

# Patient's Awareness of Dental Implant as an Option for Missing Teeth in Chitwan, Nepal

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## Abstract

**Objective** To assess the patient's level of awareness of dental implants as an option to replace missing teeth and willingness to accept dental implant is lacking in a small city (Chitwan) Nepal.

**Materials and methods** A cross-sectional survey was conducted on patients attending the prosthodontic, oral medicine and radiology clinics of Chitwan Medical College, Chitwan, Nepal. A self-administered questionnaire was used after pretesting through a pilot survey. The data analysis was done using SPSS version 20 (IBM Company, Chicago, USA).

**Statistical Analysis** Various parameters were compared using Two-Sample Independent T-Test. The level of significant was set at  $p$  value = 0.05.

**Results** A total of 84 subjects responded to the study. Only 47.6% of the participants have knowledge on dental implants. Majority of the participants (72%) considered the costs to be affordable and equal number of the participants replied that they were ready for treatment with dental implant. Majority of the participants received information from their dentists (53.1%) and from the friends and acquaintances (31.3%). The patients in Chitwan have moderate awareness of dental implants. Majority of the participants are aware and willing to consider dental plant treatments.

**Conclusions** The patients in Chitwan have moderate awareness of dental implants. Majority of the participants are aware and willing to consider dental plant treatments. Proper information on dental implants should be provided to the patients so that they can accept the dental implant treatment.

## Keywords

- ▶ dental implant
- ▶ information
- ▶ awareness
- ▶ dental education

## Introduction

Dental aesthetic plays an important role in the facial appearance and smile.<sup>1,2</sup> Missing teeth creates unpleasant aesthetics. The prosthetic treatment creates natural aesthetics following mechanical and biologic requirements.<sup>3</sup>

Dental implants play an important role in the oral rehabilitation and have become a part of the routine dental treatment.<sup>4</sup> Implants improve chewing efficiency, and aid in denture retention and stability.<sup>5,6</sup> Successful implant treatment needs the best gingival aesthetic success along with stability and function of the implant.<sup>7</sup> The information regarding

dental implants for the patients is important for the dental treatment planning.<sup>8</sup> Some studies conducted in different countries regarding the awareness on dental implants show varying results from low to high awareness.<sup>9-11</sup>

Studies regarding awareness of dental implants and the willingness to accept a dental implant are lacking in small cities in developing countries like Nepal. Hence, this study aimed to assess the patient's level of awareness of dental implants as an option to replace missing teeth and the willingness to accept dental implant in a small city (Chitwan) in Nepal.

## Materials and Methods

A cross-sectional survey was conducted on patients older than 18 years attending the prosthodontic, oral medicine, and radiology clinics of Chitwan Medical College, Chitwan, Nepal. Ethical clearance was obtained from the Ethical Committee of Chitwan Medical College (number: CMC/ADM/2072/073-116). The subjects were selected based on convenient sampling. Informed consent was obtained from the participants. A self-administered questionnaire was used after pretesting through a pilot survey. The data analysis was done using SPSS version 20 (IBM Company; Chicago, Illinois, United States). Various parameters were compared using two-sample independent *t*-test. The level of significance was set at *P* value = 0.05.

## Results

### Demographic Characteristics

The demographic characteristics of the participants in this study are shown in the ►Table 1. It showed that majority

**Table 1** Demographic characteristics of the participants in this study

Demographic characteristics	Number (n)	Percentage	<i>p</i> -Value
<b>Age</b>			
<30 y	47	56.0	0.277
≥30 y	37	44.0	
<b>Gender</b>			
Male	46	54.8	0.383
Female	38	45.2	
<b>Education</b>			
College, high school, or less	67	79.7	<0.0001 <sup>a</sup>
University degree	17	20.2	
<b>Occupation</b>			
Employed	27	32.1	0.002 <sup>a</sup>
Unemployed	57	67.9	
<b>Location</b>			
Mountains	74	88.1	<0.0001 <sup>a</sup>
Terai (plain land)	10	11.9	

<sup>a</sup>Significant at *p*-value < 0.05.

of the respondents were younger than 30 years (56%) and males (54.8%), and more than half of the respondents (47.6%) completed education only till college, high school, or less. Only 17 respondents (20%) held a university degree. Majority of the respondents (88.1%) were from the mountain region, whereas only few (12%) were from the study site (Terai, plain land). For the education, occupation, and location, there was significant difference between the groups (*p* < 0.05).

### Knowledge of the Participants on Dental Implant, its Affordability, and Treatment Consideration

It was found that less than half of the respondents (47.6%) only have knowledge on dental implants (►Table 2). It was also found that a greater number of the participants (71.9%) think that the dental implants are affordable and want to consider the treatment. The participants who did not consider the dental implant treatment was due to unaffordability for the treatment, fear of surgical procedure, and lack of information (►Fig. 1). For the affordability of treatment cost and treatment consideration with implants, there is significant difference between the groups (*p* < 0.05).

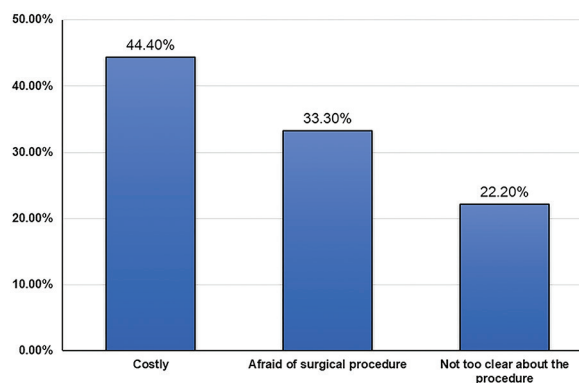
### Source of Information on Dental Implants

Regarding the source of the information on dental implants, about half participants received information from their dentists (53.1%) followed by friends and acquaintances (31.3%),

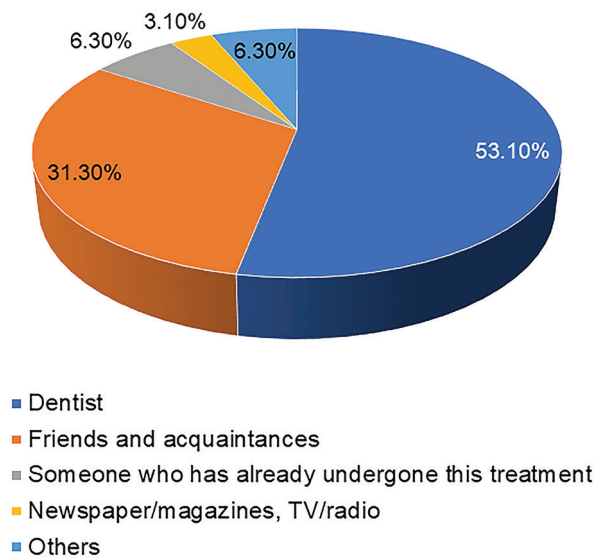
**Table 2** Knowledge of the participants on dental implants, their affordability, and treatment consideration

Traits	Number (n)	Percentage	<i>p</i> -Value
<b>Heard of dental implant</b>			
Yes	40	47.6	0.654
No	44	52.4	
<b>Affordability of treatment cost</b>			
Affordable	23	71.9	0.025 <sup>a</sup>
Not affordable	9	28.1	
<b>Consider treatment with implants</b>			
Yes	23	71.9	0.025 <sup>a</sup>
No	9	28.1	

<sup>a</sup>Significant at *p*-value < 0.05.



**Fig. 1** Readiness on treatment with dental implants.



**Fig. 2** Source of information on dental implants.

other patients (2%), newspapers/magazines/television/radio (1%), and other sources (2%), as shown in ► **Fig. 2**.

## Discussion

Creating an aesthetic smile is a challenging procedure that requires a multidisciplinary approach and treatment planning.<sup>1</sup> Various factors are essential in the dental and facial aesthetics, like soft tissues including facial proportions and hard tissues including teeth proportions.<sup>12,13</sup> Dental implants help in oral rehabilitation, functions, and dental aesthetics.<sup>14,15</sup> Therefore, the patients should be aware of the dental implant treatment options for the replacement of teeth and aesthetic dental treatments.<sup>16</sup>

Most publications on dental implants emphasize on basic to clinical research. But the level of patient information on dental implants should not be neglected. Recently, the awareness and experience of dental implants in patients have been studied in various parts of the world.<sup>8-10,17-25</sup> Similarly, this is the survey regarding the awareness of dental implants conducted in a tertiary-level hospital in Chitwan. The level of knowledge of the participants on dental implants in our study (47.6) is significantly lower than those found in the developed countries—by Zimmer et al<sup>18</sup> in the United States (77%), Berge<sup>26</sup> in Norway (70.1%), and by Tepper et al<sup>8</sup> in Austria (72%). However, the level of knowledge (47.6%) on dental implants in our study which is done in a small city in Nepal is higher than that reported by Lajana et al<sup>19</sup> in the capital city of Nepal (36.3%), Kaurani and Kaurani in India (36.3%), and Gbadebo et al<sup>9</sup> in Nigeria (28.9%). This might be correlated with the greater number participants with less education (► **Tables 1, 2**). This might be due to lower educational level and socioeconomic status.

Dentists are the prime source of information of dental implants for the patients. Zimmer et al<sup>18</sup> found that only 17% of the participants named a dentist or physician as the source of information but in our study more than half of the

participants (53.1%) received information on dental implants from the dentists. Most often, patients lack the information and rely on other sources of information.<sup>10</sup> Hence, the dentists should provide information on dental implants as part of the treatment planning.

At present, the immediate implant placement is done to limit bone resorption following tooth extraction and also to reduce the number of surgical procedures.<sup>27</sup> Hence, the patients are also made aware of the various implant placement techniques, such as immediate implant placement, one-stage stage implant placement, and two-stage implant placement.<sup>27,28</sup>

Furthermore, in implant dentistry, researchers are also developing newer surface-treated and coated implants to improve the osseointegration by interactions between proteins, cells and tissues, and bone grafts to deal with bone defects and peri-implantitis.<sup>29-31</sup> This information should also be given to the patients. The results of this study might act as a baseline data to formulate the patient's education and motivation strategies to pave way for its ready acceptability in the society.

## Conclusions

The patients in Chitwan have moderate awareness of dental implants. Majority of the participants are aware and willing to consider dental implant treatments. Dentists are the chief source of information regarding the dental implants for the patients. Proper information to the patients regarding implants is important so that they can accept the dental implant treatment.

### Authors' Contributions

All authors contributed to this research and the manuscript.

### Ethical Approval

This study was approved by the Ethical Committee of Chitwan Medical College, Chitwan, Nepal. Number: CMC/ADM/2072/073-116.

### Conflict of Interest

None declared.

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