Title:" Study of Morbidity Profile among Elderly Population in Rural Etawah"

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I.   Introduction

With the increasing age of life expectancy, the problems associated with geriatric population is now emerging as a major public health problem around the globe and India is also affected by it. According to the WHO, geriatric population defined as population age 60 years & above[1]. It is common to define the "young old" as aged 60-69 years, the "old old" as aged 70-79 years and the oldest old as 80 years and above[2].

As per the United Nation's Population Division report 2006, there are 690 million people over the age of sixty years[3]. This means that 11% of the total world population are senior citizens. The United Nations defines senior citizens as those above the age of 60 years. This population will be estimated to grow to 2 billion people by 2050, that will be 22% of the total world population.

India is in phase of demographic transition. The demographic transition has been attributed to the higher decrease in mortality rates and not so higher decrease in fertility rates. The other factors could be the availability of better health care services. As per census 2011, India's population is 1.2 billion, out of which 8.2% population is 60 years and above. There has been a sharp decline in Crude Death Rate(CDR) from 28.5 during 1951-1961[4] to 7 in 2013[5], while Crude Birth Rate(CBR) has fallen from 47.3 in 1951-1961[4] to 21.4 in 2013[5]. It has been observed that the reduction in mortality is higher as compared with fertility. The expectation of life at birth for male and female has increased more in recent years. In India the expectation of life at birth for males has shown an increase from " 42 years in 1951-1960 to 67 years for males 69 years for females in 2015[5] respectively. This shows that an increase of about "9 years" for males & "11years" for females in 25 years of period[6].

With the increase in the age, the morbidity pattern of the society is also changing. The prevalence of chronic diseases such as hypertension, diabetes mellitus, osteoarthritis, ocular disease have also increases in the past few decades. Government of India has also taken several steps to provide specific packages to increasing geriatric population through various schemes like old age pension, reduce interest on bank loans, reservation in railways and free senior citizen checkups.

Although various studies are carried out to find out overall prevalence of morbidities among geriatric population in big cities, but a very few studies are conducted in India on morbidity and socio-demographic profile of elderly residing in rural area. Thus the present study was designed with the following objectives:

- To find out socio-demographic profile of elderly.
- To find out the morbidity profile of elderly.

II.   Materials & Methods

Study design - Cross sectional study
Study period - 6 month (1 march 2015 to 31 Aug 2015)
Sampling universe- All the persons aged 60 years and above residing in Rural Etawah.
Sample size- By considering the prevalence 27%[7]and allowable error 5% the sample size is calculated by the formula

$$n = 4pq/L^2$$

Where, P=Prevalence, Q=100-P ,L=Allowable Error,

$$n = (4 \times 27 \times 73)/(5 \times 5)$$
$$= 315.36$$
$$= 316$$

Thus the minimum required sample size is 316. So for the study purpose a total of 350 subjects were interviewed from rural Etawah.

III.   Methodology

All the necessary ethical clearance was taken before the start of the study. The study is carried out in 3 villages which were attached to the Rural Health Training Centre, Department Of Community Medicine as a part of teaching and training purpose, which were chosen keeping in mind the availability of resources. These villages covers an approximately 6500 population. Informed consent was taken from each elderly person after explaining the objective of the study. On reaching the 1st village, a fix point was located which may be a school or temple or any building of public importance from that point we moved in left hand direction and chose 1st house, if eligible participant was available ,it was interviewed and if not then we moved to next house in left hand direction. In household which had more than 2 eligible participants than both were interviewed provided that he/she had given their consent. If no one gave the consent then we moved to the next house till the required sample size was achieved.

Once we have covered the 1st village and desired sample was not reached we moved to the next village and repeated the same procedure.

For the interview purpose two teams were formulated comprising of faculty members, post graduate student and medical social worker. All the necessary correction were made and proforma was discussed with them as a part of standardization of study procedure. The information were collected under the following broad headings :- socio-demographic profile and morbidity profile. The collected data was entered into Microsoft excel sheet version 2007 and all the entries were double checked for any possible typographical errors.

IV.   Exclusion & Inclusion Criterion

Inclusion criterion-
*   Age 60 years and above.
*   Residents of District Etawah.
    Exclusion criterion-
*   Person not willing to participate.
*   Severely ill, mentally challenged or unable to communicate.

V.   Statistical Analysis

Descriptive statistics was applied for analysis of the data. Observation will be presented in the form of percentage and proportion. The difference in mean was analyzed using Z-teat.

VI.   Result

A total of 387 participants were contacted to get desired number of sample 350. Out of 350 participants 198 were males and 152 were females and majority of participants were of age group of 60-64years with mean age of 66 years for males and 67 years for females. Most of the male participants were farmer by occupation and female participants were housewives (Table-1).

Table-1- Showing socio-demographic profile of study participants-

SOCIODEMOGRAPHIC CHARACTERISTICS	MALE	FEMALE
AGE		
60-64years	120(60.6%)	68(44.7%)
65-69years	22(11.1%)	19(12.5%)
70-74years	28(14.1%)	33(21.7%)
≥ 75years	28(14.1%)	32(21.0%)
TOTAL	**198**	**152**
FAMILY TYPE		
JOINT	110(55.5%)	91 (59.8%)
NUCLEAR	33(16.6%)	20(13.1%)
3RD GENERATION	55(27.7%)	41(26.9%)
TOTAL	**198**	**152**
FAMILY INCOME		
UPTO 5000	61(30.8%)	20(13.1%)
UPTO 10000	54(27.2%)	35 (23.0%)
>10000	83(41.9%)	97(63.8%)
TOTAL	**198**	**152**
OCCUPATION		
FARMER	107(54.0%)	7(4.6%)
RETIRED	30(15.1%)	6(3.9%)
SELF OCCUPIED	30(15.1%)	17(11.1%)
UNEMPLOYED/HW	31 (15.6%)	122(80.2%)
TOTAL	**198**	**152**

PERSONAL INCOME		
NO INCOME	148(74.7%)	108(71.0%)
<500	2(1%)	10(6.5%)
500-1500	29(14.6%)	7(4.6%)
1500-2500	2(1%)	5(3.2%)
2500-3500	2(1%)	5(3.2%)
>3500	15(7.5%)	17(11.1%)
TOTAL	**198**	**152**

Out of 350 participants interviewed, most common morbidities reported were joint pain, vision impairment and easy fatigability in both sexes. However there is statistically significant difference in the prevalence of morbidities related to hypertension, hearing loss, easy fatigability between the two sexese. (Table-2).

Table -2- Showing morbidities among the study participants-

MORBIDITIES	MALE(198)	FEMALE(152)	Z-VALUE	P-VALUE	
HEADACHE	70	55	-.160	.872	NOT SIGNIFICANT
HTN	73	15	5.77	0	SIGNIFICANT
DM	30	15	1.46	.144	NOT SIGNIFICANT
JOINT PAIN	95	60	1.58	.118	NOTSIGNIFICANT
CATARACT	85	76	-1.31	.186	NOT SIGNIFICANT
TB	15	9	.607	.54	NOT SIGNIFICANT
ASTHMA	50	30	1.21	.222	NOT SIGNIFICANT
CONSTIPATION	35	26	.139	.886	NOT SIGNIFICANT
HEARING LOSS	32	53	-4.04	0	SIGNIFICANT
PILES	15	8	.86	.38	NOT SIGNIFICANT
URINATION	49	13	3.93	.05	SIGNIFICANT
IRRITABILITY	36	43	-2.24	.02	SIGNIFICANT
INSOMNIA	18	46	-5.07	0	SIGNIFICANT
HEART ATTACK	10	5	.806	.417	NOT SIGNIFICANT
NEUROLOGICAL DISEASES	72	21	4.73	0	SIGNIFICANT
GI DISEASES	30	20	.52	.59	NOT SIGNIFICANT
EASY FATIGUBILITY	105	120	-5.01	0	SIGNIFICANT
COGNITION DISORDER	10	15	-1.73	.08	NOT SIGNIFICANT
VAGINAL DISCHARGE	-	10	-	-	-
DRUGS >2	23	45	-4.21	0	SIGNIFICANT

VII. Discussion

In the present study the mean age of participants were 66 years for male and 67 years for female. This is similar to the studies carried out by different researchers like Ubaidulla M et al [8], Madhu T et al [9],Lena A et al [10] etc. Most of the study participants in present study were living in joint families. This could be attributed to the facts that rural India follows traditional system of Indian culture in which joint families are given priority. This helps elderly to have more family support and care from their children. Similar findings have been brought out by various studies Chandwani H et al [11] in Gujrat and Padda AS et al [12] in Amritsar.

It was noticed in present study that most of the participants were having total family income >10,000/year. This is in line with the findings that most of the male participants were farmer by occupation while females were housewives. In agricultural society all the income are mostly pooled at one place and then it is distributed to others depending on need & it is difficult to calculate income from one member. In concordance with above finding it was noted similarly that majority of participants they do not have their own separate income.

Joints pain(44.2%), diabetes mellitus(12.8%), easy fatigability(64.2%), visual impairment(46%), breathing problem(22.8%) were reported as most common health problems in the present study by participants of both the sexes. These result are compatible with other studies conducted by other researchers like Sunder et al [13], in Rohtak district of Haryana, and Joshi K et al[14].

On analysis of data related to morbidity profile of the participants it was noted that headache, joint pain, breathlessness were more common in males and hearing loss, irritability were more common in females though these differences were not statistically significant.

On further analysis of data it was noted that HTN, urination and neurological problems were statistically more significant in male participants whereas hearing loss, insomnia and easy fatigability were more prevalent in female. These differences were statistically significant. Ubaidulla M et al[8], Madhu T et al[9],Lena A et al[10]et al has also noted the above difference in their studies. These differences could be attributed to the physiological difference between male and female sexes.

VIII.   Conclusion

The present study conclude that as the age advances the incidence of different morbidities increases. Majority of these morbidities are equally distributed in both the sex however HTN,DM & neurological diseases are more prevalent in males whereas urination problems & psychological problems more prevalent in females.

Refrences

[1].   Health of the Elderly. World Health Organisation Technical Report Series 779. Available from http://www.whqlibdoc.who.int/trs/WHO_TRS_779.pdf (accessed on Aug 5, 2015).
[2].   Ebrahim S, Byles JE. Health of older people. In Detels R, editor. Oxford Text Book Of Public Health. Vol.3 New York: Oxford Medical Publications.2009;3(ed 5th):1496-514.
[3].   http//:www.ilcindia.org/population-ageing-the-scenario/html (assessed on 5/8/2015)
[4].   Irudaya Rajan S. Demography of ageing. In: Dey AB, editor. Ageing in India, Situational analysis and planning for the future. New Delhi: Rakmo Press; 2003.
[5].   http//: www.mopsi.nic.in/Mopsi_New/upload/India_in-figures-2015 (assessed on 20/9/2015)
[6].   Rani KR. Unreported needs of Elderly at home; Report submitted to Kerala Research Programme on local development, center for development studies, Trivendrum 2004. Available from site:htpp// www.cds.ac.in/krpcds/report assessed on 13/01/2015 .
[7].   Srivastava K, Gupta SC, Kaushal SK, Chaturvedi M . Morbidity profile of elderly a cross sectional study of urban Agra. Indian Journal of Community Health.2009;21(2),22(1):51-55.
[8].   Ubaidulla M, Inamdar IF, Aswar NR, Doibale MK. Medical and Psychosocial Profile of Geriatric Population in Field Practice Area of Nanded, India. IOSR Journal of Dental and Medical Sciences (IOSR-JDMS).2014;13(3):29-33.
[9].   Madhu T, Sreedevi A.Study of Socio Demographic Profile of Geriatric Population in the Field Practice Area of Kurnool Medical College Andhra Predesh, India. International Journal of Research and Development of Health.2013;1(2):69-76.
[10].   Lena A, Ashok K, Padma M, Kamath V,Kamath A. Health and Social Problems of the Elderly: A Cross-sectionalstudy in Udupi Taluk, Karnataka.Indian J Community Med.2009; 34(2): 131–134.
[11].   Chandwani H, Jivarajani H. Health & social problems of geriatric population in an urban setting of Gujrat in India. The internet Journal of geriatrics & gerontology .2008;5(1).
[12].   Padda AS, Mohan V, Singh J, Deepti SS, Singh G, Dhillon HS. Health profile of aged person in Urban & Rural field practice area of medical college Amritsar. Indian Journal of Community Health.1998;23:72-76.
[13].   Sunder L,Chadha SL, Bhatia PC-1999. A Study on senior citizen in rural areas .Health for the millions1999;25:18-20.
[14].   Joshi K, Kumar R, Avasthi A. Morbidity profile & its relationship with disability & psychological distress among elderly population in North India. International Journal Of Epidemiology.2003;32:978-987.