



## Perception, Comprehension And Cognizance Of Dental Insurance- A Cross Sectional Study Amid Keralites

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### ABSTRACT

**AIM:** To gauge the knowledge, awareness and utilization regarding dental insurance, and utilization of dental services by insured and uninsured Keralites.

**METHODOLOGY:** A cross-sectional questionnaire survey was conducted among Keralites aged 25 to 56 years regarding their knowledge, awareness and perception about dental insurance, and utilization of dental services. Descriptive statistics and chi square tests were used to analyze the collected data.

**RESULTS:** Most of the participants approach a dentist just for emergency treatment (47%) and are in need of a dental insurance scheme (58.4%).

**CONCLUSION:** Unless some insurance schemes like ESI/CGHS/HDFC ergo general insurance, Keralites are in need of a dental insurance scheme which can reduce their financial as well as oral disease burden.

**KEYWORDS:** Oral health, Insurance, Dental insurance, Income, Dentist.

### I. INTRODUCTION

Oral health is an important aspect of overall health of a human being. Still, a major factor that is preventing people from availing oral health services are cost of treatment [1]. Fee for service is the common type of payment mechanism especially in developing countries like India since payment is done almost immediately.[1]. While being the most common method, major drawbacks of this payment mechanism includes not everyone can afford it and only curative treatment is mostly availed by people [1]. So, dental insurance has been introduced so as to overcome financial restraints regarding dental treatment [2]. Thus, more preventive treatment can be provided and

thereby future need for curative dental treatment can also be avoided [2]. Also, availability of dental insurance instills much more favorable attitude towards dental care [2]. Emergence of dental insurance also helps in changing the general perception of dentistry and convey the importance of oral care as a vital part so as to maintain better quality of life [3]. Still, in developing countries fee for service continues to be the most acceptable payment method [1].

Dental insurance is a legal agreement between insurance company and the customers whereby company agrees to pay a part of dental bills for the treatment received by the customers[4].Currently, majority of insurance companies are providing coverage for only few dental procedures under general health insurance plans, especially in case of dental treatment that requires 24hours hospitalization or dental treatments that are required after accidents[3].There are only few plans that provide coverage for stand-alone dental procedures[3].Different insurance plans have their own set of rules and regulations especially regarding the dental procedures for which coverage need to be provided. So, it is up to the patient to understand and select the plan which he/she finds beneficial [1].

### II. MATERIALS AND METHODOLOGY

This is a cross sectional study conducted between April 2022 to May 2022. Participants were selected using convenience sampling.

### INCLUSION CRITERIA

The Study was conducted among the natives of Kerala State, India. The questionnaire was sent to 250 Keralites aged between 25 to 56 years who were working and had a constant source



of income, out of which 220 people participated, from whom written consent were obtained.

### EXCLUSION CRITERIA

Participants who did not consent to the survey and respondents who were unemployed were excluded from the survey.

### METHODOLOGY

A cross sectional survey was conducted among the selected study population. The survey was conducted online through the medium of Google forms. KNOWLEDGE, AWARENESS AND UTILISATION OF DENTAL INSURANCE AMONG KERALITES; A CROSS SECTIONAL STUDY (google.com). We prepared a questionnaire consisting of a total of 16 questions, including the demographic details as well as the questions pertaining to their knowledge and awareness about dental insurance and utilization of dental services. The questionnaire was distributed among the participants by means of email and social media platforms including WhatsApp and Telegram. Informed consent was taken from all the participants at the beginning of the survey. The participants were asked to choose an appropriate response to each question from the set of options provided under each question. Data was collected from the recorded responses.

### III. STATISTICAL ANALYSIS

Collected data was analyzed using SPSS software version 25.0. The data was analyzed using descriptive statistics and association among the variables were done using chi square test.

### IV. RESULTS

The study was completed with 220 responses, of which 57.3 percentage of respondents were female and 42.7 percentage male as given in figure 1

As given in figure 2, 48.6 percentage of responses were recorded from the age group 25-35 years, while 17.7 percentage of people belong to 36-45 years group and 33.6 percentage of people belong to 46-55 years group.

Table 1 shows the frequency of awareness among the participants. Most (46.4 percentage) of the people visit dentist only for emergency treatments. While 67.3 percentage of people avoid routine dental check-ups due to high cost. Highest

(65.9) percentage of respondents feel that dental clinics charge differently for the same treatment. Whereas 67.3 percentage of people find dental insurance, if available as the most convenient method of payment, and 51.1 percentage of participants belong to middle income category with an annual income of Rs. 2,00,000 – 10,00,000.

Table 2 describes the frequency of attitude among participants. 60 percentage of people have health insurance, and most of them i.e., 79.1 percentage of participants have a health insurance not provided by the government (insurance schemes delivered by private companies). Where 78.6 percentage of respondents said that, they claim the insurance at the end of their medical treatments, a significant (89.5) percentage of them do not know whether their health insurance scheme covers dental treatments or not. Among the people who are aware of dental treatment under insurance plans, 80.5 percentage of them do not know about the various insured dental treatments.

Table 3 reflects the frequency of knowledge among the participants. 80 percentage of people have no knowledge regarding the amount of insurance they get for dental treatments. Almost all i.e., 90.5 percentage of the respondents said that, they will to opt for dental insurance plan, if available. And 70.9 percentage of them think, dental insurance availability can promote the public to opt for better treatments. About 78.2 percentage of respondents do not know any of the companies offering dental insurance plans. 43.2 percentage of participants are of the opinion that, lack of awareness is the main reason behind non-availability of dental insurance plans in Kerala. While 76.4 percentage people said that government can take measures to introduce a stand-alone dental insurance plan.

Table 4 gives a comparison between the household income per year with whether participant has a health insurance. 37.1 participants with annual household income less than Rs.2,00,000 have health insurance, while 51.9 participants with the same annual income doesn't have a health insurance. 48.5 participants having Rs. 2,00,000-10,00,000 annual income has a health insurance while 39.5 participants lack health insurance. Among participants having more than Rs. 10,00,000 annual income, 14.4 of them have health insurance and 8.7 of them do not have a health insurance.



Table 5 is a comparison between the annual income of the participant with their opinion on the statement, "Availability of dental insurance coverage promote the public to opt for routine dental treatment plans". 64.3 participants with less than Rs. 2,00,000 annual household income agree to the statement, 44.3 participants disagree with the statement and 50 participants are not sure. Among

the participants with annual household income Rs. 2,00,000-10,00,000, 28.7 participants agree to the statement while 28.6 participants disagree and 50 participants are not sure regarding the statement. In the category of participants with more than Rs. 10,00,000, 7 participants agree to the statement, 28.6 participants disagree. And thus, the calculated p value of the comparison is 0.0247.

FIGURE 1: FREQUENCY OF GENDER DISTRIBUTION

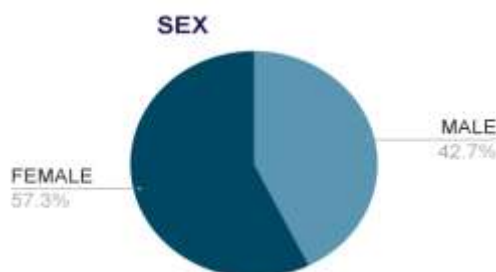


FIGURE 2: FREQUENCY OF AGE DISTRIBUTION

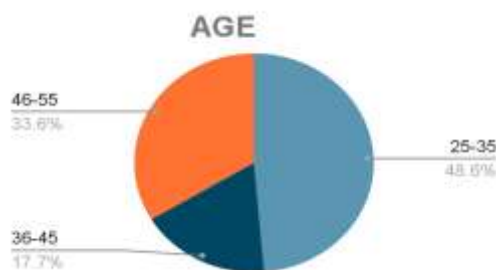


TABLE 1: FREQUENCY OF AWARENESS AMONG THE PARTICIPANTS

VARIABLES	HIGHEST RESPONSE	PERCENTAGE
How often do you visit a dentist?	If any emergency	46.4
What stops you from a routine dental checkup?	High cost	67.3
Do you think, dental clinics charge differently for the same treatment?	Yes	65.9
According to you, which is the convenient method of payment?	Dental Insurance	67.3
Your estimated household income per year	2,00,000 to 10,00,000	51.1

TABLE 2: EVALUATION OF ATTITUDE OF THE PARTICIPANTS

VARIABLES	HIGHEST RESPONSE	PERCENTAGE
How much insurance coverage do you get for dental service?	Don't know	80
If there is an option to choose a dental insurance	Yes	90.5



plan, will you opt for it?		
Do you think the availability of dental insurance coverage promote the public to opt for better treatment plans?	Yes	70.9
As per your knowledge, which all companies in Kerala offer insurance plans for dental treatment?	Don't know	78.2
What may be the reason behind absence of dental insurance in Kerala?	Lack of awareness	43.2
Do you think that the government should introduce an exclusive dental insurance plan?	Yes	76.4

TABLE 3: FREQUENCY OF KNOWLEDGE AMONG THE PARTICIPANTS

VARIABLES	HIGHEST RESPONSE	PERCENTAGE
Do you have a health insurance?	Yes	60.0
What type insurance do you have?	Other than government insurance	79.1
Do you claim insurance at the end of the treatment? (Medical treatment)	Yes	78.6
Does your health insurance cover dental treatments?	No	89.5
Are you aware of the different dental services covered under the insurance?	No	80.5

TABLE 4: COMPARISON BETWEEN THE PARTICIPANT'S ANNUAL HOUSEHOLD INCOME WITH THE PRESENCE OF HEALTH INSURANCE

		Your estimated household income per year			p value
		< 2 lakhs	2 lakhs to 10 lakhs	More than 10 lakhs	
Do you have a health insurance?	Yes	37.1	48.5	14.4	0.0247 *
	No	51.9	39.4	8.7	
* p-value <0.05 is considered significant					

TABLE 5: COMPARISON BETWEEN THE ANNUAL HOUSEHOLD INCOME AND THE PARTICIPANT'S OPINION ON THE STATEMENT, "AVAILABILITY OF DENTAL INSURANCE COVERAGE PROMOTE THE PUBLIC TO OPT FOR ROUTINE DENTAL TREATMENT"

		Your estimated household income per year			p value
		< 2 lakhs	2 lakhs to 10 lakhs	More than 10 lakhs	
Do you think "availability of dental	Yes	64.3	28.7	7	
	No				



insurance coverage promotes the public to opt for routine dental treatment plans”	No	44.3	28.6	27.1	0.047*
	May be	50.0	50.0	0.0	
* p-value <0.05 is considered significant					

**V. DISCUSSION**

From the analysis of the results yielded from our study, we deciphered the following facts and information;

About half of the participants (51.6%) were from the middle-income category.67.3% of the study population states that the high cost of dental treatment stops them from seeking routine dental care and 65.9% of the study population demanded standardization of treatment charges. This is supported by the studies conducted by Treadwell & Evans [7], also backed by the study conducted by Formicola et al [8], which shows similar results.

Among the study population, 79.1% of the participants had general health insurance scheme, other than the central or state government insurance and 78.6% among them utilize their insurance, implying that people are more used to general insurance schemes and it’s easy to introduce a dental insurance scheme among them. The latter inference is strengthened by the fact that about 90.5% of the population displayed their interest in opting for a dental insurance, if available. Dental insurance indeed provides a breathing space for the underprivileged population by relieving them from the burden of bearing the treatment expense at a single shot.[1] However, the study showed that about 78.2% of the population were totally unaware of any dental insurance plans currently existing in the state.

On comparing the household income per year with whether the participants have a general insurance scheme, it showed that there was a significant difference (p value = 0.0247) among low- and middle-income group with high income group. The low- and middle-income group show a greater dependency on insurance scheme for their medical treatment needs. Similar results were derived from the study conducted by Joshi et al [5], which suggests that the insured patients faced relatively fewer financial constraints in relation to comprehensive dental care.

On comparing the household income per year with the possibility that whether the availability of dental insurance will promote opting

better dental treatment plans, there was again a significant difference (p value = 0.047) among the low- and middle-income groups with that of higher income groups implying that the introduction of a dental insurance scheme will definitely help the low-income group for seeking better oral health care. A study conducted by Maniyar et al among insured and uninsured patients [6], with similar statistical difference (p value< 0.05) points out the same.

**VI. CONCLUSION**

The World Health Organization has recognized oral health as an integral element of general health. As such, oral health problems constitute significant public health burden in India as well as around the world [11]. With progress in technology and advancement of knowledge, we have definitely achieved a forward leap in the arena of oral health care. However, the accessibility to these improved services is still hindered by financial and economic barriers. Here lies the significance of standardization of dental treatment costs. Dental insurance schemes are undoubtedly an effective means to tackle the financial constraints associated with treatment expenses [12]. In many of the developed countries insurance has now been accepted as the mainstay of payment replacing the age-old practice of fee for service.

In the last 50 years, India has undergone great progress in terms of general health insurance, but at the same time it is unfortunate that comprehensive dental insurance still remains almost non-existent [10]. Similar to the other middle- and low-income countries across the globe, India also faces formidable challenges in the health sector. Despite the fact that India has almost one third of all the dental schools across the world, the provisions of oral health services are strikingly low in the rural parts of the country, where the majority of the population resides [13]. Hence the demand and distribution ratio of dentists is far insufficient as well as inadequate [14]. Introduction of an all-inclusive dental insurance scheme by the government will definitely be an imperative step that would encourage fair and equal distribution of



resources irrespective of the class difference. It is important for the dentists to be acquainted with the existing types of insurance schemes offered to the patients and about a new relationship that will in turn emerge in the coming years between the dentist, patient and the insurance company, which shall be maintained amicable as well as beneficial [9]. This in turn shall enable better utilization of services among the deprived sections culminating in the goal of "health for all".

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