

## Original Research

### Assessment of nutritional balance and psychological status in geriatric prosthodontic patients with complete dentures: A qualitative study

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#### ABSTRACT:

Aging is a natural process. As the age progresses changes takes place in all the organ systems of body. Aging process involves changes in the psychological, physiological and pathological status of a person. The element of psychosomatic conflict is very important in geriatric patients undergoing prosthodontic treatment. Nutrition is essential for the healthy survival of mankind. With the advancing age, elderly patients encounter socio environmental changes which interferes with establishment of adequate nutritional health. In geriatric complete denture wearing patients, psychological status and nutritional habits have a profound influence on the outcome of treatment. Present study is aimed to explore the nutritional balance and psychological status among 50 complete denture patients through a web based survey.

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#### INTRODUCTION

Aging is a natural phenomenon that makes the individual vulnerable to many changes affected by many environmental factors. One of the main burden in the process of aging is edentulism which affect the quality of life and well being. As proposed by WHO, quality of life defined as an individual's perception of their position in life in the context of the culture and values systems in which they live and in relation to their goals, expectations, standards and concerns[1]. In spite of advanced dental care facilities, prevalence of edentulism still persist and this deleterious condition can lead directly to impairment, functional limitation, physical, psychological, and social disability. The prosthodontic replacement of missing

teeth with a removable partial or complete denture improves masticatory function, social status and limits the risk of nutritional problems[2]. Psychological well being mainly depends upon functional satisfaction and social confidence. Prosthodontic rehabilitation with complete dentures will improve patients nutritional health and social harmony. This study was done to assess the influence of complete dentures on the nutrition balance and psychological status of the individual.

#### MATERIALS AND METHODS

A qualitative study was carried out among 50 complete denture wearer patients through a period from March 2020 to August 2020. The data was

obtained through a web based survey conducted in patient after an interval of 2-5years after treatment . The participants enrolled into the study were patients from different dental colleges across the country side .The questionnaire for the survey was prepared based on the mini nutritional assessment form (MNA) and it was structured to assess the nutritional care ,quality of life and psychological problems. The data was transcribed and descriptive analysis was done.

## RESULTS

Among 50 patients enrolled in to this quantitative study 74% were male (age range of 50 -70years) and 26% female(65-75years).All the participants have received removable complete dentures for upper and lower jaw. The results showed that out of 50 respondents 58% of them have been using same maxillary and mandibular dentures since 2 years.

TABLE 1: NUTRITIONAL BALANCE CHECK LIST

SL.NO	QUESTION	YES%	NO%
1.	HAS FOOD INTAKE DECLINED OVER THE PAST 3 MONTHS DUE TO LOSS OF APPETITE, DIGESTIVE PROBLEMS, CHEWING OR SWALLOWING DIFFICULTIES	25	75
2	WEIGHT LOSS DURING THE LAST 3 MONTHS	58	42
3	HAVING ILLNESS OR CONDITION THAT CHANGED THE FOOD HABIT	35	65
4.	FEWER THAN 2 MEALS PER DAY	33	67
5.	EAT MORE FRUITS,VEGETABLES,MILK PRODUCTS THAN EDENTULOUS STATE	64	36
6	PROBLEMS WITH INTAKE OF NUTRITION RICH FOOD LIKE NUTS,STRINGY MEATS WITH DENTURES	83	17
7.	VIEWS SELF AS BEING MALNOURISHED AND LOW ENERGY	24	76
8.	INCREASE IN DIETARY INTAKE WIH DENTURE COMPARED TO EDENTULOUS CONDITION	87	13

TABLE 2: PSYCHOLOGICAL STATUS ASSESSMENT

SL.NO	QUESTION	YES%	NO%
1.	DO YOU FEEL YOUR DENTURE SATISFACTORY	62	38
2.	ARE YOU WORRIED ABOUT OTHER PEOPLE WATCHING YOU IN PUBLIC	67	33
3.	DO YOU FIND DIFFICULTY IN SPEECH WHILE WEARING DENTURE	81	19
4.	IS YOU SELF CONFIDENCE AFFECTED	34	66
5.	DO YOU PREFER IMPLANT SUPPORTED DENTURES OVER REMOVABLE DENTURES	88	12

### NUTRITIONAL BALANCE (Table 1)

There are various opinions on the effect of denture on the nutritional habit. .Most of the participants found significant difference in their dietary intake before and after getting prosthetic rehabilitation.87% of respondents reported that they have marginal improvement in food intake after receiving dentures. There was no significant difference between two genders regarding the same. Regarding the intake of food 3 months after receiving dentures, 25% reported declined intake, loss of appetite, digestive problems, chewing or swallowing difficulties with conventional dentures. Out of 50 participants 58% of them experienced a weight loss in the last 3 months which can be indication of malnutrition. More than half of the participants tend to eat increased fruits and vegetables than normal. More than half of the participants found no difference in frequency of meal intake before and after receiving denture. A total of 83% of the study subjects found difficulty in chewing hard food with dentures. However, only 24% considered themselves as malnourished and low energy candidate. But ,33% of the participants were having illness or condition that exacerbated nutrition deficiency.

### PSYCHOLOGICAL STATUS (Table 2)

About 62% of the participants are fully satisfied with their complete denture and few them were worried about wearing them in the social gatherings. One of the key concerns of most of the patients was difficulty in speech while wearing dentures. It is also found that 88% would prefer fixed implant supported denture over the conventional removable dentures.

## DISCUSSION

The participants included in this study were those who received conventional removable complete denture for both jaws, who could be considered as geriatric population. In a developing country like India, with its population of over one billion people, people older than 60 years constitute 7.6% of the total population, which amounts to 76 million[3]. One of the major disability in the elderly is loss of teeth, affecting their mastication, creating psychological issue, dietary intake and nutritional balance. The level of edentulous condition may differ with change in socio demographic pattern and life style of individual. [4]. The prosthodontic treatment with complete dentures will have a profound influence on the nutritional habit and psychological status of the patient. The present study was carried out to assess the nutritional balance and psychological changes in patient who received complete denture treatment. We found that majority of complete denture wearers experienced a reduced dietary intake of nutrient food .This reduced intake can be due to their inability to eat and chew food properly. There is a significant risk of malnutrition in 24% of the participants. There were several study that reports the effects of the prosthetic treatment on nutritional statuses. In a study Cousson et al. [5] reported that nutritional status of complete denture wearers was significantly lower than dentate elderly subjects which is consistent with our findings. It was observed in the study that more than 50% of denture wearers find difficulty to have hard foods and nutritional rich food like nuts, stringy meat. Masticatory efficiency decrease by 80% with use of dentures compared to natural dentition and elderly people is likely to use more strokes and chew longer. This can be attributed to ill fitting dentures or associated xerostomia which may affect masticatory efficiency[6].This reduced intake will affect the general health of patient and will result in decreased energy due to low basal metabolism. However, majority of patients have increased consumption of fruits and vegetables which are soft foods.87% of denture wearers reported increased dietary intake when compared to edentulous conditions. Although nutritional interventions and dietary counselling should be given on a regular basis to get better outcome[7]. The European Society of Parenteral and Enteral Nutrition (ESPEN) recommends using the Malnutrition Universal Screening Tool (MUST) for adults , the Nutritional Risk Screening 2002 (NRS-2002) for hospitalised patients, or the Mini Nutritional Assessment (MNA) to screen nutritional statuses[8]. There is a strong correlation between the success of the denture and psychological status of the patient. Mental attitude is an important element of health among the elder people. The result of our study indicated that wearing complete denture have increased the self confidence and functional status of majority of participants .There are studies which support the evidence that prosthetic rehabilitation

have improved the quality of life and psychological well being of patient[9].The findings of the present study also suggest that 88% of removable denture wearers prefer to get fixed implant supported dentures may be because of functional limitation. Similar statement was given in a study by Trulsson et al., which illustrate the richness of the insights to be gained through a small scale qualitative study into patients' perspectives on edentulousness and oral rehabilitation using a fixed implant prosthesis[10].

## CONCLUSION

A smiling patient is a greatest reward to any doctor. In the present study it was found that use of complete dentures in elderly people have a significant impact on nutritional balance and there is an urgent need to focus on achieving adequate dietary goals. The study also emphasize that the use of complete denture will improve the psychological status and quality of life in edentulous people.

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