

## **Tooth loss, Prosthodontic Treatment need and Association Factors in A sample of Adults attending College of Dentistry, Al Mustansiriya University.**

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**Abstract:** *The aim of this study was to evaluate the level of tooth loss, the prosthetic treatment need and associated factors in a sample of the over 20-years old patients attending college of dentistry, Al Mustansiriya University. A sample of 584 individuals (306 males and 278 females) was selected from prosthodontics department. The data were collected by means of an oral examination and interviewer questionnaire. The present study showed that the level of tooth loss more in male than female and increasing with age. A number of factors are involved in the decision to extract teeth, which are mainly dental caries and periodontal disease. Prevalence of denture wear is low and high need for prosthetic treatment especially in those with lower levels of education and lower income.*

*Knowledge of factors that influence tooth loss and wearing dentures is important for the effective planning and provision of oral health services, particularly in prioritising prosthodontic care.*

*Key words: prosthetic treatment, Oral health*

### **Introduction:**

It is well-known that tooth loss can give rise to various problems associated with functional and psycho-social issues [1]. Oral health contributes significantly towards the quality of life and, therefore, the negative impact of poor oral conditions on daily life is particularly significant among edentulous people [2]. In most epidemiological studies of dental health and dental conditions, the basic factors for characterizing a person's oral status are number of teeth and prevalence of removable dentures [3].

Several reports, mainly from developed countries indicate that tooth loss has declined over the past two or three decades 4–6. Nevertheless, edentulism remains a problem of considerable magnitude in these countries, particularly among the older age cohorts 7–9. In the past, tooth loss in adults has been mainly attributed to periodontal disease 10-11. However, current evidence supports the fact that periodontal disease may not be the major cause of tooth loss among adults [12] and the predominant cause of tooth mortality even among the elderly is now considered to be dental caries [13,14]. Moreover, apart from oral disease various non-disease indicators such as socio-demographic factors, dental attitudes and dental utilization behaviors have shown to be associated with tooth mortality [15,16]. Tooth loss is therefore considered as an outcome of a complex interaction between disease and non-disease entities [17].

However, many of those who experience substantial tooth loss especially the elderly do not have recourse to dentures or may not perceive a need for dentures [18]. Also, it has been shown that a high percentage of those who have been provided with dentures never wear them thus leading to a waste of scarce resources [19].

## **Material and Methods:**

Patients undergoing routine prosthodontic treatment were drawn from the clinics of prosthodontic department, college of dentistry, Al Mustansiriya University, for the period of nine months duration.

The study sample consisted of 584 patients, their age ranged between 20-75 Yr. (306 men and 278 women). The mean age of the patients was 45 years. Data were collected by means of an interviewer questionnaire in addition to the oral examination. Information about education causes of extracted teeth and economic conditions were obtained by means of a questionnaire, the interview was followed immediately by a clinical dental examination.

Subjects were examined to document the number of extracted teeth, prosthetic need and presence of prosthetic treatment. The need for the prosthetic treatment was based on the examiner subjective judgment to the need for either fixed, removable or combined prosthetic treatment based on clinical experience.

## **Results**

Table I: the sample consisted of 584 subjects with age ranged from 20-75 Yr. and mean age 45 Yr., male to female ratio was 1.2:1, high male percent was in age group of 50-59 Yr., which was similar to female percent at same age group.

Table II: from a total of 584 subjects about 556 (95%) had extracted teeth including 287 (52%) male and 269 (48%) female.

Table III: result also showed that for both sex's dental caries as well as periodontal diseases were the main causes for teeth loss among the subjects particularly in age group of 40-49, 50-59 Yr.

Table IV, from 584 subjects only 245 (44%) had prosthodontics treatment while 311 (56%) subjects need prosthodontics treatment. Table V females had prosthetic treatment more than males. Shortage in dental services, poor health education and economic status were the main causes of untreatment of missing teeth).

<b>Age Group</b>	<b>Male (N)%</b>	<b>Female (N)%</b>	<b>Total (N)%</b>
20-29	55 (18%)	43 (15%)	98 (17%)
30-39	54 (17%)	44 (16%)	98 (17%)
40-49	66 (22%)	68 (24%)	134 (23%)
50-59	77 (26%)	71 (25%)	148 (25%)
60-75	54 (17%)	52 (20%)	106 (18%)
<b>Total</b>	<b>306 (100%)</b>	<b>278 (100%)</b>	<b>584 (100%)</b>

<b>Age Group</b>	<b>Male (N)%</b>	<b>Female (N)%</b>	<b>Total (N)%</b>
20-29	49 (17%)	42 (16%)	91 (16%)
30-39	52 (18%)	39 (14%)	91 (16%)
40-49	66 (23%)	65 (24%)	131 (24%)
50-59	70 (25%)	71 (26%)	141 (25%)
60-75	50 (17%)	52 (20%)	102 (19%)
<b>Total</b>	<b>287 (100%)</b>	<b>269 (100%)</b>	<b>556 (100%)</b>

Age Group	Caries		PDL		PROSTH		IMPACTED		TRAUMA	
	M	F	M	F	M	F	M	F	M	F
20-29	16%	15%	3%	1%	26%	26%	44%	38%	44%	23%
30-39	18%	19%	12%	11%	24%	20%	31%	38%	33%	18%
40-49	22%	22%	33%	29%	16%	18%	0%	0%	12%	7%
50-59	17%	15%	29%	24%	14%	12%	0%	0%	2%	0%
60-75	8%	6%	23%	21%	38%	24%	0%	0%	0%	0%
<b>Total</b>	<b>36%</b>	<b>34%</b>	<b>33%</b>	<b>32%</b>	<b>12%</b>	<b>10%</b>	<b>6%</b>	<b>7%</b>	<b>8%</b>	<b>3%</b>

Age Group	Pros. Treatment present		Pros. Treatment need	
	M	F	M	F
20-29	9%	11%	15%	17%
30-39	12%	13%	19%	24%
40-49	18%	30%	22%	25%
50-59	19%	22%	14%	16%
60-75	14%	15%	14%	7%
<b>Total</b>	<b>19%</b>	<b>25%</b>	<b>25%</b>	<b>31%</b>

Age Group	No dental services		Poor health education		Economic	
	M	F	M	F	M	F
20-29	16%	15%	18%	22%	15%	48%
30-39	20%	19%	29%	25%	14%	44%
40-49	25%	23%	25%	15%	33%	22%
50-59	18%	14%	11%	12%	8%	0%
60-75	8%	11%	6%	12%	0%	0%
<b>Total</b>	<b>38%</b>	<b>32%</b>	<b>16%</b>	<b>10%</b>	<b>2.5%</b>	<b>1.5%</b>

## Discussion

The majority of sample was in age group 40-49Yr.&50-59Yr. for both male and female. As expected and consistent with the findings of other studies [20-22], the results revealed a significant association between the number of tooth loss and age. Dental caries and periodontal diseases are the major causes of tooth loss [17]. As a result of the cumulative effects of these two conditions, the likelihood of tooth loss will increase with age. In recent decades in most industrialized countries a significant reduction in edentulism has been documented. The increased retention of natural teeth among the elderly is probably due to an enhanced awareness of dental health and the extended use of fluorides and, to some extent, the antibiotics. Being dentate is only an advantage if there is some benefit to the patient in terms of function, aesthetics or satisfaction.

Our patients usually do not complain until pain and heavy discomfort are present. Only when complaints are reported, the patients see the dentist. These results are in agreement with Knabe & Kram (1997) who described similar findings [23].

Tooth loss was more common in male than in female while Lin et al. [24] have reported that tooth loss was more common in older Chinese females. The gender-based difference in tooth loss is difficult to explain, Hamasha et al. [15] reported that tooth loss was more common in Jordanian males than in females. But according to others, gender had no influence on tooth loss [20, 25] and this has been particularly observed in incidence studies on tooth loss as well[16].

In conformity with the findings of McGrath and Bedi [27], the present study found that females were more likely to wear dentures than males. This is probably a reflection of the gender-related differences in the use of dental services. Women tend to use

dental services more often than older men [28]. Moreover for women, oral health can have an impact on their feelings of attractiveness [29]. This could have contributed to a higher level of denture wearers among women than men.

In this study, the income status of the patients was a significant predictor of the wearing of dentures. Previous studies showed that denture wear was more frequent among those from a higher social class [4], socio-economic status [30] and income [31]. Income and educational status of individuals are often correlated. In their study, Shah et al. [20] reported that the prevalence of wearing of dentures increased with the increase in the level of literacy. It may be that individuals with higher educational attainments have greater health concerns and thus seek prosthodontic care more often than those with lower levels of education.

In Iraq, in spite of the services of ministry of health prosthodontic clinics and colleges of dentistry prosthodontic clinics, it seems it is not enough to meet the population needs, there for the prosthetic care is mainly provided by the private sector and is often beyond the reach of most individuals. Additionally, the patient and/or their family members do not believe that dentures are important. They are already burdened with expenses regarding medical treatment for other chronic illnesses, and are therefore, reluctant to spend further on dentures. They have also accepted the misconception that tooth loss is an inevitable part of the ageing process. Moreover, lack of tradition of dental care and negative attitudes toward oral health may keep them from visiting a dentist [32]. Lack of perceived need for dentures seemed to be the main reason for this finding. . Efforts should also be directed at putting an end to a series of myths and misconceptions regarding the oral health of the elderly.

It should be noted, however, that other factors are also likely to be involved in the decision to wear dentures, such as previous rehabilitation experience, the position of missing teeth whether

posterior or anterior, perception of the need and satisfaction with chewing; speech; aesthetics; interest or lack of it, improving oral health status and other cultural and psychosocial factors that were not explored in this study. Future studies will be appropriate and necessary to obtain a clearer understanding of this complex relationship.

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## فقدان السن، الحاجة العلاجية للأستعاضات السنية والعوامل المقترنة في المرضى الحاضرين الى كلية طب الأسنان، الجامعة المستنصرية

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### المستخلص:

الهدف من هذه الدراسة هو لتقييم مستوى فقدان السن، الأحتياج العلاجي للأستعاضة السنية والعوامل المقترنة بذلك في عينة عمرية من عشرين عاما فما فوق حضروا الى كلية طب الأسنان الجامعة المستنصرية.

هذه العينة تتكون من 584 شخص (306 رجال و 278 أناث) تم اختيارهم من قسم صناعة الأسنان.تم جمع المعلومات عن طريق الفحص الفموي والأسئلة خلال مقابلة المريض. الدراسة الحاضرة اظهرت ان مستوى فقدان السن في الرجال اعلى منه في الأناث ويزداد مع تقدم العمر. العديد من العوامل تدخلت في قرار قلع الأسنان، والتي هي بصورة رئيسية تسوس الأسنان وأمراض ما حول اللثة. وكان معدل أستعمال أطقم الأسنان منخفض بالمقارنة مع الحاجة المرتفعة الى علاج الأستعاضة السنية خصوصا مع هؤلاء الذين يكون مستوى ثقافتهم ومدخولهم قليل.

المعرفة بالعوامل التي تؤثر على فقدان السن وأستعمال أطقم الأسنان مهم لتفجيا التخطيط وأمتلاك خدمات لصحة الفم وخصوصا التي تعطي عناية خاصة للأستعاضات السنية.