



A study of morbidity profile of geriatric population in an urban community of Kishanganj, Bihar, India

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ABSTRACT

BACKGROUND: The growing healthy aging population is a source of both joy and worries. Joy because people are living longer and healthier lives. Worries are about how to respond to a future with a larger older population with their rightful demands and needs. The present study was undertaken with the objectives to find determine various socio-demographic factors in the geriatric population and to find out the prevalence of morbidity profiles in relation with sex, age and educational status among the study population.

METHODS: A community based cross sectional study was conducted from June - August 2013 in Dilawarganj, an urban slum, Kishanganj, Bihar. A total of 160 people aged 60 years and above were selected and interviewed through house to house survey and complete clinical examinations were performed among the study subjects.

RESULTS: Among the 160 study subjects, 88 (55.00%) were males and 72 (45.00%) were females, 55% belong to age group 60 – 69, It was observed that the prevalence of anaemia, cataract and hypertension were quite high, 63.75%, 61.25% and 50.63% respectively. The percentage of alcohol consumption was as high as 47.50%. Loss of income & occupation along with a feeling of neglect from the family members were the common problems. Morbidities like arthritis, loss of teeth & dental caries along with depression were found to be significant with sex, age & educational status of the study subjects.

CONCLUSION: The study among elderly in Kishanganj, Bihar has highlighted a high prevalence of morbidity and identified socio-demographic profile and common existing problems.

Keywords: morbidity, socio-demographic profile, psychological perception.

INTRODUCTION

Ageing has been an inevitable part of human existence. Earlier people equated it with mortality and morbidity. Nowadays a new concept of healthy aging has paved way. The WORLD HEALTH ORGANISATION gave a slogan on aging 'Good health adds life to years' in 2012.

The growing healthy aging population is a source of both joy and worries. Joy because people are living longer and healthier lives. Worries are about how to respond to a future with a larger older population

with their rightful demands and needs.¹

Demographic transition has to lead to the population aging in India. As per the 1991 census, the population of the elderly in India was 57 million as compared with 20 million in 1951. There has been sharp increase in the number of the elderly persons between 1991 and 2001 and it has been projected that by the year 2050, the number of elderly people will rise to about 324 million.² Increasing awareness, better health care, improving living conditions lead to increase life expectancy

and geriatric population. India, has thus acquired the label of “an aging nation” with 7.7% of its population being more than 60 years old.

There is a need to highlight the medical and socio-economic problems that are being faced by the elderly people in India and strategies for bringing about an improvement in their quality of life also need to be explored.³

From the morbidity point of view, at least 50% of the elderly in India have chronic diseases.⁴ A thorough examination of geriatric morbidity and related risk factors are required to improve the delivery of health care to the elderly.⁵

This study was conducted to perform in order to assess the medico-social problems in elderly population in an Urban Slum of Kishanganj, Bihar. This study was conducted with the aim of studying some of the medico-social problems in the geriatric population in an Urban Slum of Kishanganj, Bihar.

OBJECTIVES

- 1) To determine the various Socio-demographic factors in geriatric population.
- 2) To find out the prevalence of morbidity profile in relation with sex, age and educational status among the study population.

MATERIAL AND METHODS

A community based cross sectional study was conducted in Dilawarganj urban slum, the urban field practice area of Department of Community Medicine, MGM Medical College, Kishanganj.

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 June - August, 2013. The study was performed by house to house survey after taking verbal consent from the study population. Total population of the study area was 2074 and total study subjects were 160 after complete enumeration.

After taking verbal consent each individual was

subjected to personal interview and clinical examination.

The information was collected with the help of post graduate students, other faculty members and Anganwadi Workers through a pre-designed, pre-tested and structured Proforma. All the subjects were examined well. A person was regarded as hypertensive according to the JNC-VII blood pressure classification⁶ or if he was already taking hypertensive therapy.

Visual examination was done with torch light and finger counting. Tuning forks were used to test hearing. All those who were on treatment of diabetes were recorded as diabetics. Anaemia was judged clinically. Environmental conditions, Socio-economic status, Demographic details, Personal details, findings of physical and psychological examination were also recorded.

Cataract were examined and diagnosed by consultant eye surgeons.

Statistical analysis: Data collected were analyzed using SPSS (Statistical Package for Social Sciences) Version 10. Chi-square test was applied to find out relevant associations at 5% level of significance.

RESULTS

Age – Age group of 60 – 69 years accounted for over half of the study populations (55%).

Literacy – Literacy level of female respondents was significantly low 38 (23.75%) as compared to males 26 (16.25%).

Socio-economic Status – According to modified kuppuswamy's scale (2012) (21.25%) study subjects were belong to the lower middle class followed by middle class (23.75%) and (46.25%) belong to lower class. (8.75%) belong to the upper middle class while none of the study subjects belong to the upper class.

Religion – The study population consists of (43.12%) Hindus and (48.13%) were Muslims.

Type of family – Maximum 38 (23.75%) elderly males belongs to the joint family and 36 (22.50%) of

elderly females belonged to the nuclear family.

Occupation – It was observed that 30 (18.75%) of them were working as agricultural labour in the field, 38 (23.75%) has their own business, 56 (35.00%) were daily wage earners or daily labourers. 20 (12.50%) belong to the other group

(cobbler, canning worker, mattress making, etc.) and 16 (10.00%) were not having any occupation due to physical disability.

Table 1. Distribution of Study Subjects according to Socio – demographic factors_n= (160)

Factors	Male	Female	Total
Age(in years)			
60 – 69	40 (25.00)	48 (30.00)	88 (55.00)
70 – 79	33 (20.63)	16 (10.00)	49 (30.63)
>= 80	15 (9.37)	08 (5.00)	23 (14.37)
Total	88 (55.00)	72 (45.00)	160 (100.00)
Educational Status			
Illiterate	26 (16.25)	38 (23.75)	64 (40.00)
Primary	34 (21.25)	20 (12.50)	54 (33.75)
Secondary	20 (12.50)	10 (6.25)	30 (18.75)
HS and above	08 (5.00)	04 (2.50)	12 (7.50)
Total	88 (55.00)	72 (45.00)	160 (100.00)
Socio Economic Status			
Lower	38 (23.75)	36 (22.50)	74 (46.25)
Lower middle	14 (8.75)	20 (12.50)	34 (21.25)
Middle	28 (17.50)	10 (6.25)	38 (23.75)
Upper middle	08 (5.00)	06 (3.75)	14 (8.75)
Higher	-	-	-
Total	88 (55.00)	72 (45.00)	160 (100.00)
Religion			
Hindu	38 (23.75)	31 (19.37)	69 (43.12)
Muslim	42 (26.25)	35 (21.88)	77 (48.13)
Others	08 (5.00)	06 (3.75)	14 (8.75)
Total	88 (55.00)	72 (45.00)	160 (100.00)
Type of Family			
Nuclear	28 (17.50)	36 (22.50)	64 (40.00)
Joint	38 (23.75)	20 (12.50)	58 (36.25)
Three generation	22 (13.75)	16 (10.00)	38 (23.75)
Total	88 (55.00)	72 (45.00)	160 (100)
Occupation	Number		Percentage
Agriculture	30		18.75
Laborer	56		35.00
Business	38		23.75
Others	20		12.50
None	16		10.00
Total	160		100

The figures in the bracket represent percentage.

Among the study subjects (63.75%) were found to be anaemic followed by (61.25%) were suffering from cataract and refractory error respectively. (50.63%) were hypertensive, (40%) were having loss

of teeth and dental caries problems, (30.63%) were in a state of depression, (21.25%) having arthritis and (15.00%) were having diabetes mellitus.

Table 2. Prevalence of morbidities in the Study Population, n=160 (multiple answers)

Morbidity	Number	Percentage
1. Cataract	98	61.25
2. Arthritis (Joint Pain)	34	21.25
3. Anaemia	102	63.75
4. Hypertension	81	50.63
5. Diabetes Mellitus	24	15.00
6. Loss of teeth and Dental caries	64	40.00
7. Depression	49	30.63

Alcohol intake was seen among 76 (47.50%) elderly subjects followed by tobacco chewing 48 (30.00%), 11 (6.87%) were consuming opium

Table 3a. Distribution of study Subjects according to type addiction (n=160)

Type of Addiction	Number	Percentage
Alcohol Consumption	76	47.50
Tobacco	48	30.00
Smoking	25	15.63
Opium	11	6.87
Total	160	100

Use of tobacco to, Alcohol opium and other addictions are significant health risk factors in this age group.

Table 3 indicates their psychological perception (19.38%) of the aged people had felt a change of attitude of their family members towards them in the form of not giving them proper care, respect and not making them active participants in decision making process. (58.75%) had attributed for the change in behaviour of other family members and

the reasons for their being upset as the loss of occupation and income. They were the ones (26.88%) who had a complaint of feeling of loneliness and (31.25%) had a feeling of neglect. (21.88%) people expected some or other kind of support from the family members or sons.

Table 3b. Distribution of study Subjects according to family relation and Psychological perception (n=160)

Perception	No. of aged	Percentage
1. Change of attitude of family Members	31	19.38
2. Loss of income & occupation	94	58.75
3. Expect Support from family	35	21.88
4. Don't expect support from family	31	19.38
5. Feeling of neglect	50	31.25
6. Feeling of loneliness	43	26.88

It was observed that among the various morbidities, cataract, arthritis, anaemia, diabetes, loss of teeth & dental caries along with depression

in relation to sex were significant as shown in Table 4.

Table 4. Distribution of the study population in relation to sex and morbidities

Morbidities	Sex				P Value
	Male		Female		
	Y	N	Y	N	
Cataract	63 (39.37)	25 (15.62)	35 (21.88)	37 (23.12)	p = 0.0029
Arthritis	26 (16.25)	62 (38.75)	08 (5.00)	64 (40.00)	p = 0.0045
Anaemia	45 (28.12)	43 (26.87)	57 (35.63)	15 (9.37)	p = 0.0002
Hypertension	47 (29.38)	41 (25.62)	34 (21.25)	38 (23.75)	p = 0.4362
Diabetes	08 (5.00)	80 (50.00)	16 (10.00)	56 (35.00)	p = 0.0206
Loss of teeth & Dental caries	43 (26.87)	45 (28.12)	21 (13.13)	51 (31.87)	p = 0.0113
Depression	21 (13.13)	67 (41.87)	28 (17.50)	44 (27.50)	p = 0.040

**The figures in the bracket represent percentage.*

In Table 5, arthritis, loss of teeth & dental caries and depression were found to be highly significant in relation with age among the study group.

Table 5 . Distribution of the study population in relation to age and morbidities

Morbidities	Age (in years)						P Value
	60 – 69		70 – 79		≥ 80		
	Y	N	Y	N	Y	N	
Cataract	50 (31.25)	38 (23.75)	31 (19.37)	18 (11.25)	17 (10.63)	06 (3.75)	p = 0.30
Arthritis	09 (5.63)	79 (49.37)	13 (8.12)	36 (22.50)	12 (7.50)	11 (6.87)	p=0.00003
Anaemia	55 (34.38)	33 (20.62)	32 (20.00)	17 (10.63)	15 (9.37)	08 (5.00)	p = 0.93
Hypertension	38 (23.75)	50 (31.25)	27 (16.88)	22 (13.75)	16 (10.00)	07 (4.37)	p = 0.05
Diabetes	13 (8.13)	75 (46.87)	06 (3.75)	43 (26.87)	05 (3.12)	18 (11.25)	p = 0.57
Loss of Teeth & Dental Caries	24 (15.00)	64 (40.00)	22 (13.75)	27 (16.87)	18 (11.25)	05 (3.12)	p= 0.00003
Depression	15 (9.38)	73 (45.62)	19 (11.88)	30 (18.75)	15 (9.37)	08 (5.00)	p= 0.00001

• *The figures in the bracket represent percentage.*

It was observed that arthritis, anaemia, hypertension, loss of teeth & dental caries and

depression were significant in relation with educational status as shown in Table 6.

Table 6. Distribution of the study population in relation to Educational Status and morbidities

MORBIDITIES	EDUCATIONAL STATUS								P Value
	Illiterate		Primary		Secondary		HS & Above		
	Y	N	Y	N	Y	N	Y	N	
Cataract	45 (28.12)	19 (11.87)	32 (20.00)	22 (13.75)	16 (10.00)	14 (8.75)	05 (3.13)	07 (4.37)	p = 0.16
Arthritis	11 (6.88)	53 (33.12)	08 (5.00)	46 (28.75)	07 (4.37)	23 (14.37)	08 (5.00)	04 (2.50)	p = 0.0007
Anaemia	51 (31.88)	13 (8.12)	37 (23.12)	17 (10.62)	10 (6.25)	20 (12.50)	04 (2.50)	08 (5.00)	P= 0.00002
Hypertension	26 (16.25)	38 (23.75)	31 (19.38)	23 (14.37)	14 (8.75)	16 (10.00)	10 (6.25)	02 (1.25)	p = 0.03
Diabetes	10 (6.25)	54 (33.75)	07 (4.38)	47 (29.37)	04 (2.50)	26 (16.25)	03 (1.87)	09 (5.62)	p = 0.75
Loss of Teeth & Dental Caries	27 (16.87)	37 (23.12)	16 (10.00)	38 (23.75)	19 (11.88)	11 (6.87)	02 (1.25)	10 (6.25)	p = 0.007
Depression	20 (12.50)	44 (27.50)	12 (7.50)	42 (26.25)	08 (5.00)	22 (13.75)	09 (5.63)	03 (1.87)	p = 0.004

- The figures in the bracket represent percentage.

DISCUSSION

The present study was conducted in Dilawarganj, an urban area of Kishanganj, Bihar; to assess the prevalence of morbidity profile in relation to sex, age, educational status and occupation among the geriatric population. Association between gender distributions of the population with other socio-demographic factors was assessed. Family relation, psychological perception along with Addiction history of the study subjects was also taken into account.

Present study concluded that people aged between 60 – 69 years accounted for over half of the study population, i.e. 55%. In this study area, it was noted that literacy levels were more in males (55.00%) than females (45.00%).

It was seen that 46.25% of study population belonged to lower class followed by 21.25% & 23.75% belonging to lower middle and middle class respectively. Majority of the study population were daily wage earners or daily labourer (35%), while (23.75%) have their own business and others are working as agricultural labourers (18.75%).

A similar study conducted in the Union Territory of Chandigarh also revealed prevalence of morbidity profile in geriatric age group to be around 88.9%. Those aged 65 years and above were the study subjects, whereas in southern part of India, 82.9% prevalence of morbidity profile (among those aged 60 years and above) was noted. Higher prevalence of hypertension, anaemia and myocardial infarction were seen as the major causes of morbidity in Chandigarh similar to the present study. Other studies conducted among the geriatric population in Northern and Southern part of India reported morbidity profile prevalence as 2.62 and 2.42 respectively. The elderly people present with a variety of symptoms which should not be neglected since they may be the forerunner of other significant illnesses. However, the prevalence may not match with the morbidity profile because many presenting symptoms are not necessarily system specific eg. Heart burn in elderly could be the symptom of GIT or CVS. In most of the studies, it was also noted that a high prevalence of arthritis / joint pain was more commonly found among the female subjects of the study population.



In Chandigarh it was seen that, 19% people suffered from immature and mature senile cataract which was more common in females and increasing age. Presence of suspected diabetes mellitus in the elderly further reflects the increasing life-style associated diseases in the community. It was almost three times more prevalent in females than that of males. However although the present study found an increased prevalence of diseases like cataract, anaemia, refractory errors and hypertension among the study subjects, no specific gender distribution could be elicited.¹⁰

Present study revealed that among majority of the subjects, 61.25% suffered from cataract and 50.63% suffered from hypertension. A similar study conducted in the urban slums of Thane also concluded that 32.18% suffered from cataract and 16.34% from hypertension.

In the present study, it has been observed that 21.25% of the study population suffered from joint pain. In another study conducted in urban geriatric population of north India, joint pain and cataract occupied the top positions among different morbid conditions i.e. 46% and 45% respectively.

In a study conducted among urban geriatric population in Udaipur, Rajasthan, 48% had hypertension, 44% had cataract.

In the survey of the urban slums, 27% were hypertensive even though they were on medications¹¹.

In the present study 63.75% study subjects were anaemic, 15% were diabetic. A similar study conducted in Pondicherry revealed 43% participants to be diabetic, 86% anaemic.¹²

In this present study, 26.88% and 31.25% subjects had perception of feeling lonely and being neglected respectively. A similar study in Thane, 78% subjects had emotional problems. The main reasons elicited were loss of spouse, ignorance by the family and co-morbid illnesses which was expressed in form of sadness, crying and a feeling of hopelessness. Insomnia was complained by 40% study subjects¹¹. Moreover in northern part of India, loneliness and depression was prevalent in 11% and 9% cases respectively. Family related tension and

less social attention of the family members could be the possible causes.

In a study in Rajasthan, 42% geriatric population had some psychosocial problems. In Thane, 8.64% were depressed whereas in Kashmir valley only 20% people having family support were depressed as against 60.0% depressed people in the category having no family support.¹¹

In the present study, 47.50% respondents were consuming alcohol. A study in urban community of Delhi revealed that 30.35% study subjects had history of alcohol consumption¹¹. According to WHO, this problem is less among the elderly than the younger generations.

The present study found that tobacco chewing and smoking was present in 30% and 15.63% cases respectively. As per Khokhar *et al.*, 15.62% of the subjects were current smokers and smoking was found to have statistically significant association with hypertension and respiratory tract diseases. As per WHO, heavy smoking and smoking for longer durations are common in elderly age group leading to proneness for chronic diseases.¹¹

Thus morbidity profile of geriatric population is interlinked and interdependent on a number of associated factors.

RECOMMENDATIONS

The present study thus clearly shows that elderly population has got specific needs related to physical, social, medical, economical and physiological aspects. Major population of the elderly were out of the work force, practically or totally dependent on others and suffered from range of health related problems. 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. Involvement of NGO and voluntary organizations are equally important. Behaviour and life style modification in the form of primordial prevention and counselling of high risk groups should be carried out to improve the quality of life of the aged. Facility for their leisure time should be provided in the form of libraries, religious gatherings and clubs, etc. Loneliness and depression can be attributed to

family relation, tension and less social attention of family members and community apart from their individual personality. Gender equity, female literacy, women empowerment in relation to elderly morbidity profile and various socio-demographic factors should be given a serious thought.

Finally the increasing population of aged has called for the need of training and further research and larger community based study in Geriatrics and Gerontology.

CONCLUSION

The study among elderly in Kishanganj, Bihar has highlighted a high prevalence of morbidity and identified socio-demographic profile and common existing problems. As there is a rapid expansion in number of elderly population, there is an urgent need to develop geriatric health care services in the developing countries like India and provide training to health care providers

REFERENCES

- 1) Aging profiles: Guidance for producing local health profiles of older people available at: <http://euro.who.int/document/Eg1887.pdf>. (Accessed on 11/12/2008).
- 2) Age Care Statistics. [cited on 2007 Oct. 6] Available from: <http://www.helpageindia.com>.
- 3) About aging. Available at: <http://www.ageingindia.com/> (Last accessed on 11/12/2009)
- 4) Kumar V. Aging in India, Indian J Med Res 1997; 106:257-64.
- 5) Joshi K, Kumar R, Avasthi A. A morbidity profile and its relationship with disability and psychological distress among elderly people in Northern India. Int J Epidemiol. 2003;32: 978-87 [Pub Med]
- 6) JNC-VII (The Joint National Committee on Prevention, Detection, Evaluation and Treatment of High Blood Pressure) The Seventh report of the Joint National Committee on Prevention, Detection, Evaluation and Treatment of High Blood Pressure JAMA 2003; 289: 2560-72.
- 7) Garg BS, Gupta SC. Mishra VN and Singh RB. A Medico – Social Study of aged in urban area Indian Medical Gadgette. Mar 1982 16:90-95
- 8) Singh C A. study of Health status of aged among rural population of merrut. Thesis for M.D. – Merrul University. 1990.
- 9) Kapil U, Soocl AK. Morbidity pattern in aged person attending rural health centre in Haryana. Indian J. of Pub Hlth 1989.33.4:19
- 10) Swami HM, Bhatia V, Dutta R. A Community Based Study of the Morbidity Profile among the Elderly in Chandigarh, India, Bahrain Med Bull 2002; 24(1):13-16
- 11) Harshal T, Pandve , Deshmukh P. Health Survey among Elderly Population Residing in an Urban Slum of Pune City, Journal of The Indian Academy of Geriatrics, 2010; 6: 5-8
- 12) Bharati D R, Pal R, Rekha R, Yamuna T V , Kar S, and Radjou A N. Ageing in Puducherry, South India: An overview of morbidity profile. J Pharm Bioallied Sci. 2011 Oct-Dec; 3(4): 537–42