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Assessment of the Morbidity Pattern of Persons Living At Old Age Homes of Ahmedabad City

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ABSTRACT

Introduction: Although old age is not a disease in itself; the elderly are vulnerable to chronic diseases such as cardiovascular illness, cancers, diabetes, musculoskeletal and mental illnesses leading to impairments and disabilities ultimately affecting the health related quality of life of the elderly and will rise burden on the health systems of country. Main objectives of the research are to study the socio-demographic profile of as well as the physical and mental health problems amongst persons living at selected old age homes of Ahmedabad city.

Methods: A cross-sectional study was conducted among total 143 participants living at randomly selected (half of all 12) old age homes of Ahmedabad city. They were asked and assessed according to proforma for collection of information.

Results: 46.2% participants had pallor.69.9% had osteoarthritis. 39.9% had difficulty in vision.29.4% were suffering from at least one respiratory problems.60.1% had hypertension. 20.3% were suffering from diabetes.49.7% were suffering from at least one GIT problem.25.2% had depression.

Conclusion: Osteoarthritis was seen in 7 out of every 10 elderly & was higher in females compared to males. Other major problems were difficulty in hearing & vision, hypertension, constipation, acidity, diabetes in descending order.

Keywords: old age home, morbidity, prevalence, Ahmedabad, assessment

INTRODUCTION

It's a known fact that aging is a natural process. A roman philosopher Seneca said that "Old age is an incurable disease", but more recently, Sir James Sterling Ross commented that one can't heal old age. He can protect it, promote it and can extend it.[1]

Due to combined effects of growing fertility and lowering mortality during the twentieth century, large and faster increases in elderly populations occurred as successively larger cohorts fell into old age. Furthermore, nowadays steep decline in fertility is seen which raises the chances of increase in proportion of the elderly population in the future.[2]

In 2010, an estimated 524 million people were aged 65 yrs or older – 8% of world's population. By 2050, this number is expected to nearly triple to about 1.5 billion, representing 16% of world's population.[3] the population of age above 60 years has tripled in last 50 years in India and will increase in an unrestricted manner in upcoming days. In 2001, the proportion of older people was 7.7% which was expected to increase to 8.14% in 2011 and 8.94% in 2016.[4]

Even though old age is not a disease itself but the elderly have higher chances of chronic diseases such as cardiovascular diseases, Non communicable diseases like cancers and diabetes as well as

musculoskeletal and mental illnesses. These chronic diseases lead to impairments and disabilities, which have great impact on the health related quality of life of the elderly people and will contribute towards raising burden of the health systems in developing countries like India.[5] Cardiovascular diseases (CVD) are the leading cause of death in elderly age group population in India. In younger age group infections are still the leading causes of death but among elderly people most deaths are due to non communicable diseases.[6]

Elderly people may suffer from multiple chronic conditions as well as visual defects, hearing impairment and deterioration of speech which ultimately result in social isolation of them too.[7]

Problems in old age are not entirely due to ageing. Many of the problems are due to associated retirement, which result in loss of income, loss of role as worker, a role shift from dependable to dependent and isolation due to loss of social group, with which there was a day to day contact. In addition, there is problem of spending free time. This leads to negative self-image, which seriously impairs ones mental health resulting in apprehension, anxiety, depression, frustration and life itself is felt like a burden to them.[8]

In view of the nature and magnitude of problem there is growing concern in this direction. The time has come, to apply preventive measures in all the connection and enable the aged to enjoy optimal health. The present study is therefore undertaken to assess the morbidity status of persons living in old age homes.

Purposes behind conducting the study are to study the socio-demographic profile, physical and mental health problems amongst persons living at selected old age homes of Ahmedabad city and to assess association of socio-demographic factors with various health problems of study population

METHODOLOGY

As per data available to us, there were 12 old age homes available in Ahmedabad city area. Out of them half (i.e. 6) were selected through simple random sampling method. Type of study was a cross-sectional study and study was conducted between Jan 2016 to Jun 2016 in selected old age homes. Informed verbal consent was taken from all the persons living in old age homes after explaining them the purpose of the study. After taking into consideration of inclusion and exclusion criteria, total 143 participants participated in study. All persons living at selected old age home willing to give informed verbal consent and able to listen, understand and answer properly were considered the inclusion criteria of study. Any person living at old age home not willing to give informed verbal consent or not able to listen, understand and answer properly were decided as the exclusion criteria for the study. Ethical clearance for the study was gained through institutional ethical committee. There was no any conflict of interest between participants' side and the author side. Pre- tested proforma was used for data collection through personal interview method. Socio demographic and morbidity related data were collected. Data was entered in MS Excel and analyzed using MS Excel 2007 as well as SPSS version 20.0 software. Data was presented in the form of tables and necessary statistical tests like Crammer's V test was applied to find out association between morbidity profile and demographic variables.

RESULTS

Most common reason for staying in old age home was disharmony with son's family (39.2%) followed by only having daughter child (23%), no child (18.2%), unmarried (9%) and other reasons (10.6%) in our study (Table 1).

Out of total 143 participants, 8 persons (5.6%) were underweight, 33 (23.1%) were having normal weight, 26 (18.2%) were pre-obese and 76 (53.1%) were obese people.

Table1: Socio-demographic Variables

Variable	Frequency (%)
Age group (yrs)	
60-75	74 (51.7)
75-85	58 (40.6)
≥85	11 (7.7)
Gender	
Female	67 (46.9)
Male	76 (53.1)
Education	
Illiterate	5 (3.5)
Up to Secondary	107 (74.9)
Above Secondary	31 (21.6)
Marital Status	
Married	32 (22.4)
Unmarried	14 (9.8)
Divorced/Separated	20 (14)
Widow	77 (53.8)
Type of Family	
Nuclear	72 (50.3)
Joint	71 (49.7)
Economical dependency	
Dependent	72 (50.3)
Independent	71 (49.7)
Past Occupation	
Business	32 (22.4)
Service	96 (67.1)
Unemployed	15 (20.5)

Table 2: General Examination findings

General Examination findings	Frequency (n=143) (%)
Icterus	9 (6.3)
Pallor	66 (46.2)
Cyanosis	0 (0)
Clubbing	1 (0.7)
Edema	16 (11.2)
Lymphadenopathy	1 (0.7)
Giddiness	27 (18.9)

Table 3: Prevalence of health problems and use of health care Aids system-wise

System	Frequency (%)
Musculoskeletal	
Osteoarthritis#	**100 (69.9)**
Use of stick	34 (23.8)
Undergone any orthopaedics Surgery	8 (5.6)
Special Senses	
Any one eye problem	76 (53.1)
difficulty in vision	64 (39.9)
Undergone Cataract Surgery	110 (76.9)
use of spectacles	86 (60.1)
Any one ear problem	40 (28)
Difficulty in hearing	36 (25.2)
Use of hearing aid	2 (1.4)
Respiratory	
Any one Respiratory problem	42 (29.4)
Asthma (documented evidence)	9 (6.3)
COPD (documented evidence)	3 (2.1)
Cardiovascular	
Hypertension	86 (60.1)
Past History of MI	13 (9.1)
Angina	3 (2.1)
Endocrine	
Diabetes	29 (20.3)
Diabetes (>=5 yr duration) (n=143)	14 (9.8)
Gastrointestinal	
Any one GIT problem	71 (49.7)
Acidity	28 (19.6)
Constipation	46 (32.2)
Piles	18 (12.6)
Complete lose of teeth	46 (32.2)
Use of Denture	29 (20.3)
Nervous System	
Depression	36 (25.2)
Tremors	25 (17.5)
Senile dementia	63 (44.1)
Genitourinary (Male)	
Frequency of micturition	13 (9.1)
Urinary Incontinence	8 (5.6)
RTI	2 (1.4)
Prostate Cancer	1 (0.7)
Genitourinary (Female)	
Uterine/adnexal tumor	3 (2.1)
UTI	3 (2.1)
Leucorrhoea	1 (0.7)
Urinary Incontinence	6 (4.2)
Cervical bleeding	0 (0)

Osteoarthritis was more common in female (53%) as compared to male (47%) participants which was statistically significant.
(Crammer's V value=0.188, p value=0.029)

Osteoarthritis was the most common problem of elderly people (7 in out of any 10 people). Any one type of eye problem and GIT problem was seen it almost half of individuals. At least one type of ear and respiratory problem was seen in about 3 out every 10 individuals. Depression was seen 1 out every 4 individuals of old age group (table 3).

As the age increases from age group 60-75 to 75-85 to more than 85 yrs, prevalence of hypertension increases too which is statistically significant. Hypertension was more common in divorced/ separated participants as compared to those with other marital status which is supported by appropriate statistical test of significance. As the education of participants increases from illiterate to up to secondary level of education to above secondary level of education the prevalence of hypertension decreases and this is statistically significant too. It indicates the beneficial effect of education in prevention and control of hypertension. Prevalence of hypertension was increases gradually from normal BMI to pre-obese BMI to obese BMI category which is supported by appropriate statistical test of significance (Table 4).

Among obese BMI category, Female participants were more as compared to male participants and that was statistically significant too. Highest prevalence of obesity (according to BMI criteria) was seen in widow (er) than with any other marital status which supported by statistical test of significance too (table 5)

Although diabetes was more common (25.58%) in hypertensive than with non-hypertensive people (12.28%) in our study but it lacks statistical association (Table 6).

DISCUSSION

As we can see from table 1 that in our study the proportion of male was 53.1% and that of female was 46.9% while proportion of male and female participants were 45.85% and 54.15% respectively in the study conducted by K Banker et al [10]. 74% of participants were females and 26% were males in the study conducted by Lt Col Reji RK et al [9].

Major reason to stay in old age home was came out to disharmony with son's family (39.2%) followed by no one to take care at home (50.2%) including unmarried (9%), no child (18.2%) and having only daughter child (23%) in our study. P G Patel et al [11] in their study found that major reason to stay in old age home was familiar conflicts (63%) while no one to take care at home (20%) was the second main reason followed by financial constraints (8%) as the third common reason.

Table 4: Relation of Hypertension with few Demographic variables

Demographic variables	Hypertension			Crammer's V value	P value of Crammer's V
	Present (%)	Absent (%)	Total		
Age group					
60-75	46 (52.3)	42 (47.7)	88	0.213	0.041
75-85	34 (70.8)	14 (29.2)	48		
>=85	6 (85.7)	1 (14.3)	7		
Type of Family					
Joint	42 (59.2)	29 (40.8)	71	0.02	0.865
Nuclear	44 (61.1)	28 (38.9)	72		
Gender					
Male	40 (52.6)	36 (47.4)	76	0.163	0.061
Female	46 (68.7)	21 (31.3)	67		
Marital Status					
Divorced/Separated	14 (70)	6 (30)	20	0.284	0.008
Married	11 (34.4)	21 (65.6)	32		
Unmarried	5 (35.7)	9 (64.3)	14		
Widow	25 (32.5)	52 (67.5)	77		
Education					
Illiterate	4 (80)	1 (20)	5	0.204	0.045
Upto Secondary	69 (64.5)	38 (35.5)	107		
Above Secondary	18 (58.1)	13 (41.9)	31		
Economical Dependency					
Dependent	28 (38.9)	44 (61.1)	72	0.02	0.865
Independent	42 (59.2)	29 (40.8)	71		
Past Occupation					
Business	22 (68.8)	10 (31.3)	32	0.099	0.505
Housewife	8 (53.3)	7 (46.7)	15		
Service	56 (58.3)	40 (41.7)	96		
Body Mass Index					
Underweight	2 (25)	6 (75)	8	0.267	0.015
Normal	16 (48.5)	17 (51.5)	33		
Pre-obese	14 (53.8)	12 (46.2)	26		
Obese	54 (71.1)	22 (28.9)	76		

Table 5: Relationship of BMI and Gender and marital status of population

Variables	Underweight (n=8) (%)	Normal (n=33 (%)	Pre-obese (n=26) (%)	Obese (n=73) (%)	Crammer's V value	P value
Gender						
Male	6 (75)	27 (81.8)	16 (61.5)	27 (37)	0.398	
Female	2 (25)	6 (18.2)	10 (38.5)	46 (63)		0.0000
Marital Status						
Divorced/Separated	0 (0)	8 (24.2)	3 (11.4)	9 (11.8)	0.369	0.022
Married	1 (12.5)	4 (12.1)	9 (34.5)	18 (23.7)		
Unmarried	3 (37.5)	4 (12.1)	4 (15.3)	3 (3.9)		
Widow (er)	4 (50)	17 (51.6)	10 (3.8)	46 (60.6)		

Table 6: Relation of Diabetes with few demographic variables

Variables	Diabetes			Crammer's V value	P value of Crammer's V
	Present	Absent	Total		
Age group					
60-75	16 (18.2)	72 (81.8)	88	0.086	0.59
75-85	12 (25)	36 (75)	48		
>=85	1 (14.3)	6 (85.7)	7		
Gender					
Male	15 (19.7)	61 (80.3)	76	0.14	1
Female	14 (20.9)	53 (79.1)	67		
Education					
Illiterate	0 (0)	5 (100)	5	0.116	0.353
Upto Secondary	24 (22.4)	83 (77.6)	107		
Above Secondary	5 (16.1)	26 (83.9)	31		
Body Mass Index					
Underweight	0 (0)	8 (100)	8	0.144	0.392
Normal	7 (21.2)	26 (78.8)	33		
Pre-obese	4 (15.4)	22 (84.6)	26		
Obese	18 (23.7)	58 (76.3)	76		
Hypertension					
Yes	22 (25.6)	64 (74.4)	86	0.162	0.059
No	7 (12.3)	50 (87.7)	57		

Proportion of economical dependence and economical independence were 50.3% and 49.7% respectively in our study, 68% and 32% respectively in study by P G Patel et al [11] while 52.7% and 47.3% respectively in study by Lt Col Reji RK et al [9].

Table 2 in our study showed that Pallor was the most common finding (46.2%) followed by Giddiness (18.9%). Percentage of participants having giddiness was 13.6% in study by K Banker et al [10]. We found in our study that percentage of obese participants was 53.1% while it was 31.5% and 24.7% respectively in study conducted by P G Patel et al [11] and Lt Col Reji RK et al [9]. Percentage of underweight participants were 5.6% in our study while 7% in study by P G Patel et al [11].

Table 3 showed that in our study percentage of osteoarthritis was 69.9% while percentage of musculoskeletal disorders was 61.3% and 22% in study by K Banker et al [10] and Lt Col Reji RK et al [9] respectively. Joint pain was seen in 60.2% participants of study by K Banker et al [10], 22% of participants in study by P G Patel et al [11]. 23.8% participants need to take help of stick for walking was observed in our study while the figure was 21.17% in the same category in study by K Banker et al [10]. the percentage of participants having difficulty in vision was 39.9%, 44.2%, 83.3% in our study, study by K Banker et al [10] and study by Lt Col Reji RK et al [9] respectively. Difficulty in hearing was seen in 25.2%, 3.3%, 14.67% of participants in our study, study by P G Patel et al [11]and study by Lt col Reji RK et al [9] respectively. Percentage of at least one respiratory problem was 29.4%, 9.4%, 5.7 % (shortness of breath), 8.1 % (breathlessness), 6.7% in our study, study by K Banker et al [10], K Banker et al[10], P G Patel et al [11] and Lt Col Reji RK et al [9] respectively. Hypertension was seen in 60.1%, 39.4% and 43.3% of participants in our study, study by P G Patel et al [11] and study by Lt Col Reji RK et al [9]. 20.3% and 40.7% were found to have diabetes in our study and study by Lt Col Reji RK et al [9] respectively. Constipation was seen in 32.2% and 22.2% of participants in our study and study by K Banker et al [10] respectively. Any one GIT problem was seen in 49.7%, 7.4%, 12% of participants in our study, study by K Banker et al [10] and study by Lt Col Reji RK et al [9] respectively. 20.3% and 12.8% of participants need to use denture in our study and study by K Banker et al [10] respectively. Tremors were seen in 17.5% and 4.9% of participants in our study and study by K Banker et al [10] respectively. 25.2% participants were having depression in our study while percentage of psychiatric disorders was 4% in study by K Banker et al [10]. Frequency of micturition were higher than normal in 9.1% of male participants and percentage of urinary incontinence were 5.6% (Males) and 4.2% (Females) in our study. Percentages of GUT disorders were 0.8% (males) and 1.4% (Females) in study by K Baker et al [10]. While overall GUT problems was 6% in study by Lt col Reji RK et al [9] .

As shown in table 4 that hypertension was more common among female participants than male ones but it lacks statistical significance in our study while the observation was supported by statistical tests of association in study by K Banker et al [10] (hypertension percentages in females and males were 59.6% and 47.7% respectively) Even finding of study by Lt Col Reji RK et al [9]showed that hypertension was higher in females (33.3%) as compared to males (10%) but it lacks statistical significance too like our study. Our study had shown as the education of participants increases from illiterate to up to secondary level of education to above secondary level of education the percentage of hypertension decreases from 80.00% to 64.49% to 58.96% respectively and the finding is statistically significant too while Lt Col Reji RK et al [9] found out in their study that education has not any correlation with hypertension.

Table 5 of our study shows that obesity was more common among females (63%) compared to males (37%) which was statistically highly significant. The same observation was found in study by P G Patel et al [11] having obesity prevalence of 36% and 27% in females and males respectively but it was not supported by statistical tests of association.

Osteoarthritis was more common in females (53%) compared to males (47%) in our study as well as in study by K Baker et al [10] (where it is 62% and 46.5% in females and males respectively). Findings was supported by appropriate statistical tests in both studies

Table 6 states that diabetes was more common in females as compared to males which is exactly the opposite to the findings of study by K Baker et al [10] but both findings lack support of statistical association. Although our study also says that hypertension was more common in diabetics compared to non-diabetes but it lacks statistical association while the same observation was supported by appropriate statistical test of association in study by LT Col Reji RK et al [9]. Both our study and study by Lt Col Reji RK et al [9] showed that there is no statistical association between educational level and diabetes status of individual.

CONCLUSION

Almost half (53.1%) of participants were obese of which females were higher as compared to males. Osteoarthritis was found in 7 out every 10 participants and females had higher prevalence of osteoarthritis than males. Prevalence of other common

health problems was: difficulty in vision (40%), difficulty in hearing (39%), hypertension (60%), diabetes (20%), constipation (32%), acidity (20%). As the education of participants increases from illiterate to up to secondary level of education to above secondary level of education, the prevalence of hypertension decreases gradually that indirectly indicates the beneficial effect of education for prevention and/or control of hypertension. Hypertension was more common in pre-obese and obese individuals as compared to normal ones and in divorced/separated participants than those with other marital status.

REFERENCES

1. K Park. Park's Textbook of Preventive and Social Medicine, 23 ed. Jabalpur: Bhanot Publishers; 2013. p 594
2. Population ageing and health in India. Available at: www.cehat.org/cehat/uploads/files/ageing%281%29.pdf. Accessed Feb 20th 2018
3. World Health organization, National Institute on Aging National Institutes of Health U.S. Department of Health and Human Services .Global Health and ageing. NIH Publication, October 2011.p.4
4. Operational Guidelines -National programme for the Health Care of the elderly. Available at: https://mohfw.gov.in/sites/default/files/8324324521Operational_Guidelines_NPHCE_final.pdf Accessed Jan 21st 2018.
5. Chandrakant Lahariya, Jyoti Khandekar, Shishir K Pradhan. Effect of Impairment and Disability on Health-Related Quality of Life of Elderly: A Community-Based Study from Urban India. Indian J Community Med 2012;37:223-6
6. Ageing in India: prepared for WHO by Dr Indira Jay Prakash, Available at: http://apps.who.int/iris/bitstream/10665/65965/1/WHO_HSC_AHE_99.2.pdf Accessed May 5th, 2018.
7. Socio-economic conditions, morbidity pattern and social support among the elderly women in a rural area. Available at: www.cds.ac.in/krpcds/report/sarasakumari.pdf. Accessed May 15th, 2018
8. Meydani M. Nutrition interventions in aging and age-associated disease. Ann N Y Acad Sci. 2001 Apr;928:226-35
9. Lt Col Reji RK , Lt Col Sarvjeet Kaur. Prevalence of Common Physical Health Problems among Elderly in Selected Old Age Homes of a Cosmopolitan City. June 2015; 4 (6): 1034-8
10. Kavita Banker, Bipin Prajapati, Geeta Kedia. Study of health profile of residents of geriatric home in ahmedabad district. National Journal of Community Medicine. Oct-Dec 2011;2 (3):378-82
11. Patel PG, Patel UM, Thakor N. Profile of elderly inmates of old age homes of Patan district, Gujarat, India: a cross sectional study. Int J Res Med Sci 2015;3: 2725-8.