



# Knowledge, Attitude and Perception Regarding the Financial Aspects of Prosthetic Rehabilitation via Complete Denture

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### **ABSTRACT**

**Objective:** The aim of this survey was to assess the knowledge, attitude and perception of Indian population as well as dental students and dentists on the financial aspects of prosthetic rehabilitation via complete denture.

**Methodology:** This cross sectional study was conducted from January to February 2021 and included 2 questionnaires, one for the general population and another for Dental students and Dentists across India. Both the questionnaires had 16 questions which assessed the attitude and perception about the cost of complete denture fabrication. All the responses were tabulated and statistical analysis was done.

**Results:** 41% of the Indian Population is unaware of the cost for a complete denture. There was a significant association between the level of education of the patient and their estimate about the cost for a complete denture. ( $p < 0.05$ ). The estimation of the complete denture cost by the general population and the usual price charged by the dentists matched to a high extent.

**Conclusion:** The level of education of an individual plays a major role in his/her awareness about the prosthetic rehabilitation and financial aspect which ultimately leads to a greater patient satisfaction. Establishing Dental Insurance policies for prosthetic rehabilitation can encourage more people to focus on their dental needs.

**Keywords:** attitude, knowledge, denture

### **INTRODUCTION**

Oral diseases place a huge economic and social burden on the population in terms of pain, suffering and lost productivity, as well as expenditure on treatment and prevention[1]. For elderly people, edentulism is one of the public health burdens and also for the practice of primary health care. Edentulism is an irreversible and devastating condition and is described as the “final marker of disease burden for oral health”[2]. Despite the fact that the prevalence of edentulism is decreasing in all age groups[3], the number of elderly individuals continues to rise. India, being a developing country with a large population, suffers from a lack of awareness and management of the edentulous state[4, 5]. Complete dentures have long been the treatment of choice for edentulous people.

Financial concerns, a lack of education, a lack of time, and a lack of awareness, among other factors, are all reasons why patients do not replace their missing teeth[4]. Dental therapy is generally perceived as being pricey by underprivileged individuals. As a result, increasing public knowledge and counseling will enable the promotion of prosthodontic services to help patients with missing teeth improve their oral health[6, 7][8].

A cross sectional survey conducted across 167 dental colleges in India, it was found that 70% of colleges provided some prosthodontics treatments like removable partial dentures (RPD) or complete dentures (CD) free of cost[9]. Studies have reported several reasons for non replacement of teeth, and financial constraint is the most common reason as reported by Shigli *et al.*, (365 participants) (19.7%)[5] and Raj *et al.*, (149 participants) (86.5%)[10]. These contradicting results necessitates further evaluation of both patients and a clinician’s views regarding the financial aspect of prosthodontics. Our team has extensive knowledge and research experience that has translate into high quality publications [11–27]

Thus the aim of this survey was to assess the knowledge, attitude and perception of the Indian population as well as dental students and dentists on the financial aspects of prosthetic rehabilitation via complete denture.

## **MATERIALS AND METHOD**

A cross-sectional survey was conducted using a self-structured online questionnaire which consisted of 16 questions of multiple-choice type. The survey was undertaken after the due approval of the institutional ethical board following which the questionnaire was pilot-tested among the dental students and patients working or visiting our institution to check the feasibility of the survey. The face validity of the questionnaire was checked by submitting it to five experts in the field of prosthodontics, who approved the online questionnaire before it was distributed to dental students and clinicians as well as the general Indian population using snowball sampling method.

The questionnaires consisted of the following components - Demographics, attitude, knowledge and perception of the cost of complete denture fabrication. The detailed distribution of questions is given in Table 1 and the questions are displayed in Figure 1 and 2.

After a time period of 2 months (January 2021- February 2021), questionnaire 1 obtained 238 responses and questionnaire 2 obtained 264 responses. After data collection, it was compiled using Microsoft Excel and subjected to statistical analysis.

### **Statistical Analysis**

The received responses to the 2 questionnaires were analyzed separately. The compiled and coded data was transferred to IBM SPSS v23.0 software and statistical analysis was carried out using descriptive statistics and results were displayed as bar graphs and pie charts. Chi-square test was performed to analyze association between various parameters.

## **RESULTS**

Questionnaire 1 ( Indian population) received 238 responses while questionnaire 2 (dental students & practitioners ) received 264 responses.

### **Perception of Indian Population**

39.8% of respondents were more than 35 years of age with Females comprising 61% of the total population. At Least half of the population had a college degree (undergraduates) while 7.5 % were school dropouts. 39 % of the population had an annual income of < 50,000₹ . Majority of the population answered that they visit a dentist/ dental hospital only when they have a problem. In contrast, 57% of the population answered that they would trust a private practitioner more for their dental needs. 46% of the total population was not even aware about the cost for a complete denture. The most popular answers for the factors influencing the choice of a dentist were- dentist's experience and referrals and reviews from family and friends. 30% of the people thought that a complete denture should cost around 10,000- 25,000₹.[Figure1] Only 32% of the population was aware about dental insurance policies in India and 58.6% of the people thought that it would be a good idea to incorporate complete denture treatment under it. A significant association was found between the level of education with both the perception about cost of complete denture and the idea of dental insurance for complete dentures.( $p < 0.05$ )[Figure 1 & 2]

### **Perception of Dental Students and Practitioners**

51% of the practitioners fell under the 25-35 age category and 64.7% of the practitioners were females. More than 50% of the practitioners had a postgraduate degree among which 16% were prosthodontists. 38% of the practitioners had experience of >5 years with 44% having a private practice and 28% affiliated with a government institution. 38% of practitioners treat about 2-5 completely edentulous patients per month. 12% of the practitioners provide complete denture treatment free of cost all of them belonging to a government institution. 38% of dentists charge < 10,000 ₹ for a CD and 90% of them are able to deliver it within 5 appointments. Majority of the clinicians agree that nowadays patients are leaning more towards implant supported overdentures and are willing to pay more for it. There was a significant association was found between the speciality of the practitioner and their charges for CD ( $p < 0.05$ ).[Figure 3 & 4]

**Clustered Bar Graph Depicting Level of Education in relation to Estimated Complete Denture Cost**

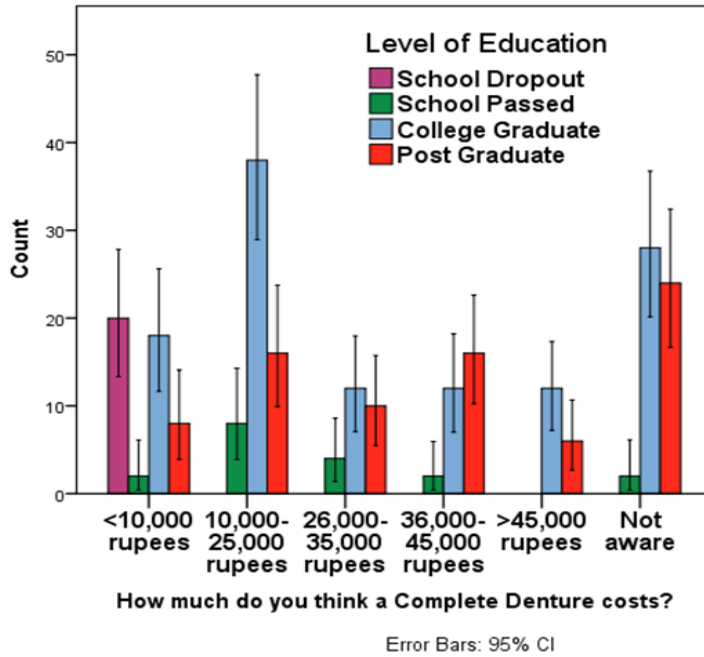


Figure 1

**Clustered Bar Graph Depicting the Level of Education as the Function of a Question on Dental Insurance**

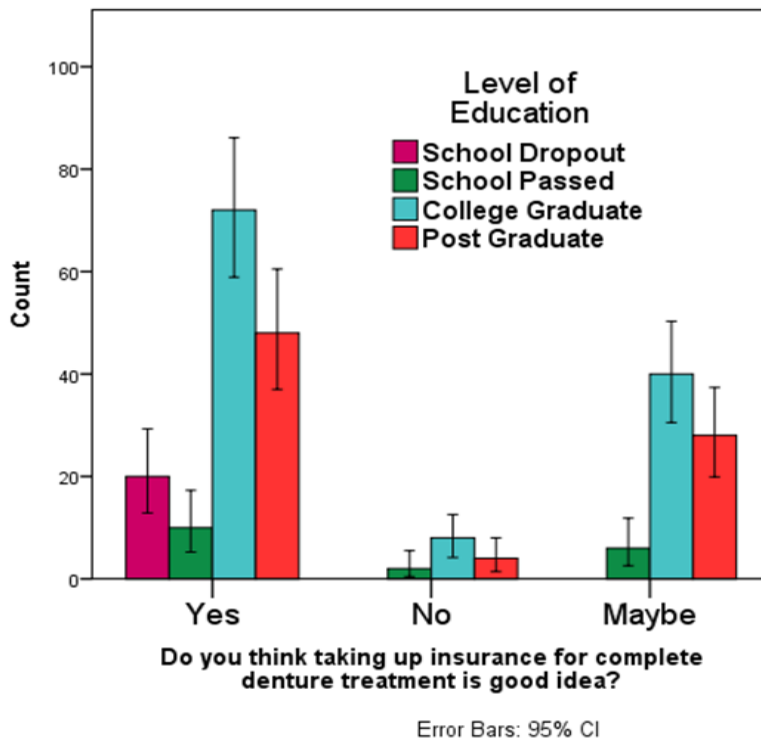
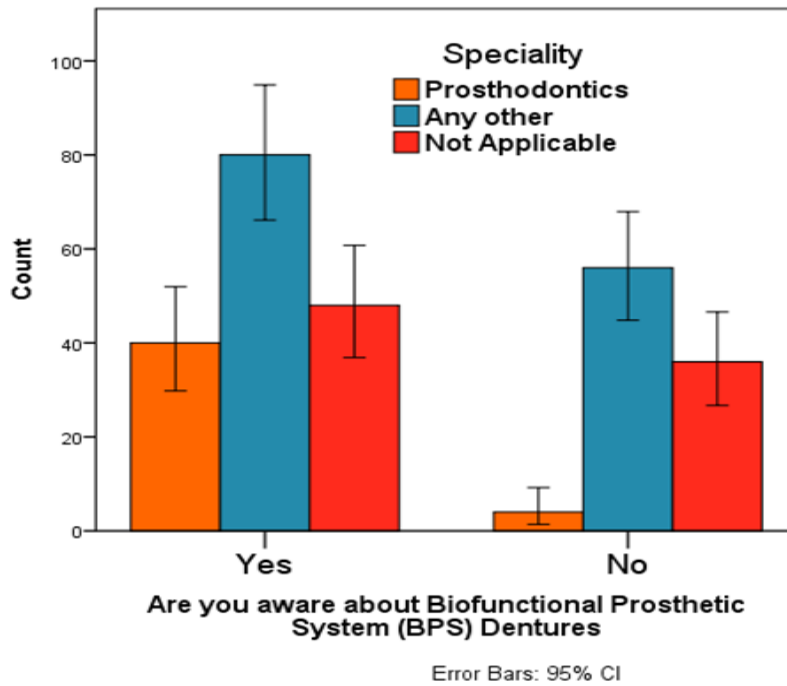


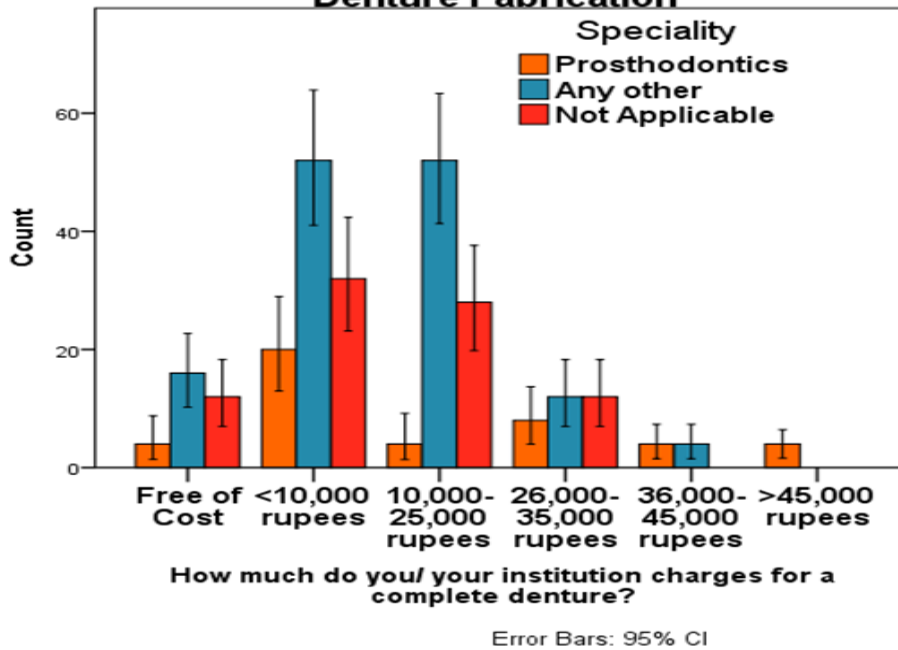
Figure 2

**Clustered Bar Graph Depicting Speciality of Dental Practitioner to the awareness of BPS dentures**



**Figure 3**

**Clustered Bar Graph Depicting Speciality of Dental Practitioner in Relation to their charge for a Complete Denture Fabrication**



**Figure 4**

**DISCUSSION**

The urban dentist to population ratio is 1:10,000, compared to 1:150,000 in rural areas[28]. Although our country has 118,000 qualified dentists, there is still a dearth of fundamental oral health education, resulting in poor oral health that has an impact on the quality and standard of life. Because of their low socioeconomic status, underprivileged patients are often unaware of such treatments, and most patients do not seek treatment

immediately after tooth loss, even if replacement of missing teeth is strongly recommended, which can render them completely edentulous before time.

In the present survey, 46% of the general population was not even aware about the cost for complete denture. When asked about the attitude towards choosing their dentist, 40% of the population take cost effectiveness into consideration. Patients' financial circumstances may prevent them from receiving routine dental care. Financial restrictions were identified as a major factor by Tuominen et al[29]. A study by Parlani et al., showed that 20.5% were not aware of the prosthodontic treatment and 25.2% did not replace their missing teeth, due to financial constraint[30].

The current survey revealed that the patient's expectations about the cost of complete denture and a dental practitioner's charge were similar to a large extent with 12% of the practitioner's providing treatment free of cost. The discrepancy between a patient's perception to not undergo prosthetic rehabilitation due to cost and many clinicians charging minimally can be bridged by better patient education and outreach programmes. Sarang et al developed a prosthodontic awareness and motivational programme to assist the elderly and modify their attitudes about dental care and treatment. Community-based dental outreach programmes serve an important role in raising community awareness through health education and dental treatment services. These interventions have been found to be particularly helpful in reducing health disparities.

The rising expense of dental care has posed a significant obstacle to its use in developing countries, particularly in India, where two-thirds of the population lives in rural areas. Dental insurance policies are not as common in India as they are in most Western countries. Dental coverage is still in its infancy[31]. It is frequently combined with general health insurance plans such as Employees' State Insurance (ESI) and the Central Government Health Scheme (CGHS). In the present survey, only 32.3% of the general population were aware about dental insurance and 58.6% of them thought that a complete denture rehabilitation should be included in insurance plans. All the people who were school dropouts and had low annual income recommended a CD treatment to be included under insurance. Similar findings were seen by Maniyar et al[32].

Potential sources of bias in the present survey includes a sampling bias, as convenient sampling was used. There could also be design bias, as the survey questionnaire was forwarded exclusively to people on social media, therefore people without smartphones were excluded. Lastly there might be Hawthorne effect bias.

#### Conclusion

The level of education of an individual plays a major role in a patient's awareness about the prosthetic rehabilitation and it's financial aspect which ultimately leads to a greater patient satisfaction. It also demonstrated a positive association between dental insurance and demand. Health insurance systems in developing nations like India should therefore include mandatory dental checkups along with prosthetic rehabilitation. Dental insurance can also help to raise oral health awareness among the general public. It would provide a strong incentive for people to attend the dentist on a regular basis, which would function as an efficient preventive strategy.

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