

To evaluate the status and need for dental prosthesis among the geriatric population of Central India reporting to the dental colleges

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ABSTRACT

Aims and Objectives: The study aimed at evaluating the dental prosthetic status and its need among the geriatric population of Central India reporting to the dental colleges. **Materials and Methods:** A descriptive cross-sectional study was carried out to evaluate prosthetic status and needs among geriatric individuals in Wardha city, Maharashtra reporting to dental colleges. A detailed inspection of the oral cavity of the study subjects was done using Basic Oral Health Surveys, World Health Organization (WHO) 1997. **Results:** A total of 110 individuals were evaluated for the study. A total of 26.36% study participants had some prosthesis at the time of examination, whereas 79.99% needed prosthesis. A total of 51.82% needed complete dentures. About 12.71% of the participants needed combination prosthesis. **Conclusions:** The result of this study concluded that the prosthetic status of the geriatric individuals in Wardha city (MH) of Central India is poor and needs prosthetic rehabilitation. A well-structured approach is required to fulfill these needs.

Keywords: Geriatric individuals, prosthetic need, prosthetic status

Introduction

The age distribution of the world's population is changing. With improved medical aid, life expectancy has been prolonged, resulting in a worldwide increase in the proportion of geriatric individuals.^[1]

Oral diseases are generally gradual and collective in nature. The affair of aging increases the chances of not only oral diseases

but also affects the general health in the form of illnesses and chronic diseases, directly or indirectly.^[1]

The geriatric individuals usually face hurdles in getting oral healthcare such as, reduced mobility that prevents the way to oral healthcare, financial distress after retirement, and expensive dental treatments.^[1]

Oral diseases are growing rapidly in many developing countries due to unhealthy habits such as a diet with a high level of sugar and the use of tobacco. It has been noticed that developed countries expend 5 to 10% of their "national public health resources" on dental treatments every year, unlike the developing countries who do not spend at all to control or treat oral diseases.^[2]

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India is still a developing country. Census has reported almost 6% of geriatric individuals in 2019 and is expecting to increase to 20% by the year 2050.^[3,4] Hence, this study was undertaken to evaluate the prosthetic status and needs of geriatric individuals in Wardha, by using World Health Organization (WHO) 1997.^[5]

Materials and Methods

A descriptive cross-sectional study was conducted to assess the prosthetic status and prosthetic needs of geriatric elderly individuals reporting to dental colleges (Teaching institutes) of Wardha city (Maharashtra). The study was undertaken in a period of six months from June 2019 – December 2019 after the ethical clearance from the institutional ethical committee (DMIMS (DU)/IEC/Jun-2019/8127). One hundred and ten subjects were randomly selected for the study. The sample size was determined using the sample size formula with the desired error of margin.

Consent was taken on paper from all the participants of the study before the oral examination. Health Surveys, WHO 1975 criteria were used in this study. WHO, Oral Health Assessment forms were used to note the data. The clinical evaluation was done by a single trained examiner.

Inclusion criteria

Co-operative geriatric individuals residing in Wardha city.

Subjects from both the genders.

Age group ranging between 60 and 90 years.

Exclusion criteria

Study subjects not willing for examination.

Study subjects with contraindication for examination.

Non ambulatory / medically / psychologically compromised subjects who could not move out of their room for examination.

Results

A descriptive statistical analysis was done. A total of 110 geriatric study subjects from Wardha city was selected. All subjects were examined using WHO 1997 methodology, observations were recorded, and the results were calculated.

Among the 110 study subjects, a total of 8.18% of the study participants had prostheses in the form of a single bridge, 2.73% had prostheses in the form of multiple bridges, 3.64% had removable partial denture, 5.45% had both bridge and partial dentures, 6.36% had complete denture. It was a perceptible fact that almost all of the complete dentures needed replacement due to wear or improper fit [Table 1].

Table 1: Distribution of patients according to prosthetic status

Prosthetic Status	No of subjects	Percentage
Score 0	81	73.64
Score 1	9	8.18
Score 2	3	2.73
Score 3	4	3.64
Score 4	6	5.45
Score 5	7	6.36
Score 9	0	0.00
Total	110	100

Table 2: Distribution of patients according to prosthetic need

Prosthetic Need	No of subjects	Percentage
Score 0	22	20.00
Score 1	10	9.09
Score 2	7	6.36
Score 3	8	7.27
Score 4	6	5.45
Score 5	57	51.82
Score 9	0	0.00
Total	110	100

Analysis of the prosthetic needs of the study participants showed no prosthetic need in 20%, 6.36% needed single unit bridge prosthesis, 9.09% needed multiunit bridges, 12.72% needed a combination of a single or multiunit prosthesis, and 51.82% needed complete dentures [Table 2].

Discussion

The study evaluated 110 subjects out of which 73.64% had no prosthesis and only 26.36% of the study participants had prosthesis at the time of examination. Somewhat similar data have been noted by Prasad KV,^[6] Thakare V, and Ajith Krishnan CG.^[4] Some studies documented higher prosthetic status.^[7-10]

A total of 79.99% study participants needed some kind of prosthesis out of which 51.82% needed complete dentures and 28.17% needed combination prosthesis.

The result of this study for the need of prosthesis was similar to the studies reported by Stuck AE *et al.*,^[8] Mersel A *et al.*,^[10] Smith JM *et al.*,^[11] Frenkel H *et al.*,^[12] Thakare V, and Ajith Krishnan CG.^[4] Kraljevic *et al.* showed higher prosthetic needs than what was noticed in this study.^[7] It has been observed that among the study participants, need for prosthetic rehabilitation was more than those whose fulfilled prosthetic needs.

Singh A *et al.* in 2016 evaluated oral health among geriatric individuals reported to camps in New Delhi and found prosthetic need among 83.1% of participants. He found high levels of unmet prosthetic needs and very low utilization of dental care.^[13] AlZarea BK *et al.* in 2017, analyzed the dental prosthetic status and prosthetic

needs of geriatric patients reporting the College of Dentistry, Al Jouf University, Kingdom of Saudi Arabia. He reported 69.06% of the study group, needed some form of prosthetic treatment.^[14]

Rekhi A *et al.* in 2018 did a study to assess oral health-related quality of life among the institutionalized elderly in Delhi.^[15] They found the Geriatric Oral Health Assessment Index to be 41.57 ± 6.07 . They concluded that subjects who needed multiunit prostheses showed significantly poor oral health-related quality of life as compared to those without any prosthetic need. Somewhat similar study was done by Chahar P *et al.* in 2019.^[16] He evaluated oral health-related quality of life in geriatric patients reporting to special clinics in public hospitals and found the Geriatric Oral Health Assessment Index to be $26.69 + 4.44$.

The reasons behind the lower percentage of prosthetic status among the study participants of this study may be due to the unavailability of dental healthcare, unawareness among the geriatric individuals towards the importance of oral health and components of dental care, poor access to services and expensive dental treatments, etc.

Educating patients in disease prevention and health maintenance is one of the biggest functions that family physicians perform. Teaching institutions such as dental colleges are the primary healthcare centers and an essential part of the healthcare system.

The cause for higher prosthetic needs documented by other studies among the geriatric population were study subjects either hospitalized or immobile due to medical illnesses, physical dependency, psychiatric problems, etc., These reasons were not prominent in this study as the study excluded nonambulatory, medically, psychologically compromised subjects who could not move out of their room for examination.

The result of this study reflected a higher need for prosthetic rehabilitation among the geriatric population in Wardha and the prosthetic status was also poor. An extensive discrepancy was observed between the prosthetic needs and prosthetic status.

We need proper strategies and planning to be executed by the government and they should ensure that action should not fall behind the demographic trends. National oral health planners should be motivated to amalgamate general and oral healthcare activities for the geriatric population to improve their quality of life.^[17,18]

Conclusions

Aging introduces many forbidding challenges. This study evidently showed poor prosthetic care among geriatric individuals. The facts and figures obtained in this study not only provide a baseline reference but also reveals the various obstacles faced by geriatric individuals to get oral healthcare.

Emphasizing that aging is irreversible and inevitable, we need timely action towards the provision of oral healthcare and

it should not be restricted to only treatment but should also focus on enabling these geriatric individuals with information and education programs. This strategy will help to control oral diseases and will increase the utilization of dental services by geriatric individuals.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient (s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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