

EXPLORATION OF PROSTHETIC STATUS AND TREATMENT NEEDS AMONG ELDERLY POPULATION IN BANGALORE CITY

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ABSTRACT:

Background: Comprehensive data on the prosthetic status and dental treatment needs of the elderly population in India is deficient. **AIM:** To assess the prosthetic status and prosthetic treatment needs among adults aged 50 years and above in and around Bangalore.

Material and methods: A cross sectional survey was carried out in and around Bangalore, a total of 784 subjects whose age was 50 years or above were considered for the study. A survey proforma was prepared with the help of Oral Health Assessment Form, WHO (1997) and this modified proforma recorded data on socio-demographic status, prosthetic status and need of the study population.

Results: 490 (58.5%) were wearing denture of any type, 149 (16.5%) persons were wearing bridge, 169 (20.2%) were wearing partial denture in one or both arch, 72 (21.9%) wearing complete denture in one or both the arch. Total of 546 (69.6%) subjects in study population needed prosthetic treatment. It was found that prosthetic treatment need increased with age and highest was among ≥ 70 years age group.

Conclusion: It was evident more than half of the study population is having prosthesis in either arches and around 70% of the subjects have the prosthetic needs. There is an urgent need of looking into the geriatric dental care in Bangalore.

Key words: Elderly, Prosthesis, Treatment need.



INTRODUCTION:

One of the great biological mysteries, aging is a universal process - a simple fact of being alive. Life span in the world has increased dramatically because of the discoveries in our modern medicine science and better social conditions, and it becomes the mission of health care

providers to render professional service not only to substantially improve the life span but to also make the later part of a person's life more productive and enjoyable.^[1]

The whole concept of dentistry for elderly people also has to be redefined according

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to dental health needs of elderly people. Improvement in dental health is of dominant requirement for improvement of general health as oral health is an integral part of overall health. In elderly people, oral health contributes significantly towards quality of life. Poor oral health and loss of teeth not only adversely affect the dietary intake, nutritional status and phonetics, but also compromise the general health.

In India, the size of the elderly population, i.e., persons with age of 60 and above (as in India, it forms the basis for classification of the elderly) is fast-growing and life expectancy of Indian population is increased to 62.36 years for males and 63.39 years for females compared with 23.8 years for both in 190.^[2] Although the elderly population in India constituted only 7.4% of total population at the turn of the new millennium, its share is expected to increase up to 19% by the year 2025. Very few studies have been conducted in India regarding the dental health status and treatment need for elderly population. The estimation of treatment need is an important requirement in oral health care planning. Therefore the aim of the study was keeping these views in mind an attempt was made to assess the prosthetic status and prosthetic treatment needs among adults aged 50 years and above in and around Bangalore.

MATERIAL AND METHODS:

This cross sectional survey was carried out in and around Bangalore, a total of 784 subjects whose age was 50 years or above

were considered for the study. Patients who did not give consent for the dental check-up were excluded from the study. A survey proforma was prepared with the help of Oral Health Assessment Form, WHO (1997) ^[3] and this modified proforma recorded data on socio-demographic status, prosthetic status and need of the study population. Subjects were examined seated in a chair or stool in open space under natural light. The armamentarium used in the study includes diagnostic instrument carrying trays, mouth masks, disposable surgical gloves, copies of the Proforma, and literature for distribution. The recorder was made to sit close to the examiner so that the instructions and codes could be easily heard and the examiner could see that findings are being recorded correctly. All statistic calculations were performed using SPSS 20 (Statistical Package for Social Sciences). Data descriptive statistics were used for the analysis. P value <0.05 was considered as statistically significant. After completion of data collection, awareness regarding oral hygiene through instructions and products were given to independent subjects. Oral hygiene aids and oral health education literature were handed over to the caretakers of the dependant elderly individuals.

RESULTS:

A total of 784 subjects which consisted of 316 (40.3%) of 50-59 years age group, 218 (27.8%) of 60-69 years and 250 (31.9%) of 70 years and above. There were (315 females (40.1%) and 469 males (59.1%))

aged 50 years and above constituted the sample population (Graph 1 & 2).

TABLE 1: Shows distribution of study population in relation to arch and type of prosthesis, 490 (58.5%) were wearing denture of any type, 149(16.5%) persons were wearing bridge, 169(20.2%) were wearing partial denture in one or both arch, 172(21.9%) wearing complete denture in one or both the arch.

TABLE 2: Shows distribution of study population according to prosthetic treatment need, a total of 546(69.9%) need prosthesis, 190 (24.2%) need a one unit prosthesis, 238(30.4%) need a combination of one and/or multi unit prosthesis, 118(15.1%) need for complete prosthesis in one or both arches.

Graph 3: Describes the distribution of study population according to prosthetic status and age. In the age group of 50-59 years, 36(11.4%) had prosthesis in upper arch whereas 57(18.0%) had prosthesis in lower arch and 41 (13.0%) had prosthesis in both arches. In the age group of 60-69 years, 47(14.9%) had prosthesis in upper arch whereas 62(19.6%) had prosthesis in lower arch and 45 (14.2%) had prosthesis in both arches. In the age group of ≥ 70 years, 71(22.5%) had prosthesis in upper arch whereas 73(23.1%) had prosthesis in lower arch and 58 (18.4%) had prosthesis in both arches.

Graph 4: Describes the distribution of study population according to prosthetic treatment need and age. In the age group of 50-59 years, 83(26.3%) had prosthesis need in upper arch whereas 77(24.4%)

had prosthesis need in lower arch and 29(9.2%) needed prosthesis prosthesis in both arches. In the age group of 60-69 years, 68(31.2%) had prosthesis need in upper arch whereas 62(28.4%) had prosthesis need in lower arch and 23 (10.6%) needed prosthesis in both arches. In the age group of ≥ 70 years, 93(37.2%) had prosthesis in upper arch whereas 74(29.6%) had prosthesis need in lower arch and 37(14.8%) needed prosthesis in both arches.

DISCUSSION:

Data on oral health especially for elderly people in India in general and Bangalore in particular is very scanty. Therefore this community based study was planned to assess prosthetic status and prosthetic treatment need among elderly aged 50 years & above.

The present study reveals that prosthetic status increased with increase in age. ≥ 70 -year age group had more prosthesis in both arches in comparison to other age groups. This may be because the people become more aware of importance of dentures, 490 (58.5%) subjects of study population were with prosthesis. It was on higher side when compared to study done by Ettinger (1984) ^[4] which showed prevalence of prosthesis in any arch being 15.6%.

In the present study over all prevalence of complete denture in one or both arches was 21.9% and it increases with increase in age, similar results were obtained by National Oral Health survey, India (2002) ^[5], Shah N (2004) ^[6]. In contrast higher

results were obtained by Florian (2003) [7] showed 23% in 55-64 age group and 69% in 75-79 age group, Angelillo (1990) [8] showed 44.3%.

The prevalence of bridge prosthesis was 16.5%, whereas results were obtained by Gustavsen (1987) [9] showed 14.4%, Luan WM (1989) [10] showed <6%, Liedberg B (1991) [11] showed 28.8%, Prasad KVV (2001) [12] showed 0.89%.

The estimation of treatment need is an important stage in oral health care planning of elderly. Moreover some of the studies indicate that the demand for such treatments both for population having prosthesis or having no prosthesis.

A total of 546(69.6%) subjects in study population needed prosthetic treatment. Similar results were obtained by Diu S (1989)[13]. In the present study it was found that prosthetic treatment need increased with age and highest was among ≥ 70 years age group in comparison to 50-59 year age group and 60-69 year age group. When compared with result of the present study to Stuck AE (2001) [14] studied in Switzerland and Carles sabria (2001) [15] in Spain showed 59.4% and 55.3% in upper arch, 60.4% in lower arch respectively. However, prosthetic treatment need was much higher when compared to study conducted by Miyazaki (1992) [16] in Japan, Mann J (1985) [17] in Israel, Shah.N (2004) [6] in India showed 36%, 76%, 72% need prosthetic treatment respectively.

Trend of increase in prosthetic need with age might be because age alone is not

responsible for the deterioration of oral health. There might be several other factors such as multiple chronic diseases, intake of several medications and their side effects, socio-economic factors and psychological factors such as depression and isolation., because of gradual loss of spouse and friends and feeling of being unwanted by family members, leading to negligence of personnel and oral hygiene and health.

Unlike acute conditions where treatment reverses the impact of disease to a state of normal tissue integrity and function, tooth replacements are an artificial substitute for a chronic loss and as such are used to manage tooth loss. In this context tooth loss is similar to other chronic conditions requiring a long-term management mind set (6, 20).

CONCLUSION:

From the survey of the studied sample population, it was evident more than half of the study population is having prosthesis in either arches and around 70% of the subjects have the prosthetic needs. It was evident that the prosthetic status and the need increases as the age progresses. A broader look at the oral health of the elderly population involving a larger scaled study and commonly used oral health measures are the urgent need of the situation. As a preventive step, more attention for the preventive programs among middle-aged and elderly population should be given. Consolidation in oral health perceptions starts before age 50, suggesting early intervention before that age.

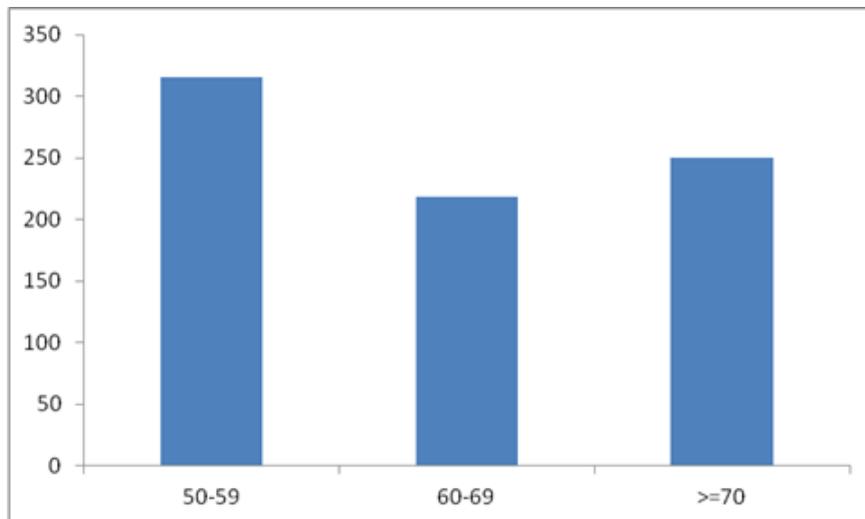
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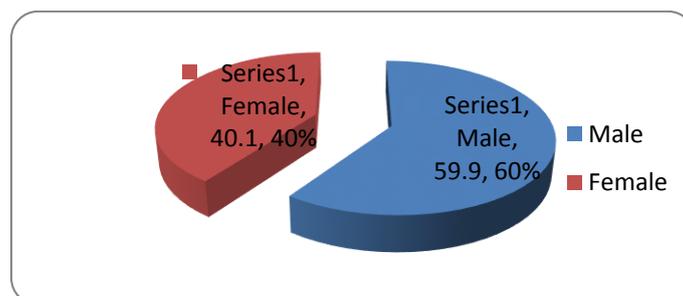
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GRAPHS:

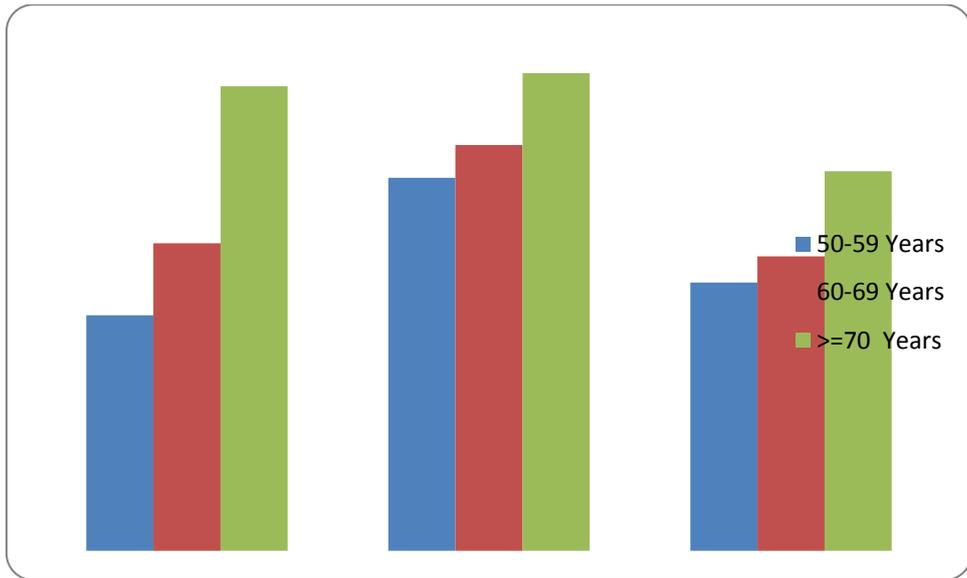
Graph1. Age wise frequency distribution of study population



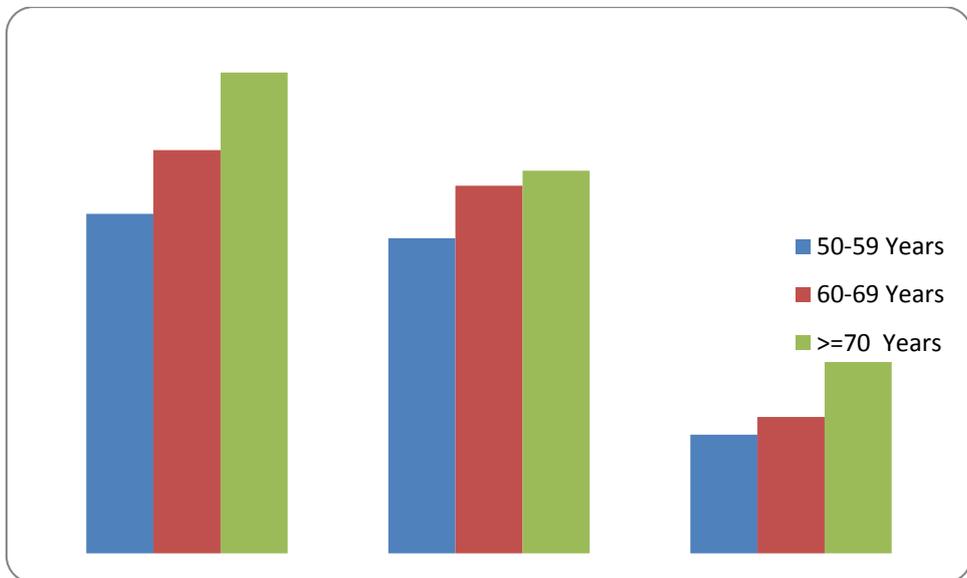
Graph2. Gender distribution of study population



Graph 3: prosthetic status in relation to age among study population



Graph 4. Prosthetic treatment need in relation to age among study population



TABLES:

Table 1: Distribution of study population in relation to arch and type of prosthesis

Type of prosthesis	Upper arch only	Lower arch only	Both arch	Total
Bridge	54 (5.6)	68 (7.4)	27 (3.4)	149 (16.5)
Partial Denture	65 (8.3)	82 (9.1)	22 (2.8)	169 (20.2)
Complete Denture	35 (4.5)	42 (5.4)	95 (12.1)	172 (21.9)
Total	154 (18.4)	192 (21.8)	144 (18.4)	490 (58.5)

Table 2: Distribution of study population in relation to arch and prosthetic treatment need

	Upper arch only	Lower arch only	Both arch	Total
Need one unit prosthesis	91 (11.6)	88 (11.2)	11 (1.4)	190 (24.2)
Need for a combination of one and/or multi unit prosthesis	107 (13.6)	86 (11.0)	45 (5.7)	238(30.4)
Need for Complete prosthesis	46 (5.9)	39 (5.0)	33 (4.2)	118 (15.1)
Total	244 (31.1)	213 (27.2)	89 (11.4)	546 (69.6)