

# Knowledge and Attitude of Dental Patients to Teeth Replacement

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## ABSTRACT

**Objective:** Presence of teeth in the oral cavity plays a significant role in the maintenance of a good health, self-esteem, healthy personality and self-image. Replacement of lost teeth is essential to effective functions of the oral cavity. There are various options to teeth replacement but most patients are not aware of these options. Therefore, many go about with the embarrassment of incomplete dentition with function deprivation. Hence, this study assessed the knowledge and attitude of patients visiting our dental clinics in Kaduna City towards replacement of lost teeth.

**Methods:** Structured questionnaires were employed to obtain information from the patients, only patients who have lost teeth were included in the study (with exception of third molars). All patients that completed the questionnaires were examined by a clinician, teeth present and missing teeth were charted. The study was carried out in three Dental Clinics in Kaduna Metropolis. The period of study was from July, 2021 to December 2021. Two hundred and ten questionnaires were retrieved and analyzed for age, sex, reasons for teeth loss, options for teeth replacement and factors impeding replacement.

**Results:** The total number of participants was 210. Of them, 82 were males and 128 were females. The ratio of male to female is 1: 1.4. The age of the participants ranged from twenty to eighty years (mean age is 56years SD  $\pm$  26). Majority were in the age range of 30 – 39 years (n=86, 41.0%). 79.5% of individual were provided with proper information about replacement of teeth whereas 20.5% were not. 82.7% stated financial constraint as impediment to replacing their lost teeth and 17.3% stated lack of awareness. 85.9% were aware of removable dentures, while only 15.5% were aware of dental implants. Collected data were statistically analyzed using chi-squared test at a significance level of  $p < 0.05$ .

**Conclusion:** The findings indicated that awareness needs to be increased among our patients on the important functions artificial teeth will play in restoring oral functions such as aesthetics, phonation and mastication. Patients should be encouraged to replace their lost teeth.

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## INTRODUCTION

A missing tooth can certainly change the appearance of individual smile. Whether a tooth is lost to dental extraction: due to gum diseases, severe tooth decay, or lost to trauma as result of road traffic accident or fall, or is congenitally missing, the absence of any tooth causes both

function and aesthetic challenges to the sufferer (Assery et al., 2019; Kyale et al., 2004).

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These challenges range from poor appearance to malnutrition due to deficient mastication (Khalifa et al., 2012). Regardless of the way a tooth is lost; it can negatively impact the alignment of the teeth over time. A missing tooth or teeth can also impede speech, ability to chew food, the integrity of the jawbone, and cause the slow shifting of the teeth into some of the empty spaces (Assery et al., 2019). Teeth play a major role in reflecting the personality and the positive attitude regarding self-image. Loosing of teeth will reduce the quality of life affecting psychologically, socially, and emotionally. Nowadays, the dentist provides solution to the emotions and psychology of patients in relation to dental situations especially esthetics (Omar et al., 2003). Losing of teeth is very traumatic which can disturb social activity that requires significant psychological readjustment (Shrirao et al., 2016). Moreover, in a study it was found that self-confidence increased in 88% of patients after teeth replacement and 92% stated that their oral health had improved (Mukatash et al., 2010.).

However, there are a number of excellent options available to replace missing tooth or teeth, these including: Dental implants, this is one of the most common methods of tooth replacement. An implant-supported bridge is an ideal solution for multiple missing teeth in a row. A tooth-supported bridge uses existing teeth to support the placement of a bridge, rather than placing two implants into the teeth (Shigli et al., 2007).

Removable partial dentures are a comparatively simpler option to replace missing teeth, similar to dental implants. Compared to a complete set of dentures for all the teeth, removable partial dentures are suggested for individuals with a few missing teeth (Zhang et al., 2003).

Replacement of lost teeth is essential to effective functions of the oral cavity. Hence, this study assessed the knowledge and attitude of patients to teeth replacement in Kaduna metropolis.

## MATERIALS AND METHODS

This is a cross-sectional observational study performed on 210 participants. Only patients who have lost teeth were allowed to participate in the study. Structured questionnaires were employed to obtain information from the patients. It was carried out in three Public Dental Clinics in Kaduna Metropolis: Barau Dikko Teaching Hospital, Kaduna State Ministry of Health Dental Centre, 44, Armed Forces Reference Hospital. The period of study was from July, 2021 to December 2022. Two hundred and ten questionnaires were retrieved and analyzed for age, sex, reasons for teeth loss,

options for teeth replacement, factors impeding replacement. A consent form was obtained from each participant in this study.

A standard questionnaire of 13 questions was made. The questions were divided into two parts.

Part 1 included: 3 questions of demographic data which involved age, gender, and marital status.

Part 2 included: 10 questions to investigate the level of knowledge about need for teeth replacement and various option available, source of information and reasons for none replacement of lost teeth.

Data were statistically described in terms of mean  $\pm$  standard deviation ( $\pm$  SD), or frequencies (number of cases) and percentages. Collected data were statistically analyzed using chi-squared test at a significance level of  $p < 0.05$ .

## RESULTS

The total number of participants was 210. Of them 82 were males and 128 were females. The age of the participants ranged from twenty to eighty years mean  $\pm$ SD ( $54 \pm 26$ ). Majority were in the age range of 30 – 39 years ( $n=86$ , 41.0%). The ratio of male to female is 1: 1.4. 82.8% of individual were provided with proper information about replacement of teeth whereas 17.2% were not. Most of the participants stated that losing tooth (teeth) has affected their ability to chew food and their appearance with (88.2%) and (58.8%) respectively. Dental caries was the main reason behind teeth extraction in 78.2% of the study sample. Professional screening showed that 57.3% of the participants had one missing anterior tooth or more and 60.5% of the participants have one missing posterior tooth or more. 82.7% stated financial constraint as impediment to replacing their lost teeth and 17.3% stated lack of awareness. 79.1% were aware of removable dentures, while only 5.5% were aware of dental implants. Majority of the participants were youth with age range 20-39 years, mean  $\pm$ SD ( $29.2 \pm 9.5$ ). There was no significant difference regarding sex group (male and female) ( $P$ -value=0.186). Majority of the participants were married (61.0%). This could be justified from the age range of study population. Majority of the participants lost their teeth to dental extractions (58.7%), while 34.1% lost theirs to RTA and 15% to fall. Question in this part investigates the degree of knowledge about different ways of replacing missing teeth; 58.4% (123 participants) were well informed, 41.4% (84) were moderately informed and 1.2% (3) was not informed. There was a significant different found between male and female ( $P$ -value=0.001) (Table 4).

Table 1: Age and sex of participants

Age (years)	Male	Female	Total	Total (%)
20-29	12	22	34	16.2
30-39	34	52	86	41.0
40-49	15	21	36	17.1
50-59	12	16	28	13.3
60-69	06	09	15	7.1
70-79	02	05	07	3.3
80years	01	03	04	2.0
Total	82	128	210	100.0

Table 2: The category of participants by marital status.

Category	No. of participants	Percent (%)
Single	66	31.4
Married	128	61.0
Widow	13	6.2
Divorced	3	1.4
Total	210	100.0

Table 3: Reasons for teeth loss among the participants

Reasons for teeth loss	Number of participants	Percent (%)
Extraction	123	58.7
Road Traffic Accident	72	34.1
Fall	15	7.2
Total	210	100.0

Table 4: Degree of knowledge about replacing the missing tooth among the participants

Degree of knowledge about replacing the missing tooth	Percent (%)
Well informed	58.4
Moderately informed	40.4
Not informed	1.2
Total	100.0

Majority of the participants (79.10%) were informed about removable partial dentures, while some of them were already wearing dentures. In this question, the participants who heard about teeth replacement mentioned their source; most of them heard from the dentists (67.20%) while less

percent heard from their friends and relations (21.60%). 7.90% heard from radio, newspapers, and Television (TV). Also, there was a significant difference between male and female participating (P-value =0.001) (Table 6)

Table 5: Degree of knowledge about options for teeth replacement among the participants

Knowledge	Percent (%)
Knowledge about removable dentures	79.1
Knowledge about tooth supported bridge	14.2
Degree of knowledge about dental implants	5.5
No knowledge	1.2
Total	100.0

Table 6: Source of information about teeth replacement among the participants

Source of information about teeth replacement	Percent (%)
Dentists	67.2
Friends and relations	21.6
Radio, TV & newspaper	7.9
Social media	2.5
None awareness	0.8
Total	100.0

## DISCUSSION

Teeth play a major role in reflecting the personality and individual self- image. Loss of teeth will affect individuals psychologically, socially, and emotionally (Shighi et al., 2009). However, dentistry provides succor to the emotions and psychology of patients in relation to restoring esthetics and functions of oral cavity (Khalifa et al., 2012).

Healthy mouth is essential for social, economic, and personal development of individuals. Missing teeth need to be replaced not only to maintain the masticatory function and esthetic of patients but also to reinstate the psychological impact of missing teeth on patients' general well-being (Alzarea et al., 2017). Teeth are required for mastication, phonetics, esthetics, structural balance and for the comfort of an individual (Raj et al., 2014). Replacement of lost teeth is well accepted by dental patients (Mukatash et al., 2010). However, removable partial dentures are accepted to be prosthetic treatment of wholly or partially edentulous patients (Udoeye et al., 2004). In this study, we assessed the knowledge and attitude of our patients to teeth replacement. We investigated the age, sex, and marital status, reasons for teeth loss, effect of loss on the well-being of the participants; we evaluated the level of awareness of participants on the need to replace missing teeth.

There was female predominance (Table 1) in our study as compared to male predominance in previous study (Rathi & Chhetri, 2017). This could be attributed to males caring less about their appearance in the African settings. The age of the patient ranged between 20 to 80 years. Most frequently encountered age group was 20 -39 years. Our findings are in accordance with Abdurahiman et al. (2014). This might be due to the fact that younger individuals are more educated and exposed to information through the media (Abdurahiman et al., 2014). Majority of the participants were married (61.0%) (Table 2). This could be justified from the age range of study population. Majority of the participants lost their teeth to dental extractions (58.7%), majorly from severe tooth decay, while 34.1% lost theirs to road traffic accident and 15% to fall (Table 3). The loss of the teeth had adversely affected their self-image. Our participants exhibited a degree of knowledge about different ways of replacing missing teeth which was graded in the following ways: 58.4% (123 participants) were well informed, 41.4% (84) were moderately informed and 1.2% (3) was not informed (Table 4). It was evident from the study that the degree of knowledge was directly

proportional to the level of education of the participants. Majority of the participants (79.10%) were informed about removable partial dentures, while some of them were already wearing dentures (Table 5).

Dentists are the first persons the patient encounters for their tooth problem. Therefore, they serve as driving forces for the information patients need for teeth replacements (Raj et al. 2014; Akelel 2003). The major source of information for patients is the dentists (Akelel., 2003). This study showed that majority (67.2%) heard their information from the Dentists (Table 6), while others heard from friends, relations, radio and newspaper. Most of our elderly participants got their information from their relations (children). Also, most of our participants (77.3%) preferred to get more information from the dentist, and this showed that the dentists have a significant role in awareness of patients as patients trust them more than any other source of information. Mobile dental clinics, dental awareness campaigns, and prosthodontic outreach programme are possible solutions to change attitudes, awareness, and extend treatment to several patients (Raj et al., 2014).

However, when questioned about replacement of missing teeth, majority of the participants desired replacement, except the cost of the prosthetics which had served as impediment. We also found that the decision of replacement is strongly associated to location of the missing tooth. According to Reddy et al. (2016) and Gbadebo et al. (2014) patients' subjective need for replacement of teeth, especially posteriors, is because it rarely improves their social status. Elias & Sheiham (1999) reported that most patients are more likely to replace a missing anterior tooth than a posterior tooth. This study supported his report as the same attitude was shown by participants that lost anterior teeth; they are more concerned about replacement than posterior teeth. Esthetics rather than function played a major role in the desires of our participants to replacing their missing teeth. The old people with multiple missing teeth give priority to the mastication rather than appearance (Shigli et al., 2007; Abdurahiman et al., 2016). This study had exposed the need for dentist to intensify the persuasion of patients to replace missing teeth; this will positively promote the services of prosthodontist and improve their economy.

This study is limited due to the fact that this study was done in Kaduna City, which cannot fully represent the opinions of rural population.

## CONCLUSION

The findings indicated that awareness needs to be increased among our patients on the important functions artificial teeth will play in restoring oral functions such as esthetics, phonation and mastication. Patients should be encouraged to replace their lost teeth.

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## Conflicts of interest

The authors declare that they have no conflicts of interest.

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