Original Article

Profile of 10,935 elderly patients attending the geriatrics department of a medical college: A retrospective study from South India

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Abstract

Introduction: Globally, the elderly population is growing at a rate of 2.6% per year. Understanding the health profile and healthcare needs of the elderly is important. The elderly is the most vulnerable and high-risk groups in terms of health status. Their healthcare-seeking behaviour is crucial in any society. There is a need to generate awareness among the public, politicians, and policymakers regarding multiple issues related to the ageing population in the country. **Objective:** To know the health profile and health-related problems of geriatric patients visiting the department of geriatrics at a medical college. **Methodology:** A five-year retrospective analysis of medical records of patients visiting the department of geriatrics from 4 September 2016 to 4 September 2021 was done using Microsoft Excel software and IBM SPSS Statistics. All records in that duration were reviewed and included. **Results:** Descriptive statistics of medical and dental problems of geriatric patients were recorded. The association of medical and dental problems with gender was assessed. **Conclusion:** A majority of geriatricians are unaware of oral health problems. Medical–dental collaboration is inadequate and should be improved in geriatrics.

Keywords: Elderly, geriatric, profile, retrospective

Introduction

The number of elderly people in developing countries has been growing at a phenomenal rate; in 1990, the population of those aged 60 years and above in developing countries exceeded that of developed countries. The two major population giants of Asia—India and China—will naturally contribute a significant proportion to this growing elderly population. In developing countries, one in every 12 persons is now elderly; the ratio is expected to become one in five by 2050, equalling that in the developed countries. The latter is projected to reach one in three by 2050.[1]

The transition to older populations will challenge society in so many ways. The proportion of the population in traditional working ages will fall but the demand for healthcare, long-term care, social care, and pensions is likely to increase. But population ageing also presents many opportunities. Older

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people make important social contributions as volunteers and active participants in the workforce. Indeed, older populations represent a substantial, but as of yet underutilized, human and social resource. Health in old age will be a crucial determinant of where the balance will lie between the costs and benefits associated with population ageing.[2]

For the planning of national or regional geriatric health promotion programs as well as to prevent and treat health problems, baseline data about the magnitude of the problem are required. India has a vast geographical area that is divided into states which differ in their socioeconomic, educational, cultural and behavioural traditions. A study was planned to assess the existing medical problems of the elderly in order to focus on the areas where more action is required. Hence, a retrospective study of five years (from September 2016 to September 2021) using electronic medical records was conducted with the aim to describe the profile, social well-being, economic activity, oral problems, general health problems, like gastrointestinal (GIT) problems, and fall, and cognitive assessment using the mini-mental state examination (MMSE) etc., of elderly patients who attended the geriatric department at a tertiary care hospital in south India. Ethical committee Board approval by (ECAM-AIMS-2021-354).

Methodology

A secondary data analysis was carried out using the electronic medical records of the outpatient clinic of a geriatric department in south India following Institutional Review Board approval (ECAM-AIMS-2021-354). This unit is a part of a large tertiary teaching hospital that caters predominantly to people living in the surrounding slum areas. Data from the first visit record of patients over 60 years who are keralites reporting to the geriatric department were collected.Five years of data(2015-2021)were gathered. There was a total of 12,778 patients visited during this period. Due to missing data, only 10,935 patients were included in the current study.

The study was undertaken with the objective of determining the Demographic and clinical profile, screening for depression, and to determine the commonly involved problems like GIT issues, fall, etc., in elderly patients presenting to our outpatient clinic.

The demographic characteristics of participants, such as age, gender, and address, were noted along with their level of education, social support, and financial status. Use of tobacco and alcohol was documented. Oral problems and its association with gender, education status, etc., were analysed. The data were analysed using IBM SPSS Statistics 20.

Results and Discussion

Descriptive statistics are shown in Table 1.

Association of medical or dental problems with gender shown in Table 2.

Table 1: Descriptive data of study group

	Frequency	Percentage
Gender		
Male	5329	48.7
Female	5605	51.3
Education		
Up to 12th std	3008	27.5
Graduate	589	5.4
Postgraduate	713	6.5
Professional degree	179	1.6
Others (diploma, MBA, etc.)	6446	59
Smoking		
Past smoker	1868	17.1
No smoking	8664	79.2
Occasional	64	0.6
Current smoker	338	3.1
Alcoholism		
Past alcoholic	1001	9.2
No smoking	8844	80.9
Occasional	811	7.4
Current alcoholic	278	2.5
Chewing Habits		
Past history	545	5
No habits	10,051	92
Occasional	49	0.4
Current	291	2.6
Income		
One's own savings	9507	86.9
Spouse	192	1.8
Children	1140	104
Both from spouse and son	60	0.5
Others	35	0.4
MMSE		
>18	10812	
13-18	120	
<13	2	
Sleep		
Normal	8546	78.2
Disturbed	2388	21.8
Problems of GIT		
No problems	7588	69.4
GERD	777	7.1
Constipation	1241	11.3
Bitter taste	86	0.8
Others	516	4.7
More than two problems	726	6.6
Oral Problems		
Edentulous	182	1.7
Loose teeth	201	1.8
Caries	349	3.2
Other findings	1367	12.5
Did not report any problem	8835	80.8
Fall		
No H/o fall	10,066	92.1
H/o Fall	868	7.9
Activity		
Independent	10,367	94.8
Dependent	480	4.2
Very active	106	1

Table 2: Association of medical problems with gender

	Male		Female	
	No.	Percentage	No.	Percentage
Oral Problems				
Not reported	4491	80.1	4349	81.6
Edentulousness	87	1.6	95	1.7
Periodontitis	103	1.9	98	1.7
Dental caries	152	2.9	197	3.5
Other findings (Ulcers, mucosal lesions, altered taste, etc.)	639	12	724	12.9
Fall Problems				
None	4900	91.9	5166	92.2
1-3 falls	430	8.1	439	7.8
Gastrointestinal Problems				
None	4027	75.6	4287	74.6
GERD	386	7.2	391	7
Constipation	620	11.6	621	11.1
Altered taste	48	0.9	38	0.7
Others (hernia, gastric ulcers etc.)	248	0.7	268	4.8
BMI				
Underweight (<18)	424	8	469	8.4
Normal <24	2795	52.5	2962	52.8
Overweight (24-30)	1400	26.3	1426	25.4
Obesity >25	710	13.3	748	13.4

Age

Mean age was 81.84 years with standard deviation 7.167. Another Indian study also reported female prevalence, that is, 87 males for every 100 females, while some studies reported the ratio to be almost 1:1.[3,4] Even at the national level, male-to-female ratio approaches unity, and worldwide also, this ratio is 1.01.[5,6]

Educational status

In this study, 59% of the elderly had received education up to the 10th standard. One point six percent possessed a professional degree. Kerala has a high literacy rate compared to other states of India.[7]

Work and finance

In this study, 86.9% of the elderly population were financially independent. High educational status may contribute to this. Gender differential prevailed in matters pertaining to exercising power in financial matters and participation in household affairs. The older males were in relatively better position compared to females.[8]

Tobacco and alcohol

Only 3.1% were current smokers. Seventeen point one percent of the population were past smokers. Two point six percent of the population were current chewers. Current alcoholics were only 2.5%. One Indian study also reported that the prevalence of use of tobacco in any form was decreasing.[9]

MMSE score

The mini-mental state examination (MMSE) is a widely used test of cognitive function among the elderly. It includes tests of orientation, attention, memory, language, and visuospatial skills. Currently, the MMSE is the most frequently used brief cognitive instrument. Age and education have been found to account for 12% of the variance in MMSE scores.[10] In this population, a majority of population had an MMSE score of more than 23, suggestive of good cognitive performance.

BMI

In this study, 8.4% of the population had a body mass index (BMI) measuring less than 18.52. Four percent of the population had a BMI in the range of 18–24. Being underweight is associated with loss of both peripheral and respiratory muscles, and this association may partly explain the increases in both total mortality and mortality from respiratory diseases observed in this study among underweight participants.[11] Furthermore, a low BMI may increase vulnerability to acute diseases. An elevated in-hospital case–fatality rate among underweight patients was found for several conditions.[12] It was shown that the immune response is decreased in elderly malnourished individuals, which may increase the relative mortality rate among underweight elderly subjects during intercurrent diseases.[13] Reverse causation, that is, the possibility that pre-existing illnesses or conditions associated with increased mortality lead to loss of body weight is a concern in studies of lower BMI and mortality.[14,15]

Fall

H/o fall was present in 7.9% of the population. The male population showed a slightly higher prevalence rate compared to females. Various studies done in India too have reported the prevalence of falls in community-dwelling elderly ranging from 13% to 53%.[16–19] The incidence rate of falls was 31 (95% CI 27.7 to 34.6) per 100 person-years according to a prospective cohort study.[20]

GIT problems

Gastro-oesophageal reflux disorders were present in 7.1% of the population. Eleven point three percent of the population had constipation. The male population showed slightly higher rate of gastrointestinal problems compared to females.

Epidemiological studies have shown a high prevalence of symptoms associated with functional GIT disorders in elderly patients. Constipation is a common symptom, reported by 24%–40% of elderly individuals in a community sample.[21,22] In this study, constipation was present in 11% of the population.

Oral problems

Twenty-one percent of the population experienced oral problems, but a majority of the population did not report the same. Oral health problems can hinder a person's ability to maintain a satisfying and nutritious diet, to enjoy interpersonal relationships and have a positive self-image, and can be a direct source of pain and discomfort. Overall, oral health problems are more frequently found in the older adult population; unfortunately, other health problems are often a priority in this age cohort.[23]

Oral health problems, whether from missing teeth, generalized attrition, ill-fitting dentures, cavities, gum disease, or any infection, can cause difficulty in eating and can force people to adjust the quality, consistency, and balance of their diet.

Studies have suggested that there is a connection between taste perception and cognition. A cross-sectional study showed a significant association between tooth loss and cognitive impairment.[24] Trigeminal, visceral, and vestibular signals can affect the locus coeruleus (LC) and the ascending reticular activating system (ARAS) which have sensory control over the brain and influences one's level of attention and alertness. Studies have also demonstrated that chewing can recuperate the power of understanding, span of attention, and mental agility, and lead to a decreased quality of life.[25] Dentists focus on the diagnosis and treatment of oral diseases and tend to overlook general health problems. Similarly, physicians tend not to address patients' oral health issues. A qualitative study exploring general practitioners' and dentists' experiences and expectations of interprofessional collaboration revealed that both reported perceived knowledge deficits of the other profession.[26] The competency level of physicians, residents, and nurses was lower than 30% for identifying tooth decay and oral pathology.[27] Moreover, most general practitioners saw no need for medical–dental collaboration, although dentists were interested in extending medical–dental collaboration.

Implications and recommendations

The reality of an ageing population and changing morbidity trends, with many people living with chronic illnesses, necessitates immediate action from policymakers. Action should be taken at multiple levels of government. Fewer number of teeth and poorer oral function are longitudinally associated with frailty and healthy ageing. Medical–dental collaboration and knowledge of oral health management are insufficient in geriatrics and should be improved.

Conclusion

Professional training in geriatrics and gerontology needs to be promoted. There is a need to place emphasis on geriatric medicine in undergraduate medical as well as paramedical courses. Research in geriatrics, geropsychiatry, and geriatric dentistry should be promoted. Oral diseases are a major global public health problem. Oral healthcare providers play a critical role in maximizing masticatory function by supporting oral health maintenance and providing stable prosthetic replacement of missing teeth. With the appropriate work-up, these disorders can be managed to improve the health-related quality of life. Rather than being isolated and separated from the mainstream healthcare system, dentistry needs to be integrated more with primary care services.

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Conflicts of interest

There are no conflicts of interest.

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