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Original Research

Assessment of risk factors of tooth loss in adult population

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ABSTRACT:
Background: Tooth loss is known to have an essential role in the loss of mastication and esthetics. Worldwide, the prevalence of tooth loss and edentulism is high and depends on many factors. The present study was conducted to asses risk factors of tooth loss in adult population. **Materials & Methods:** 286 subjects in age ranged 40-60 of both genders were provided with a self-administered questionnaire consisting of behavioral factors, and systemic diseases. Oral health examination such as number of missing teeth was carried by the single examiner under adequate illumination using artificial light. **Results:** There were 100 male and 50 female dentulous and 76 male and 60 females partially dentulous subjects. Maximum partially edentulous subjects (80) were in age group 30-40 years. 46 unmarried and 90 married were partially dentulous. 82 partially dentulous subjects were illiterate. Common risk factors was tooth brush use in only 30 partial dentulous and finger/ stick use by 106 subjects. Method of cleaning was vertical in 26, horizontal in 70 and circular in 40 partially dentulous, diet was vegetarian in 50 and mixed in 86 partially dentulous subjects. Sugar consumption was more than once in 90 partially dentulous subjects. **Conclusion:** Common risk factors for loss of teeth was use of finger/ stick for cleaning, mixed diet and high sugar consumption.
Key words: sugar, diet, tooth loss

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INTRODUCTION

The oral health is center to a person's overall health and well-being. The ability to retain more number of teeth throughout life is one of the most important oral health indicators.[1] Oral health goals recommended by the World Health Organization (WHO) for the year 2020 has stated that there should be an increase in the number of individuals with functional dentitions at the ages of 35–44 and 65–74 years.[2]

Tooth loss is known to have an essential role in the loss of mastication and esthetics. Worldwide, the prevalence of tooth loss and edentulism is high and depends on many factors. Prevalence of tooth loss and edentulism is high. Food choice, diet, and nutrition intake can be influenced by the number and condition of teeth.[3] Inadequate dentition can cause problems in food intake; it will affect mastication, and masticatory abilities have been known to play an important role in digestive system and overall health condition. Complete edentulous people were found to be at a higher risk of poor nutrition and weak chewing ability.[4]

Social-behavioral risk indicators may play a substantial role in edentulism. Potential risk factors for edentulism are low level of education, older age, gender, and marital status. Edentulism or tooth loss can hamper not only the ability to chew and properly digest the food but also has serious social, psychological, and emotional consequences impacting the quality of life of the patient, self-image, and self-esteem.[5] The present study was conducted to asses risk factors of tooth loss in adult population.

MATERIALS & METHODS

The present study comprised of 286 subjects in age ranged 40-60 of both genders. This study was conducted in the department of Public Health Dentistry. All enrolled subjects gave their written consent fir the participation of the study. Before commencing with the study permission from the Institutional ethical committee was obtained.

Demographic data such as name, age, gender etc. was recorded. Subjects were divided into 2 groups. Subjects were provided with a self-administered questionnaire consisting of behavioral factors, and systemic diseases. Oral health examination such as number of missing teeth was carried by the single examiner under adequate illumination using artificial light. Teeth were considered to be missing if the teeth are missing on examination or teeth indicated for extraction (grossly carious, root stumps, the presence of mobility), presence of removable, and fixed partial denture. Results were analysed using appropriate statistical test, where p value less than 0.05 was considered significant.

RESULTS

Table I Demographic data of subjects

Parameters	Variables	Dentulous	Partially dentulous	P value
Gender	Male	100	76	0.05
	Female	50	60	
Age group (years)	30-40	120	80	0.03
	40-50	30	56	
Marital status	Married	85	90	0.15
	Unmarried	65	46	
Education	illiterate	80	82	0.12
	literate	70	54	

Table I, graph I shows that there were 100 male and 50 female dentulous and 76 male and 60 females partially dentulous subjects. Maximum partially edentulous subjects (80) were in age group 30-40 years. 46 unmarried and 90 married were partially dentulous. 82 partially dentulous subjects were illiterate. The difference was non-significant (P> 0.05).

Graph I Demographic data of subjects

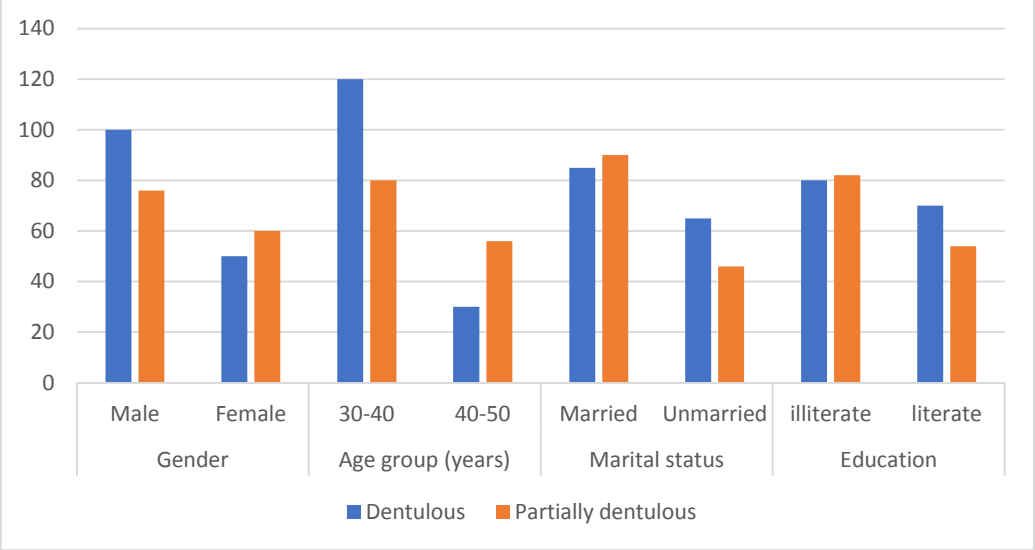
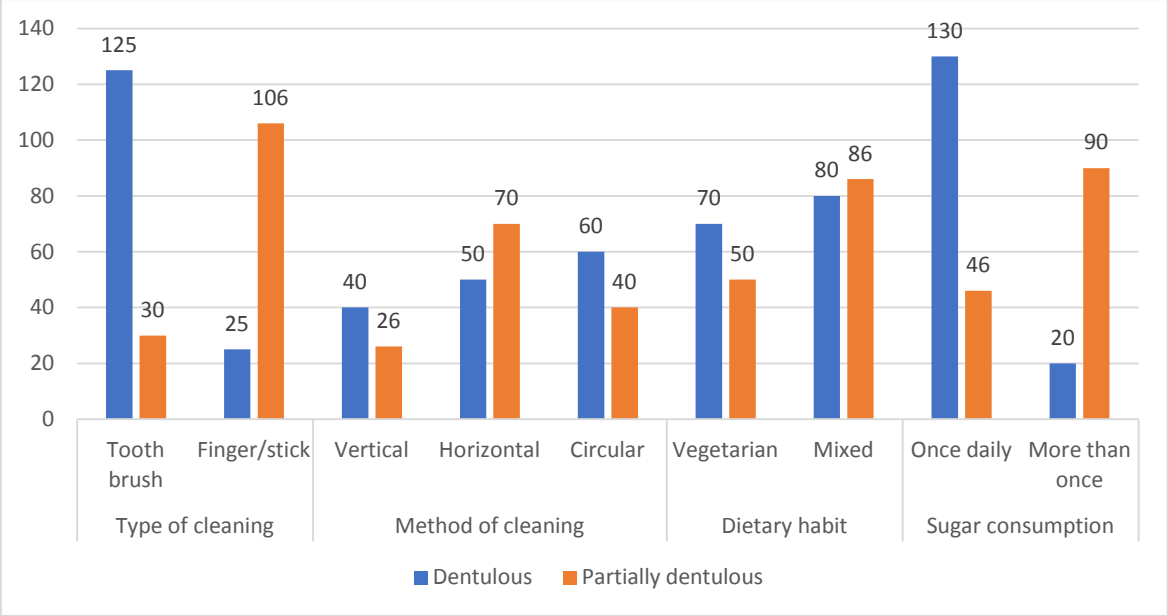


Table II Assessment of risk factors

Parameters	Variables	Dentulous	Partially dentulous	P value
Type of cleaning	Tooth brush	125	30	0.01
	Finger/stick	25	106	
Method of cleaning	Vertical	40	26	0.04
	Horizontal	50	70	
	Circular	60	40	
Dietary habit	Vegetarian	70	50	0.03
	Mixed	80	86	
Sugar consumption	Once daily	130	46	0.02
	More than once	20	90	

Table II, graph II shows that common risk factors was tooth brush use in only 30 partial dentulous and finger/ stick use by 106 subjects. Method of cleaning was vertical in 26, horizontal in 70 and circular in 40 partially dentulous, diet was vegetarian in 50 and mixed in 86 partially dentulous subjects. Sugar consumption was more than once in 90 partially dentulous subjects. The difference was significant (P< 0.05).

Graph II Assessment of risk factors



DISCUSSION

According to the World Health Organization (WHO), adults should have a minimum of 21 functional teeth to provide the ability to experience a good dietary intake without the need for dentures.[6] It has been shown that edentulism considerably reduces the quality of life. Slade and Spencer[7] reported that compared to dentate people, edentulous ones experienced more social and psychological impacts on their quality of life including feeling self-conscious and avoiding social interactions. Also, edentulous subjects reported. Low income has also been suggested to be a risk factor for edentulism.[8] Caries experience, attachment loss, and cigarette smoking are other major risk indicators of tooth loss. In addition, patterns of tooth loss vary by gender and population.[9] The major purpose of dental restorations is to replace missing teeth. A restoration is the general term for any material or prosthesis that replaces the lost tooth structure, teeth, or oral tissues. Dental restorations are fixed or removable and are termed fixed restorations and removable dental prosthesis.[10] The removable dental prostheses are also classified into removable partial denture and complete denture. Based on previous studies, social and geographical variations in prosthetic replacement may be related to differences in both patients' and dentists' attitudes towards oral health as well as socioeconomic status.[11] The present study was conducted to asses risk factors of tooth loss in adult population.

In present study, there were 100 male and 50 female dentulous and 76 male and 60 females partially dentulous subjects. Maximum partially edentulous subjects (80) were in age group 30-40 years. 46 unmarried and 90 married were partially dentulous. 82 partially dentulous subjects were illiterate. Sen et al[12] evaluated the risk factors associated with tooth loss among adults and the elderly among the rural population of Wardha District. In this cross-sectional study, among the rural population, two World Health Organization index age groups (35–44 and 65–74 years) were selected. A self-administered questionnaire was distributed, and complete clinical oral examination was done. Nearly 75.3% of laborers were partially edentulous. Habits, including smoking, tobacco chewing, and alcohol consumption, had an impact on tooth loss. Patients suffering from diabetes and hypertension had 97.5% and 100% had tooth loss, respectively. Regarding the first visit to the dentist, 65.6% population underwent dental treatment from the dental college in the vicinity. "No dental problems" were reported by 68.4% of patients of the total population and among them 81.3% were edentulous. Regarding "Self-perceived treatment" the result revealed that 72% of them had felt the need for dental treatment.

We found that common risk factors was tooth brush use in only 30 partial dentulous and finger/ stick use by 106 subjects. Method of cleaning was vertical in 26, horizontal in 70 and circular in 40 partially dentulous, diet was vegetarian in 50 and mixed in 86 partially dentulous subjects. Sugar consumption was more than once in 90 partially dentulous subjects. In accordance with Jiang et al[13] the stickiness of starch enhances the retention time of sugars, ensuing in a delayed pH fall. This is why sticky foods such as

candies and caramel, as well as those that break into smaller pieces to lodge between the teeth (such as chips and cookies), causes more harm. In this study, all participants who had sticky food showed partial edentulism.

CONCLUSION

Authors found that common risk factors for loss of teeth was use of finger/ stick for cleaning, mixed diet and high sugar consumption.

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