

## **SOCIO-DEMOGRAPHIC FACTORS AND THE PARTIAL EDENTULISM IN THE ADULT POPULATION FROM IASI, ROMANIA**

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**Abstract:** Partial edentulism is still prevalent in adult population from east european country. The aim of study is to evaluate the association between socio-demographic factors, and the partial edentulism in the adult population from Iasi, Romania. **Materials and Methods:** A cross-sectional study was conducted on a randomly selected population from Iasi. The study group included 214 patients who attended the Department of Prosthodontics of UMPH Gr.T.Popa Iasi during the 2015 - 2016. Data were acquired based on a questionnaire and clinical examination and was statistically analysed SPSS 15.0. **Results:** Out of 214 subjects, 50,5% were males partially edentulous, 64,5% were employed and 57,5% belonged to the medium level of education. Decay (61,7%) was the most common cause of tooth loss, followed by periodontal disease 30,8%. . Function restauration (72,9%) was the most common reason for replacement of missing teeth. 67,8% presented fixed treatment and 21,5% deemed both options as acceptable. Kennedy's class I group was the most frequent type of partial edentulism, followed by class III, class I and the least frequent being class IV. Subjects with the medium level of education have a higher percentage of any type of prosthesis, the difference being statistically significant in terms of the amovable prosthesis between the two levels of education. **Conclusion:** The study show that partial edentulism frequence is influenced by the action of socio-demographic factors. It is necessary to develop programs that support oral health in the adult population through information regarding the prevention of edentulism.

Keywords: partial edentulism, adults, fixed prosthesis

### **Introduction**

To be aware of the impact that the oral diseases have, epidemiological surveys have been realized on a global level. A good oral health is of importance for well-being and life quality. Despite advances in preventive dentistry, edentulism is a debilitating and irreversible condition considered a major public health problem worldwide. [1]

Edentulism may lead to changes in life quality because teeth have an important role in facial appearance, speech, and eating ability.[2,3] Edentulism negatively influences not only oral function, but also social life and day-to-day activities [4] , decreased self-esteem and a decline in psychosocial well-being [5,6].

Recent studies show us the association between a numerous factors like tooth loss and lifestyle and also help us to obtain informations necessary to realize a correct

treatment. Also, we would like to evidenciate the incidence, according to Kennedy's classification, of different classes of partial edentulism. The aim of study is to evaluate the association between socio-demographic factors and the partial edentulism in the adult population from Iasi, Romania.

### **Material and methods**

This cross-sectional study was conducted 214 patients who attended the Department of Prosthodontics of UMPH Gr.T.Popa Iasi during the year 2015-2016. The study participants were enrolled when they met the following inclusion criteria: participant is from Iasi, over 20 years of age, and has only permanent dentition. All participants completed a questionnaire that was designed to collect data regarding socio-demographic such as age, gender, socio-economic status, oral health practices, past

oral history, purpose for replacement of teeth and preferred treatment option in order to assess the relationship between the socio-demographic variables and the prevalence of missing teeth.

Clinical examinations were conducted by a single individual in accordance with the procedures and diagnostic criteria recommended by the EGOHID II(European Global Oral Health Indicators Development II).[7] Natural daylight, plane mouth mirrors and periodontal probes were used to

examine the oral hygiene and the teeth present in the oral cavity.

The socio-economic status was evaluated considering factors such as the level of literacy and occupational status, [8] as described in (table 1). A statistical software (SPSS version 15, SPSS Inc, Chicago, IL, USA) was used for data analysis. Chi-square tests were performed and P values were calculated for each characteristic. Results having P value <0.05 (95% level of confidence) were considered statistically significant.

**Table 1: Factors affecting the socio - economic status in the studied population**

	NO	%
<b>Age</b>	45,78	
<b>Gender</b>	<i>Female</i>	106 49,5
	<i>Male</i>	108 50,5
<b>Level of literacy</b>	<i>Medium level</i>	123 57,5
	<i>Superior level</i>	91 42,5
<b>Occupational status</b>	<i>Employed</i>	138 64,5
	<i>Unemployed</i>	22 10,3
	<i>Student</i>	54 25,2

**Results**

The study population comprised 214 individuals between the age group of 21-62 years. Of these, 108 (50,5%) were males and 106 (49,5%) were females. In table 2, 49,5%

female and 50,5% male patients were partially edentulous. Out of 214 partially edentulous patients, 64,5% were employed and 57,5% belonged to the medium level of education.

**Table 2: Characteristics of partially edentulous patients**

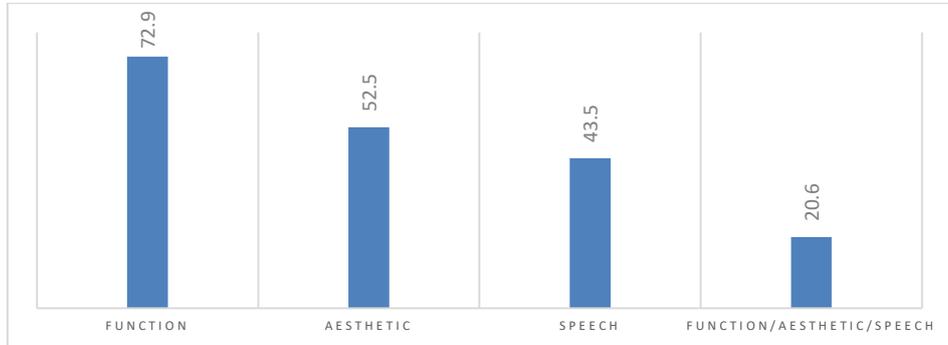
Partial edentulism		
<b>Gender</b>	Female	49.5%
	Male	50.5%
<b>Occupation</b>	Employed	64.5%
	Unemployed	10.3%
	Student	25.2%
<b>Education</b>	Medium level	57.5%
	Superior level	42.5%

It was also observed that decay (61,7%) was the most common cause of tooth loss in the study population, followed by periodontal disease 30,8% as indicated in (table 3) and function restauration (72,9%) was the most common reason for

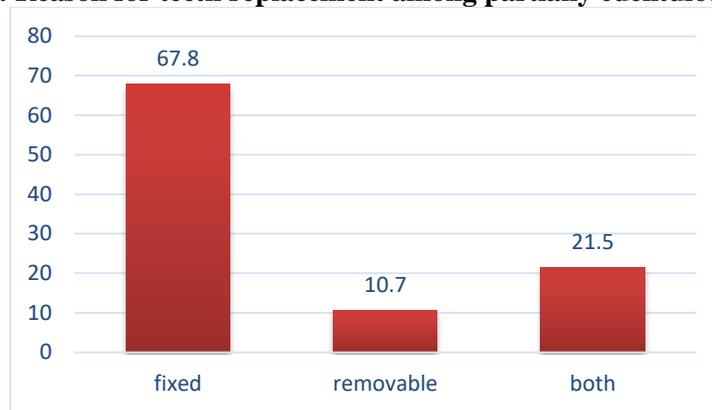
replacement of missing teeth, as indicated in (figure 1). It was observed that 67,8% preferred fixed treatment, 10,7% preferred removable treatment and 21,5% deemed both options as acceptable, as indicated in (figure 2).

**Table 3: Frequency of etiology causing partial edentulism**

Causes of partial edentulism	No	%
• decay	132	61.7
• periodontal disease	66	30.8
• trauma	11	5.1
• other	5	2.3



**Figure 1: Reason for teeth replacement among partially edentulous patients**



**Figure 2: Choice of treatment option for teeth replacement**

Distribution of different classes of partially edentulous patients according to Kennedy's classification in the upper and lower arches are showed in table 4. Kennedy's class I group (58,5% upper arch and 57,5% lower arch for female

participants and 40,7% for upper arch and 52,8% for lower arch for male participants) was the most frequent type of partial edentulism, followed by class III, class I and the least frequent being class IV (5,6%).

**Table 4 : Distribution of different classes of partially edentulous patients according to Kennedy's classification and gender**

	Female		Male	
	Upper arch %	Lower arch %	Upper arch %	Lower arch %
<b>Class I</b>	58.5	57.5	40.7	52.8
<b>Class II</b>	9.4	0	32.4	9.3
<b>Class III</b>	31.1	42.5	21.3	38.0
<b>Class IV</b>	0.9	0	5.6	0

Distribution of different types of prosthesis and gender shows that female subjects show the combination of fixed and removable prosthesis in a higher proportion

than male subjects(67,4%), whereas male subjects show more fixed prosthesis than female population(60%).(table 5) The results of the analysis show that the subjects with

the medium level of education have a higher percentage of any type of prosthesis, the difference being statistically significant in

terms of the amovable prosthesis between the two levels of education.

Tabel 5. Distribution of different type of prosthesis and gender

		Type of prosthesis			Total
		fixed	removable	both	
Gender	female	58	17	31	106
		40.0%	73.9%	67.4%	49.5%
	male	87	6	15	108
		60.0%	26.1%	32.6%	50.5%

## Discussion

In recent decades, the prevalence and extent of tooth loss have decreased in many countries[8] but partial edentation still has a significant effect on quality of life in adult population. The prevalence of partial edentulism is influenced by the level of education, gender or income and tooth loss is associated with aesthetical, functional, psychological and social impacts on individuals. [10, 11]

The socio-behavioral risk factors have an important role in the development of edentation from young ages, and will influence the importance given to oral health.[12] Socio-economic and education are the most important elements that influence the prevalence of edentulism . A low socio-economic level is followed by higher prevalence of dental caries and edentation. [13,14] Oral health education implemented in schools population indicate an increased healthy behaviour for children, caregivers and teachers, and a decreased prevalence of dental caries and of its complications to adult age. [15-17]

Various studies indicated a strong association between age and gender of the patient to edentulism.[18,19] It was observed that a majority of the study population that female patients present a higher prevalence of edentulism and perceive a greater impact of oral health on the quality of life than men. In this study the male subjects are more affected by edentulism than females subjects.

Socio-economic status is negatively associated with edentulism, with those in lower levels exhibiting higher risks of becoming edentulous. [20] Patients with low

level of education have more number of missing teeth compared to the other groups, due to the lack of awareness and financial constraints being the main reason for their neglect and patients belonging to the higher income levels approached private oral health clinicians. [21]

In this study the causes for edentulism were dental caries and periodontal disease, the two main risk factors for partial tooth loss. [22] The reasons for the replacement of missing tooth were mainly the functions restoration and aesthetics, the same results being found in recent studies on self-perception of prosthodontic needs to improve the quality of life. [22] The patients with missing teeth in the posterior regions had as the main reason for replacement of teeth the lack of function. Instead, when patients presented missing teeth in the anterior region, their primary reason for replacement was aesthetics. [23] Female subjects presented the combination of fixed and removable prosthesis in a higher proportion than male subjects, whereas male subjects show more fixed prosthesis than female population. In this study, Kennedy's class I group was the most frequent type of partial edentulism. It was also noted that the lower jaw was more affected than the upper jaw. This can be attributed to the high prevalence rate of dental caries in mandibular first molar teeth. [24]

## Conclusion

The study show that partial edentulism frequency is influenced by the action of socio-demographic factors. Even there is a decrease in edentulism prevalence in the young population due to improved oral health attitudes starting from school

through education programs, it is necessary to develop programs that support oral health

in the adult population through information regarding the prevention of edentulism.

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