

TREATING COMPLETE DENTURE PATIENTS WITH XEROSTOMIA: KNOWLEDGE, ATTITUDE AND CLINICAL MANAGEMENT AMONG DENTAL PRACTITIONERS OF CHITWAN

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ABSTRACT

Background: The absence or decreased amount of saliva in the oral cavity can cause severe discomfort to patients wearing complete denture like decreased denture stability and retention, ulcerations in the denture bearing tissues to name a few. This questionnaire-based study was conducted among dentists practicing in Chitwan, Nepal to find out their knowledge, attitude and management of complete denture patients with xerostomia.

Methods: A cross-sectional study was performed among dentists in Chitwan. In total 103 dentists participated in this study. Descriptive statistical analyses were performed on the responses given by the dentists using SPSS Statistical Software package (version 21.0).

Results: A total of 103 returned questionnaire were included in the study. Out of the responses analyzed, 99.02% (n=102) have heard about hyposalivation in patients who wear complete denture while 63.86% (n=62) of the respondents think that females suffer more often with xerostomia and 94.17% (n=97) respondents think unretentive denture and denture instability may be due to xerostomia. Likewise, 86.4% (n=89) of the respondents are aware of various tests to diagnose xerostomia and the same number of respondents have knowledge about drugs to treat hyposalivation in complete denture patients and role of salivary stimulants. Likewise 83.4% (n=86) of the respondents are aware of role of denture adhesives in managing such patients.

Conclusions: From the responses obtained it can be concluded that the dentists of Chitwan have satisfactory knowledge about treating complete denture patients suffering from xerostomia.

INTRODUCTION

Xerostomia, which is the term given for subjective feeling of dryness in the mouth is a common condition which can be found in elderly population. Xerostomia is associated with a change in composition of saliva and reduced salivary flow,¹ which can have adverse effect in complete denture patients such as a difficulty in mastication and swallowing of food. The inadequacy of saliva can even cause reduced retention and support for the denture which can cause diminished quality of life for patients wearing complete denture.² It has been reported that with advancing age the amount of ptyalin decreases, making the elderly population more susceptible to develop xerostomia.¹

Various drugs like psychotropic agents, antihistamines, diuretics can lead to dryness of mouth. Likewise chronic mouth breathing, radiation therapy, dehydration, auto-immune disease (e.g. Sjogren's syndrome), systemic illness like diabetes mellitus, nephritis, thyroid dysfunction are other etiologic factors of xerostomia.³

It is estimated that almost 30% population aged 65 yrs and above suffer from some degree of xerostomia.⁴ Patients visiting

dental clinic for complete denture strikingly fall in the same elderly age group. Complete denture is a common treatment procedure which is performed by a dentist. There is very little-known data of patients with xerostomia visiting dental practitioners of Chitwan for fabrication of complete denture and how they are addressed. The aim of this study was to assess the knowledge, attitude and management of complete denture patients suffering from xerostomia among dental practitioners of Chitwan, Nepal.

METHODS

It was a cross sectional study which was conducted among the dental practitioners of Chitwan. The data collection was performed from Sep 2020 to Dec 2020. A questionnaire was prepared for the study on the basis of previous similar studies,⁵⁻⁸ which was later modified after consultations with three Prosthodontist colleagues.

The sampling method chosen for this study was convenience sampling. For data collection a Google form was created which consisted the questionnaire along with a consent section. The link containing the Google form was sent to 124 dentists through electronic communication media (Viber, Messenger

and Whatsapp). The list of the dentists working in and around Chitwan was obtained from Nepal Dental Association, Chitwan Branch. The questionnaire in the study consisted of two parts, the 1st part was related to the socio-demographic characteristics of the participants and the 2nd part consisted of 23 multiple choice questions about participants' knowledge, attitude and management of complete denture patients suffering from xerostomia. The participants were able to select more than one options whenever applicable. All dentists practicing in and around Chitwan were included in this study.

Ethical clearance was obtained from Institutional Review committee of Chitwan Medical College after submitting the proposal for the study (IRC No: CMC-IRC/077/078-012). The returned questionnaires were filled in Excel sheet and descriptive statistical analysis (frequency and percentage) was done using SPSS Statistical Software Package (version 21.0).

RESULTS

Out of the 124 sent questionnaire there were 109 responses. Out of those 109 responses, repeated responses by the same respondents were counted to be 6. So 103 responses were considered for data analysis which accounted for 83.06% response rate. Out of the respondents 91.67% (n=89) were in the age group below 30 yrs (Figure 1).

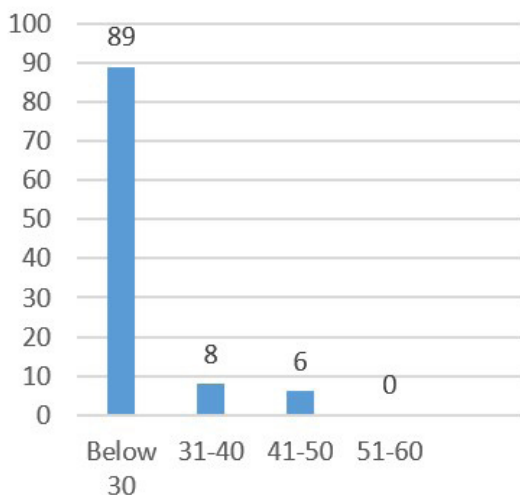


Figure 1: Age group of participants

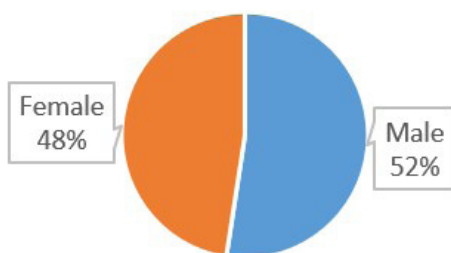


Figure 2: Distribution according to gender

Similarly, Figure 2 showed the distribution according to gender of the respondents and Figure 3 showed the distribution of the participants according to the type of practice they were affiliated to.



Figure 3: Distribution according to type of practice

Likewise Figure 4 showed the distribution of the respondents according to their qualification. There were 89 dentists doing general practice in Chitwan. Figure 5 showed the distribution according to the years of experience of the respondents.

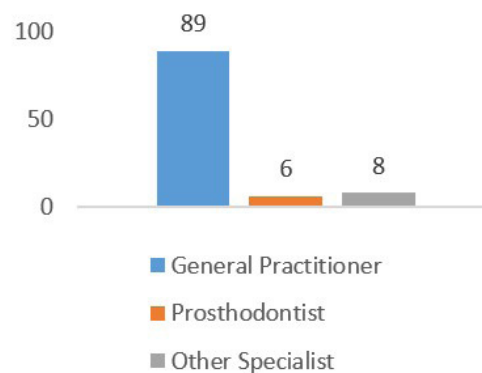


Figure 4: Distribution according to qualification

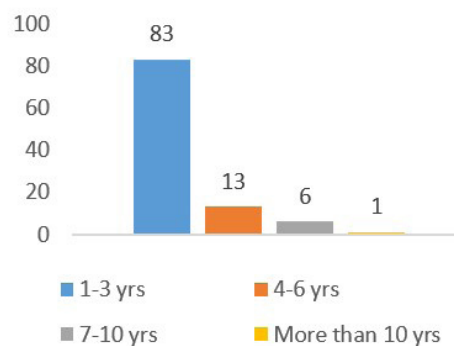


Figure 5: Distribution according to experience

Furthermore, 99.02% (n=102) respondents had heard about hyposalivation problem in patients who wear complete denture while 0.97% (n=1) hadn't heard about it before this. Out of the respondents, 63.86% (n=62) thought that females suffer more often with xerostomia while 42.23% (n=41) thought males suffer more often.

In the study conducted all respondents thought that xerostomia causes extreme discomfort in CD patients and all the respondents were aware that oral infections like candidiasis and mouth sores in CD patients can be caused due to xerostomia. Similarly, 94.17% (n=97) of the respondents thought that

unretentive denture and denture instability in CD patients may be due to xerostomia while 5.8% (n=6) were not aware of the relation of xerostomia with denture retention and stability. In the study, 86.4% (n=89) were aware of various tests that can be done to diagnose xerostomia while 13.59% (n=14) were not aware at all. Likewise, there was awareness among all the respondents that certain medications can cause xerostomia. Similarly, 84.46% (n=87) of the respondents agreed that all CD patients might be having hyposalivation problem while 15.53% (n=16) didn't agree that all CD Patients might be having hyposalivation problem.

Similarly Figure 6 showed the number of respondents who check or ask on hyposalivation symptoms when treating for complete denture.

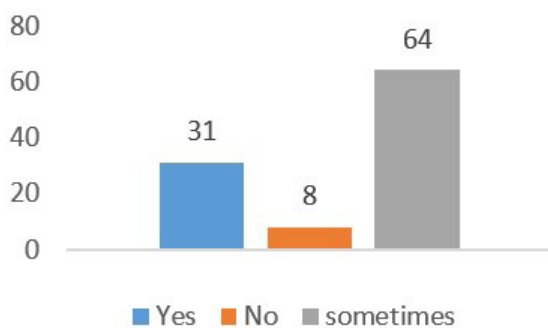


Figure 6: Do you check or ask on hyposalivation symptoms when treating for complete denture?

Similarly, Figure 7 showed the distribution of respondents according to their selection of symptoms of hyposalivation.

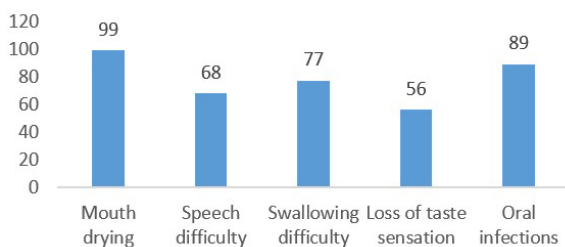


Figure 7: Distribution according to selection of symptoms of hyposalivation

Table 1: Which of the following do you think should be included in history taking of dry mouth patients?

Options	Responses
Needing a drink of water during night	51
Being able to eat biscuits without a drink	54
Change in nutritional status	48
Change in taste or smell	72
Halitosis	66
Depression	56
Fibromyalgia	1
Irritable bowel syndrome	4
Autoimmune disease	66
Diabetes	80
Rheumatoid arthritis	51
Dry eyes	83
Current medications	103

Table 1 we showed the distribution of respondents according to their support for points to be included in history taking of patients suffering from dry mouth.

Similarly in the study 94.1% (n=97) respondents thought that hyposalivation can be cured with some form of medication or treatment while 5.82% (n=6) didn't think that medication can cure hyposalivation. Likewise, 86.4% (n=89) of the respondents had some knowledge about drugs that can be used as treatment for hyposalivation in CD patients while 13.59% (n=14) didn't know about such drugs. Similarly, 86.4% (n=89) of the respondents thought that Pilocarpine can be used to treat hyposalivation in CD patients and 34.9% (n=36) thought Cevimeline hydrochloride can be used for the same. When asked about the surgical treatment for hyposalivation in complete denture patients, 99.02% (n=102) of the respondents weren't aware at all while 0.97% (n=1) were aware.

Furthermore, when asked about using Chlorhexidine (CHX) gel for treating speech difficulty in CD patients having hyposalivation problem, 88.3% (n=91) of the respondents weren't aware at all while 11.6% (n=12) were aware of the use of CHX gel. All the respondents agreed that they will advise patients with xerostomia to increase water intake and also all of them would advise for change in dietary habits. Out of the 103 respondents, 86.4% (n=89) knew about the role of salivary stimulants while 13.2% (n=14) didn't know about any role. Similarly, 84.4% (n=87) of the respondents knew about the role of oral lubricants in such patients wearing CD while 15.5% (n=16) didn't know at all.

Likewise, 83.4% (n=86) of the respondents were aware of the role of denture adhesives in managing CD patients with xerostomia while 16.5% (n=17) weren't aware. Finally, when asked about the role of salivary substitutes for patients with xerostomia wearing CD, 80.5% (n=83) of them were aware of the role of salivary substitutes while 19.4% (n=20) weren't aware at all.

DISCUSSION

The response rate for this study was 83.06% out of the 124 sent questionnaire to the dentists. Out of the respondents, 48% (n=49) were female dentists while 52% (n=54) were male dentists. The majority of dentists (86.4%, n=89) in this study were in the age group of below 30 yrs and similar number of dentists (80.58%, n=83) have working experience of less than 3 yrs. This shows that majority of the dental services in Chitwan is being provided by newly pass out dentists (Figure 1 and 5). Majority of dentists (86.4%, n=89) in this study were general dental practitioners with undergraduate (BDS) degree while only 6 dentists (5.82%) were prosthodontists. This showed that specialized prosthodontic treatment is being provided by only a handful of dentists in Chitwan.

Moving further with the questionnaire, majority of the dentists knew about hyposalivation problem in complete denture patients and they were aware that xerostomia can cause extreme discomfort in CD patients and also increase the occurrence of

oral infections like candidiasis and mouth sores. This was in agreement with previous studies and literature available in xerostomia patients wearing complete denture.^{1,9}

Majority of the respondents (94.17%, n=97) in this study had a view that xerostomia can cause unretentive and unstable denture. Chandu and Hombesh have mentioned that saliva has an important role in adhesion, cohesion and surface tension action when denture is put inside mouth, which are very critical for increasing and maintaining denture retention.¹⁰ Similarly another study by Zehra et al. had concluded that there was a high frequency of denture instability (78.75%) associated with xerostomia and the relationship of xerostomia with denture stability was statistically significant.¹¹ The findings of these studies and the data of this present study show that the respondents have a good knowledge that xerostomia indeed can cause unretentive and unstable denture.

In the present study majority of the respondents were well aware of various tests that can be done to diagnose xerostomia. They also had knowledge about relationship between various medicines and their adverse effect to cause xerostomia. All the participants thought that current medications should be included in the history taking of patients of complete denture suffering from xerostomia. This may be because they had an idea that various drugs like psychotropic agents, antihistamines, diuretics etc can cause xerostomia as mentioned by Glass et al.¹² Similarly reduced salivary flow can be expected in several conditions like chronic mouth breathing, radiation therapy, dehydration, autoimmune diseases like Sjogren's disease and systemic illness like diabetes mellitus, nephritis, and thyroid dysfunction.^{1,9,12} The respondents of this study had a fair idea about these etiological factors of xerostomia and they thought that these conditions should be included in the history taking of complete denture patients suffering from xerostomia.

Similarly maximum number of the respondents were having knowledge about the role of sialogogues like Pilocarpine and Cevimeline in the treatment of xerostomia. They also had

awareness of the positive effects of salivary stimulants, oral lubricants, denture adhesives and salivary substitutes to increase the patient's comfort and overall prognosis of wearing complete denture by patients suffering from xerostomia. There are various steps and options to manage xerostomia in a complete denture patient like change in medication, saliva preservation, saliva substitution, saliva stimulation and saliva reservoirs. It is wise to advice these sort of patients to refrain from taking drinks like alcohol, carbonated beverages and tobacco which further increase dryness on mouth. Many salivary substitutions like pastes, rinses, gels and sprays can be prescribed for symptomatic management of xerostomia in complete denture patients. Salivary reservoir dentures when practicable can also be fabricated for dry mouth patients who come for complete denture treatment.^{1,10,12,13}

The main limitation of this study was the small number of participants which does not give us a strong reference about the knowledge and attitude of dental practitioners about treating complete denture patients suffering from xerostomia. Nevertheless, this study can give us a good baseline idea for conducting larger scale studies in the future related to this topic.

CONCLUSION

The respondents of this study seem to have a fair idea about xerostomia and its effect on complete denture treatment and they are utilizing their knowledge in their practice whenever encountered with such patients. Within the limitations of the study which include the less number of sample size and small geographic area, it can be concluded that the knowledge, attitude and practice of dental practioners of Chitwan on complete denture patients with xerostomia are satisfactory. This study can provide a baseline data and reference for future study with a bigger sample size and inclusion of larger area.

CONFLICT OF INTEREST: None

FINANCIAL DISCLOSURE: None

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