

## ORIGINAL ARTICLE

### ASSESSMENT OF PROSTHODONTIC PREFERENCES AMONG AGEING POPULATION IN ALKHARJ TOWN (KINGDOM OF SAUDI ARABIA): A SURVEY BASED STUDY

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#### ABSTRACT:

**Purpose:** The study was aimed to methodically evaluate the knowledge of aged population in AlKharj town of kingdom of Saudi Arabia about the treatment options and preferences for the replacement of missing teeth. **Materials and Methods:** A questionnaire was prepared regarding the need of prosthetic treatment, and distributed among 285 elderly visitors in hospitals and college of dentistry in Alkharj city. The mentioned treatment options for the replacement of missing teeth were varying from removable/partial denture to implants. Data was collected and statistic analysis done to compare the need of the patient. **Results:** Approximately 184 patients (30-55 years) wearing removable prosthesis for 2-5 years reported maximum discomfort level and about 15 patient complaint's of loos fitting denture. Patients of intermediate education level (94.1 %) responded well for treatment being decided and conducted by prosthodontist. Only 16.5 % participants refused for any prosthetic treatment in spite of the severe need. **Conclusion:** The study result clearly indicates the immediate need of education and motivation of the patients among the province about available prosthodontic treatment modalities. Additionally, dentists have to explain the patients about various treatment options, their feasibility with their pros and cons.

**Key words:** Ageing population, Edentulous, Prosthetic need

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## INTRODUCTION

To improve oral health outcomes an adequate knowledge of the way the individuals use health services and the factors predictive of this behaviour is essential. In this modern era of information and technology we may comprehend the ever increasing awareness and heightened consumer rights regarding overall health issues. Commonly quoted motives for making a complaint within dentistry are; poor treatment quality, negligence, overcharging, misconducts etc. Also, with increasing clinical governance and patient partnership in delivering high quality oral healthcare, it is necessary that patients' concerns are dealt with appropriately.<sup>1</sup> Undoubtedly, the human population of the world is ageing, not just as individuals or communities but globally. In the process of ageing the population goes through much disease which is either pathological or physiological. We can see

many oral health deceases in ageing population, leading to the loss of teeth. The loss of teeth further predisposes to nutritional, communication difficulties and aesthetic concerns in the aged population. It is expected that by 2030, the world elderly population of 65 year age will be approximately around one billion.<sup>2</sup>

Ageing population is also risk of chronic diseases of the mouth, including dental infections (e.g., caries, periodontitis), tooth loss, benign mucosal lesions, and oral cancer.<sup>3</sup> Other common oral conditions found in this age group include xerostomia (dry mouth) and oral candidiasis, which may lead to acute pseudomembranous candidiasis (thrush), erythematous lesions (denture stomatitis), or angular cheilitis. Early diagnosis of problems and fixation may help to get better health or stability in the predisposing factors. Loss of teeth causes social stigma, and disturbances to normal routine life, affecting mainly appearance, mastication and phonation

problems. The treatment options for replacement of missing teeth vary from removable partial denture to fixed partial denture and implants. Though ideal oral rehabilitation of edentulous patients may require the installation of endosseous implants to support a fixed or removable prosthesis.<sup>4</sup> Therefore, the overall scenario appeared to necessitate a survey based study on elderly patients to know their oral health status and measures to improve them along with their expectation from treatment and preferences over various treatment options. The preferences each patient brings to the prosthodontist are a result of socioeconomic, subjective and miscellaneous factors like personal preferences, past bad/good experiences, attitude and beliefs about prosthodontist. Literature has well evidenced that cost related issues are the most important barrier to the utilization of dental care however, dental insurances seems to facilitate the positive access to dental treatment with financial freedom.

The World Health Organization (WHO) “World Oral Health Report 2003” emphasized that despite great improvements in the oral health status of populations across the world, problems persist. Building and strengthening research capacity in public health are highly recommended by WHO for effective control of disease and the socioeconomic development of any given country.<sup>5</sup> There are many documented reasons for oral health disease, beginning from simple caries, periodontal diseases, and traumatic injuries to congenital disorders. In the older patient loss of teeth causes many problems like mastication, speech alteration and loss of psychological confidence. As oral health not only affects the oral system but also leads to vulnerable deceases. So it is imperative to check the oral health condition on regular intervals<sup>6</sup>. A study was conducted in United Kingdom by R Bedi et al to know the treatment satisfaction among adults. This national study provides

valuable up-to-date information about complaints and satisfaction within dentistry from a public perception, involving a random sample of over 5,000 adults in Britain. The result revealed need of such surveys to know the problems associated with treatment rendered and measures to overcome it.<sup>7</sup> Keeping all these facts in mind authors has genuinely attempted to conduct a survey based study to explore the relative need of prosthodontic rehabilitative procedures with their preferences.

**AIM & OBJECTIVES**

The main purpose of following study was to methodically evaluate the knowledge of aged population in AlKharj city of kingdom of Saudi Arabia about the treatment options and preferences for the replacement of missing teeth.

**MATERIALS AND METHODS**

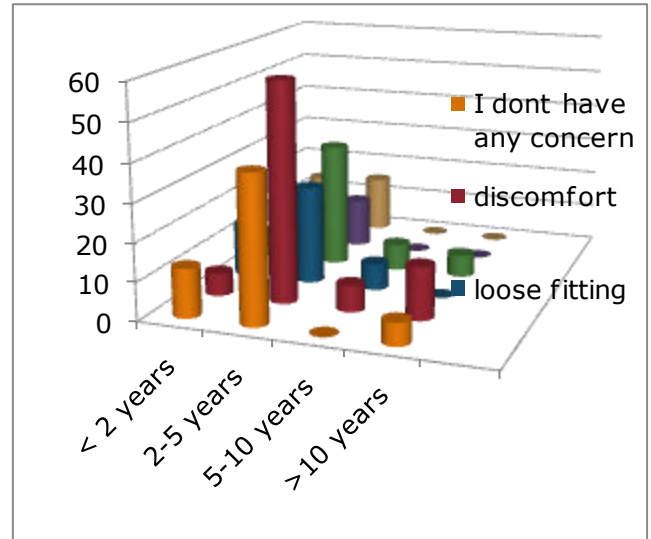
An appropriate sample of 255 males and 30 females in the range of 35-70 years of age was randomly selected from general population of AlKharj city. A standardized questionnaire (a set of 11 questions) regarding the need of prosthetic treatment was prepared and then translated into Arabic. Then it was distributed among visitors in college of Dentistry and in various hospitals of AlKharj city. The questionnaire consisted of general information of the respondent like name, age, sex, education (Table 1). The respondents were assured for the confidentiality of results while answering questionnaire. Knowledge about various treatment options for missing teeth was sought among the population. Clinical and oral health-related quality of life measures were collected from 285 partially edentulous patients undergoing treatment. Descriptive statistics, chi-square and multiple logistic regressions were used to compare patients’ preferences according to clinical variables using SPSS V.19.

**Table 1:** Patients Questionnaire

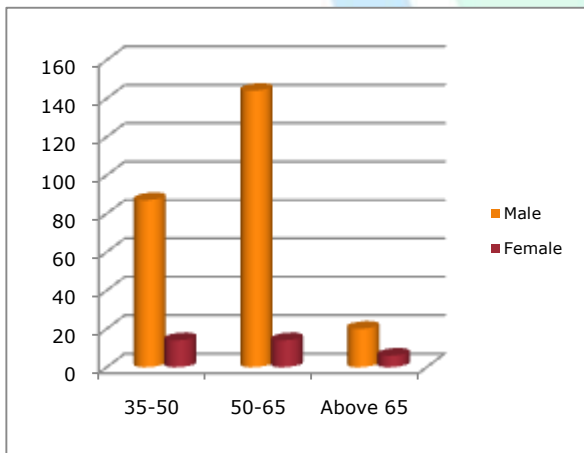
1. Sex: Male /Female
2. Age; 35-50 years                      50 -65 years      More than 65 years
3. What is your level of education:  
Primary level /Secondary level/University
4. Do you wear an oral prostheses  
Yes/No
5. If yes what type is it?  
Fixed prosthesis/ Removable prosthesis
6. How long have you worn it?  
Less than 5 years/5 to 10 years/ >10 years
7. Are you content with your oral prosthesis?  
Yes/No
8. What factors concern you if your prosthesis need making or remaking  
Discomfort /Loose fitting/Pain on wearing/Longer duration of service/newer option of treatment  
Others (please specify) \_\_\_\_\_
9. Do you let your dentist decide with regards to your prosthetic treatment?  
Yes/No
10. If you are not satisfied with the treatment option, do you choose another dentist?  
Yes/No
11. If given a chance, what would you choose between Fixed and removable prosthesis?  
Yes/No

**RESULTS**

All patients responded to a questionnaire concerning preferences about treatment and factors influencing preferences for conventional removable and fixed prostheses (Graph 1). Approximately 184 patients (30-55 years) wearing removable prosthesis for 2-5 years reported maximum discomfort level and exhibited more interest in fixed prostheses whereas 19 patients of similar wearing history did not show any concern about their prosthesis. About 15 patient complaint's of loose fitting denture thus compromising masticatory efficiency, aesthetics and overall social confidence. Conventional complete dentures are apparently associated with lower expected outcomes by patients, and cost-related issues are the major factors associated with the preferences for fixed treatment of edentulous patients. When most of the patients were striking fixed prosthesis as their preferred treatment of choice, 14 patients wearing dentures for 5-10 years interestingly showed about two fold interest in removable prosthesis than fixed one (Graph 2 and Table 2). Around 238 patients agreed that they let their prosthodontist to decide the treatment amongst which the participants of intermediate education level (94.1 %) responded with very positive attitude (Table 3). Only 47 individuals showed negative attire when answering the same question however the students of secondary education level illustrated most passive outlook among all education levels. Nevertheless, 238 out of 285 persons expressed enthusiastic point of view for their prosthetic treatment being decided and completed by prosthodontist (Graph 3).



**Graph 2:** Concerns regarding the prosthesis according to the duration of use



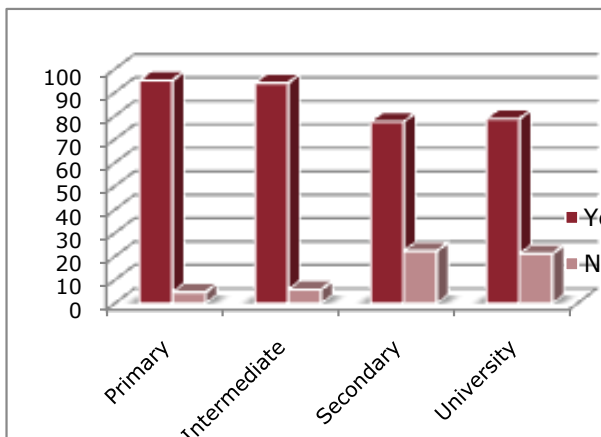
**Graph 1:** Distribution of the sample

How long are you wearing a prosthesis	what would you choose between fixed and removable			Total
	Fixed	Removable	Don't Know	
< 2 years	36 (66.7)	8 (14.8)	10 (18.5)	54 (100.0)
2-5 years	141 (76.6)	24 (13.0)	19 (10.3)	184 (100.0)
5-10 years	7 (33.3)	14 (66.7)	0 (0.0)	21 (100.0)
>10 years	22 (84.6)	1 (3.8)	3 (11.5)	26 (100.0)
Total	206 (72.3)	47 (16.5)	32 (11.2)	285 (100.0)

**Table 2:** Quantitative distribution of subjects based on choice of treatment

		level of Education				Total
		Primary	Intermedi ate	Second ary	University	
"Do you let your dentist to decide your prosthetic treatment"	Yes N (%)	40 (95.2)	48 (94.1)	83 (77.6)	67 (78.8)	238 (83.5)
	No N (%)	2 (4.8)	3 (5.9)	24 (22.4)	18 (21.2)	47 (16.5)
Total		42	51	107	85	285

**Table 3:** Participation in treatment plan according to the level of education



**Graph 3:** Participation in treatment plan according to the level of education

**DISCUSSION**

In general, prosthodontics is concerned with the artificial replacement of partial or complete loss of teeth and oral function due to tooth or tissue damage. Prosthodontic treatment involves the replacement of few missing teeth in a healthy but incomplete dentition, the functional replacement of nearly all teeth in a badly damaged dentition, or restoring function by means of removable or FPDs, implants, complete dentures, or over dentures.<sup>8-10</sup> Lack of awareness of different prosthodontic treatment option among people living in rural village prevents them from availing of treatment even though there are many Government set ups that offer treatment free of cost.<sup>11</sup> Knowledge and perceived needs of subjects regarding Prosthodontics play an important role in their acceptance to prosthetic rehabilitation.<sup>12-14</sup> It is reasonable to consider that not all patients with tooth loss need prosthodontic care. Recent evidence suggests that a missing tooth does not imply need for dental treatment.<sup>15-16</sup> Prosthetic treatment is not uniquely limited to technical aspects. Indeed, it includes multidimensional aspects of patient perceived needs, desires and expectations.<sup>17</sup> Literature showed many studies screening patients affirmative outlook regarding their oral health. This subjective perception by patients is relevant and professionals should change from making unilateral decisions, and consider the patients’ point of view before any treatment decision is made. Firstly a pilot study was conducted with twenty five patients screened in the similar manner as in the main study to check the feasibility of the study and the questions were modified accordingly. Following the successful pilot study in which the questionnaire was authenticated, potential subjects were approached to carry out the main study. The dentists, dental technicians, and auxiliaries were entirely excluded from the study. In addition, the majority of sample was male; this is due to the fact of segregation of sexes. The data collection being mostly done at male centres only. More than half (55.8 %) of the sample was aged between 50-65. This age group coincides with more chances of being partially dentate or having had an experience of a removable or fixed

prosthesis. However, there was no significant difference (p = 0.06) between various options and age. Most among the sample were using prosthesis between 2-5 years.

The most common concern was discomfort followed by loose fitting. People who were using prosthesis for a lesser time (< 5years) desired newer treatment option like implants more than those using an option for a longer time. This could be due to higher acceptability of a treatment option according to the duration of use. Majority (72.3%) among the sample demanded the fixed prostheses, though it is not applicable as a treatment option for all situations. People chose fixed option so as to avoid the care needed for a removable prosthesis, besides loose fitting is also attributed to removable rather than a fixed option. Majority let the dentist decide the prosthetic option; over 94 % in the primary or intermediate level let the dentist chose the option and less than 80 % either secondary or university level will let dentist chose the option. The choices of treatment and education level are significantly correlated. (P = .000) Even if there is a insufficiency of qualitative and quantitative data regarding patient’s needs and preferences in field of removable and fixed prosthodontics, this study demonstrates relative increase in demand for fixed partial prosthesis by the individual with knowledge of the same. Interestingly, most of the patients were not aware of dental implant which indicates that persons whether male or female need marvelous motivation and education to help them realize the requirement of implant therapy.

**CONCLUSION**

As we all know that dental problems are serious public health issue with worldwide distribution and it is affecting almost all age groups. Nevertheless there have been remarkable developments in both dental technology and in the scientific interpretation of oral diseases; significant differences stay behind in both the rates of dental disease and access to dental care. There are reports that dental patients only visit the clinician when in pain and never bother to return for non pain related cases (Replacement of missing teeth). Here authors attempted to gather data on the preferences and utilization of dental treatments by people residing in the said region. Even though there is a scarcity of data regarding patient’s needs and preferences in field of fixed prosthodontics, this study shows an increase in demand for fixed partial denture by the individual with knowledge of the same. The study results also revealed that there is a need of education and motivation of the patients among the province about prosthodontic treatment modalities. Dentists have to explain the patients about various treatment options and their limitations too. As the education level among the ageing population is low, proper educating tool has to be developed to make them understand easily.

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