

Prosthetic Status among Greek Population Related to Educational Level

Maria Kotanidou DDS¹, Fotoula Nikolopoulou DDS, MD, PhD, MPH², Eleonora Blioumi DDS, PhD³

¹Senior Registrar, General Hospital of Thessaloniki 'Agios Pavlos'

²Assistant Professor of Dental School, National and Kapodistrian University of Athens

³Senior Registrar General Hospital of Thessaloniki 'Agios Pavlos'

Abstract: *This cross-sectional study was conducted among the Greek population aged 24-84. During this survey period a total of 275 patients were examined. One hundred and ten [110] males and one hundred and sixty five females were taken part in this clinical survey. One hundred and fifteen patients didn't have and needed prosthetic appliance. Forty five [40,9%] males didn't have prosthesis and 40 males of them had higher level of education. Only 5 patients were illiterate. A high percentage of males had university education. A higher proportion of subjects with a low educational level [55,88%] were edentulous. The data regarding the educational level of the females and the prosthetic treatment indicated that there was a correlation between higher education and prosthetic status [69%] The female with low education were edentulous [54,76%] Eighteen males were edentulous and 16 females didn't wear complete dentures.*

Key words: Educational level, prosthetic status, complete dentures, edentulous, edentulism

1. Introduction

The proportion of older people continues to grow worldwide, especially in developing countries. Non – communicable diseases are fast becoming the leading causes of disability and mortality. Chronic disease and most oral diseases share common risk factors. [1, 2]

Epidemiological studies have shown that subjects of low income and education are more likely to be edentulous than their counterparts of higher income and education. [3] It is evident that loss of teeth is not only associate with impaired chewing efficiency and inadequate nutrition but also with other health problems such as lower extremity dynamic strength, agility and balance function in elderly adults. [4, 5]

It has been demonstrated that several non-disease factors such as attitude, behavior, dental attendance and characteristics of the health care system play an important role in the eventual decision to become edentulous. Replacement of missing teeth has become one of the most important needs for the patients attending clinics to restore esthetics and function. [6]

Oral health is an integral part of general health and socioeconomic status plays a vital role in its determination. Several studies in the past have revealed an association between socioeconomic status [SES] and oral health. [7, 8, 9]

Many treatment modalities are available for replacing a single missing tooth, removable partial denture, fixed partial denture or dental implant. In many cases the cost of the treatment is ahead of oral status and patient preference. Baseline information related to prosthetic status and education will help us to evaluate the patient's oral health and prosthetic preference. The present study was conducted among the Greek population aged 24-84 years.

2. Materials and Methods

A cross-sectional study was conducted among the Greek population aged 24-84. This study was conducted for three months, and the study sample comprised all the patients examined during that period. Persons with any acute illness and not willing for the examination were excluded from this study. During the stipulated survey period a total of 275 patients were examined. The enrolled patients were first interviewed to obtain general information and socioeconomic variables. This was followed by oral examination. The examiners assessed the dental prosthetic status and treatment needs according to the criteria described in the WHO oral health assessment form1997. [10]

Prosthetic Status

Code 0 No prosthesis

Code 1 One-unit prosthesis

Code 2 Multi –unit prosthesis

Code 3 A combination of one-and/or multi unit prosthesis

Code 4 Complete dentures

The socioeconomic status is widely recognized as an important factor affecting the health condition .Several studies require assessment of the socioeconomic status. The Kuppussamy's socioeconomic status scales were extensively used in urban population for assessment of the SES. An online tool is available for real-time updating of the scale. [10]

Table 1: Revised Kuppussamy's Socio economic status Scale with Real-time update

Education	Score	Occupation	Score
Post-graduate degree	7	Professional	10
Graduate-degree	6	Semi-professional	6
Higher Secondary Certificate	5	Arithmetic Skill jobs	5
High School Certificate	4	Skilled Worker	4
Middle School Certificate	3	Semi-Skilled Worker	3
Less than Middle School Certificate	2	Unskilled Worker	2
Illiterate	1	Unemployed	1

3. Results

A total of 275 patients were examined, of whom 110 were males and 165 were females. The age range of the study population was from 24 to 85 years with a mean 50, 48 years. Forty-five [40,9%] males didn't have prosthesis, and 40 males of them had higher level education. Only 5 patients were illiterate. The results are presented in table 2.

Table 2: Prosthetic status in Greek Population

Gender	Prosthetic status				
	Code 0	Code 1	Code 2	Code3	Code4
Males 110	45 [40,9%]	7 [6,36%]	18 [16,36%]	12 [10,9%]	28 [25,45%]
Females 165	70 [42,42%]	14 [8,48%]	12 [7,27%]	25 [15,15%]	44 [26,66%]
Total 275	115 [41,8%]	21 [7,63%]	30 [10,9]	37 [13,45%]	72 [26,18%]

One-hundred and fifteen patients didn't have and needed prosthetic appliance. They came to the hospital for fillings. We can see the majority of the patients didn't need prosthetic treatment.

Table 3: Prosthetic status among Greek population [males] related to educational level

Variables	Prosthetic Status					Total
	Code 0	Code 1	Code 2	Code 3	Code 4	
Education						
Score [7,6]	25 [56,8%]	3 [6,81%]	16 [36,36%]	0	0	44
Score [4,5]	15 [46,87%]	4 [12,5%]	2 [6,25%]	2 [6,25%]	9 [28,12%]	32
Score [1,2,3]	5 [14,7%]	0	0	10 [29,41%]	19 [55,88%]	34
Total	45 [40,9%]	7 [6,36%]	18 [16,36%]	12 [10,9%]	28 [25,45]	110

The results showed that a high percentage of males had university education [56.8%] A higher proportion of subjects with a low educational level [55.88%] were edentulous [Table 3]

Table 4: Prosthetic Status among Greek population [females] related to educational level

Variables	Prosthetic status					Total
	Code 0	Code 1	Code2	Code 3	Code 4	
Education						
Score[7,6]	38 [69%]	7 [12,72%]	0	0	10 [18,18%]	55
Score[4,5]	30 [44%]	7 [10,29%]	2 [2,97%]	18 [26,47%]	11 [16,17]	68
Score[1,2,3]	2 [4,76%]	0	10 [23,80%]	7 [16,66%]	23 [54,76%]	42
Total	70	14	12	25	44	165

The data regarding the educational level of the females and the prosthetic treatment indicated that there was a correlation between higher education and prosthetic status.[69%] The females with low education were edentulous.[54.76%] [Table 4]

Table 5: Prevalence of edentulous in Greek population

Gender	Edentulous	Patients wearing CD	Total
Males	18[64,28%]	10[35,72%]	28
Females	16[36,36%]	28[63,63%]	44
Total	34	36	

Table 5 shows that 18 [64,28%] males were edentulous and 16 females [36,36%] didn't wear complete dentures. Ten [35.72%] males and 28 [63.63%] females wore complete dentures. The majority of the subjects 7males wanted to construct a new appliance. They had problems with the masticatory function.

4. Discussion

Oral health is important to such an extent that it can hinder a person's ability to work and concentrate on their daily routine. Although it is not life threatening the loss of teeth or edentulism has a very significant effect on an individual. It has been observed to result in functional, psychological, and social limitations and affects the quality of life and general health of patients. [11, 12]

Partial edentulism depends on various socioeconomic parameters such as family income, educational status, and occupation. It has been observed by various authors that partial edentulism decreases in the employed group and when family monthly income increases. [13, 14, 15]

Nirupama et al showed that lower education group subjects are not much aware about oral health care and the associated treatment options available. [16] Our results indicate that the high education level of patients had good condition of oral health. [Table3 and Table 4] The prevalence of edentulism was high 56% males and 54,8% females in illiterate groups.

Some investigators referred that people who are educated and employed are more concerned about their aesthetics and opt for dental treatment. [17, 18]

It has been showed that different prosthetic treatment was related to educational level and socioeconomic status.[18] Research work by Barreiro et al revealed that some variables such as age, gender, occupation, marital status influence the prosthetic treatment. [19]

Our results showed that gender influences the prosthetic status. [Table 3, and table 4] It has been showed that the level of education played a role in the choice whether to seek treatment and 83,8 percent of the subjects who were in more than high school level.[20]

That means the level of education could affect the patient's awareness regarding the importance of teeth replacement.

Within limitation of this survey it was concluded that: The education level has affected significantly the different types of prosthetic treatment.

References

[1] J Nadgere, A Gala-Doshi, S Kishore 'An evaluation of prosthetic status and prosthetic need amongst living in

- and around Panvel, Navi-Mumbai. A Survey. *Int. J Prosthet. Dent*, 2010; 1:6-9
- [2] Mersel A, Anaise JS, Shem- Tov A. 'Prosthetic needs and demands for services of a group of elderly people in Israel.' *Com. Dent. Oral Epid*, 1984; 12 [5]: 315-8
- [3] Klemetti E A review of residual ridge resorption and bone density *J Prosthet. Dent*, 1996; 75:512-514
- [4] Koshino H, Hirai T Ishijima T et al .Quality of life and masticatory function in denture wearers. *J Oral Rehabil*, 2006; 33:323-329
- [5] Anastasiadou V, Robin Heath 'The effect of denture quality attributes on satisfaction and eating difficulties. *Gerodont*, 2006; 1: 23-32
- [6] World Health Organization. 'Assessment form in: Oral Health Survey: Basic Methods, 4th ed, Geneva: World Health Organization, 1997 pp 21-46
- [7] S Tyrovolas, A Koyanagi, D P Panagiotakos et al 'Population prevalence of edentulism and its association with depression and self related health. *Sci Rep G*. 2016, 2017; 6: 37083 doi 1038/ Srep 37083
- [8] G Nordenzam , T Davidson, G Gynther et al 'Qualitive studies of patients' perception of loss of teeth the edentulous state and prosthetic rehabilitation: A systematic review with meta-synthesis. *Acta Odont Scand*, 2013[3-4]: 937-951
- [9] Makhviladre G, Tsitaishvili L, Kalandadze M et al 'Evaluation of edentulism, prosthetic status and prosthodontics treatment needs among the adult population of Georgia' *Georgian Medical News*, 2016;[253]: 30-34
- [10] Hongal S, Torwane N, Chandrashekhar B, et al 'An evaluation of Dental Prosthetic status and Prosthetic Needs Among Eunuchs[Trans Genders] Residing in Bhopal City, Madhya Pradesh, India: A cross-sectional study' *Ann Med Health Sci Res* 2014; 4[6]: 943-948
- [11] Shigli K, Hebbal M, Angadi GS 'Prosthetic status and treatment needs among patients attending the prosthodontic department in a dental Institute in India. *Eur J Prosth Restor Dent*, 2009; 17: 85-89
- [12] Mary Norma Partida ' Geriatric Prosthodontic Care' *Dent Clin North Am*, 2014, 58: 103-112
- [13] Shigli K, Hebbal M, Angadi GS 'Self –reported assessment of intraoral prostheses among patients attending the prosthodontic department in a dental institute in India. *Geriatric Gerontol*, 2008, 8[2] :101-108
- [14] Soh G, Chong YH, Ong G 'Dental prosthetic status and needs of an elderly population living in long –term care facilities in Singapore' *J Community Health*, 1992; 17:[3] 175-81
- [15] R Marino , H Calache , C Wright et al ' Profile of the oral health among ambulant Older Greek and Italian migrants living in Melbourne *Aust Dent. J* 2007; 52[3]: 198-204
- [16] Karkazis HC, Kossioni AE 'Oral health status, treatment needs and demands of elderly institutionalized population in Athens. *Eur J Prosth. Restor Dent*, 1993; 1[4]: 157-63
- [17] Ilha I, Martins AB, Abegg C 'Oral Impact on daily performance: need and use of dental prostheses among Brazilian adults ' *J Oral Rehabil* 2016; 43[2]:119-126
- [18] Fahad Al-Harbi, Maha E Tantawi ' Normative prosthodontic care need ; does it impact the daily life of young Saudis with high level of oral disease? A cross sectional study. *BMC Oral Health*, 2017; 17[1]: 28 Doi[10.1136] s 12903-017-1418-]
- [19] Oginni FO 'Tooth loss in a sub-urban Nigerian population. Cause and pattern of mortality revisited. *Int Dent J* 2005; 55: 17-23
- [20] Mukatash GN, Al-Rousan M, Al-Sakama B. 'Needs and demands of prosthetic treatment among two groups of individuals. *Indian J Dent Res* 2010; 21[4]:564-7
- [21] Vijaya Hedge, R Pandya Sajaankumar ' Dental prosthetic status and prosthetic needs of institutionalized elderly population in Mangaloz, Karnataka, India' *J Oral Res Review*, 2014; 9: 8-11
- [22] Bader K AI Zarea 'Dental prosthetic status and prosthetic needs of geriatric patients attending the college of Dentistry. Al Jouf University Kingdom of Saudi Arabia. *Eur J Dent* 2017; 14[4]: 526-530