

Morbidity profile of geriatric population of rural Telangana - A cross sectional study

Elavarthi Srikanth Reddy¹, Kondagunta Nagaraj^{2*}, Anant Takalkar³

¹Assistant Professor, Community Medicine, Great Eastern Medical School, Ragolu, Srikakulam District, Andhra Pradesh, INDIA.

²Prof and HOD, Department of Community Medicine, SVIMS, SRI Padmavathi Medical College for Women, Tirupati, INDIA.

³Professor, Department of Community Medicine, MIMSR Medical College, Latur, Maharashtra, INDIA.

Email: sanjurajrekha@yahoo.com

Abstract

Background: Old age is associated with increased occurrence of a wide array of physiologic, physical, mental and social impairments or losses, which may contribute independently or collectively to disabilities. These include elevated blood pressure, decreased immune response, reduced visual, auditory and olfactory acuity, loss of muscle and bone mass
Objective: To assess the socio demographic and morbidity pattern among the elderly population. **Methodology:** This study was conducted in 6 villages (Cherlapally, Marrigudem, Kanchanpalli, Dandampally, Annaparathi, Buddaram) which constitute the rural field practice area of Rural Health Training Centre of Department of Community Medicine involving 1265 old age subjects. **Results:** 70% of the study subjects belong to the age group of 60-69 years. 67.6% were married, 31.6% were widow/widower and 0.8% were divorced. Illiterates constitute 72.3% of the study subjects. About 75% of the study subjects belong to class V of modified B.G. Prasad socio-economic classification. Most common morbidity was found to be Musculo skeletal disorders (76.9%) followed by ophthalmic disorders (52.7%), psychiatric disorders (49.9%) and cardio vascular disorders (10.8%) respectively.

Key Words: Geriatric, Rural, Elderly, Morbidity, BMI.

*Address for Correspondence:

Dr. Kondagunta Nagaraj, Professor and H.O.D, Department of Community Medicine SVIMS, SRI Padmavathi Medical College for Women, Tirupati-517507, INDIA.

Email: sanjurajrekha@yahoo.com

Received Date: 10/09/2018 Revised Date: 14/10/2018 Accepted Date: 02/11/2018

DOI: <https://doi.org/10.26611/1011821>

Access this article online

Quick Response Code:



Website:

www.medpulse.in

Accessed Date:
06 November 2018

INTRODUCTION

The geriatric population is defined as population aged 60 years and above.¹ It is common to define the “young old” as aged 60 – 69 years, the “old” as aged 70 –79 years and the “oldest old” as 80 years and over.² Today 60% of those aged 60+ years live in the developing countries and their proportion will increase to 80% by 2050. People over 60 years constitute a fifth of the British population but will be third by 2030. Other developed countries have

seen the same pattern.³ In India 7.7% of total population is constituted by 60+ years age group.⁴ With the advancement of medical sciences and improvement of social conditions there has been great change in recent times. Family planning program has reduced the rate of population increase and has helped to increase the population of old people.⁵ Old age is associated with increased occurrence of a wide array of physiologic, physical, mental and social impairments or losses, which may contribute independently or collectively to disabilities. These include elevated blood pressure, decreased immune response, reduced visual, auditory and olfactory acuity, loss of muscle and bone mass, fragility of the skin, slowing of mental responses, decreased cognitive ability, loss of spouses and companions, reduced income and loss of social role of autonomy.⁷ Present community-based cross-sectional study focussing on the morbidity profile of the elderly and improve the health care services so as to enable them to lead a productive life.

MATERIAL AND METHODS

This study was conducted in 6 villages (Cherlapally, Marrigudem, Kanchanpalli, Dandampally, Annaparathi, Buddaram) which constitute the rural field practice area of Rural Health Training Centre of Department of Community Medicine, Kamineni Institute of Medical Sciences, Narketpally, Nalgonda district, Andhra Pradesh. This Rural Health Training Centre serves a population of approximately 30600, which consists of 15228 males and 18541 females in 10280 families. This centre maintains a well-established medical record system, having health data of all families as family folders.

Sample size calculation: Considering the prevalence of 8% to calculate the sample size for our study using the formula

$$N = 4pq/L^2 :$$

- p= 8
- q= 92 (100-p)
- L=20 %

RESULTS

Sample size constitutes to 1150 with the above formula, considering a non-response rate of 10%, the total sample size constitutes 1265. The field practice area comprises of 11 villages of which 6 villages have been selected by simple random sampling method. The sample of the study subjects to be drawn from each village has been calculated by the method of probability proportional to population size. In the first stage 6 villages were selected randomly out of 11 villages by lottery method. In the second stage the households in each village were selected by systematic random sampling method. In the final stage, all persons aged 60 years & above in the selected households were included in the study.

Inclusion Criteria

- People aged 60 years and above
- Those who were willing to participate and gave consent for the study.

Exclusion Criteria

- Critically ill patients
- Patients not willing to participate in the study.

Table 1: Distribution of study subjects based on socio demographic characteristics (N=1265)

Study variables	Males No. (%)	Females No. (%)	Total No. (%)	Chi-square	P-value
Age					
60-69 years	410(32.4)	476(37.6)	886(70.0)	0.775	0.679
70-79 years	137(10.8)	141(11.2)	278(22.0)		
>80 years	47(3.7)	54(4.3)	101(8.0)		
Type of Family					
Nuclear	390(30.8)	329(26.0)	719(56.8)	35.49	<0.001
Joint	204(16.1)	342(27.1)	546(43.2)		
Education					
Illiterate	425(33.6)	489(38.7)	914(72.3)	4.17	0.24
Primary	31(2.5)	20(1.5)	51(4.0)		
Middle High School	1361(10.8) 02(0.2)	159(12.5) 03(0.2)	295(23.3) 05(0.4)		
S.E.Status					
High	-	10(0.8)	10(0.8)	42.8	<0.001
Upper Middle	93(7.4)	195(15.4)	288(22.8)		
Lower Middle	07(0.5)	07(0.6)	14(1.1)		
Poor	494(39)	459(36.3)	953(75.3)		
Marital status					
Married	477(37.7)	378(29.9)	855(67.6)	85.98	<0.001
Widow/Widower	117(9.2)	283(22.4)	400(31.6)		
Divorced	-	-	10(0.8)		

Table 1 reveals that 70% of the study subjects belong to the age group of 60-69 years. As the age increases the proportion of the elderly was found to decrease. Among the study subjects 67.6% were married, 31.6% were widow/widower and 0.8% were divorced. Illiterates constitute 72.3% of the study subjects. About 75% of the study subjects belong to class V of modified B.G. Prasad socio-economic classification. About 57% of the study subjects belong to Nuclear families and 43.2% belong to joint families.

Table 2: Distribution of Elderly according To BMI Status (N=1265)

BMI Status	Males		Females		Total	
	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)
Under weight (<18.5)	146(11.6)	252(19.9)	252(19.9)	146(11.6)	398(31.5)	398(31.5)
Normal(18.5-24.99)	403(31.8)	408(32.3)	408(32.3)	403(31.8)	811(64.1)	811(64.1)
Over weight (>25)	45(3.6)	11(0.8)	11(0.8)	45(3.6)	56(4.4)	56(4.4)

**P-value = 0.001 is significant at 5% level. Chi-square=44.38

The present study showed that among the study subjects, 31.5% were underweight (<18.5) and 4.4% were overweight (>25) compared to those with normal BMI (64.1%). The proportion of underweight among females (19.9%) was higher than Males (11.5%).

Table 3: Prevalence of Elderly According to Morbidity (N=1265)

Sr. No	Morbidity	Men		Women		Total Number	95% C.I
		No.	%	No.	%		
1	Musculoskeletal	482	38.1	491	38.8	973(76.9)	1020-2.06
2	Cardiovascular	191	15.1	193	15.3	384(30.4)	0.63-0.95
3	Psychiatry	295	23.3	336	26.6	631(49.9)	0.78-1.22
4	Ophthalmic	314	24.8	353	27.9	667(52.7)	0.81-1.26
5	Others	592	46.2	658	52.6	1250(98.8)	-

Table 3 reveals that the most common morbidity was found to be Musculo skeletal disorders (76.9%) followed by ophthalmic disorders (52.7%), psychiatric disorders (49.9%) and cardio vascular disorders (30.4%) respectively.

DISCUSSION

According to table 3 the most common morbidity among the study population in the present study was found to be Musculo skeletal disorders (76.9%) followed by ophthalmic disorders (52.7%), psychiatric disorders (49.9%) and cardio vascular disorders (30.4%) respectively. Similar observations were noted by Natarajan and Ravinder *et al*⁸ and Guha ray⁹. However, in the present study Musculo-skeletal disorders were on the higher side when compared with the other studies. The Present study reveals that morbidity pattern is associated with one or more acute illnesses. According to Natarajan and Ravindra (1991) in their study on elderly at Chennai it was found that cardiovascular disorders, respiratory disorders, genitourinary disorders, and digestive system disorders, constituted 18.35%, 23%, 41.28%, 17.5% respectively. The present study reported higher prevalence of cardiovascular disorders (15.3%) and lower prevalence of other disorders compared to the study done by Natarajan and Ravindra.⁸ Guha Ray.S (1994)⁹ reported morbidity in his study of elderly., cardiovascular disorders (17%), respiratory disorders (16%), skin disorders (13%), gastrointestinal diseases (10%), psychiatric disorders (9%). Sandhya GI (2010)¹⁰ in a rural community of South Kerala, found that 60% of population were suffering from Depression among various non-communicable diseases. One of the geriatric studies done at All India Institute of Medical Sciences, New Delhi had shown that one or more chronic illnesses were present in 96% of the elderly population. Studies done by A. B. Dey, Shubha Soneja, Kalpana M. Nagarkar, H. P. Jhingan in 2001¹¹ showed that in the

preceding one month, of the 1380 subjects, 87% had experienced one or more acute illnesses. Fifty-four subjects (3.4%) did not have any symptoms suggestive of a chronic illness or a pre-existing disease. A study done by a. J. Purty, j. Bazroy, m. Kar, k. Vasudevan, a. Veliath, p. Panda in 2006 observed that the total number of illnesses among 320 subjects was 886. Therefore, the average number of illnesses per person was recorded as 2.77. At the time of survey, 72.4% of the study population were suffering from at least one ailment while 154 (48.1%), and 77 (24.1%) of the population were suffering from two and three or more ailments respectively.¹² A study done by Kavita Banker , Bipin Prajapati , Geeta Kedia in geriatric homes in Ahmadabad district in 2011(93.7%) reported one or more health related complaints.¹³ Jerliu *et al*¹⁴ in their study in Kosovo showed similar pattern of number of diseases: with no disease as 16.7%, single disease (38.1%), 27.9% of the elderly had two diseases, and the remaining 17.3% had more than or equal to 3 diseases. These observations could be due to the reason that Kosovo is also a developing country and hence health status and health care facilities may be similar to those of India.

CONCLUSION

Majority of the population belonged to the age group of 60-69 years 889(70%).As the age increased the percentages of the elderly decreased. Marital status of the elderly showed that 855 (67.6%) were married and 400(31.6%) were widow/widower and 10(0.8%) were divorced. Literacy status of the study population comprised majority of illiterates 72.3%. Socio-economic

status stratification showed that class V of the modified B.G.Prasad classification formed the majority in rural area of 75.3%. Family composition of study population showed that Nuclear families comprised the most with 56.8% followed by Joint families 43.2%. Most common morbidity among the study population was musculoskeletal disorders in 76.9%, followed by Gastro intestinal problems 66.8% and ophthalmic problems in 52.7%, Psychiatric problems were found in 49.9%, Cardio-vascular problems found were 10.8%. Respiratory problems were found in 9.2% of the elderly. Musculo skeletal was common in 76.9% of the elderly. It is present mostly in the age group of 60-69 years (68.9%) and is seen in married elderly (54.1%) with a Nuclear type of family (44%). Most of them are illiterates (72%) with class V (69.5%) socio economic status. Cardio-vascular disorders were seen in 10.8 % of the elderly. It is present mostly in the age group of 60-69 years (30.4%) and is seen in married elderly (17.5%) with a Joint type of family (20.9%). Most of them are illiterates (24.1%) with class V (27.7%) socio economic status. Respiratory disorders were seen in 9.2% of the elderly. It is present mostly in the age group of 60-69 years (14.8%) and is seen in married elderly (14.9%) with a Nuclear type of family (12.3%). Most of them are illiterates (17.5%) with class V (24%) socio economic status.

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Source of Support: None Declared
Conflict of Interest: None Declared