

## Awareness among General Public in Relation To Periodontal Disease and Systemic Health

Aniz A<sup>1</sup>, Dhivakar CP<sup>2</sup>, Sathya Prathiba P<sup>3</sup>, Manasa Prabakar<sup>4</sup>, Pranavi J<sup>5</sup>, Soumiya T<sup>6</sup>

<sup>1</sup>Head of Department, Department Of Periodontology And Implantology, Karpaga Vinayaga Institute Of Dental Sciences, Kanchipuram District, Tamilnadu

<sup>2</sup>Professor, Department Of Periodontology And Implantology, Karpaga Vinayaga Institute Of Dental Sciences, Kanchipuram District, Tamilnadu

<sup>3,4,5</sup>Post Graduate Student, Department Of Periodontology And Implantology, Karpaga Vinayaga Institute Of Dental Sciences, Kanchipuram District, Tamilnadu

<sup>6</sup>Under Graduate Student, Karpaga Vinayaga Institute Of Dental Sciences, Kanchipuram District, Tamilnadu

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### ABSTRACT:

**BACKGROUND :** Oral health has influence on overall well-being of an individual. Periodontal disease predominantly mediated by Gram-negative bacteria causes inflammation of the supporting tissues of teeth. Microorganisms and their products disseminate through blood and aggravate conditions such as coronary heart disease, angina, atherosclerosis, stroke, diabetes mellitus, preterm labour, chronic obstructive pulmonary disease. It is important to know the knowledge about oral and systemic health among the public for planning health education and services.

**AIM :** To access the awareness among general public in relation between periodontal disease and Systemic health.

**MATERIALS AND METHODS :** 200 patients were grouped into Urban and rural groups. Each participants were given 12 YES/NO type questions establishing the link between periodontal disease and systemic health. The response were complied, computed, and analyzed for agreement.

**RESULTS :** Urban and rural population had a mean score of 3.55 and 2.55 against a score of 12. In GROUP 1 and 2, the maximum score was 3 and 4 and minimum score was 2 and 1 respectively.

### CONCLUSION :

The result inferred clearly showed that both the urban and rural population had lack of knowledge about the relationship between the oral and systemic health.

### CLINICAL SIGNIFICANCE:

Most studies have proven that periodontal disease contributes in worsening the systemic disease. As periodontal disease is preventable and treatable, proper health education about periodontal medicine will motivate the patient towards maintaining periodontal health and systemic health.

**KEYWORDS:** Periodontal disease, Periodontal medicine, Systemic health

### I. INTRODUCTION

Periodontal disease is one of the common conditions that is responsible for a chronic inflammatory challenge in the body. The focal infection theory proposed by *Hunter* in 1910 was being resurrected. According to *Hunter's* theory, bacteria and their products from local infections could be disseminated throughout the body and cause diseases in other organs. Oral health is an indispensable part of general health and can influence the overall well-being of an individual. Periodontal disease is predominantly mediated by Gram-negative bacteria resulting in inflammation of the supporting structures. As junctional epithelium and sulcular epithelium in the gingival sulcus serve as the most weakest junction in the human body dissemination of microorganisms and their products through the vascular route to distant part of the body is relatively high.<sup>1</sup> Most studies have established the relation between periodontal disease and systemic health. Periodontal pathogens found in organs such as heart, lungs, uterus are shown to aggravate conditions such as coronary heart disease; coronary heart disease-related events such as angina,

infarction and atherosclerosis; stroke; diabetes mellitus; preterm labour (low birth-weight infants and respiratory conditions such as Chronic Obstructive Pulmonary Disease (COPD)).<sup>2,3,4,5,6</sup> Periodontal Medicine is potentially of great public health significance, as periodontal disease is largely preventable and in many instances readily treatable thereby preventing and improving prognosis of several systemic pathologic conditions. Hence dentists play very important role in educating the community towards oral as well as systemic health. For planning in the areas of health education and health services, it is important to know the status of

knowledge about oral and systemic health of the public. In developing countries such as India, awareness among the population about periodontal disease and its effect on systemic health is very limited. The rural population when compared to the urban population has low dentist to population ratio which leads to lack of health education, awareness, infrastructure, poor oral hygiene practices and insufficient oral healthcare facilities. Hence this study aims to comparatively evaluate the knowledge about the association between oral and systemic health among urban and rural population.<sup>8,9,10</sup>

## II. MATERIALS AND METHODS

The present study was carried to know the level of awareness among general public regarding the systemic effects of periodontal disease among outpatients of Department of Periodontology and Implantology in Karpaga Vinayaga Institute of Dental sciences, Kanchipuram. Ethical clearance was obtained from institutional authority members after appraising them regarding the purpose and significance of study. A questionnaire study including 12 questions establishing the link between periodontal disease and systemic health. The questions include interrelationship between periodontitis and various factors like stroke, pneumonia, cardiovascular disease. Questionnaire are based on YES/NO type and then evaluated for their responses. The patients are grouped into 2 categories, 100 each based on the geographic area where they reside:

- Group 1- Urban group
- Group 2- Rural group

## III. STATISTICAL ANALYSIS

Mann Whitney U test and other descriptive statistics were applied.

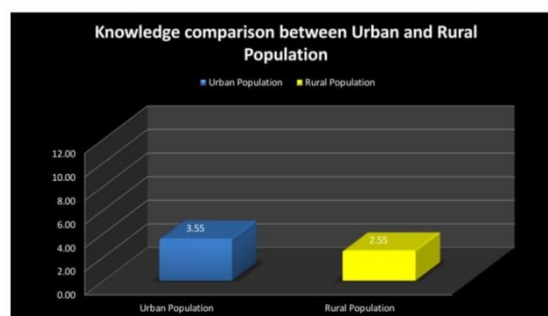
## III. RESULTS

The study involved 200 general population patients attending the OPD of Department of Periodontology and Implantology, Karpaga Vinayaga Institute of Dental Sciences, Kanchipuram. According to the area that they reside, the study population was divided into urban population and rural population with 100 patients in each group. In TABLE 1, comparison between urban and rural population based on scores obtained.

Group	Mean	Std. D.	Mean Rank	Minimum	Maximum	n	Score	Z value	p value
Urban Population	3.55	0.74	133.63	2	4	100	12	-8.645	0.001**
Rural Population	2.55	0.74	67.38	1	3				

P value <0.001\*\* - highly significant

Among urban population of 100 patients, a mean score of 3.55 was obtained against a score of 12. Among rural population of 100 patients, a mean score of 2.55 was obtained against a score of 12. In Group 1, the maximum score was 4 and minimum score was 2. In Group 2, the maximum score was 3 and minimum score was 1. Knowledge comparison between urban and rural population is shown in GRAPH 1.



## IV. DISCUSSION

Oral health is one of the important indicators of individual and public health. William Osler stated that mouth is the mirror of general health. For planning in the areas of health education and health services, it is substantial to have accurate information of oral health status among general population. Periodontal disease is the inflammatory disease of the attachment apparatus caused predominantly by Gram negative

bacteria. There are about 500 different bacterial species which are capable of colonizing the mouth of an adult human.<sup>11</sup> Poor oral health maintenance may affect the general health. Dissemination of oral microorganisms to distant part of the body via vascular route triggers various cellular events leading to worsening of various systemic disease. Hence, this study was conducted to assess the knowledge of general public in urban and rural population on association between periodontal disease and systemic health.

In urban population, the mean score scored was 3.55 and in rural population the mean score was 2.55 which clearly indicates that the knowledge of urban population is significantly higher than the rural population. Although the urban population has a statistically significant higher score than the rural population, the highest score was 4 and the mean score was 3.55 out of 12 which distinctly shows that the knowledge of both the population was under par well below the standard. Hence aggressive measures are needed in both urban and rural population to educate the patients in the field of periodontal medicine. As periodontitis is a preventable and easily treatable disease, proper education and treatment will benefit the patients in maintaining a good systemic health.

## V. CONCLUSION

The result inferred clearly showed that both the urban and rural population had lack of knowledge about the relationship between the oral and systemic health. Although the urban population had higher score over the rural population, the score was relatively low when compared to the overall score. Hence measures has to be taken to educate the people in both rural as well as urban areas.

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