

Patient's Knowledge and Perceptions of Prosthodontics Treatment with Removable Complete Dentures: A Case of Makerere University Dental Hospital, Uganda

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Abstract

Over the years, removable complete dentures (RCDs) have been used to treat edentulous patients to enhance their ability to eat and communicate well and improve their facial appearance. Patients' awareness of complete dentures is the first step toward better treatment outcomes. This study aimed to explore patients' knowledge and perceptions of prosthodontics treatment with removable complete dentures in Makerere University Dental Hospital, Uganda. The study used a qualitative design to explore patients' knowledge and perceptions of prosthodontics treatment. A total of fifteen participants were purposively selected and interviews were audio-recorded and later transcribed and translated into English. Data analysis involved reading transcripts, categorizing the data, and developing themes and sub-themes to explain the patterns in the data. Regarding their knowledge about complete denture treatment, participants said that they were aware that denture treatment was a procedure for replacing teeth although they expressed concern about the costs involved. Regarding participants' perceptions of complete denture treatment, they reported mainly about the perceived benefits and how these motivated them to go ahead with the procedure. They anticipated things like the restoration of beauty, being able to communicate freely, eating more comfortably and improving oral hygiene. The study found that the majority of respondents had some good perceptions and knowledge of denture rehabilitation-related subjects, especially considering the variety of fixed and removable prosthodontics options available.

Keywords: Edentulous Patients, Informed Consent, Prosthodontics, Removable Complete Dentures.

Introduction

Restoring function is the primary goal of treatment for edentulous patients to enhance their overall health [1]. Recent years have seen several advancements that have led to positive improvements in the restoration of missing teeth [2], including implants and removable complete dentures. Among the most popular techniques for the rehabilitation of patients who

are partially or fully edentulous is the use of removable dentures in prosthetic treatment [3, 4]. Removable complete dentures (RDCs) support the restoration of speech, the ability to eat, and an individual's appearance [3, 5]. While RDCs cannot replace natural teeth, they can provide a patient with satisfactory prosthetic rehabilitation [4]. According to Shigli [6], RDC care involves more than just placing a finished prosthesis in the patient's mouth. Dentists must

provide care for their patients throughout their prosthetic therapy, not just in the initial months following the delivery of the denture [4]. Frequent denture care at home and recurring dental consultations are essential for the treatment to continue to be successful [7]. Frequent denture maintenance is essential to the therapy's long-term success [6]. Proper prosthetic use and care are essential for maintaining the prosthesis and having healthy tissues that support it, in addition to helping patients regain their oral functions and aesthetics [1]. The first step to improved treatment outcomes is increasing patients' awareness of removable complete dentures [3]. According to Shetty & Shenoy [8], and Patel [9], patients need to be motivated and informed about complete denture prosthesis, their use and care for rehabilitation therapy to be successful. To get an acceptable result, patients must also be aware of their obligations [10].

According to Cooper et al. [3], patients should care for their dentures the same way they care for their actual teeth. To do this, patients must be informed about appropriate oral and denture hygiene [11]. Millward and Morgan [12] further observed that patients who maintain their dentures with consistency can prevent dental diseases and maintain improved oral health.

Nonetheless, in certain situations, several people who wear complete dentures might not adhere to the care and upkeep instructions provided to them at the time of insertion because these instructions are typically provided verbally. As a result, they might forget important denture care information [13]. Furthermore, it can be challenging to meet all the patient's expectations regarding RCDs [14]. It is therefore critical to understand how patients feel about the prosthesis they use for rehabilitation [15]. Some people who wear dentures have irrational expectations regarding the aesthetics and functionality of the devices [16]. Because this is likely to affect the patients' level of happiness with the dentures, it is crucial

to learn what the patients think of the prosthesis and whether they anticipate it to work the same way as their natural teeth [17].

To ensure that the patients are satisfied with the denture outcomes, the dentist must, as part of the treatment process, find out what the patients think of the dentures [18]. This allows the dentist to address any worries or concerns the patient may have and to determine the psychological needs related to using the dentures. For better treatment outcomes during removable complete denture treatment, there needs to be good mutual communication between the patient and the healthcare provider, as well as patient understanding and respect [18].

It is also crucial to examine the opinions of patients regarding whether they were given sufficient information about dentures, whether their entire denture treatment went well, and their suggestions on how the process could be improved, as well as how they feel and are treated in society while wearing dentures. Patient feedback can assist dentists in guiding patients towards acceptance and satisfaction with the results of their dentures as well as giving them extra positive information about them [18]. However, no known study has explored patients' knowledge and perceptions towards prosthodontics treatment with removable complete dentures among the Ugandan population. The present study explored patients' knowledge and perceptions of prosthodontics treatment with removable complete dentures in Makerere University Dental Hospital.

Materials and Methods

Study Design

The study used a qualitative design to explore patients' knowledge and perceptions of prosthodontics treatment.

Study Site

The study was carried out at the Makerere University Dental Hospital located in Kampala.

The hospital serves as a teaching hospital and also provides healthcare services for the local population and the employees and students of Makerere University. It is Uganda's largest and most well-equipped dental facility, employing several oral health professionals. It boasts of a reputable prosthetic dental laboratory that provides a range of services, including low-cost rehabilitation for edentulous patients with RCD. About 20 of the 660 outpatients the hospital sees each month are treated with RCD (Registry of Dental Records, 2022). It was selected as a study location due to the abundance of registered edentulous patients, which made it easy to generate the necessary sample size.

Selection of Study Participants

Fifteen participants were purposively selected for the study, and these included people who had worn RCD for a minimum of one month and were considered to have sufficient experience. To maintain gender parity in the selection of respondents, patients of all ages, both male and female, were included.

Inclusion Criteria

The study included complete denture wearers who were aged 18 years and above, had worn complete denture(s) for at least 1 month and were willing to give written informed consent to participate in the study.

Exclusion Criteria

Those who were sick and were not working during the data collection period were excluded from the study.

Data Collection Procedure

The respondents were asked to provide written informed consent before they participated in the study. To learn more about the patients' knowledge and perceptions of removable complete dentures (RCDs), dentists invited patients who had worn RCDs for longer than a month to participate in an in-depth interview (IDI). Using an interview guide, the

researcher investigated the patients' opinions about wearing dentures, oral functions (eating, speaking, smiling and laughing), oral hygiene, the advantages of wearing RCD, the informed consent procedure, and the upkeep and cleaning of RCD. A social scientist with training in qualitative research methods conducted and audio-recorded the in-depth interviews with each respondent for about 30 to 45 minutes. The researcher took separate notes and also observed the participants' non-verbal behaviour.

Quality Control

The principal investigator pretested the data collection instruments and made modifications to enhance their validity and reliability. Research Assistants were trained to use the selected data collection techniques all IDIs were audio recorded using a functional device that was checked before the interview began. Furthermore, to ensure accuracy and completeness, the lead investigator double-checked the notes and audio recordings. Four criteria were used to ensure trustworthiness: Credibility, confirmability, dependability, and transferability. Credibility was established through peer debriefing and by soliciting the support of more seasoned qualitative researchers who reviewed and offered input on the study protocol and results to ensure that the data was accurate and relevant. The methodology section provides a detailed explanation of the research context, including the characteristics of the selected participants and setting. It is suggested that readers use this description to assess whether or not they can apply the findings in their settings or circumstances. The study's replication was made possible by thoroughly describing the methods and analysis used. A well-defined coding scheme was employed to generate codes and identify patterns in the analysis, ensuring that the research study's conclusions were objective and based on the testimonies and statements of the participants

Data Management and Analysis

An experienced Research Assistant transcribed the audio recordings and the data was translated into English accordingly. A hard copy of the transcripts was maintained under lock and key, and all soft copies were password-protected and stored on an external drive (Google Drive). Data were analysed thematically. With the help of the qualitative software program Atlas Ti., themes were generated from the data and this allowed for coding, analysis and interpretation of the data.

Ethical Considerations

The Uganda National Council for Science and Technology (Reference Number: HS3092ES) and the Makerere University School of Health Sciences Research Ethics Committee (Reference Number: MAKSHSREC-2023-486) provided ethical approval for the protocol. The Makerere University Dental Hospital administration

granted permission to conduct the study. Every participant in the study provided written informed consent. The participants were informed of the study's goal and were given the option to participate voluntarily by the Helsinki Declaration [19]. Data were anonymized and all of the gathered data were safely stored in a locked cabinet that the investigators alone could access.

Results

Participants' Characteristics

Demographic

Of the 15 respondents interviewed, the majority were females and more than three-quarters were aged above 41. Less than half of the participants had completed their secondary and university studies. More than half were married. Table 1 shows that over half of the participants had been wearing RCDs for less than a year.

Table 1. Demographic Characteristics of the Respondents

Variable	Frequency (N=100)	Percentage (%)
Gender		
Male	7	46.7
Female	8	53.3
Age		
Less than 30 years	1	6.7
31-40yrs	1	6.7
41-50yrs	7	46.7
51 and above	6	40.0
Education		
No formal education	1	6.7
Primary	4	26.7
Secondary	5	33.3
Tertiary	5	33.3
Marital status		
Single	7	46.7
Married	8	53.3
Occupation		
Self-employed	10	66.7
Formally employment	3	20.0
Other	2	13.3

Duration of wearing dentures		
1 month-< 1 year	8	53.3
1-5 years	1	6.7
More than 5 years	6	40.0

The purpose of the study was to find out what the respondents knew and thought about receiving removable complete dentures. The themes related to knowledge encompassed understanding complete denture treatment, giving consent for denture treatment, and denture maintenance. The themes related to perceptions included the perceived advantages of receiving complete denture treatment, the opinions of society regarding denture wearing and how these opinions impact denture wearers. Additionally, this subsection included the participants' perceptions of what went wrong during denture treatment and their suggestions for future improvement.

Participants' Knowledge of Complete Denture Treatment

Participants were asked about their knowledge of removable complete denture therapy. Some said that they were aware that denture treatment is a procedure for replacing teeth, which can be fixed or removable.

Some respondents chose the removable option after first researching possibilities for fixed replacement, especially denture implants, but found them to be prohibitively expensive. The participants further disclosed that:

"There are other dentures that can be made and are put [fixed] permanently, but the truth is that the money they were telling [me to pay] was too much and I didn't have it. So, I got a chance to get these temporally [removable] ones" (P005_56-year-old Male).

"The information that I had gotten was about implants that I used to research about and the facilities that can give me this permanent solution, but I realized the price was so high" (P006_38-year-old Male).

"The doctor told me there are even others that are permanent, but very expensive for me" (P010_43-year-old Female).

From their narratives, the significance of wearing dentures was known to the participants. They knew it would raise their sunken jaws, help them pronounce some words correctly, allow them to consume soft foods at least, and make them feel comfortable smiling in public.

The respondents further verified that having dentures allowed them to laugh freely, eat healthily, and socialize with coworkers, which in turn restored their happiness. As a result, the respondents encouraged those who were having similar problems to see a dentist and, if the dentists advised to use them [dentures], they should use dentures rather than always being without teeth. The following is what the respondents had to say:

"Dentures are really good because they save you. I was told that after getting dentures you can be able to laugh, you may be able to eat soft stuff and hard ones, and you don't even have to laugh holding the mouth" (P007_56-year-old Female).

"Instead of being toothless, you rather have dentures, you can put these and they help you" (P015_52-year-old Female).

"Now if anyone who has been having the same issue as I was approaches me for advice, I would tell that person to go and get denture treatment" (P009_23-year-old Male).

Knowledge about Consent for Denture Treatment

Responses on whether the respondents received sufficient information about their rights, the advantages and risks associated with undergoing complete denture treatment, and whether they gave their consent were recorded

to ascertain the respondents' awareness of their right to consent before undergoing denture treatment. The participants intimated that the dentists did not provide them with sufficient descriptions of the dangers associated with their teeth replacement treatment. The participants reaffirmed that the dentists had discussed the treatment's advantages with them in passing but had not gone into great length about the procedure's specifics, its implications, or risks. The participants disclosed that they did not obtain any written documentation or information regarding the process. They wanted dentures, so they consented after the dentists gave them a verbal explanation of the process. Some of the respondents' explanations are given below:

"I did not ask. I don't know if there is a risk or what. I am hearing it from you today" (P001_68-year-old Male).

"No, I feel the explanation I was given was not adequate. I did not get an explanation for that. The doctor told me just smilingly that; it will improve your smiling. I did not sign any form and I don't know what the risks are" (P004_56-year-old Male).

"I was not taken through any consent process. I was not told. I even don't know the risk up to today" (P007_56-year-old Female).

Some respondents, however, said that they had received sufficient information regarding the advantages of receiving denture treatment; as a result of this information as well as the perceived stigma associated with being edentulous, they decided to wear complete dentures. However, they were still mostly ignorant of the risks because they received only partial information based on which they were required to give verbal consent. However several participants clarified that they had completed and signed certain forms and been given cards to bring with them while receiving denture treatment. Some of the respondents' statements are given below:

"Yes, they explained to me the steps I was going through. I knew I was getting artificial

teeth. They explained to me everything as it went on. We sat with the doctor somewhere and he explained, saying that I needed not worry, all things would be well, and I would get back to the other days before where I would eat roasted maize, eat meat, and you will speak well among people and even laugh" (P012_43-year-old Female).

"The doctor said that; to get peace, I had to remove all the teeth that were infected; otherwise I would inject a lot of money into treatment but remain in pain. I said I have no problem if you see that it is what will bring me peace. But when they told me that; now you have lost seven teeth at once, eh! I felt that the mouth was now empty, and I imagined the shame that I was going to suffer for the rest of my life. So I accepted the idea of wearing dentures and signed on a paper. The explanation they gave was okay, even when I checked at myself after getting dentures I saw that what they were saying was true" (P010_43-year-old Female).

"From how I was, I felt not at peace with being toothless, like I would not laugh with people even in taxis, I would pretend like I don't know you, so in the process when I was about to receive these dentures I needed it, so I wasn't angry about it. And if I have not forgotten there is a paper I filled" (P012_43-year-old Female).

Knowledge about Denture Maintenance

When asked about their knowledge of comprehensive denture maintenance, participants revealed that, following denture treatment, they had talked with dentists and received advice on how to take care of their dentures.

They therefore understood how to use them when eating, when to take them off, and how to clean them. Some respondents acknowledged using toothpaste to brush their dentures despite being told not to. They also mentioned being told not to eat hard foods, to take out their dentures before going to bed and store them in a clean container with water, and to always

wash their dentures with soap and water and pat them dry before putting them back on. The respondents narrated that:

“They advised me to take them [dentures] out before bed, place them in a fresh container with water inside, and cover it to prevent rats from stealing them. I then brush my teeth [denture] and put them back on” (P007_56-year-old Female).

“They told me to keep it within something that has water and when cleaning I don’t use toothpaste, I use soap with water” (P008_45-year-old Female).

“The doctor told me that these dentures are not brushed with toothpaste. The other thing they told me is that I have to remove them while going to sleep” (P012_43-year-old Female).

Some participants reported that they were informed by dentists that they would need to replace the dentures after a certain amount of wear and that new ones should be obtained; however, they did not define how long a particular denture should be used before being replaced. Dentists would occasionally call them to suggest that they return for fresh dentures. In addition, the doctors gave them their contact information and told them to return for a check-up if they experienced any problems with the dentures. Some of their statements are captured below;

“Sometimes they (the dentists) can even call me to go and get new dentures because this is not the first” (P013_25-year-old Female).

“The information they gave me was that; if I have any challenge I should come back, they are always around, they even gave us their contacts to call them” (P015_52-year-old Female).

There were however a few individuals who stated that they never received any advice about denture care and maintenance after they received them, so they were not well knowledgeable on how to maintain their dentures well but they were using ‘common sense’ to ensure that their dentures were clean at all times. The statements are as follows:

“No information given. Not even how to clean” (P001_68-year-old Male).

“I don’t remember any advice well” (P011_42-year-old Male).

Patients’ Perceptions of Complete Denture Treatment

Respondents’ Interpretation/Meaning of Having Complete Dentures

According to their responses, participants observed that accepting to wear a synthetic material that resembles artificial teeth onto the gums from one end of the jaw to the other because a person does not have their natural teeth is what complete dentures entail. As an alternative to assist them live as though they had their natural teeth, the respondents explained that they wore dentures. Their specific expressions are given below:

“According to me, a complete denture is a round thing which resembles the teeth, that is inserted from one end of the jaw to another end because someone does not have his/her natural teeth” (P004_56-year-old Male).

“They almost look the same as the teeth I had before they got problems and were removed” (P001_68-year-old Male).

“When you insert them, you can speak to someone and they think it is real teeth” (P002_57-year-old Male).

The respondents reiterated that dentures were an important option that restored their physical beauty, self-esteem, eating and speaking lifestyle, although wearing dentures somewhat altered their accent as quoted below:

“It is great. As you can see, now I look young and handsome (laughs). But at night when I remove the denture, and I look at myself in the mirror, I am the ugliest person. But the moment I wear them I am okay” (P001_68-year-old Male).

“It makes me look handsome when I put it on. I am somehow okay with it because back then I used not to be okay” (P009_23-year-old Male).

“I got abnormal accents. Accents are not easy now. When speaking about “thrice”, when or about “thirty”, whatever, words like that. But I am okay. I feel comfortable with it” (P004_56-year-old Male).

Benefits of Wearing Dentures

The participants pointed out some of the advantages of wearing dentures, saying that, with dentures, they can communicate fluently, eat healthily, and socialize without feeling self-conscious about their missing teeth. Because dentures restored their depressed jaws and eliminated their concern, that saliva would spew out while they spoke, people's confidence and looks have also improved. The respondents reaffirmed that they could laugh, smile, and eat without discomfort while wearing dentures. All things considered, having dentures has increased their sense of comfort, self-assurance, and social comfort.

“The benefit is that you can go and talk to people, and they will not notice that you don't have teeth. Also, you eat properly. I can eat meat, cassava matooke and even popcorn. The saliva is no longer moving out as the other time it was. Now I talk more freely than when I did not have it. I am comfortable and feel at home. So I will not have to come running up and down to the hospital soon” (P001_68-year-old Male).

“The jaws will not sink again because the denture supported it. Even if am [at a] a function I laugh well, and when I wore them and saw that the jaws were lifted then I realized that what they told me would work. The tongue would swing and I was also able to talk” (P002_57 year-old Male).

“I was looking so old but now you see a wonderful woman even when am laughing I look good” (P014_49-year-old Female).

The participants reiterated that after they wore dentures, there was a great improvement in the pronunciation of words and this has improved their public speaking. They explained that wearing dentures reduced distractions in

their professional life because they could speak with confidence. Respondents further narrated that:

“My pronunciation has improved greatly. Recently I went to the studio for a panel discussion and the outcome was that my pronunciation was much better. People when they find me can't believe that I'm the same person. What the dentures help a lot in everyday life is they kind of preserve your eloquence in speech, but whenever you don't have them, the speech fades away. So, it has given me much more confidence” (P006_38-year-old Male).

“Wearing dentures has kind of sidelined what would have been a permanent distraction in the line of duty, especially when I'm teaching. Imagine you're with kids, you're teaching them but then they are distracted with your dental problem and then they ask what happened to your teeth. So, explaining about myself reduced” (P006_38-year-old Male).

“They help me because what I used not to do among people I can now do it. It is very hard for one to know that you are edentulous. So if you were scared to speak now you would have no problem that is what is good about them” (P014_49-year-old Female).

Respondents also explained that wearing dentures helped them improve their hygiene because of the requirement to clean both the dentures and the mouth every morning as they wake up and in the evening before going to sleep as advised by the dentists during and after the denture treatment process. One respondent shared that:

“It has helped me since I have to clean them every morning” (P005_56-year-old Male).

Comparative View of Removable Complete Dentures and Natural Teeth

When participants were asked how they felt about wearing complete dentures as opposed to having natural teeth, some of them said that, for a variety of reasons, they preferred to have their original teeth. One of the reasons given was that

eating with dentures does not allow one to experience the same level of food flavour perception as eating with natural teeth.

Additionally, individuals said that they experienced difficulty pronouncing some words when wearing dentures, an issue they did not experience when they had their natural teeth. In addition, respondents said that, in contrast to dentures, which restrict a person from eating soft foods exclusively, real teeth were powerful and allowed a person to eat everything they wanted. In addition, maintaining dentures is more difficult than maintaining real teeth, as washing your mouth after eating only requires chewing on a piece of sugar cane. The respondents shared:

“With the natural teeth, even if you eat something you can always feel its taste, yet with these artificial ones you may not feel the taste, so you just need to have an idea in mind that I’m eating” (P002_57-year-old Male).

“The difference is big I must say, only that no matter how much I wanted my natural teeth, I can no longer have them back. Now there are some few words that I fail to utter out well, but if you’re not a doctor you can’t tell, you can think I stammer a bit” (P015_52-year-old Female).

“The difference is that every after a meal you have to brush unlike before when you would finish eating and then use a sugar cane to rinse your mouth and move on. Natural teeth are superb. These artificial ones are just an alternative option to the loss of natural teeth” (P011_42-year-old Male).

Respondents however appreciated that the shape and height of the dentures do not differ significantly from the natural teeth, and one cannot tell that someone lost natural teeth by merely looking at their dentures when they smile, except for the professional dentists and people who saw them when they were edentulous. Some people admire dentures when they see someone wearing them because they look good in the mouth. One respondent stated that:

“There are even those that see me and feel envious saying that my teeth are well, none can know that I don’t have teeth” (P003_68-year-old Female).

Perceived Opinions of Society on Denture-Wearing

The participants were interviewed to find out whether the people could notice that they wore dentures and how society interacted with them upon noticing that they wore dentures. Many indicated that it was difficult for the community to notice that they wore dentures, except for the people they stayed with at home and close friends who knew about their history of being edentulous.

“It is hard to know unless they had seen me before; otherwise it is hard for someone to know that I am wearing artificial teeth” (P005_56-year-old Male).

“If you didn’t know about my situation of being toothless you cannot know. Somebody who realized that they are artificial was a doctor, I got an accident and I went for an X-ray and it is the machine that showed him” (P011_42-year-old Male).

“If I don’t tell you, you can’t know that am wearing dentures. We can talk well, laugh well and do everything without you realizing it” (P015_52-year-old Female).

When asked specifically about the opinion of the society members upon noticing that they wore dentures, participants explained that some people never minded whether they had dentures or remained edentulous. But most of the people were surprised and happy to see them having the teeth again, commenting that despite being artificial, they were much better than being edentulous, and they congratulated them for having dentures. Other people admired them for looking nice and having a good smile, while other people who used to despise them when they were edentulous were envious upon noticing that they now had beautiful teeth. Some of the interesting statements of the respondents are given below:

“Most people got to know that I had artificial teeth because they used to see me without [teeth], the whole village including my siblings knew that I didn’t have teeth. So they were all surprised. Some even congratulated me” (Respondent P008)

“... maybe if you talk about the people who used to despise me because they saw me in the other state of being toothless. Some of them deal with their issues of envy, but me I’m okay” (P006_38-year-old Male).

Effect of Social Opinions on Denture Wearers

The participants were interviewed to establish how they were being affected by the opinions of people towards their denture situation. They said that at first they were bothered by the people who used to bully them for having artificial teeth but later on they got used and became strong. They explained that they were not bothered by what other people think of their situation, and therefore the people’s opinions had not affected them in any way.

“Well, at first I would feel bad because they laughed at me, but I am now used and I don’t mind whatever they say about it” (P001_68-year-old Male).

“Even if someone says I wear dentures, I don’t feel as if it is something new. I know in my heart that it is now better to have these than how I was. Therefore I have nothing to do about what others think of me, you say what you want but as for me I see no problem” (P014_49-year-old Female).

“I don’t feel bad because there are many people who are like me, so I can’t feel bad” (P015_52-year-old Female).

Patients’ Views on what did not go well with the Denture Treatment Process

Participants were asked to share their thoughts about what went wrong with the denture treatment. The responses show that the respondents had some negative experiences

with the denture treatment, which suggests some professional shortcomings on the part of the dentists. These included improper denture fitting, which caused gum pain when the wearer wore it, and excessive sharpening of the canine teeth, which caused discomfort because the wearers were constantly afraid of damaging their teeth. Additional negative events resulted from improper communication about what to expect during therapy, bleeding during treatment, and the amount of pain a patient should expect. The respondents’ views are given below;

“Some of my teeth were too sharpened, the canines were sharpened. So, they didn’t do what they had promised. Even some of the cement they had put, they again removed it” (P007_56-year-old Female).

“Maybe the issue of measurement I think they were not measured well. That is why I have a problem eating using those artificial teeth. I find it hard to eat using artificial teeth because they don’t break the food very well” (P009_23-year-old Male).

“There was where they were putting and removing that denture, they didn’t do it well. I was so burdened and even lost a lot of blood. Also, the decayed tooth was poorly extracted which led me to lose a lot of blood and I felt bad” (P011_42-year-old Male).

Patients’ Perceptions of the Informed Consent Process

Some of the respondents explained that the doctors worked against their will by removing the teeth that were not so much infected instead of treating them to remove the infection and save the teeth. Rather the dentists removed all the infected teeth and informed the patients about the idea of getting dentures which necessitated paying some money which the patients were not aware of. Therefore, they did not give informed consent for the whole process of denture treatment that they went through, and it made them incur unprecedented costs. One respondent intimated that;

“I didn’t accept because I intended to remove one tooth so when he saw that I even had pieces, he suggested that I come back and they remove the pieces. So on removing the pieces he had promised that they would put a denture. He said that even the remaining two had gotten sick and needed to be removed, along with the pieces, so he removed the broken ones and the other two which he found infected on that day. I didn’t feel good” (P007_56-year-old Female).

“I thought it was for free but I ended up paying. I was not prepared to pay because I thought they were to remove the infected tooth at ten thousand but I ended up paying even for the other two, plus some other money during the denture treatment process” (P007_56-year-old Female).

Even though they weren't given a detailed explanation, the respondents trusted the dentists' knowledge and guarantees. They felt helpless, so they accepted everything even though they were unaware of the procedure's risks. Furthermore, a few participants discovered that while they believed the denture procedure would be free, they had to pay for certain services. Before the treatment, they were unhappy, but they did not feel upset about getting dentures.

Recommendations for Improvement on Denture Treatment Experience

Responses from study participants regarding potential enhancements for removable complete denture therapy were documented. In addition to emphasizing the need for denture quality to be improved, the respondents proposed that technology be improved to enable produced dentures to be fixed rather than removable to guarantee appropriate use at an affordable price. The narratives of some participants are given below:

“To change the quality of dentures may be improving on the technology such that one can have permanent [fixed] teeth that you can use and enjoy what you are eating like the natural

ones but without making it too expensive for the people to afford” (P011_42-year-old_Male).

“The quality I want is when a dentist does what matches with my original dental formula. That is all” (P012_43-year-old Female).

The respondents also highlighted the need to shorten the duration it takes before a patient receives the dentures, due to their importance in terms of the need for eating, speaking well, and beautiful appearance to the public especially in the workplace.

“The person who's making this denture should not be very, very busy. And it should not take very long because you need to eat, you need to go to your daily work. You need to talk to people” (P001_68-year-old Male).

“I thought that all the adjustments could be completed quickly so that I could use it for eating. I thought it could be done in one week. But for me, it's now more than a month” (P004_56-year-old Male).

The participants also called for government intervention to subsidize the cost of denture treatment services such that they are accessible and affordable to many people across the country because there could be many people with dental problems who require such treatment and rehabilitation services.

“There are several people without teeth so if it was possible, though the government may not do it but if they could, it would help because a lot of people need them though they don’t have the capability because the dentures are expensive.” (Respondent P005).

“I request that they do not ask exorbitant money from a patient, they should request for some small money. They ask for a lot of money, three hundred thousand, I was also going to fail [to pay] but I needed it” (P007_56-year-old Female).

The respondents recommended that dental technologists and doctors have ongoing training in professional development to guarantee that the dentures they make are high-quality and closely resemble natural teeth. In addition, respondents said that even with their busy

schedules, dentists still needed to exercise patience with their patients. Highlighting the fact that pushing the patient too quickly can make them fearful because receiving denture rehabilitation is typically an unpleasant procedure. Participants further explained that:

“I saw that denture fabrication has stages, not all that fabricate dentures know what they are doing. There is someone who can fabricate dentures like say when the colour of the teeth is different. So dentures need somebody who knows what they are doing” (P012_43-year-old Female).

“Some of the dentists hurry up patients so much. They also need to learn that they need to be patient with us the patients, much as they have some commitments here and there, once you open up a dialogue with this one, open your mouth, do this, and give him or her enough time” (P004_56-year-old Male).

To prevent oral hygiene issues including food clogging in the gums and mouth odour, the respondents also recommended that denture wearers receive training on how to maintain and clean their dentures. To prevent oral injury, patients must also receive instructions on how to put on and take off their dentures.

“Teaching people how to maintain and keep them clean because if not well maintained and stored, sometimes they may be stolen by rats. Storage of unclean dentures attracts rats and I have heard about such stories” (P012_43-year-old Female).

“Teaching on keeping and cleaning dentures will help to avoid mouth odour. Sometimes you can feel others having mouth odour” (P013_25-year-old Female).

“They need to train even the patient or the client [on] how to put it [on] and how to put it off. On and off, because maybe when putting it in you may also injure yourself. So there must be very good training for that, and even removing it because I need to” (P004_56-year-old Male).

Discussion

The findings from this study suggest that the majority of respondents possessed some understanding of denture rehabilitation, particularly in light of the availability of both fixed and removable prosthodontics choices. Through their interactions with dentists and other denture users, the participants mostly gained knowledge of complete dentures. They learned about the advantages of wearing dentures and various kinds of dentures, like implants. According to earlier research, individuals most frequently get information on complete dentures from dentists [20]. On the other hand, the majority of participants said they were not given enough information on the dentures. They were not provided with a consent document to read and sign, and they were primarily informed more about the advantages of the RCD procedure than the risks. They knew little about the requirements and processes of the fixed alternative. Comparable outcomes were noted in dental patients in Jordan [21, 22] among Syrian refugees.

The present study found that participants were not sufficiently informed about the whole denture rehabilitation consent process. Nearly all of the respondents admitted to being unaware of the consent process; they had been verbally and briefly informed about the steps involved in receiving denture treatment, but they did not sign any written or verbal informed consent forms and instead naively agreed to go through with the treatment because they were in urgent need of the teeth [23-25] all reported similar findings in their most recent investigations. This suggests that the patients underwent denture rehabilitation operations without having a complete grasp of the risks associated with the recommended course of treatment. It is imperative to guarantee that patients receive comprehensive information to enable them to make informed decisions regarding the advantages, drawbacks, and restrictions of dentures. This can help patients

avoid having irrational expectations regarding expenses and other treatment options.

Nevertheless, the majority of participants stated that they were given guidance on maintaining and caring for complete dentures. The participants had a good understanding of how to take off and put on dentures, as well as how to clean and use them while eating. Comparable results have been seen elsewhere [16]. The majority of participants obtained knowledge from earlier conversations with dentists and others who had previously undergone denture repair. It is therefore not surprising that the participants in this study knew something about the denture rehabilitation options that were currently available after their interaction with the dentist, as health professionals are required to speak with patients and provide them with basic information about the diagnostic results, the available treatment options, and the advice on health management after treatment [26]. However, participants felt that they were not informed about the required amount of wear time for the dentures before replacement.

This study found the patient-centred actual quality of life issues that reflect how patients feel about wearing dentures. Like previous related studies [27-29], this study discovered that patients view complete dentures as a significant substitute for missing teeth that improves their quality of life by restoring their speech, eating ability, appearance, and self-esteem, all of which they lost when they lost their natural teeth. In contrast, the participants felt that their natural teeth were superior since they could taste the food. In addition to being stronger, their natural teeth allowed them to eat anything they wanted without any limitations. Compared to dentures, even maintaining and cleaning natural teeth was simpler. They also felt that washing dentures was more difficult for them than cleaning natural teeth. In a comparable survey conducted at a Dental Institute in the South of India, 48.3% of participants indicated that they were aware of

the limitations of dentures by saying that they are not as excellent as real teeth [16]. The size and shape of real and artificial teeth are identical in the current study, though. To ensure that patients have reasonable expectations while seeking dentures, clinicians must inform patients about the limits of artificial teeth.

Patients stated that, for the most part, only those who were close to them knew that they were wearing dentures. Patients were indifferent to the opinions of others, even if they were noticed by others. When they decided to see a dentist, their main concerns were function and appearance restoration, and that is what mattered to them. Even after the public discovered that the responders were wearing dentures, they remained unaffected by the social pressures. When other individuals saw that they were wearing dentures, they were impressed. Assuming that wearing dentures increases their confidence and self-esteem, 69.9% of the participants indicated that they would socialize more with their friends when wearing them, which is consistent with findings by Shigli et al [16].

Patients were quite particular about the size of their teeth and the quality of the dentures being fabricated for them. They made recommendations for better denture treatment, which emphasized this. This is consistent with prior research demonstrating patients' high expectations for denture quality, specifically stability, adaptability, and aesthetic appeal [30]. Dental professionals must make sure they utilize high-quality supplies and measure precisely while taking impressions and registering bites, for example, the time it took to fabricate dentures worried several patients as well. To guarantee high-quality dentures, however, several procedures must be followed during the denture fabrication process. These include attempting the denture to see if it fits the patient's mouth and making any required revisions. Patients must be made aware of the steps that go into making dentures [31]. Meeting patients' expectations might be

challenging at times because most of them have expectations that need to be met [14]. This necessitates giving them additional information so they understand the drawn-out procedure. In the consent procedure, each of these needs to be adequately described. Additionally, as consent is a process, it can be reaffirmed throughout treatment to the patients.

A few patients thought they were not provided enough information on maintaining and cleaning their dentures. It's essential to utilize and maintain dentures correctly [1]. To make sure that patients follow the instructions given to them, clinicians should create ways to effectively explain post-insertion care to patients. They should also follow up with patients by calling or visiting them after they return for reviews. Information regarding how total denture therapy is organized and provided needs to be emphasized [31]. Additionally, written instructions would be preferable to spoken instructions that patients might forget [13].

Conclusion

The study found that the majority of respondents had some knowledge of denture rehabilitation-related subjects, especially considering the variety of fixed and removable prosthodontics options available. The participants primarily learned about complete dentures and various types, such as implants, through their encounters with dentists and other denture users. They also learned about the advantages of complete dentures, such as the ability to eat and speak normally, maintain dental health, and restore self-esteem. Nonetheless, a few patients conveyed their discontentment with the calibre and performance of their dentures. Their loose dentures cause them agony and discomfort, and they worry about the embarrassment of having them fall off in public, not being able to eat everything they want to, not being able to taste what they eat, and having to clean their teeth so frequently. The lengthy wait times, the dentists'

poor communication, and the associated financial costs were additional difficulties. As a result, innovative approaches to raising the standard of dentures and providing professional oral healthcare delivery models that are affordable, approachable, and suitable for denture users in the future should be taken into account.

Implications for Clinical Practice

The results of this study may serve as a guide for future denture fabrication and rehabilitation techniques, as well as a source of information for dental technologists and dentists regarding the difficulties experienced by RCD wearers. Taking into account the results of this study, it is clear that good patient-dentist communication is essential to the entire denture rehabilitation process. This study reveals that before starting a patient's treatment, professionals must exercise patience and adhere to clinical ethics (signing informed permission). The results of this study, which focused on the Ugandan population, will pave the way for better edentulous patient rehabilitation. The results will also be applied to the clinical training curriculum revision for dental technology and surgery students.

Implications for Future Research

According to the study's findings, pain and discomfort brought on by the dentures' loose fit are the most frequent unpleasant experiences. Thus, future research could concentrate on comprehending the problems leading to denture looseness as well as any other reasons why denture wearers experience oral discomfort.

Limitations of the Study

The choice of one study site (Makerere University Dental Hospital) and a small sample size of only 15 respondents may not have provided a more accurate representative sample of the edentulous population, given that edentulism is a systemic chronic condition that is common in the population. Thus, one of the

current study's limitations was the number of hospitals chosen and responses received.

Recommendations

Based on the current study's findings, dental practitioners should be encouraged to regularly enrol in continuing education courses to update their knowledge of dentistry and/or denture fabrication. Additionally, RCD fabrication technology should be improved, denture wearers should be trained in oral hygiene and denture maintenance, denture rehabilitation costs should be reduced, and patients should be given informed consent before the start of the RCD fabrication process.

Conflict of Interest

The authors declare that there is no conflict of interest.

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Author's Contributions

DN, IO, MA, GB, and CMR participated in the conception of the study, study design, data analysis, and manuscript preparation. DN and GB participated in data collection. All authors read and approved the final manuscript.

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