Original Research Article

A Community-Based Study to Assess the Morbidity Profile of the Geriatric Population in a Rural Area of Amravati District of Maharashtra, India

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ABSTRACT

Background: Worldwide, the proportion of people age 60 and over is growing faster than any other age group. The challenge in the twenty-first century is to delay the onset of disability and ensure optimal quality of life for older people. The present study was conducted to assess the current morbidity profile of older persons in a rural community, to generate data for planning services.
Objectives: To assess the morbidity profile of the geriatric population in a rural area of Amravati District of Maharashtra.
Materials and Methods:
Study design- Cross - Sectional Study
Settings: Field practice area of R.H.T.C, Ner Pinglai of Dr. Panjabrao Deshmukh Medical College, Amravati.
Study period – December 2012 to May 2013
Participants: Elderly above 60 years of age.
Sampling Technique: Random sampling method
Sample size: 456 which was 20 % of total elderly at RHTC, Ner Pinglai
The Collected data were compiled, tabulated, and analyzed using SPSS, Ver 16.0.
Results: We concluded that Musculoskeletal disorders were the most common morbidity in 89(19.5%) followed by decreased visual acuity due to cataract and refractive error in 88(19.3%), sixty-two (13.6%) were diagnosed with Conductive and Sensorinural Hearing Loss, Fifty-eight (12.7%) were diagnosed as a Hypertension. Other morbidities were Chronic Obstructive airways diseases in 55 (11.4%), Acute peptic diseases in 33(7.2%), Skin problem 6.6%, Depression in 6.1%, IHD in 2.2% and diabetes in 1.3%.

Key Words: Geriatric problems, rural area, morbidity.

INTRODUCTION

Worldwide, the proportion of people age 60 and over is growing faster than any other age group. Between 1970 and 2025, a growth in older persons of some 694 million or 223 percent is expected. In 2025, there will be a total of about 1.2 billion people over the age of 60. By 2050 there will be 2 billion with 80 percent of them living in developing countries. [1]

One common myth is that older persons mostly live in industrialized

societies. In fact, 60% are found today in developing countries and in 25 years this proportion will have risen to 75%. [2]

Globally, the number of persons aged 60 years or over is expected to nearly triple, increasing from 673 million in 2005 to two billion by 2050. [3] India, had 72 million elderly persons above 60 years of age as of 2001, compared to China's 127 million. According to projections, the elderly in the age group of 60 and above is expected to increase from 71 million in 2001 to 179 million in 2031, and further to 301 million in 2051, and 21% of the Indian population will be 60+ by 2050 as compared to 6.8% in 1991. [4,5]

The key features of aging are increased inter-individual variability, complexity, and comorbidity, which is why indicators of quality of care, based on single disease models, work less well among the older than younger people, and the care of the elderly is a major social and health problem in developed countries. In developing countries like India, aging is also associated with poverty, reduction in family support, social isolation, inadequate housing, mental illnesses, widowhood, bereavement, impairment of cognitive functioning, and limited options for living arrangement and dependency toward the end of life. [6] The challenge in the twenty first century is to delay the onset of disability and ensure optimal quality of life for older people. At a time when Governments are assessing ways to generate finances for curative and rehabilitative services for the elderly, it may be worthwhile to give due importance to preventive and promotive services for the elderly at the primary health care level. Individualized health promotion and preventive checkups for older people have been shown to be highly effective and are likely to be among the reasons for the falling disability among older Americans to the point of stabilizing healthcare expenditure on older people. [7,8]

From the morbidity point of view, at least 50% of the elderly in India have chronic diseases. [9] A thorough examination of geriatric morbidity and related risk factors are required to improve the delivery of health care to the elderly. [10]

This study was conducted with objective of to assess the current morbidity profile of geriatric population in a rural area and to suggest recommendations for any changes in approach toward geriatric health care.

MATERIALS AND METHODS

A community based cross sectional study was conducted in rural area of Ner Pinglai Village, the rural field practice area of Department of Community Medicine, Dr. Panjabrao Deshmukh Medical College, Amravati . Ethical clearance to carry out the study was obtained from the ethical committee of the same institution.

The study subjects were in the age group of 60 years and above and residing in this area were included in the study. Duration of study period was from December 2012 to May 2013.
Sampling Technique: Random sampling method

Sample size –456 which is 20% of total elderly population of RHTC (2280 - 8% of total population under RHTC 28500. A detailed demographic profile of the village was conducted by the interns of the Department of Community Medicine of PDMMC over a period of Six months (December 2012 and May 2013) by household survey. The study shall be started with sensitization of the villagers. Each individual aged 60 years and above was informed about the survey and its objectives. They were requested to visit the Rural Health Training Center (RHTC) as per the mutually agreed date and time. Repeated house visits were made and only after three visits a person was declared unavailable. Informed consent was obtained and

confidentiality of the information was assured. The schedule of visits, along with the purpose of the study, was also displayed on the blackboards in front of the common place and Gram Panchayat office. Each individual in the study will be subjected to a personal interview and a clinical and laboratory examination. The information will be collected on a pre-tested standard schedule. The interview will be carried out in the local language by the medical team consisting of four interns and one medico social workers, who were trained and briefed about the objectives of the study.
The clinical examination included a general physical and systemic examination. Blood pressure was measured twice using a mercury sphygmomanometer from the right arm, with the elderly in the lying position. The Korotkoff phases I and V were recorded for systolic and diastolic pressures, respectively. If high BP was detected, two more readings were taken early morning, on different occasions, to confirm hypertension. They were subsequently graded as: Normotensive systolic BP < 140, diastolic < 90 mmHg; Hypertensive systolic BP ≥ 140, and diastolic ≥ 90 mmHg. [11]

Respiratory diseases were diagnosed if they were having chronic bronchitis, asthma and tuberculosis which were diagnosed earlier by clinicians with necessary investigations or diagnosed during time of clinical examination.
Masculo-skeletal diseases were diagnosed if they were having kyphosis, rheumatoid arthritis, Sciatica, osteoarthritis and spondylitis already diagnosed by orthopedician with necessary investigation. For diagnosis of osteoarthritis of knee, criteria of knee pain plus patient age of 40 years or older, morning stiffness lasting less than 30 minutes and crepitus on motion was taken into consideration. [12]

Nervous system disorders were diagnosed if they were having cerebral infarction, epilepsy, hemiplegia, Parkinsonism neuritis, tremors, dementia etc. which was diagnosed by neuro physician and psychiatrist with necessary investigation. Clinical neuropathy was diagnosed when symptoms and signs of peripheral, sensory or motor involvement were present. Depression was diagnosed with the help of Goldberg's depression scale. [13]

Chronic systemic diseases, with established diagnosis by a specialist in that field was considered as a positive case, whereas, acute and chronic systemic diseases found by the investigators were investigated and confirmed by a specialist before being considered positive for the study.
The Collected data were compiled, tabulated, and analyzed using SPSS, Version 16.0.

RESULTS

Table: 1 Sociodemographic Characteristics of Study Population.

Variables	Sex		Total (%)
Age Groups (Years)	Male (%)	Female (%)	
60—64	80	58	138(30.26)
65—69	104	66	170(37.2)
70—74	69	21	90(19.7)
75—79	14	11	25(5.48)
80 & Above	21	12	33(7.23)
Total	288(63.2)	168(36.8)	456(100)
Occupation			
Farmer	133	42	175(38.37)
Laborer	57	21	78(17.10)
Buisness	7	3	10(2.19)
housewife	00	57	70(15.35)
other	33	10	30(6.57)
None	58	35	93(20.39)
Total	288	168	456(100)
Education Level			
Illiterate	60	67	127(27.85)
primary	118	52	170(37.28)
Secondary	69	31	100(21.92)
HS	25	15	40(8.77)
Graduate	16	3	19(4.16)
Total	288	168	456(100)

Among the study participant 288 (63.2%) were elderly male and 168 (36.8%) were females. Most of the study participants (37.2%) were in the age group of 65-69

years followed by (30.26%) were in age group 60-64 years.38.37% participant were farmer by occupation ,17.10% were laborer & 20.39% were doing nothing. In this study 27.85% of the elderly participants were illiterate, 37.28% had education up to primary level, and 21.92% up to secondary level, 8.77 % higher secondary and 4.16% were graduate. (Table -1)

The Musculoskeletal disorders were the most common morbidity in 89(19.5%) followed by decreased visual acuity due to cataract and refractive error in 88(19.3%), sixty-two (13.6%) were diagnosed with Conductive and Sensorinural Hearing Loss, Fifty-eight (12.7%) were diagnosed as a Hypertension. Other morbidities were Chronic Obstructive airways diseases in 55 (11.4%), Acute peptic diseases in 33(7.2%), Skin problem 6.6%, Depression in 6.1%, IHD in 2.2% and diabetes in 1.3%. (Table - 2) Fig1

Table: 2 Distribution of morbidities in an elderly studied population aged 60 years and above.

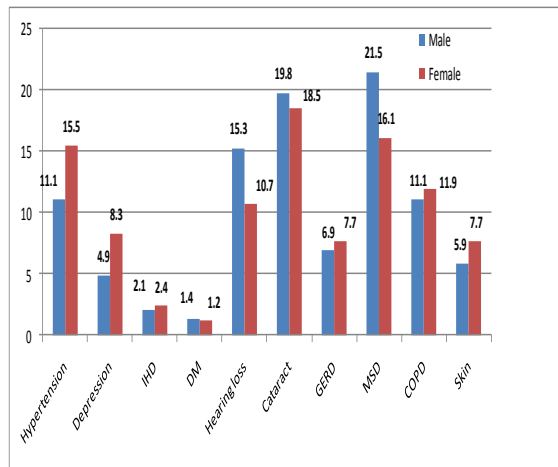| Morbidity Profile		Sex		
	ICD -10	Male (%)	Female (%)	Total (%)
Hypertension	I 10 -I 15	32(11.1)	26(15.5)	58(12.7)
CNS (Depression)	F 32	14(4.9)	14(8.3)	28(6.1)
IHD	I 20-I25	6(2.1)	4(2.4)	10(2.2)
DM	E 14	4(1.4)	2(1.2)	6(1.3)
Conductive And Sensorinural Hearing Loss	H 90 H 91	44(15.3)	18(10.7)	62(13.6)
Cataract and decreased vision	H 25, H 26	57(19.8)	31(18.5)	88(19.3)
Gastro Esophageal reflux Disease	K 21	20(6.9)	13(7.7)	33(7.2)
MSD (Inflammatory Polyarthopathies)	M05-M14	62(21.5)	27(16.1)	89(19.5)
Respiratory System (COPD)	J 20 J22	32(11.1)	20(11.9)	52(11.4)
Skin Problem (Radiation Related Disorder Of Skin And Subcutaneous Tissue)	L 55 –L59	17(5.9)	13(7.7)	30(6.6)
Total		288(100)	168(100)	456(100)

Fig.1: Sexwise Morbidity among study Participants.

DISCUSSION

The well being of older persons has been mandated in Article 41(5) of the Constitution of India, which directs that the state shall within the limits of its economic capacity and development; make effective provision for securing the right to public assistance in old age.

In our study the musculoskeletal disorders were the most common morbidity which was 19.5%.

Similar finding was found in study by S. V. Kamble et al the prevalence was 24.1%. [14]

Rahul Prakash et al reported that 14.6% elderly persons had musculoskeletal problems in which 8.42% males and 17.3% females were suffering from arthritis of knee joints and 2.6% males and 2.7% females were suffering from spondylitis. [15] Kishore and Garg have reported 15.6% prevalence in the elderly in the rural areas. [16] In study conducted by Rajesh Kulkarni (2014) 40% of the study participants had morbidities associated with musculoskeletal system which was predominant health problem. [17] The Study conducted by Ajitha Katta et al. (2011) showed morbidity associated with

musculoskeletal system was 38.8%. [18] Both studies showed higher prevalence than present study.

In our study decreased visual acuity due to cataract and refractive error found in 19.3%.

However previous study shows higher prevalence than present study. Kishore and Garg have reported the commonest morbidity in the elderly in the rural areas was cataract 30%. [15] Study conducted by Gurav *et al.* (2002) showed that 32.18% of elderly were suffered from cataract. [19] A study by Anil Jacob PURTY et al 32% of subjects were suffering from immature and mature senile cataract. [20] Cataract in the rural population may be due to increased exposure to ultraviolet radiation during long hours of work in open fields. [21] The prevalence of blindness in India is 14.9 per thousand-population. [22] Eighty percent of this blindness is due to cataract alone. [23] The National blindness control programme has an important role in reducing the quantum of cataract in the community by organizing eye camps.

Conductive and Sensorinural Hearing Loss was noted in about 13.6 % in present study Finding is lower than other study by Rakesh Kumar 21.2%. [24] The study done in rural South India which revealed 24.6% of disabling hearing impairment. [25]

In present study 12.7%were suffering from hypertension, unlike reports from other studies. A much higher prevalence level of 56% has been reported in a WHO report [26] and a study among the rural elderly from Haryana, India. [27]

Other morbidities were Chronic Obstructive airways diseases in 11.4%, Acute peptic diseases in 7.2%, Skin problem 6.6%, Depression in 6.1%, IHD in 2.2% and diabetes in 1.3%.

A study conducted by Gurav *et al.* (2002) showed that 16.34% suffered from hypertension and 9.41% from diabetes. [19]

In the study by Y Munshi [28] the majority of the population above 60 years of age were suffering from musculoskeletal disorders(44.7%), followed by gastrointestinal ailments (17.1%), respiratory ailments (11.4%), cardiovascular disorders (11.4%) and diabetes (6.6%). the study conducted by Sunder et al in Rohtak district of Haryana (India) where 51.8% of the elderly population was found to be suffering from joint pain and hearing impairment was found in 34.2% of the aged population. [29]

The prevalence of high morbidity among the elderly requires the strengthening of geriatric health care services in accordance with the common existing problems in the community. Preventive, curative and rehabilitative programmes for the elderly are urgently required.

CONCLUSION

The results of this study showed that the major proportion of the elderly were having more than one health problem. The burden of chronic diseases was high among the elderly. Study showed osteoarthritis, vision impairment and sensory neural related diseases were the most prevalent morbidities, followed by Hypertension, Chronic Obstructive airways diseases, acute peptic diseases, Depression and diabetes.

Recommendation:
The present study clearly showed that geriatric population has got specific needs related to physical, medical and physiological aspects.
There is growing need for good quality geriatric health care service at the primary level and it should be based on the "felt needs".
Regular screening, health check-ups to lessen morbidity should be promoted behavior and life style modification in the form of primordial prevention and counseling of high risk groups should be

carried out to improve the quality of life of the geriatric population.

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