



GENERAL HEALTH, ORAL HYGIENE STATUS AND PERCEIVED DENTAL TREATMENT NEEDS OF AN ELDERLY POPULATION IN UDAIPUR, RAJASTHAN

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Abstract

Introduction: Ageing is a natural and inevitable process. It has been estimated that around 142 million people or 8% of the population of the World Health Organization's South East Asia region are above the age of 60 years. Oral Health can be defined as "A standard of health of the oral and related tissues that enables an individual to eat, speak and socialize without active disease, discomfort or embarrassment and that contributes to general wellbeing". Objective: Aim: To increase awareness amongst the elderly people residing in old age home about oral health care and the treatment needs. Objective: By knowing the treatment needs of the elderly age group basic treatment needs can be provided in their vicinity with cost effective benefits Materials and

Methods: The study was conducted in old age homes of Udaipur and the total population was 131, out of which 86 of them participated.

Results: Data collected included the information related to age, sex, general health, previous dental history, current dental status, oral hygiene practices, denture hygiene and means of maintenance of these elderly people. 70% of the participants clean their teeth once daily using toothbrush and toothpaste. 65% of the females had dry mouth problems. In general, oral health of the participants is poor due to the presence of physical inability and limited movements, they cannot perform the task of oral hygiene properly.

Conclusion: Oral health is as important as overall health. Elderly people require help and guidance from the staff, nurse or their relatives to maintain oral hygiene, in spite of their belief of taking care themselves so, financial support or health insurances have to be created for them.

Keywords: oral health, denture hygiene, elder, treatment needs

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1. Introduction

Ageing is a natural and inevitable process. For the past century mankind has been adding years to life. More people now survive the challenges of childbirth and childhood to reach old age. This trend is not restricted to the resource-rich countries but has become a global phenomenon including the countries of South-East Asia. It has been estimated that around 142 million people or 8% of the population of the World Health Organization's South-East Asia Region are above the age of 60 years. This number will continue to increase and by 2025, the estimated proportion of the population over 60 years will be twice that of 2000 and by 2050, which will have further increased to three times the proportion of 2000. In India for example, the elderly population will increase to 160 million by 2025 and to over 300 million by 2050, translating to 19% of the total population.¹

Oral Health and Aging

Health is multi-dimensional and is affected by interacting social, behavioral and biomedical processes. Health can be assessed e.g. by a doctor or by a person him or herself. Subjective indicators can be understood as those based on person's feelings and they can be associated with self-rated health, while objective indicators are based on medically defined criteria concerning diseases. According to WHO, Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.² Oral health can be defined as 'a standard of health of the oral and related tissues that enables an individual to eat, speak, and socialize without active disease, discomfort, or embarrassment, and that contributes to general wellbeing'. Oral health plays an important role in general health and wellbeing and is more than simply the absence of disease in the mouth; it should be viewed as a standard of oral

functioning that enables comfortable participation in everyday activities.³

The physiological decline that occurs with ageing affects manual dexterity and this, coupled with reduced muscular tone, hampers adequate clearing of food particles from the oral cavity. In addition, there is likely to be gingival recession and increase in interdental spaces, which predisposes to increase in plaque retention, all of which make the maintenance of optimum oral health difficult.

The oral disease that the elderly are particularly prone to are periodontal disease, root caries, attrition, missing teeth, edentulism, poor quality of alveolar ridges, ill-fitting dentures, mucosal lesions, oral ulceration, xerostomia, oral pre-cancers and cancers. Many of these are the sequelae of neglect in the early years of life, like consumption of a cariogenic diet, lack of awareness regarding preventive aspects, and habits like tobacco use, pan and betel nut chewing.

Poor oral health can affect functioning and have severe consequences. Its problems can lead to discomfort, pain, complications in eating, communication, diseases, decline in social activities and low self-esteem.³

In elderly adults, the problem is much more complex. The dental needs of elder people are more extensive and the patient may have a medical history that modifies or limits treatment, or may be taking medications to treat chronic diseases, and these may affect the oral cavity directly or require modification of treatment. The patient's physical frailty may limit travel or time of treatment. The patient may be cognitively impaired and, therefore, unable to understand a treatment plan or have the neuromuscular skills to clean his or her teeth or to wear dentures.

Older people with prosthesis may not be able to take all the diets which are fundamental for the body and if it is not

maintained properly there might be harmful consequences.

Elderly people are a complex combination and expression of their genetic predisposition, lifestyle, socialization and environment. All of these factors influence their health beliefs and, therefore, their health-related behavior and attitudes. Older adults do not tend to seek care unless they have a perceived problem. Therefore, when older people seek care, it is important to try to resolve their chief complaints as quickly as possible when developing the treatment plan. This plan must take into account the patient's attitude, genetic predisposition to oral diseases, lifestyle, socialization and the environments that influence his or her health beliefs and behaviors. The aim of this study was to increase awareness amongst the elderly people residing in old age home about oral health care and the treatment needs.

2. Methodology

Study design and participants

The study was conducted in old age homes of Udaipur City. Total population in the old age home was 131, out of which 86 of them participated. The inclusion criteria were people who were living in old age homes, minimum age was 55 and above and people who were able to respond. An exclusion criterion was people who were not able to respond. The study was based on questionnaire carried out in the old age homes of Udaipur. This survey was carried out in the month of March in the all age homes of Udaipur city. The sample consisted of 86 older adults of whom (54 males, 32 females) were eligible. 62.7% comprised of males and 37.2% comprised of females. Ethical clearance was taken from ethical review board of Darshan Dental College and Hospital. A Consent letter was signed from all study participants of old age homes.

Data acquisition and variables

A prelisted questionnaire was used. The questionnaire was described in three parts, the first part consisted of demographic data, second was general health and their oral hygiene practice, third part consisted of their treatment needs.

A detailed questionnaire was prepared in order to collect information related to age, sex, general health, and how they feel about their health, previous dental history (frequency of visiting a dentist and reasons), current dental status, preference of diet, oral hygiene practices (use of tooth brush and tooth paste or both), denture hygiene, and means of maintain oral hygiene of these elderly people. The questionnaire was prepared from previous literature 1, general health was elicited by the question "Do you have any systemic disease?" The participants were asked to describe the condition of their teeth or dentures. Treatment needs were elicited by the questions "Do you think you require any dental treatment at this moment?" And "Do you think that dental visits are only important if you have a dental emergency?" Options provided were "yes" or "no".

It took three days to conduct survey in all the old age homes of Udaipur City. Approximately 15-20 minutes were required to complete our questionnaire for a person.

Statistical analysis

The statistical data was analyzed with SPSS 19 for Windows. The data were analyzed using chi-square test. p values less than 0.05 were considered to be statistically significant in all tests.

3. Result

The study was conducted in old age homes in the Udaipur city. The eligible participants out of 131 people comprised of 86 persons aged 55 and older with 32 numbers of females and 54 numbers of males. Amongst the 86 participants, 79% of

participants (68) are staying with their partners.

Majority of the participants have respiratory problem (n=26), heart problems (n=), genitourinary problems (n=) and most of them are diabetic (n=) shows the significant relation in different age group (p=.000). Most of the participants (n=59) rely on the specific medication showing the significant relation among the different groups (p=0.021).

A significant relation (p= 0.007) and (p=0.000) are seen between the different old age group with majority of the participant's (n=74) staple diet is wheat and sugar consumption being thrice per day (n=43).

Nearly 70% of the participants (n=60) cleans their teeth once daily majority of them (n=58) using toothbrush and toothpaste with significant relation amongst the different groups (p=.000). A number of participants (n=36) believes that they have poor oral hygiene status with significant relation to different group (p=0.006). Almost all the participants (n=82) require no help in maintaining their oral hygiene indicating a significant relation (p=.000). 40 participants out of 86 have dry mouth problems in which 19 are males and 21 are females, rest off the participants do not have dry mouth problems referring to a significant relation (p=0.006)

A non-significant relation is seen amongst the different age group where participants

(n=60) have avoided eating food because of any problem in their oral cavity. A large number of participants (n=62) requires dental treatments showing significant relation between the groups (p=.000).

About 82.5 % of the participants (n=71) do not wear any dentures or prosthesis, a significant relation (p=0.004). Female participants (n=40) and male participants (n=28) has no problems regarding teeth/denture/prosthesis with significant relation (p=0.000) amongst the different age group.

A huge number of participants (n=56) do not get dental care while the 43 participants visit a dentist once in 5-10 years and 75 participants would prefer to visit a dentist only in the emergency situation showing the significant relation between all the age groups (p=0.00), (p=0.00) and (p=0.001) respectively.

A few participants (n=34) give fearfulness and (n=33) give pain as a reason for avoiding the dental visit while the few other participants (n=53) do not think dental visits causes pain showing significant relation between the age groups (p=0.00) and (p=0.00) respectively. A large number of the participants (n=76) believes that the oral health is as important as the overall health with significant relation (p=0.00). Majority of the participants (n=74) do not have the health insurance.

Table 1: Treatment needs of old age people

Que	yes		no		Total	P value
	Male(%)	Female(%)	Male(%)	Female(%)		
Dry mouth problem	19(35.18)	21(65.62)	35(64.81)	11(34.37)	40(46.51)	0.006
Avoided eating some food from last six months	15(27.77)	11(34.37)	39(72.22)	21(65.62)	26(30.23)	0.520

Are dental visits important in emergency	50(92.59)	25(78.12)	4(7.40)	7(21.87)	75(87.20)	0.052
Dental visits cause pain	18(33.33)	15(46.87)	36(66.66)	17(53.12)	33(38.37)	0.212
Dentures or other prosthesis	12(22.22)	42(77.77)	3(9.37)	29(90.62)	54(62.79)	0.129
Problem regarding teeth/denture/RPD	36(66.66)	4(12.5)	18(33.33)	28(87.5)	40(46.51)	0.000
Requirement of dental treatment at this moment	47(87.03)	15(46.87)	7(12.9)	17(53.12)	62(72.09)	0.000
Oral health important part of overall health	47(87.03)	29(90.62)	7(12.96)	3(9.37)	76(88.37)	0.616

4. Discussion

Old age come with many health problems. Efficiency of all the body systems is in question. Majority of the participants have one or more than one problem such as in relation to the cardiovascular, respiratory, genitourinary systems and most of them are diabetic. Similar result was obtain in previous report in Istanbul in 2009, where most frequent medical issue were cardiovascular and genitourinary problems for males and orthopedic, genitourinary, gastrointestinal and respiratory problems for females.^{4,11} The male participants were more than female participants in the survey conducted while the other reports reported more females subjects than males.⁴⁻⁶

As the health-related problems increases the dependency on the medication also increases with the age. Certain medications are compulsorily required for the body to work efficiently. This pattern was observed in the previous studies indicating the same result.^{7,8,11} it also concluded that certain medicine which is needed in the old age such as drugs for the hypertension, psychiatric or urinary problems causes dry mouth.^{7,8} Dry mouth problems are majority seen in the female participants than male. In this survey 65% of females had dry mouth problem.

Maintaining oral hygiene and overall health is one's own task and is best taken care of by a person himself or herself. Same can be observed here that most of the participants are capable of performing their personal hygiene task and prefer no one else then themselves. Other studies show same result.^{4,7,13,15} In general, the oral health of the participants is poor and can be stated that due to presence of the physical inability and limited movements they cannot perform the task of oral hygiene properly.^{12,13,16} Most of the studies came to know that majority of the participants clean their teeth once daily using toothbrush and toothpaste.^{4,6,9,13,15,16} According to the one of the report some informants felt that the benefits of the modern oral hygiene aids were not justified by the additional expense as compared with traditional toothbrushes and toothpicks. They described the modern dental products as fragile and impractical.⁷

Oral health is as important as the overall health. The initial old age is the stage where most of the dental problems come under notice such as root caries, gingival recession, and periodontal diseases leading to the loosening of the teeth in turn result in loss of bone.^{3,14,16} these are taken care of if the services are available in the vicinity or in the old age home itself. Most of the participants are not receiving the oral health

care and thus are left untreated. A huge number of subjects visits dentist only once in 5-10 years. Similarly in other reports more than one-third of the subjects had not been to the dentist within the previous 5–10 years, mainly due to lack of demand, followed by the cost of the dental care and fear.^{4,9,10} In many reports more than 50% of the participants felt that their oral health needed to be attended and same can be found here that most of the participants felt the need of the treatment.^{5,6,10,15}

A belief of dental treatment causing pain and fearfulness is also a reason for not visiting a dentist. In spite of the need of the treatment their fear prevents them to receive a treatment. In many of the previous reports fear is the most important factor for avoiding the dental visit.⁴ Most of them only prefer dentist in case of emergency. Multiple dental appointment cost more money and are also not covered by the health insurance making one of the factors to avoid taking dental treatment. In Sweden, Financial assistance in the form of rebates, according to some informants, helps to relieve the cost of dental treatment. It seems that the financial assistance has a certain positive effect on visiting the dental office.⁷ On comparing with the other reports the most common barriers were fear of pain, fear of the dentist, the inability to afford dental treatments and the lack of transport.^{4,5,12,13} unlike this a report from the Sweden, showed that the subjects were optimistic towards the oral health care needs and it was considered necessary to avoid tooth loss.⁷ There was a strong belief amongst the participants that regular checkup will definitely prevent most of the dental problems. Similarly in one of the report subjects pointed out that daily oral hygiene practices and dental visits are their own responsibility. They characterized their oral hygiene practices and dental visits as careful and regular, respectively.⁷

5. Conclusion

From the survey of the studied population, the following could be concluded.

1. The three most frequent general health problems were genitourinary problems followed by cardiovascular and respiratory problems, varying significantly between genders, with males suffering more from cardiovascular problems. Females showed significantly higher gastrointestinal and orthopedic problems than males.
2. Dry mouth problem is more seen in females.
3. Certain medicines are important as the age progresses.
4. Elderly people require help and guidance from the staff, nurse or the relatives to maintain oral hygiene, in spite of their belief of taking care themselves.
5. Financial support or health insurances have to be created so that they can afford the dental treatments and other treatments.
6. The treatment needs were extensive and mainly accumulated due to lack of awareness, neglected care and economic barriers.
7. The best option to serve the residents would be “home dentistry or domiciliary dental care,” however it is yet an infrequent practice in India. Surveys should be conducted in this sector very routinely to spot the residents in the need of oral care circumscribing nursing homes, old age homes, ashrams, secure units, and community households

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