

PREVALENCE OF SYSTEMIC DISEASE IN COMPLETELY EDENTULOUS PATIENTS

Chithambara Shathviha Palaniappan¹, Dhanraj Ganapathy², Mebin George Mathew³

¹Saveetha Dental College and Hospital, Saveetha Institute Of Medical and Technical Sciences Saveetha University, 162, Poonamallee High Road, Chennai, India.

²Professor and Head, Department of Prosthodontics, Saveetha Dental College and Hospital, Saveetha Institute Of Medical and Technical Sciences, Saveetha University, 162, Poonamallee High Road, Chennai, India.

³Assistant Professor, Department of Pedodontics, Saveetha Dental College and Hospital, Saveetha Institute Of Medical and Technical Sciences, Saveetha University, 162, Poonamallee High Road, Chennai, India.

¹151701047.sdc@saveetha.com

²dhanraj@saveetha.com

³mebingeorgem.sdc@saveetha.com

ABSTRACT

Generic systemic disability questions the success rate of the complete denture. Systemic factors are main determinants for prognosis of denture. Most complete denture age groups have contributing health causes. Most individuals in the entire denture age group are likely to have health conditions leading to denture difficulties. The general health status of the patient, host resistance and the systemic factors are the main determinants of the denture's prognosis. A total of 372 patients were taken and analysed for systemic diseases in complete denture wearers. The study was done under university setting. The results were analysed using SPSS software version 20 by IBM. The result observed is that the prevalence of systemic disease is less in completely edentulous patients. From the present study it was observed that the presence of systemic disease completely edentulous patients is 38.17%. Additional care should be maintained while treating those patients.

Keywords: Completely edentulous; Denture success; Systemic diseases; Systemic evaluation.

INTRODUCTION

A significant number of full denture patients are present with general health impairment. The older patients seeking dentures demand a systemic need. (Takamiya *et al.*, 2012) A definitive diagnosis on the prevalence of systemic disease in completely edentulous patients and give a realistic treatment plan that offers them with accurate complete denture. (Szyrkowska *et al.*, 2014; Jain, Ranganathan and Ganapathy, 2017) (Ashok and Suvitha, 2016; Ganapathy, Kannan and Venugopalan, 2017) The common conditions encountered in the complete denture patients is the condition affecting the treatment methodology, treatment plan, systemic conditions with oral manifestations, possible risk factors. (Mandali *et al.*, 2011), (Duraisamy *et al.*, 2019), (Ganapathy *et al.*, 2016) The prevalence of systemic diseases includes diabetes mellitus, prosthetic modifications, cardiovascular disease, diseases of bone and joints, neuromuscular disorders, muscle tone, parkinsonism, diseases of skin and oral tissue, asthma, drugs, renal diseases, malignancies, infectious diseases, allergic conditions. (Selvan and Ganapathy, 2016), (Kannan and Venugopalan, 2018) Aloe vera as the universal panacea. It has its uses in various systemic conditions like skin disorders, bowel disorders, diabetes and in hyperlipidemic patients. (Subasree, Murthykumar and Dhanraj, 2016) (Ashok *et al.*, 2014)

It is recommended to have the denture well relieved from the margins to avoid irritation as this if left untreated can lead to several pathologic and systemic complications .(Choy and Smith, 1980) (Seenivasan *et al.*, 2019),(Jyothi *et al.*, 2017)The prevalence and patterns of tooth loss to be studied before treatment of edentulous patients.(Mukatash-Nimri *et al.*, 2017),(Venugopalan *et al.*, 2014) Edentulism is a chronic disease so functional improvement is more important than the cure,patient perception on the subjective experience of their denture is important for the dentists to motivate complete denture wearers(Vijayalakshmi and Ganapathy, 2016). This plays a vital role in successful treatment.(Ganapathy, Kannan and Venugopalan, 2017),(Gupta, Dhanraj and Sivagami, 2010)There are various diseases that affect the edentulous patients.(Ajay *et al.*, 2017) The study was to determine the prevalence of systemic diseases in the completely edentulous patients.

MATERIALS AND METHODS

The study is done in a university setting.This study was approved by the institutional ethics board.Two reviewers are involved in the study.These samples were taken from patients who checked in the clinic from June 2019 to April 2020.Total number of sample data included 372 patients who were subjected to complete denture treatments.The case sheets were verified with for history of systemic diseases,clinical lab report and interim procedure notes. To minimize the sampling bias we included all the data available and there was no sorting of data done.Internal validity of the study included all those undergoing complete denture treatment.The external validity of the study is to find the replication of results in different time periods.Data collection was done from the dental archives of the patient management software system patented by saveetha dental college.The data obtained from the category complete denture wearers ,and history of systemic illness and the data is tabulated.The data was reviewed by one external reviewer.The age and gender were independent variables and complete denture,systemic diseases as dependant variable.The data was imported to SPSS software and the variables were defines.Chi square test was done on the data obtained using SPSS software version 20 by IBM.

RESULTS AND DISCUSSION

The satisfaction with the treatment has different outcomes; it relies upon the patient's general health where if the patient is affected with systemic illness it gives various results.(Baba *et al.*, 2018) (Ogunrinde and Dosumu, 2012)The result obtained states that the presence of systemic diseases in complete denture wearers is less in this study which consensus with the study by(Lowental and Tau, 1980).The data collected from the patients management software were tabulated in SPSS and the descriptive method statistics were obtained. Out of 372 patients, 12 were in the age group 30-40 years,47 were 40-50 years ,116 were 50-60 years , 139 were 60-70 years,53 were 70-80 years, 5 were 80-90 years (Table 1). Among the population 212 were male and 160 were female. (Table 2) The frequencies calculated are tabulated and depicted as respectively. Patients in 50-60 and 60-70 year age groups have systemic diseases compared to other age groups with a statistically significant difference.(Pearson Chi square test; $P=0.01$, $P<0.05$)(Figure 1)Males appear to have more systemic complications than the females,however ,this was not statistically significant.(Pearson Chi square test; $P=0.584$, $P>0.05$)(Figure 2).

According to some studies reported there is no significant relationship between gender and satisfaction of systemic illness complication with complete denture treatment which consensus with the result obtained were the age and gender were statistically not significant (Hoad-Reddick, 1989),(Ariga *et al.*, 2018). Psychological factors significantly influence denture satisfaction and profiles may provide useful in predicting potential difficult denture wearers. There was no statistically significant relationship between patient age, gender, systemic health and denture complaints.(Feine and Carlsson, 2003)Not all complete denture wearers will have the adaptation over their systemic disease and feel that all conventional prosthodontic criteria were fulfilled in the complete denture.(Al Quran *et al.*, 2001)The study is limited

with the presence of systemic disease, various systemic diseases should be factored in to get accurate impact. Within the limits of the study presence of systemic diseases is less in the completely edentulous patients. The treatment for each individual differs with the specific systemic disease that is present in the patient. Some illness can be eliminated at times. The edentulous patients with systemic disease have less tolerance of the complete denture. The health causes affects the prognosis of the complete denture.

CONCLUSION

From the present study it was observed that the presence of systemic disease completely edentulous patients is 38.17%. Special attention and effort to be performed to get the accurate treatment procedure for the systemically diseased population which helps them achieve denture success. The proper instruction to patients regarding their general systemic disease diagnosis will improve the overall tolerance and maintenance of the complete denture.

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CONFLICT OF INTEREST

None declared.

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Age group	Presence of systemic disease	Absence of systemic disease
30-40	6	6
40-50	22	25
50-60	47	69
60-70	50	89
70-80	16	37
80-90	1	4

Table 1 : Table depicts the total number of completely edentulous patients having systemic diseases according to age groups.

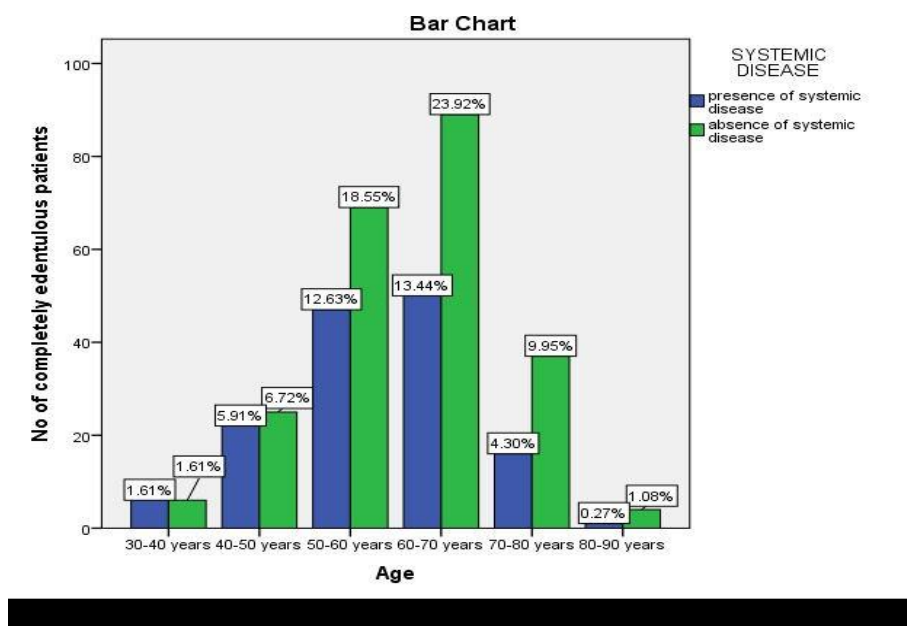


Figure 1 : The bar graph represents the association between age group and systemic complications in completely edentulous patients. The X axis represents the age group and Y axis represents the number of completely edentulous patients. The frequencies are represented as presence of systemic complication (blue) and absence of systemic complication (green).The patients in 50-60 and 60-70 year age groups have systemic complications compared to other age groups with a statistically significant difference.(Pearson Chi square test;P=0.01,P<0.05).Hence,it is statistically significant.

Gender	Presence of systemic disease	Absence of systemic disease

Male	78	134
female	64	96
Total	142	230

Table 2 : Table depicts the total number of completely edentulous patients with the presence and absence of systemic complication according to gender .

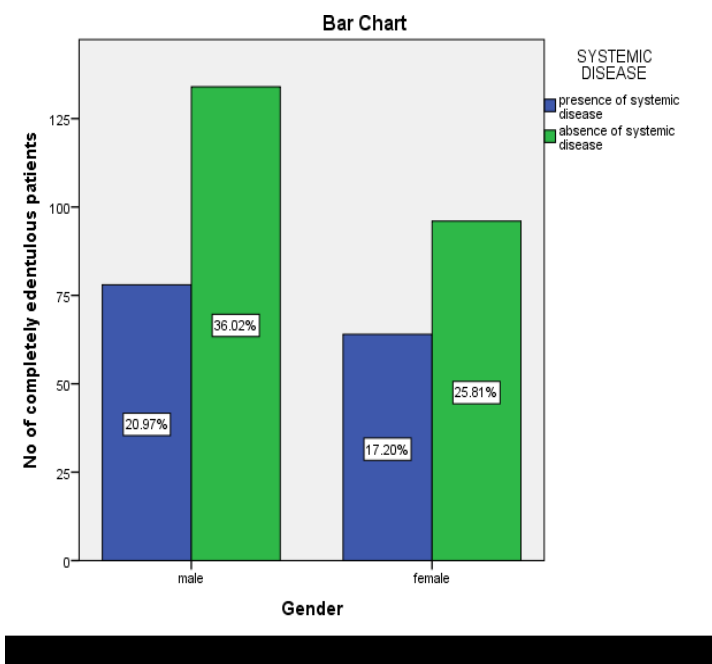


Figure 2 : The bar graph represents the association between the gender and the systemic complications of completely edentulous patients. The X axis represents the gender and Y axis represents the number of completely edentulous patients. The frequencies are represented as presence of systemic complication (blue) and absence of systemic complication (green). Males appear to have more systemic complications than the females, however, this was not statistically significant. (Pearson Chi square test; $P=0.584, P>0.05$). Hence, it is statistically not significant.