Original Article

Morbidity Pattern and Knowledge on Medication among Elderly Population at Suraram, India

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Abstract

Background: Ageing of the Population is a great human success story. Longevity leads to more numbers of older persons, eventually leading to a continuously growing share of older persons in the population mix. Preparing for the economic and social shifts associated with this sector of population is essential to ensure the achievement of the Sustainable Development Goals (SDGs) by 2030.

Objectives: To assess the magnitude and pattern of morbidity among the elder population and to assess the knowledge on medication among them

Materials and Methods: A facility-based cross-sectional study was conducted at the Community Health Centre (CHC), a field practice area of the Department of Community Medicine, Malla Reddy Medical College for Women (MRMCW), located in Medchal–Malkajgiri district, Telangana. Data were analysed using the Statistical Package for the Social Sciences (SPSS; IBM Corp., Chicago, IL, version 22). Descriptive and inferential statistical analyses were performed, with a p-value < 0.05 considered statistically significant. Results are presented as absolute numbers and percentages in tabular form.

Results: Of the participants, 149 (75%) reported having at least one chronic disease. Demographic variables such as age, religion, and caste showed a statistically significant association with morbidity ($p < 0.05$). Among participants with comorbidities, only 98 (49%) reported taking medications as prescribed by their physicians. When experiencing illness or adverse effects related to medication, the majority—53 (54%)—did not inform anyone, while 45 (46%) consulted their physician.

Conclusion: The high morbidity load among elderly in the present study stress the efforts to provide better health care services and ensure that they remain active members of the society. This would help policymakers to strengthen health care services to the elderly population at state and national level to achieve Sustained Development Goals by 2020. This special group should be well informed about the medicines by the attending Physicians/ Pharmacists.

Key Words: Elderly, Chronic Disease, Comorbidities

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Introduction

Ageing of the Population is a great human success story.[1] Longevity leads to more numbers of older persons, a continuously growing share of older persons in the population pyramid. Preparing for the economic and social shifts associated with this sector of population is essential to ensure the achievement of the Sustainable Development Goals (SDGs) by 2030.[2] Most of the countries now face major challenges to ensure their health and social systems ready to face this demographic shift. By 2050, 80% of older people will be living in low- and middle-income countries. The pace of ageing of population is much faster than in the past. In 2020, the number of people aged 60 years and above outnumbered children less than 5 years old. Between 2015 and 2050, the proportion of over 60 yrs population will nearly double from 12% to 22% at Global level.[3] Globally, there were 703 million aged 65 or over in 2019. Eastern and South-Eastern Asia had the largest number of the world's older population (260 million), followed by Europe and Northern America over 200 million.[4,5] In India, ageing of the population is inevitable with socio-economic development. A person aged 60 years and above are considered as elderly in India.[6] Declining fertility and increasing survival has resulted in more of older people in general population within a relatively short period of time. The country recorded a significant improvement in life expectancy at birth, which was 47 years in 1969, to 60 years in1994 and 69 years in 2019. The share of population of elderly of 153 million, making India the second largest and is expected to reach a staggering 347 million by 2050[2] with an increase to 19%.[7,8] They are prone for chronic physical, emotional and mental health disorders.[9] A distinctive characteristic of this population in India is that the majority (80%) reside in rural areas, posing significant challenges to service delivery. Women constitute 51% of this group, there is a growing proportion of individuals aged 80 years and above, and approximately 30% live below the poverty line.[10] There is a lack of data on morbidity pattern and knowledge on medication among elderly population in rural areas which is essential to address the important issues and provide primary health care services in India. This study, therefore explored the magnitude, pattern of morbidity and knowledge on medication among elder population living in the rural area of Medchal-Malkajgiri district, Telangana, India.

Objectives:

1. To assess the magnitude and pattern of morbidity among the elder population
2. To assess the knowledge on medication among them

Materials and Methods

A facility-based, cross-sectional study was conducted at the Community Health Centre (CHC), a field practice area of the Department of Community Medicine, Malla Reddy Medical College for Women (MRMCW), Medchal-Malkajgiri district, Telangana state, which is in the southern part of India. The CHC, is the third tier of the network of rural health care institution, a referral centre, caters to a population of 1,20,000 for the neighboring 4 PHCs in the district especially for the patients requiring specialized health care services. Itis 30 bedded hospital with four specialists in the area of Medicine, Surgery, Paediatrics and Gynaecology, has an operation theatre, labour room, X-ray machine, pathological laboratory, standby generator along with supportive medical and para-medical staff. **Inclusion criteria: Persons aged 60yrs and above, who availed health care services at the out-patient (O.P) department of the study area, willing to participate in the study. Those who were below 60 years of age, hospitalized and those not willing to participate in the study were excluded.** Ethical clearance was obtained from the institutional ethical review committee of Malla Reddy Medical College for Women, **Medchal on 02.03.2019 (Roc.AS/10/IEC/MMCW/2019-IEC No-1212).**It started in March 2019 but due to Covid-19, it was stopped and again **conducted from March to August 2020. The study subjects were briefed about the study and informed consent was taken.** A pre-tested Structured Questionnaire was administered to those who volunteered and gave the consent to participate in the study. The trained interns of MRMCW interviewed the study subjects in local languages (Telugu and Hindi) followed by a clinical history and examination. They also checked medical records if available with the participants. Responses from surrogates were not allowed. The sample size was all those study subjects who attended the study

area during the study period. **A convenient sample size was 200. All the study subjects who** attended the O.P department during the study participated in the study. The operational definition of morbidity used in the study was "Morbidity refers to having a disease or a symptom of disease, or a condition within a population"[11] Data on Socioeconomic and Demographic parameters pertaining to age, gender, religion, caste, education, socio-economic status as per B.G. Prasad social class classification, type of family, self-reported health problems were collected. The social class of caste was assessed as per the Social Welfare Department, Government of Telangana.[12] They were categorized as Open category (O.C), Backward class (B.C), Scheduled caste (S.C) and Scheduled tribe (S.T). Occupations were classified as Professionals, Skilled, Un-skilled workers, Dependents as per National Classification of Occupations, New Delhi, India. House-wives were included under dependents.[13]Educational level was classified as illiterate and literate. All the statistical analysis were performed using Statistical Package for Social Sciences (SPSS, Inc., Chicago, IL; version 22.0) Descriptive statistics (frequencies, means) was used to characterize the study subjects. Primary outcome was morbidity, measured in numbers, percentages. The outcome was estimated with 95% confidence interval. Association between demographic variables and morbidities was assessed with Chi-square test at a significance level of 0.05.

Results

Table-1 shows the Demographic, Socio-economic Characteristics and their association with Morbidities of the Study Population. Most of the study subjects were between 60-69 yrs (83%). The mean age of the sample was 65 yrs (SD±4.86), minimum and maximum age was 60 yrs and 95 yrs. There were 120 (60%) females, who outnumbered the males. A large number of them, 120 (60%) were illiterate, followed by 26 (13%) completed primary school, 22 (11%) of them have done intermediate and the least were professionals only 2(1%). Hindus dominated. Most of them 101 (51%), belonged to B.C, followed by 54 (27%) O.C and 45 (23%) S.C and S.T together. Coming to economic status, 111 (56%) were dependent on children and remaining were self-sufficient. Married and living with their spouse were 131 (66%) and others included single, widows and widowers. Nuclear families were 114 (57%). Coming to health problems, 149 (75%) had reported to have a chronic disease. Coming to the morbidity pattern, 51 (26%) had no comorbidities. Maximum, 61 (31%) had only hypertension, 41 (21%) had both hypertension and diabetes, 36 (18%) had only diabetes. Demographic Correlation between morbidities and risk factors like age, religion, and caste were statistically significant at 0.05 level. Out of those with morbidity pattern, 28 (14%) were hospitalized. Family history of diabetes and hypertension together and only hypertension was reported among 17 (8.5%) each, followed by, history of diabetes in 12 (6%) families. Alcohol was consumed by 70 (35%) and 36 (18%) smoked. Those with comorbidities, only 98 (49%) take medicines prescribed by their doctors. The number of pills ranged from one to three per day. Among these subjects, 18 (9%) reported adverse events with prescribed medicines for their morbidities. It was mainly self-administration 112 (56%) and 25 (13%) were assisted by one of the family members to take the medicines. During their travel, 146 (73%) carry enough number of pills which has positive impact on the disease. When they fell sick with the pills, most of them, 53 (54%) do not inform anyone, 45 (46%) approach their physician.

Table 1: Demographic, Socio-economic Characteristics and their association with Morbidities of the Study Population

Parameters		No Morbidities		One Morbidity		Two or more than two Morbidities		Total		χ2 value	p-value
		No.	%	No.	%	No.	%	No.	%		
Age (Y)	60-69	45	23	086	44	34	17	164	83	6.178	0.046*
	≥70-79	06	03	015	08	14	07	036	17		
	Total	51	25	101	51	48	24	200	100		

Cont.....

Gender	Males	24	12	039	19	17	07	080	40	1.56	0.458
	Females	27	13	062	32	31	15	120	60		
	Total	51	25	101	51	48	24	200	100		
Religion	Hindus	46	23	079	40	37	18	164	82	6.839	0.033*
	Others	05	02	022	11	11	05	36	18		
	Total	51	25	101	51	48	24	200	100		
Caste	OC	10	05	037	19	07	03	054	27	11.755	0.019*
	BC	28	14	045	23	28	14	101	51		
	SC, ST	13	06	019	09	13	07	045	22		
	Total	51	25	101	51	48	24	200	100		
Marital Status	Married and living with spouse	37	18	068	34	26	13	131	65	3.999	0.135
	Others	14	07	033	17	22	11	069	35		
	Total	51	25	101	51	48	24	200	100		
Type of Family	Nuclear	26	13	066	33	26	13	118	59	2.704	0.259
	Extended	25	12	035	18	22	11	082	41		
	Total	51	25	101	51	48	24	200	100		
Economic status	Self sufficient	27	13	044	22	16	08	087	43	3.868	0.145
	Dependent on family members	24	12	057	29	32	16	113	57		
	Total	51	25	101	51	48	24	200	100		
Alcohol consumption	Yes	20	10	033	17	17	08	070	35	0.642	0.725
	No	31	15	068	34	31	16	130	65		
	Total	51	25	101	51	48	24	200	100		
Tobacco use	Yes	05	02	018	09	13	06	036	18	5.006	0.082
	No	46	23	083	42	35	18	164	82		
	Total	51	25	101	51	48	24	200	100		

Discussion

Often, studies focused on genetics and morbidities that play a role in ageing but this study is on morbidity and knowledge on medication among them. The determinants of healthy ageing depend on various factors, age, gender, religion, culture, etc.,[14] Study population shows high rate of illiteracy 60%, which is slightly more than as per census data of 56% of 2011.[15] Those who are economically dependent partially or fully on others are 56% which is lower than 65% for day to day maintenance as per National Sample Survey.[16]The most prevalent morbidity was hypertension 31%, followed by hypertension and diabetes together 21% and only diabetes 18% which are lower when compared to other studies (ranged from 57 to 59%).[15] Those with comorbidities, 49% are on Polypharmacy, who should be evaluated regularly as mentioned in the study conducted by Ki S et al.,[17] The hospitalized were 14%, which is stressful and a high risk of losing autonomy among them as mentioned in the study conducted by Rossi AP et al.,[18] Hospitalization in elderly is found to be lower in the present study when compared to other studies.[19-22] The knowledge on medication that they should approach the physician when they fall sick with pills is lagging in 22% of them, which has a deleterious effect on health of an individual.

IMPLICATIONS AND RECOMMENDATIONS: The high burden of morbidity underscores the need to establish dedicated geriatric clinics at Primary Health Centres, with integrated use of modern medicine and traditional Indian systems of medicine. Evidence suggests that polypharmacy is associated with adverse drug reactions, highlighting the importance of improved medication management through patient education by medical practitioners and pharmacists. In addition, the development of age-friendly urban environments that promote physical activity and social interaction is essential.

Further research is recommended to evaluate community-based mental health programmes aimed at improving psychological well-being and reducing social isolation among older adults. Collectively, these interventions have the potential to enhance overall health, life satisfaction, and quality of life among India's ageing population.

Conclusion

The high morbidity load among elderly in the present study stress the efforts to provide better health care services to them and ensure that they remain active members of the society. This would help policymakers to strengthen health care services to the elderly population at state and national level to achieve Sustained Development Goals by 2020. This special group should be well informed about the medicines by the attending Physicians/ Pharmacists.

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