



Original Article

Understanding Social Organization and Dependency of Geriatric Population in Rural Community of East Champaran, Bihar, India: A Cross-Sectional Study

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ABSTRACT

Introduction- Ageing has been defined as progressive, generalized impairment of function leading to loss of adaptive response to stress and growing risk of age-related disease, resulting in progressive increase in age specific mortality.¹ The geriatric population is defined as population aged 60 years and above. **Aim & Objective-** To study the social organization and dependency of geriatric population in rural community Koyla Belwa, East Champaran, Bihar. **Review of Literature** This review of literature provides a detailed background information of elderly people aged 60 years & above, their past and present scenario around the world as well as in India. Between 2015 and 2050, proportion of the world's population over 60 years will nearly double from 12% to 22%. **Material & Method-** The present study was conducted at Koyla Belwa village, East Champaran district, Bihar to assess the social organization and dependency of geriatric population (aged 60 years and above). Study was conducted from 1st January 2026 to 15th April 2026. It was a community-based Cross - Sectional Observational Study. All elderly people (aged 60 years and above) both men and women residing in the study area were included. Total number of 474 elderly were identified. Among them, 43 people were not willing to participate, 51 people didn't meet for continuous three visits and 12 elderly people were severely ill & not in a condition to be available for the study. Remaining 368 elderly people were included in the study. The collected data was tabulated along with graphical representation and analyzed using MS Office Excel 2016. **Results-** Among the total study population, males were 46.47% and females were 53.53%. Majority of them belonged to age group of 60-69 years (67.66%). Among total 368 participants, majority (63.59%) were illiterate with female predominance, only 16.85% elderly were complete financially independent with high predominance of male. Majority of study participants (51.63%) were financially dependent with the female predominance and majority of elderly participants (55.71%) were not involved in any occupational activities at present. **Conclusion-** As we have to preserve them because of the experience and wisdom of the age is treasure for any society and its gainful utilization would be beneficial for both elderly as well as younger generation.

Keywords: Ageing, Population Ageing, Geriatric Population, Demographic Transition, Senior Citizens.

INTRODUCTION:

Ageing has been defined as progressive, generalized impairment of function leading to loss of adaptive response to stress and growing risk of age-related disease, resulting in progressive increase in age specific mortality.¹ It is characterized by a progressive decline in physical, mental, and reproductive capacity, as well as an increase in morbidity and mortality. Damage invariably accumulates with age and contributes to the cell dysfunction that characterizes this process, and is clearly influenced by genetic and environmental factors.²

The current global and demographic structure is shifting towards a higher proportion of elderly. This phenomenon in which older individual come to form a proportionately larger share of total population in the community is known as **“Population ageing”** which the most significant result of the process is known as demographic transition.³

The geriatric population is defined as population aged 60 years and above. There is no United Nations standard numerical criterion has been there but the agreed cut off is 60+ years when referring to the elderly population⁸ and country defined as ‘ageing’ where the population of people over 60 reaches 7 percent.⁴ 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 over.⁵

Government of India adopted **‘National Policy on Older Persons’** in January, 1999. The policy defines ‘senior citizen’ or ‘elderly’ as a person who is of age 60 years or above.⁶ The **National Policy on Senior Citizens 2011** categorically states **“All those of 60 years and above are senior citizens”**.⁷

According to the Population Census 2011, there are nearly 104 million elderly persons in India; 53 million females and 51 million males. whereas it was 24.7 million in census 1961, 32.7 million in 1971, 43.2 million in 1981, 56.7 million in 1991 and 76.6 million in census 2001. Percentage share of an elderly persons in population of India is ever increasing since 1961. While in 1961, 5.6% population was in the age bracket of 60 years or more, the proportion increased to 6.0% in 1971, 6.5% in 1981, 6.8% in 1991, 7.4% in 2001 and 8.6% in 2011.⁸

For development of any health program, reliable situational information is essential. We therefore assessed the social organization and dependency of geriatric population in rural community Koyla Belwa, East Champaran, Bihar.

Aims & Objectives

To study the social organization and dependency of geriatric population in rural community Koyla Belwa, East Champaran, Bihar.

REVIEW OF LITERATURE

The literature review is not a chronological catalogue but an evaluation and integrating the previous research together. This review of literature provides a detailed background information of elderly people aged 60 years & above, their past and present scenario around the world as well as in India.

Between 2015 and 2050, proportion of the world's population over 60 years will nearly double from 12% to 22%. By 2020 the number of people aged 60 years & older will outnumber children younger than 5 years. In 2050, 80% of an older people will be living in low and middle-income countries. The pace of population ageing is much faster than in the past. All countries face major challenges to ensure that their health and social systems are ready to make the most of this demographic shift.⁹

Percentage of aged persons (60 years & above) for India in rural areas constitutes 8.8% of total population (male 8.4% & female 9.2%) and for Bihar state total elderly population constitutes 7.4% of total population (male 8.0% & female 6.8%) whereas in rural area it was 6.61% according to population census 2011.⁸ The feminization of the elderly is indicated by the growing number of women in older ages compared to men. The sex ratio shows an increasing trend from 930 women per 1000 men in 1991 to 972 in 2001, 1033 in 2011 (In Bihar state, 877) according to Census of India, 2011, Office of the Registrar General of India and projected to 1050 by 2026.^{8,10}

The population Census 2011 data tell that the percentage of currently married elderly women was markedly lower than the percentage of currently married elderly men. After the age of 70 years, more than 60% of women become widows. Literacy levels among elderly males and females have improved over time in rural areas. But there is a huge gap between the male and female literacy rates. The literacy rate among elderly females (18%) is less than half of the literacy rate among elderly males (51%). It is observed that improvement in literacy rates is continuously increases from 21% in census 1991 to 34% in census 2011 in rural areas. In Bihar state, the literacy rate for person aged 60 & above was 32.8% overall for rural areas, gender wise it was 51.0% in male and 18.0% in female according to population census 2011.⁸

Due to the change in the family structure and value system, respect, honour, status and authority, which the elderly used to enjoy in traditional society, has now gradually started declining, and in the process the elderly are relegated to an insignificant place in our society (Niharika, 2001).

The Old age dependency ratio shows an increasing trend and the ratio has risen from 11.4% in 1961, 12.2% in 1971, 13.0% in 1981, 13.2% in 1991, and 14.1% in 2001 to 15.1% in 2011 in rural areas according to 2011 census. In Bihar state it was found to be 14.5 in 2011 in rural areas.⁸

The Parent Support Ratio is the ratio of number of persons aged 80 years and above per 100 persons aged 50 to 59 years and is an approximate measure of the available support for older parents from their families. The parent support ratio for India in 2001 was about 5, and is expected to increase to about 14 by 2026 - an almost threefold increase of older persons for every 100 persons in final years before retirement.

Amstadter et al. and Dong & Simon reported studies in rural areas have consistently shown that older adults who have been mistreated reported higher levels of depression, loneliness, and poor health status than those who have not been mistreated.^{11,12}

MATERIAL & METHOD-

The present study was conducted at Koyla Belwa village, East Champaran district, Bihar to assess the social organization and dependency of geriatric population (aged 60 years and above).

Study period Study was conducted from 1st January 2026 to 15th April 2026

Study design It was a community-based Cross - Sectional Observational Study.

Study Population All elderly people (aged 60 years and above) both men and women residing in the study area.

Inclusion criteria: -

- Person aged 60 years and above who was permanent resident (residing for more than three year) of study area.

Elderly Person- a person who has completed 60 years. Government of India adopted “National Policy on Older Person” in January 1999 which defines senior citizen or elderly as a person who is of age 60 years or more.⁶

Exclusion criteria: -

- i. People not willing to participate in the study.
- ii. Those who was severely ill at the time of study.
- iii. Person who didn't meet for continuous three visits.

All elderly people (aged 60 years & above) residing in that village were considered for the study. To find out the total number of elderly people, house to house visit was done and 474 elderly people were identified. Out of them, 43 people were not willing to participate or didn't give informed consent for the study, 51 people didn't meet for continuous three visits and 12 elderly people were severely ill & not in a condition to be available for the study. Remaining 368 elderly people aged 60 years and above were included in the study.

Study technique

Interviewing the participants

Information was recorded by house to house visit by using pre-designed and pre-tested questionnaire to collect the socio-demographic, socio-economic, health status and assessment of activities of daily living details. After establishing a good rapport with the family, an informed consent was taken from each study subject prior to interview by a questionnaire method in local language. Participants who were willing to participate in the study, informed consent taken after briefing regarding the study and its purpose in details, advantages and disadvantages if any with assured maintenance of confidentiality. Participants were given option to participate in study or not, depend upon their will. All the data were recorded by personal interview technique after establishing the good rapport.

Data Analysis-

The collected data was tabulated along with graphical representation and analyzed using MS Office Excel 2016. Chi-square test was used for the statistical analysis and the difference was considered significant when the p-value <0.05.

RESULTS

Table-1: Distribution of Study Population According to Age & Sex (N=368)

Age groups (years)	Study Population				Total	
	Male		Female			
	No.	%	No.	%	No.	%
60-69	118	69.01%	131	66.50%	249	67.66%
70-79	44	25.73%	53	26.90%	97	26.36%
80 years	9	5.26%	13	6.60%	22	5.98%

& above						
Total	171	46.47%	197	53.53%	368	100.00%

Among the total study population, males were 46.47% and females were 53.53%. Majority of them belonged to age group of 60-69 years (67.66%). The elderly participants belonged to 80 years & above were only 5.98%. The number of elderly persons decreases as the age advances. Overall 67.66% belonged to 'young old', 26.36% belonged to 'old old' and remaining 5.98% belonged to 'oldest old'.

Table-2: Educational Status of Study Population (N=368)

Educational status	Study Population				Total	
	Male		Female			
	No.	%	No.	%	No.	%
Illiterate	96	56.14%	138	70.05%	234	63.59%
Just literate	41	23.98%	32	16.24%	73	19.84%
Primary school	14	8.19%	16	8.12%	30	8.15%
Middle school	11	6.43%	7	3.55%	18	4.89%
High school	6	3.51%	3	1.53%	9	2.45%
Intermediate/Higher	3	1.75%	1	0.51%	4	1.08%
Total	171	100%	197	100%	368	100%

Among total 368 participants, majority (63.59%) were illiterate with female predominance. Percentage of literacy among female elderly was less as compared to male. Among literate only 8.15% were educated above the primary school education and maximum proportion (19.84%) belonged to just literate. The difference in the literacy status between male & female was found significant.

Table-3: Marital Status of Study Population (N=368)

Marital status	Study Population				Total	
	Male		Female			
	No.	%	No.	%	No.	%
Married	133	77.78%	123	62.44%	256	69.56%
Never Married	3	1.75%	4	2.03%	7	1.91%
Widowed	29	16.96%	58	29.44%	87	23.64%
Divorced/Separated	6	3.51%	12	6.09%	18	4.89%
Total	171	100%	197	100%	368	100%
$\chi^2=10.415, p<0.05$						

Above table showed that maximum elderly participants were married (69.56%). The number of unmarried participants were very less (1.91%). Among widowed/divorced/separated category, maximum number belonged to female (35.53%) as compared to male (20.47%). Gender wise differences of marital status was found to be highly significant i.e. $p<0.05$.

Table-4: Distribution of Study Population According to Type of Family (N=368)

Type of Family	Study Population	
	No.	%
Nuclear	81	22.01%
Joint	287	77.99%
Total	368	100%

Most of the study participants were lived in joint family (77.99%) and only 22.01% participants lived in nuclear family.

Table-5: Distribution of Study Population According to Financial Dependency (N=368)

Groups	Study Population				Total	
	Male		Female			
	No.	%	No.	%	No.	%
Independent	48	28.07%	14	7.11%	62	16.85%

Partially Dependent	55	31.16%	61	30.96%	116	31.52%
Dependent	68	39.77%	122	61.93%	190	51.63%
Total	171	100%	197	100%	368	100%
$\chi^2=32.62, p<0.05$						

Among all 368 study participants, only 16.85% elderly were complete financially independent with high predominance of male. Majority of study participants (51.63%) were financially dependent with the female predominance. Around 31.52% study participants were partially dependent. Among female most of them were dependent (61.93%) and very few were independent (7.11%). The above findings found to be statistically significant.

Table-6: Distribution of Study Population According to Socio- Economic Status (N=368)

Socio-economic Status		Study Population	
		No.	%
I	UPPER	5	1.36%
II	UPPER MIDDLE	26	7.07%
III	MIDDLE	92	25.00%
IV	LOWER MIDDLE	134	36.41%
V	LOWER	111	30.16%
Total		368	100%

According to Modified B.G.Prasad's scale, majority of study participants belonged to Class IV (36.41%) followed by Class V (30.16%) and Class III (25%). Very few participants were in Class I (1.36%) and Class II (7.07%).

Table-7: Distribution of Study Population According to Occupation (N=368)

Occupation	Study Population				Total	
	Male		Female			
	No.	%	No.	%	No.	%
Agriculture	86	50.29%	32	16.24%	118	32.06%
Labour	21	12.28%	7	3.55%	28	7.61%
Business	13	7.60%	4	2.03%	17	4.62%
Not working	51	29.83%	154	78.18%	205	55.71%
Total	171	100%	197	100%	368	100%

Above table showed that majority of elderly participants (55.71%) were not involved in any occupational activities at present. Remaining 44.29% were engaged in various occupations. Among male, 50.29% participants were employed in agricultural works whereas among female majority 78.18% were not working.

Table-8: Distribution of Study Population According to Social Problems (N=368)

Social Problems	Study Population				Total	
	Male		Female			
	No.	%	No.	%	No.	%
Smoking	96	56.14%	41	21.81%	137	37.23%
Tobacco chewing	19	11.11%	47	23.86%	66	17.93%
Both	36	21.05%	26	13.20%	62	16.85%
None	20	11.70%	83	42.13%	103	27.99%
Total	171	100%	197	100%	368	100%

Among the social problems, Smoking was the most common addiction (37.23%) with highest percentage among male (56.14%) and 21.05% male had both the addiction for smoking as well as tobacco chewing. Among female, tobacco chewing was the most common addiction (23.86%) followed by smoking in 21.81%. Most of the female (42.13%) reported none of any addiction as compared to male (11.70%).

DISCUSSION

In my study, it observed that majority of the study population (67.66%) belonged to age group of 60-69 years i.e. 'young old' followed by 70-79 years group (26.36%) i.e. 'old old' and the least percentage was in age group of 80 years & above (5.98%) i.e. 'oldest old'. It was found that as age advances, the no. of elderly population decreases.

These findings were almost comparable with the study by Ghosh A et al. among rural population of Bihar in 2011. Maximum population was in 60-69 years age group (67.06%) followed by 70-79 years age group (27.15%) whereas least

percentage was belonged to 80 years & above i.e. only 5.80%. Naveen KHS et al. reported in 2019 that, 59.6% elderly population belonged to age group of 60-69 years, 30.7% in 70-79 year and least population belonged to 80 years & above (9.7%) similar to my study.¹³

In present study among the total study participants, male elderly population were 46.47% and female elderly population were 53.53% showing female predominance in elderly population. Hakmaosa A et al. conducted a study in rural area of Assam which was reported female predominance with 59.7% as compare to male 40.3% similar to present study.¹⁴ Arlappa N et al. conducted a study in rural India reported comparable results as the female was 50.5% and male 49.5% in his study population.¹⁵

In a study by Baldev V F et al., it was found that the study population comprised 53.6% female and 46.4% male i.e. female predominance as found in this study.¹⁶

In present study, majority of study participants (63.59%) were illiterate with female predominance. Percentage of literacy among female elderly was less as compared to male. Among literate only 8.15% were educated above the primary school education and maximum proportion (19.84%) belonged to just literate. A study by Kumar D reported that 63.9% were illiterate in his study conducted at Varanasi district, India and 18.6% was educated above the primary school which is almost similar observations.¹⁷

Hakmaosa A et al. conducted a study in rural area of Assam which was reported that majority study population was illiterate (69.5%) and only 10.8% were educated above the primary school which was almost comparable to my study.¹⁴

In present study it observed that maximum elderly participants were married (69.56%). The number of unmarried participants was very less (1.91%). Among divorced/widowed/separated category, female number was high (35.53%) as compared to male (20.47%). Jan Y et al. found that, 74.9% study population were married little higher than present study but almost similar results for the unmarried elderly population 1.9% and single 23.2% in his study done at rural setting of Kashmir division.¹⁸

Majority of the study participants were lived in joint family (77.99%) and only 22.01% participants lived in nuclear family in the present study. Similar results were found in the study conducted by Kalasker P S et al. which was reported nuclear type of family in 19.9% study population and 80.1% joint family.¹⁹

Kaur G et al. conducted a study among elderly and reported the nuclear type of family exist in 20.4% study population whereas joint family exist in 79.6% study population almost comparable finding with the present study.²⁰

A study done by Sharma D et al. in Shimla hill of North India found 10.5% nuclear and 89.5% joint type of family.²¹ whereas Hakmaosa A et al. reported 11% nuclear and 89% joint type of family in his study population.¹⁴

In present study, only 16.85% elderly were complete financially independent with high predominance of male. Majority of study participants (51.63%) were financially dependent. Around 31.52% study participants were partially dependent. Among female very few were independent (7.11%) as compared to among male (28.07%). Goel PK et al. in their study among elderly population in Meerut observed that 58.5% were dependent which is almost comparable to the present study.²²

Present study reported that majority of study participants belonged to Class IV (36.41%) followed by Class V (30.16%) and Class III. (25%). Very few participants were in Class I (1.36%) and Class II (7.07%). Hakmaosa A et al. conducted a study in rural area of Assam which was reported that majority study population was in class IV socio-economic status as seen in the present study also and class II consists 8.5% study population almost comparable to present study.¹⁴

Thakur RP conducted a study to assess the health problems among elderly also found that maximum study population was in Class IV SES, 22.7% belonged to Class III, 25.9% belonged to Class V whereas only 0.5% in Class I and 5.4% in Class II SES almost comparable to the present study.²³

Kumar D et al. reported in their study that 39.8% study population were not working less than as found in present study, whereas 7.0% elderly population was engaged as labourer, 8.2% engaged in business almost similar finding to my study and farmer were 22.6% in contrary to present study.¹⁷

In the present study it observed that smoking was the most common addiction (37.23%) with highest percentage among male (56.14%) and 21.05% male had both the addiction for smoking as well as tobacco chewing. Among female, tobacco chewing was the most common addiction (23.86%) followed by smoking (21.81%). Most of the female (42.13%) reported none of any addiction as compared to male (11.70%). Overall 72.01% study population in present study had some form of addiction.

A cross-sectional study conducted on morbidity pattern of elderly population residing in a rural area of Tripura by Karmakar N et al. reported that commonest form of addiction was smoking (31.2 %), while 13.8% use non- smoke tobacco (chewable form such as khaini, gutkha etc.) almost comparable with the present study.²⁴

As we have to preserve them because of the experience and wisdom of the age is treasure for any society and its gainful utilization would be beneficial for both elderly as well as younger generation.

CONCLUSION

This study showed that a major population were out of workforce partially or totally dependent on others and suffering from health problems due to various factors, hence there is growing need for further study regarding health status & intervention to ensure health of this vulnerable group and to create a policy to meet the care and needs of disabled elderly. It was seen in study that most of them had addiction of smoking and/or tobacco chewing, which highlights the need of urgent community level interventions to spread the awareness and knowledge among elderly persons particularly those with low socio-economic conditions and there is much scope for behaviour change communication for lifestyle factors such as smoking, tobacco chewing which was found to be high in study population. Most of the elderly were economically dependent as found in this study and not using the health care services, hence there must be strategic implementation of policies focusing on the problems and belief of rural elderly, which prevent them from seeking health care and we should assist the aged to fight with triple evil of poverty, loneliness and ill health. Government agencies should carry out special survey to identify the vulnerable aged & the deprivation suffered by them.

Conflict of Interest: NIL

REFERENCES

1. Dey AB. Ed, Health care of elderly. A Manual for Trainers of physicians in Primary & secondary health care facilities, WHO, Regional office for South East Asia 2001; 11-3.
2. Adams JM, White M (2004). Biological ageing: a fundamental, biological link between socio-economic status and health? *Eur J Public Health*, 14: 331-334.
3. Christman N. The health seeking process. *Cult Med Psychiat*. 1977;1(4):1357-68.
4. Ageing and Health Programme. Ageing in India, WHO, Geneva 1999.
5. Roger D, James Me. Beaglehole Robert. Tanka Heiza. Oxford Text Book of Public Health, 4th ed. Vol 3: Oxford Medical Publications. 2002: 1713-32.
6. Situation Analysis of Elderly in India. 2011. Available at: http://mospi.nic.in/mospi_new/upload/elderly_in_india.pdf.(last accessed on Jun 2020).
7. Raju D, Chand P. Perspective on old age in India. 2016;p. 293-308 in contemporary demographic transitions in China, India and Indonesia.
8. Elderly in India- Profile and Programmes; Central Statistics Office; MOSPI, GOI, 2016.
9. Ageing and Health, WHO factsheet. Available from: <https://www.who.int/news-room/fact-sheets/detail/ageing-and-health> (last assessed on May 2020).
10. Subaiya, Lekha and Dhananjay W Bansod. 2011. Demographics of Population Ageing in India: Trends and Differentials., BKPAI Working Paper No. 1, United Nations Population Fund (UNFPA), New Delhi.
11. Amstadter, A. B., Zajac, K., Strachan, M., Hernandez, M. A., Kilpatrick, D. G., & Acierno, R. (2011). Prevalence and correlates of elder mistreatment in South Carolina: The South Carolina elder mistreatment study. *Journal of Interpersonal Violence*, 26, 2947-2972.
12. Dong, X. Q., & Simon, M. A. (2013). Urban and rural variations in the characteristics associated with elder mistreatment in a community-dwelling Chinese population. *Journal of Elder Abuse & Neglect*, 25, 97-125.
13. Naveen KHS, Goel AD, Dwivedi S, Hassan MA. Adding life to years: Role of gender and social and family engagement in geriatric depression in rural areas of Northern India *J Family Med Prim Care*. 2020 Feb; 9(2): 721–728.
14. Hakmosa A, Baruah KK, Baruah R, Hajong S, Health seeking behaviour of elderly in rani block, kamrup (Rural) district, Assam; a community based cross sectional study, *Int. J. Community Med Public Health*.2015 May;2(2):162-166.
15. Arlappa N, Balakrishna N, Kokku SB, Harikumar R, Rao KM, Ravindranath M, Kumar S, Ramakrishna KS, Laxmaiah A, Brahmam GNV. Diet and Nutritional status of the older adults in rural India 2016;1(1):36.
16. Baldev VF, Chopra R, Batra N, Singh S. Pattern of Ocular Morbidity in the Elderly Population of Northern India *J Clin Diagn Res*. 2017 Aug; 11(8): NC20–NC23. Published online 2017 Aug.
17. Kumar D, Kumari R, Shankar H. Health status and health seeking behaviour of rural geriatric population of Varanasi district, India. *Int J Med Sci Public Health* 2015;4:1711-1714
18. Jan Y, Mushtaq B, Bhat AA. Screening for dementia in older adults using Mini- Cog scale from a rural setting of Kashmir division. *Int J Community Med Public Health* 2019;6:2579-82.

19. Kalasker PS, Brunda NK, Kurre B. A cross-sectional study of morbidity and social profile of geriatric population in Singanodi sub centre, Raichur, Karnataka, India. *Int J Community Med Public Health* 2016;3:3332-5.
20. Kaur G, Bansal R, Ananda T, Kumar A, Singh J. Morbidity profile of noncommunicable diseases among elderly in a city in North India *Clinical Epidemiology and Global Health* 7 (2019) 29–34.
21. Sharma D, Mazta SR, Parashar A. Morbidity Pattern and Health-seeking Behavior of Aged Population residing in Shimla Hills of North India: A Cross-Sectional Study *J Family Med Prim Care*. 2013 Apr-Jun; 2(2): 188–193.
22. Goel PK , Garg SK, Singh JV, Bhatnagar M, Chopra H, Bajpai SK, - Unmet needs of elderly in a rural population of Merrut – *Indian Journal of Community Med*. Vol. XXVIII, No.4, Oct-Dec,2003.
23. Thakur RP, Banerjee A, Nikumb VB. Health Problems Among the Elderly: A Cross-Sectional Study *Ann Med Health Sci Res*. 2013 Jan-Mar;3(1):19–25.
24. Karmakar N, Nag K, Datta A, Datta SS, Bhattacharjee P. A cross-sectional study on morbidity pattern of elderly population residing in a rural area of Tripura. *Int J Res Med Sci* 2017;5:5030-5.