Original Article

Geriatric Health Status in a Rural Area of North Karnataka – A Cross-sectional Study

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Abstract

Context: Today, older people are starting to form a higher proportion of the entire population in the whole community due to an increase in life expectancy. In the future, the challenge for our health care is to ensure proper quality of life, especially for the rural elderly who are devoid of basic amenities. This study attempts to assess the health status of the elderly in a rural area of Vijayapura district, which can help to plan health-care facilities for the old in this part of northern Karnataka. **Aims:** The aims of this study included the study of the sociodemographic profile and finding out the morbidity pattern among the rural geriatric age group. **Settings and Design:** The current study was done as cross-sectional research undertaken in Ukkali, the rural field practice areas of a tertiary care hospital. **Materials and Methods:** One hundred and seventy-five elderly selected by the systematic random sampling method were included in this study. The participants were interviewed using pretested and semi-structured questionnaires through house-to-house visits and data were collected. **Statistical Analysis:** The statistical analysis was done using Chi-square test and proportions. **Results:** The most commonly prevalent morbidities found were joint pain (47.1%) and hypertension (34.3%). Association was found between various morbidities and habits in the rural elderly. **Conclusion:** The present study concludes that health demand in the elderly is of high importance in the Indian scenario, especially in rural areas. Efforts are needed to educate and make these elderly aware of healthy aging.

Keywords: Elderly people, morbidities, *rural area*

Introduction

"You can't heal old age, you protect it, promote it and extend it."– Sir James Ross.

The World Health Organization (WHO) has defined old age as "the period of life when the impairment of physical and mental functions becomes increasingly manifested by comparison to the previous period of life." It takes place at the biological and physiological levels.[1]

The WHO in 1980 officially defined 60 years as "the age of transition of people to the elderly segment of the population." The National Policy on Older Persons 1999 adopted by the Government of India implements the same definition.[2]

The world population has changed from the norm of a high birth and death rate to low birth and death rate resulting in graying of the population.[3] This process where the elderly are beginning to make up a larger part of a community's population is called as "population aging."[4] In the Indian community too, the conditions are similar.

The transitions connected with aging include retirement, migration to more appropriate housing, and the death of friends and partners.[5]

Increased life expectancy hence comes with its new problems. In the upcoming years, the challenge for health care will be to ensure adequate quality of life for the elderly population. The population of the elderly in Vijayapura according to the Government of Karnataka is 1,98,300 which includes 92, 770 males and 1,05,530 females.[6]

Submitted: 24-Feb-2023 **Revised:** 10-Jun-2023
Accepted: 14-Jun-2023 **Published:** 28-Dec-2023

Access this article online

Quick Response Code:

Website: https://journals.lww.com/dmms

DOI: 10.4103/jdmimsu.jdmimsu_85_23

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How to cite this article: Kapri R, Yadavannavar MC. Geriatric health status in a rural area of North Karnataka – A cross-sectional study. J Datta Meghe Inst Med Sci Univ 2023;18:688-92.

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The majority of the elderly population lives in rural areas (76.48%) which is lacking in basic amenities.[6] Thus, planning health-care facilities for the elderly in this part of northern Karnataka would necessitate gathering of information and doing an analysis of the current situation.

Objectives

1. To study the sociodemographic profile among the rural elderly population
2. To find the morbidity pattern among the rural geriatric age group.

Materials and Methods

Study area and period

The current study was a cross-sectional study undertaken in Ukkali village which is in Vijayapura district of Karnataka. Ukkali has situated approximately 25 km from Vijayapura City. This study was done during the period of January 2021 to June 2022.

Study population

The sample size for this study was calculated to be 175 to achieve a power of 99%. The people in the age group of 60 years and above who were able to respond and were willing to participate in this study were included.

Ethical clearance

Ethical clearance was obtained from the Institutional Ethical Committee after which the study was conducted with the help of medicosocial workers. The data were collected after the objectives were explained to them. The participants were made aware that their participation in the study was voluntary, their identity would be protected, and they might discontinue at any moment; then, their consent was taken.

Study methodology

The sample size of 175 study participants was chosen from as many houses. To determine the number of people 60 years of age and older, a preliminary house-to-house survey was conducted. They were then enumerated through systematic random sampling technique and every alternate person 60 years of age and older was included in the study until the required sample size was reached. The participants were interviewed using pretested and semi-structured questionnaires through house-to-house visits. Data regarding the participant's sociodemographic profile and common morbidities were collected and investigations including blood pressure, random blood sugar level, and hemoglobin level estimation were done.

Statistical analysis

The data were processed and its analysis was done using the Statistical Package for the Social Sciences (SPSS Statistics for Windows, Version 20.0. IBM Corp., Armonk, NY) software. Data were expressed as frequencies and percentages. Chi-square test was used to find statistical significance. A $P < 0.05$ was considered statistically significant.

Results

The study showed that out of the 175 (N) participants, 100 (57%) were males, while 75 (43%) were females. The complete sociodemographic findings of the participants are shown in Table 1.

In Table 1, it was analyzed that majority (55.4%) of the study participants belonged to the 60–69-year-old age group. Majority (74%) of the elderly were staying in a joint family which included three-generation families too. It was found in this study that most (66.7%) of the elderly had not received any kind of education. Among these illiterates, majority (52%) were females. Majority (39.4%) of the study population belonged to Class III of the modified BG Prasad socioeconomic classification.

It was also revealed in this study that 51% of the study participants involved in addiction of some kind which they indulged in almost every day. The different habits are enumerated in Table 2.

The analysis of Table 2 shows that most (29%) of the rural elderly were involved in the habit of chewing tobacco which included mostly pan masala or *khaini.* Out of all the rural elderly study participants, 50% were not involved in any kind of addictions.

The study participants were found to be suffering from morbidities involving different systems. These morbidities have been listed in Table 3.

Table 1: Sociodemographic profile of the study population

	Males, *n* (%)	Females, *n* (%)	Total, *n* (%)
Age group			
60–69	55 (55)	42 (56)	97 (55.4)
70–79	31 (31)	30 (40)	61 (34.9)
80+	14 (14)	3 (4)	17 (9.7)
Total	100 (100)	75 (100)	175 (100)
Type of family			
Joint	72 (72)	58 (77)	130 (74)
Nuclear	24 (24)	5 (7)	29 (17)
Single	4 (4)	12 (16)	16 (9)
Total	100 (100)	75 (100)	175 (100)
Education status			
Illiterates	56 (56)	60 (80)	116 (66.3)
Literates			
Primary	20 (20)	9 (12)	29 (16.6)
Secondary	15 (15)	6 (8)	21 (12)
College	2 (2)	0	2 (1.1)
Graduate and above	7 (7)	0	7 (4)
Total (literates)	44 (44)	15 (20)	59 (33.7)
Socioeconomic status			
Class I	6 (6)	0	6 (3.4)
Class II	37 (37)	26 (35)	63 (36)
Class III	36 (36)	33 (44)	69 (39.4)
Class IV	18 (18)	8 (11)	26 (14.9)
Class V	3 (3)	8 (11)	11 (6.3)
Total	100 (100)	75 (100)	175 (100)

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Table 2: Distribution of study population by habits

Habits	Males, *n* (%)	Females, *n* (%)	Total, *n* (%)
Smoking	25 (100)	0	25 (100)
Alcohol consumption	16 (94.1)	1 (5.9)	17 (100)
Tobacco chewing	24 (48)	26 (52)	50 (100)
Betel chewing	11 (64.7)	6 (35.3)	17 (100)
None	45 (51.7)	42 (48.3)	87 (100)
More than one habit	21 (100)	0	21 (100)

Table 3: Morbidity profile of the elderly

Morbidity	*n* (%)
Dental problems	41 (41.1)
Joint pain	92 (52.6)
Cardiovascular disease	1 (0.6)
Hypertension	56 (32)
Diabetes	37 (21.1)
Varicose veins	3 (1.7)
Impaired hearing	45 (25.7)
Impaired vision	65 (37.1)
Anemia	17 (9.7)
Constipation	3 (1.7)
Breathlessness	21 (12)
Urinary tract infection	11 (6.3)
Benign prostate hypertrophy	3 (1.7)
Asthma	6 (3.4)
Gastritis	6 (3.4)
Hemorrhoids	2 (1.1)
Cataract	6 (3.4)
Underweight (BMI <18.5)	15 (8.6)
Overweight (BMI ≥25)	39 (22.3)

BMI: Body mass index

The most common physiological systems involved were musculoskeletal system (53%), nervous system (37%), and cardiovascular system (32%).

It was found in this study that 84% of the elderly study participants were suffering from one or more chronic diseases. Figure 1 shows the counts of participants suffering from one or multiple chronic diseases.

It was seen that those participants indulging in habits were suffering more from chronic diseases than those were not. The association of different habits with various morbidities has been shown in Table 4.

The analysis of Table 4 shows that the association between hypertension and age and habits (smoking, alcohol, and tobacco chewing) was statistically significant after the application of Chi-square tests. The association of other morbidities with age, sex, and habits is also shown.

Discussion

This study was conducted among the elderly population living in the rural area of Ukkali of Vijayapura district of Karnataka

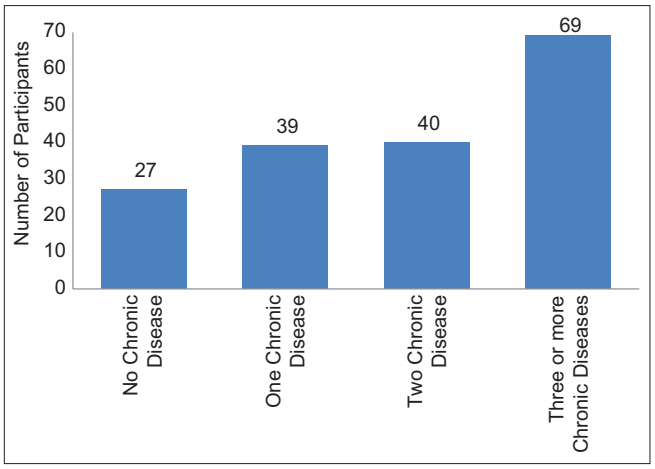

Figure 1: Distribution of study subjects by the number of chronic diseases

revealed important facts regarding their sociodemographic and morbidity profile. Among the 175 elderly respondents in the study, 57% were male, while 43% were female. Most of the respondents (66.3%) were illiterates. While 9% of the total study participants were staying alone, 74% were part of joint families and the remaining 17% were part of nuclear families.

Similar findings were also seen in a study undertaken by Vidyalakshmi *et al.* among the elderly population of a rural community in Thiruvallur, Tamil Nadu, where males comprised 55% of the study population, while females constituted 45%.[7] The National Sample Survey in the 52nd round found that 86.6% of the Indian geriatric population were a part of either joint or nuclear family.[8] Similar findings were shown by Purty *et al.* in their study.[9]

The National Sample Survey in the 52nd round also reported an illiteracy rate of 63% in the elderly of India which was similar to the present study's findings.[8]

Most of the respondents in the present study (39.4%) belonged to Class III (middle class) of the modified BG Prasad socioeconomic classification. This shows a changing trend where the younger generations are improving their family's socioeconomic status through better education and earning capability.

Rahul Prakash *et al*., in their study, reported similar findings where 24.6% of the elderly belonged to Class III of socioeconomic classification.[10]

It was found in this study that out of the 175 elderly study participants, 29% of them were involved in the habit of chewing tobacco. In contrast, 20% were involved in the habit of alcohol consumption and 14.2% were indulging in smoking regularly. Pandve *et al*., in their study of the elderly in rural Pune, found that 38% of study participants were addicted to chewing tobacco, 25% were addicted to alcohol, and 34% were addicted to smoking.[11]

Mundada *et al*., in their study in rural Aurangabad, found that 68.3% of the elderly were addicted, which included 29% smokers, 18% alcoholics, and 29% tobacco chewers.[12]

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Table 4: Association of various factors with morbidities of elderly

Morbidity with age				
Morbidity	**Age groups**			***P***
	60–69 years (*n*)	**70–79 years (*n*)**	**≥80 years (*n*)**	
Hypertension	29	15	12*	0.01*
Diabetes	17	10	10*	0.02*
Joint pain	40	36	16*	0.002*
Impaired hearing	15	15	15*	0.0001*

Morbidity with sex			
Morbidity	**Males (*n*)**	**Females (*n*)**	***P***
Respiratory	22*	5	0.01*
Dental problems	16	24*	0.01*

Morbidity with habits				
Morbidity	**Smoking (*n*)**	**Alcohol (*n*)**	**Tobacco chewing (*n*)**	***P***
Hypertension	17*	10*	26*	0.0001*
Dental problems	4	2	28*	0.0001*
Respiratory	15*	4	12	0.01*

*Statistically significant (Chi-square test applied) ($P<0.05$)

It was found in this study that most (39.4%) of the elderly study participants were suffering from three or more chronic diseases, while 23% were suffering from two chronic diseases and 22% were suffering from one chronic disease.

This unsatisfactory general health condition of inhabitants of rural areas which are not adequately covered by government health infrastructure, might be the reason for the increased prevalence of different morbidities. Marimuthu *et al*., in a study, relate poor health conditions to unsatisfactory environmental conditions, lack of proper education, and scarcity of proper health facilities.[13]

The prevalence of hypertension in the rural study population was 32%, similar to Swami *et al*. findings of 36.7% prevalence in the rural elderly.[14]

It was also found in this study that 52.6% of the study participants suffered from joint pain. Bhatia reported similar findings that other than joint pain, musculoskeletal problems were present in 45.7% of the participants.[15]

In the present study, the association between age and joint pain was statistically significant. Similar findings were reported by Kishore *et al*., in their study, where 51.7% and 90% of the elderly in the age group of 70–74 years and 75 years and above suffered from musculoskeletal problems.[16]

The present study also revealed that there was statistical significance in the association between elderly smokers, tobacco chewers and hypertensives, smokers and elderly suffering from breathlessness as well as tobacco chewers, and elderly suffering from dental problems. Gaurav and Kartikey reported in their study that tobacco chewers have more prolonged elevation in blood pressure just after the use of tobacco.[17] Rahul Prakash *et al*. also showed in their study that there was statistical significance in the association between elderly tobacco smokers or tobacco chewers and hypertension.[10]

Conclusion

This study has shown that there is a high prevalence of morbidities in the elderly population, and certain factors associated with these have also been identified. Joint pain, hypertension, impaired vision, and diabetes were some of the common morbidities present in the rural elderly. These morbidities showed association with various factors such as age, gender, and habits of the participants.

Thus, the present study concludes that due to longer life expectancies and a rising elderly population, health needs in the geriatric age group are a priority in rural India. Efforts are needed to educate and create awareness in these elderly regarding healthy aging. The health demand can be met by establishing more geriatric health check-up clinics; health education can also be given to the elderly regarding lifestyle modifications, both of which can reduce morbidities in the elderly.

Recommendations

Considering the observations made during the course of this study, and keeping in mind, the results and discussions the following points can be recommended. Health education regarding health-promoting behavior should be given to the elderly to improve their mental and social peace. Domiciliary care given by specialists who are qualified in geriatric care can be started in rural areas. Counseling can be done for the caregivers of the elderly to understand the importance of health care for the elderly. Healthy public–private partnership could be evolved to provide quality health care to the elderly. The primary health-care system could consider organizing special geriatric clinics once a week. Day-care hospitals can play an

important role in giving close supervision and follow-up of geriatric patients with chronic morbidities. Development of national programs on healthy aging and implementation of the National Policy for the elderly throughout all districts of the country can also be done.

Acknowledgment

We would like to heartily thank all the participants of this study for giving their valuable time.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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