ASSESSMENT OF THE DENTAL NEEDS AND OBSTACLES TO APPLICATION OF DENTAL SERVICES AMONG SENIOR ADULTS- AN ORIGINAL RESEARCH

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ABSTRACT
Aim
The purpose of the present study was to assess various dental needs of elderly patients as well as any obstacles encountered in achieving the same.
Methodology
A cross-sectional door-to-door survey using a self-designed, structured, validated questionnaire was carried out with a sample of 250 elders. They were randomly selected through multistage sampling technique. Information regarding demographic details, systemic conditions, oral hygiene practices, perceived need, utilization rate of dental services, and factors acting as barriers for the utilization of dental services among the elderly were collected. Chi-square test and Pearson correlation were applied.
Results
About 70.5% of the subjects had utilized the dental services in their lifetime, but only 41.4% had utilized in the previous year. Fifty percent of the elders perceived a problem in their oral cavity. Most of our respondents suffered from more than one chronic disease and had utilized the dental services. The cost of treatment, nonsuitability of location of clinic, indirect cost due to transport, the appointment system, and no availability of services on weekends acted as the important barriers to utilize the dental services.
Conclusion
Financial constraint and lack of perceiving dental problems as severe acted as major barriers. Preventive oral hygiene measures tailored to meet the unique needs of the individual patient are essential.

Keywords Barriers, dental care, geriatric, perceived need, utilization.

INTRODUCTION

The oral health care system is facing an unprecedented need to expand capacity to provide services to older adults, especially as life expectancy increases and those who are living longer retain more of their natural teeth. According to the 2000 Surgeon General's Report on Oral Health in America, improved oral care among the elderly would improve general health, treatment outcomes, nutritional status, and quality of life.[1]The relationship between oral health and general health is particularly strong among older adults.[2]Many older adults

suffer from severe periodontal disease and there is evidence that periodontal disease is associated with cardiovascular disease,[3-12]poor diabetic control,[13-18]and respiratory disease.[19]Furthermore, poor oral health and the loss of teeth are associated with lower intakes of nutrient rich foods and dietary fiber.[1,20]Also, chronic diseases and the side effects of medications to treat these diseases affect oral health and may lead to reduced salivary flow, altered sense of taste and smell, and oral and facial pain.[21]Some older adults with impaired dentition may have trouble sleeping because of dental pain.[22,23]Finally, there are psychological and social impacts of oral disease, such as avoiding social contacts and conversation, and being too embarrassed to laugh or smile. These are important concerns given the positive effects that social relations have on general health.[24-26]Health policy analysts agree that the key to maintaining oral health in the geriatric population is timely access to dental care; yet, older adults face significant barriers to accessing oral health services.[27]These include a lack of insurance (there is no dental coverage under Medicare, and limited adult dental coverage in some states under Medicaid), unaffordable co-pays for the underinsured, lack of transportation, perceived lack of need on the part of patients, and relatively few geriatric dentists.[1,28,29]An additional barrier is lack of knowledge about dental insurance benefits. A recent survey of adults who attend senior centers in New York City found that 20% to 40% were not aware of New York's Medicaid coverage of dental services for adults.[30]Given the barriers to accessing care, it is not surprising that older adults have the lowest rate of dental visits compared with all other adults over 18 years old.[27,31]Many studies examining dental service utilization (DSU) and its determinants applied the Andersen's behavioural model of healthcare use. This model originally developed in 1960s evolved over time although the fundamental components of the model have not substantially changed. The model includes individual and contextual-level components such as predisposing factors (for ex., age, sex, education, cultural norms), enabling factors (for ex., income and wealth, insurance, transportation, hospital and dentist density), and need-based factors (for ex., level of injury or disease assessed by individual or physician/dentist). Importantly, systemic diseases and medications as sources of hyposalivation and xerostomia in elderly may also cause deterioration in oral health and quality of life and lead to seek dental care. In a revised Andersen's model, personal health practices (for ex., diet, exercise, alcohol, tobacco, frequency of toothbrushing) were added. Moreover, psychosocial factors may determine health and dental service use. Indeed, in Germany frequent attendance in primary care was associated with higher perceived stress and less self-efficacy, self-esteem, life satisfaction, and self-regulation in people aged 40+ years. Despite that psychosocial factors may play an important role in DSU, studies examining such relationships in elderly are scarce. A Brazilian study did not find a significant association between use of dental service in previous 3 years and depressive symptoms. Interestingly, a systematic 2021 review reported that the components of Andersen's behavioural model are more likely to be associated with DSU in children, whereas predisposing, enabling, and need-based factors have not been consistently associated with DSU in adults. In adults, a link between increased dental service use and higher education (predisposing factor) was found.[32]

AIM OF THE PRESENT STUDY

The purpose of the present study was to assess various dental needs of elderly patients as well as any obstacles encountered in achieving the same.

METHODOLOGY

A cross-sectional survey was conducted on 250 elderly people aged 65–74 years. The total population of people aged 65–74 years. Voluntary informed written consent were taken. Participants with mental disorders affecting communication and memory function were excluded. Ethical clearance was also taken.

Data were collected using a self-designed structured questionnaire containing 20 questions. The pro forma was divided into five sections – to collect information about sociodemographic details, medications for their medical conditions, oral hygiene practices and dietary habits, perceived need for dental care, and multiple-choice questions to assess various factors influencing the utilization of dental care.

The data obtained was analyzed using SPSS software version 20. The significant level was fixed at $P < 0.05$. Chi-square test and Pearson correlation were applied.

Table 1- Distribution of study participants according to their self-reported perceived oral needs, satisfaction of oral condition, and presence of natural teeth/prosthesis

Variable	***n* (%)**
Problem in oral cavity	
Yes	52.3
No	41.1
Do not know	6.6
Region of problem in oral cavity	

Teeth	70
Gums	16.6
Others (denture)	1.9
Both teeth and gums	11.5
Presence of natural teeth	
Yes	76.3
No	23.7
Presence of partial/complete denture	
Yes	13.2
No	10.5
Satisfaction of oral condition	
Very satisfied	23.7
Satisfied	39.1
Neither satisfied nor dissatisfied	22.1
Not satisfied	11.7
Not at all satisfied	3.4

Table 2- Distribution of study participants according to their self-reported reasons for not visiting the dentist

Reasons	***n* (%)**
Could not afford the service	31.1
Dentist was too busy	1.6
Inconvenience in waiting	6.8
Others (never experienced dental problems)	50.5

RESULTS

The study population consisted of 250 elderly subjects with a mean age of 68.10 years. Most of them suffered from circulatory diseases 37.9%. Overall, 97.7% of the participants brushed/cleaned their teeth/denture regularly. About 48.7% of the study participants reported consumption of sugary snacks. Nearly 52.3% of the participants reported dental problems and39.1% were satisfied with their present oral health. Almost 70.5% had visited the dentist, but only 41.4% had visited within the last year, the most common reasons being toothache. The major factors reported as barriers for utilization of dental services by the elderly were cost of treatment (67.8%), attitude to seek dental treatment only when they no longer can bear pain (60.3%), and use of self-care or home remedy (59.7%).All the factors were significantly associated with the utilization of dental services at $P < 0.001$. The factors such as cost, dentist explanation, appointment system, nonavailability of service on Sundays, unbearable pain, and preference for specialist showed a fair degree of positive correlation.

DISCUSSION

The oral health of older adults has improved in recent decades. Many adults are maintaining their natural teeth and are developing patterns of routine preventive and restorative care that will enable them to enjoy oral health throughout their lifetime. However, the burden of oral diseases and conditions is disproportionately borne by individuals with low socioeconomic status and those who are vulnerable because of poor general health or poor functional status requiring institutionalization. Fifty percent of the eldersperceived a problem in their oral cavity, most commonly ontheir teeth. About 70.5% of the subjects had utilized the dentalservices in their lifetime, but only 41.4% had utilized in theprevious year. Frequently reported barriers were the cost, needfor dental treatment, location of service, failure to comprehenddentist explanation, appointments/waiting time in the dental Fifty percent of the eldersperceived a problem in their oral cavity, most commonly ontheir teeth. About 70.5% of the subjects had utilized the dentalservices in their lifetime, but only 41.4% had utilized in theprevious year. Frequently reported barriers were the cost, needfor dental treatment, location of service, failure to comprehenddentist explanation, appointments/waiting time in the dental utilization of dental services among females could be becauseof less access to education and economic dependence andhence they do not have financial freedom to make health-carechoices.[33]BG Prasad socioeconomic status scale was more appropriate and the participants were classified accordingly as data were collected only regarding total number of family members and income. The utilization of dental services among our elders increased from 23.4% to 41.9% as the

socioeconomic condition improved. Amongst the study participants, overall utilization of dental services was found to be 70.5%. Similar results were reported in the study by Kadaluru Umashankar *et al*.[34] and Lo ECM.[35] The reasons for such trends among the elderly in that study were because they perceived their health status to be poor compared to younger subjects. Contrasting results were reported in a study by Vikram *et al*.[36] where only 36.4% had ever visited. Majorly elders in our study preferred professional or expert opinion for dental care. Consistently, in the study by Garcha *et al.,*[37] participants wished to seek only expert/professional advice irrespective of their social class. Most of the people are of the opinion that a qualified doctor would know what is best.

CONCLUSION

The major impediments for access to dental care were low self support system, nonavailability of services on weekends, underestimation of preventive oral health care, systemic conditions, lack of self-perceived need, and low oral health literacy rate.

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