates to the point where intervention is necessary. Although it is common knowledge to brush your teeth twice a day, the majority of individuals do not, and the use of tongue cleansers is also low, indicating a lack of concern for oral hygiene.<sup>15</sup> The public is aware of their health insurance & pays close attention to detail when choosing one, but no one chooses dental coverage.<sup>16</sup>

While dentists think that the expense of dental treatment is justified by the amount of work and material required, the price varies from one dentist to the next.<sup>17</sup> Though many people have begun to visit the dentist for regular exams, the percentage of follow-up is very low.

## CONCLUSION

Dental insurance holds significant promise in addressing barriers to oral healthcare, such as high costs and limited access. This study demonstrates that while awareness exists, actual enrolment and understanding of coverage specifics are lacking. Educational initiatives targeting dental professionals and students could bridge this gap, fostering broader acceptance and integration of dental insurance into routine healthcare practices. Policymakers must prioritize the inclusion of dental insurance within public health frameworks to achieve improved oral health outcomes and equity in care access.

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