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Assessment Study among Urban Elderly
A Medico-Social Approach

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ABSTRACT

The present study has been conducted in Raipur city, in the state of Chhattisgarh, India. The state is a young, where there is rapid urbanization and modernization is ongoing. The health of geriatric population is a present as well as future concern. This poses mounting pressures on various socio-economic fronts of the state, including pension outlays, health care expenditures, saving levels etc. This makes it necessary to look into the various aspects of their problems: Health, social rejection, economic, psychological and other allied aspects. In the traditional joint families, infirmities are taken care of by the individuals, immediate circle of relations and family members. Older people enjoy a sense of honour and authority and had the responsibility in decision-making. However, in recent times, as a result of changing circumstances due to demographic transition, rapid pace of industrialization and urbanization, disintegration of joint family structures into unitary ones, the older people become more vulnerable to physical disabilities as a result of different morbidities and poor health seeking behavior. This study will prove to be useful for the planners and policy makers in Government and private organizations and will help in enhancing the understanding of the problems of elderly people in the state.

Key words: Morbidity, elderly population, ageing, physical disabilities, urbanization.

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1. INTRODUCTION

The phenomenon of population ageing is becoming a major concern for the policy makers all over the world during the last two decades. Ageing of population is affected due to downward trends in fertility and mortality i.e. due to low birth rates with long life expectancies. Life expectancy at birth is projected to continue to rise in the coming years all over the world. The aged population has specific health problems that are basically different from those of adults or young persons. Most diseases in the aged are chronic in nature-cardiovascular, arthritis, stroke, cataract, deafness, chronic infections, cancer. Disease process is usually multiple. Availability and utilization of health services is an important determinant of the health status of population. The needs for health services tend to vary directly with the age of the individuals. The older the one gets, the more health care he needs. Although the aged people face multiple health problems, even then, they do not consider seeking medical aid and as a result, many conditions remain unreported and untreated till they become complicated. This emphasizes the need for strengthening of health care system for elderly population. According to Paul Wallace, all individuals should be prepared to face later years in life

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within their own limitation gloriously. Chhattisgarh is moving fast towards an 'aged society', with the aged population constituting 7.2 percent (India 8 percent) and in another 10 years, percentage of elderly is projected to be 10 percent. Though a large number of studies on various factors influencing the aged are available in western countries, not much data have been generated as applicable to the Indian changing scenario. Urban areas are expected to grow at higher rate as compared to non-urban. An attempt as been made to study the aspects of changes in health institutions both demographically and epidemiologically associated with the changes in prevalence of chronic illnesses.

2. Objectives of the study:

The objective of this study are: (i) to reveal the health and social problems of the aged and their attitude towards life; (ii) to know the physiological conditions of elderly; (iii) to know the awareness level among elderly regarding health and government policy for them; (iv) to study the demographic profile of elderly; and (v) to assess the desires and needs of the elderly people towards their emotional, care giving, social and cultural issues.

3. METHODOLOGY

3.1 Sampling and Sample Size

This study is a community based cross-sectional observational study. Study was conducted in randomly selected 32 areas distributed in Raipur city including Urban and Slum areas. Multi-stage simple random sampling technique. Sample size (640) was calculated by using statistical formula:

$$n = \frac{\left(Z^2_{\alpha/2}\right)p(1-p)}{d^2} \qquad (1)$$

P = Morbidity Problems (50%), d = Absolute Precision (4%), Confidence level = 95%. As there is no baseline study in Raipur, Chhattisgarh; therefore, it is not possible to estimate 'P', a figure of 0.5(50%) is used. This is the 'safest' choice for the population proportion, since the sample size required is largest when P = 0.5(50%) (128). A total of 600 figures come using statistical formula. For making uniformity, 20 subjects from each of 32 areas are selected that comes 640. Therefore, a total 640 respondents are included in the study.

3.2 Inclusion and Exclusion Criteria

All elderly persons in the age group of 60 years and above who are residing in the study area for at least one year, and willing to participate in the study. Those elderly persons who are not willing to participate in the study were excluded.

3.3 Selection Method

List of zones and wards including slum and urban areas are obtained from Municipal Corporation Raipur. From eight zones of Raipur city by simple random technique, four zones are selected. Out of the four zones, four wards are selected by simple random technique. From each ward, one slum area and one urban area are included in the study using simple random technique. A total of 32 areas are included in this study. Door to door survey is conducted. From each area, 20 elderly are included in study.

4. FINDINGS

Descriptive cross-sectional observational study is undertaken among the elderly population in Raipur city. Information is collected from 640 elderly persons. The findings of the present study is an attempt to explore the morbidity pattern and health-care seeking behavior among elderly population.

Table 1. Age and sex distribution of elderly population

Age group (years)	Male		Female		Total	
	No	%	No	%	No	%
60-74	200	74.90	323	86.59	523	81.71
75-84	67	25.09	47	12.60	114	17.81
>85	0	0	3	0.80	3	0.46
Total	267	41.71	373	58.28	640	100

$\chi^2 = 18.384; df = 2, p < 0.0001$.

Table-1 shows that out of the total studied elderly (640), more than two-thirds (81.71%) belong to young-old age group followed by old (17.81%) and very old age group (0.46%). Females (58.28%) were more than males (41.71%). There was no male in very old age group.

In a similar study done by Aggrawal Anupam (1992), observed that out of total 612 elderly studied ranged from 60 to 102 years, the majority (79.41%), however, belonged to the age group 60 to 75 years. The age distribution of the males and females was found to be essentially similar. Males were 52.0% as against 48.0% females.

Another study done by Lena A. *et al*. (2006) showed that a major fraction of the population was in the young old age group; while a small fraction (2.8%) was 80 years old or older. Males and females formed an almost equal proportion of the study sample. Sex ratio in present study was 1415.73 women per 1000 men. At present, sex ratio for general population in India is 943 as per office of the Registrar General and Census Commissioner, India. Sex Ratio in Urban regions of Chhattisgarh was 956 females per 1000 males.

The sex ratio trend are shown (number of females per 1000 males) for elderly and the general population, in 1951, 1028 for elderly and 946 for general population. In l961, 1000 for elderly and 941 for general population. In 1971, there were 938 for elderly and 930 for general population. In 1981, there were 960 for elderly and 934 for general population. In 1991, there were 930 for elderly and 927 for general population. In 2001, there were 972 for elderly and 933 for general population. In 2011, there were 940 for general population.

Table 2. Education wise distribution of population

Literacy Status	Male		Female		Total	
	No	%	No	%	No	%
Illiterate	52	26.26	146	73.73	198	30.93
Up to primary	28	33.33	56	66.66	84	13.12

Up to higher secondary	112	43.57	145	56.42	257	40.15
Graduation & above	75	74.25	26	25.74	101	15.78
Total	267	41.71	373	58.28	640	100

$\chi^2 = 66.23; df = 3, p < 0.0001$.

The above table shows statistically significant relationship between literacy status and sex. A significant number of the study population was illiterate (30.93%).The percentage of illiterate women was more (73.73%) than that of males (26.26%). Among literate 13.12% up to primary, 40.15%o up to higher secondary, 15.78% were graduate & above. In another study done by Shradha K. *et al.* (2012) in urban population of Mysore, Karnataka, India out of 526 subjects, about half of the elderly were illiterate. Lena *et al.* (2012) reported illiteracy in 45.1%, more among females (62%) than males (22.8%). Present study has findings similar to Lena *et al.* (2012), literacy was more than the study of Shradha K et al (2012).

Table 3. Sex distribution of marital status

Marital status	Male		Female		Total	
	No	%	No	%	NO	%
Never married	0	0	0	0	0	0
Married	86	33.72	169	66.27	255	39.84
Widowed	179	47.98	194	52.01	373	58.28
Separated	2	16.66	10	83.33	12	1.87
Divorced	0	0	0	0	0	0
Total	267	41.71	373	58.28	640	100

The above table shows that, out of total elderly, 58.28% were widowed, 39.84% married, 1.87% separated. None of them were divorced and none were never married. Among widowed, 52.01% were female elderly whereas 47.98% were male elderly. Among those who were separated, females were more (83.33%) than males (16.66%).

In another study, similar result were observed. Shradha K et al (2012) in a study of urban population of Mysore, Karnataka, India observed that 39.7% of the aged were widow and 5.7% widower. Raj and Prasad (1970) in a U.P. village and Purohit and Sharma (1972) in rural Rajasthan found no unmarried women and 3.78% and 4.34% bachelor respectively in their studies.

Table 4. Distribution of elderly according to their socio economic status

SES	Male		Female		Total	
	No	%	No	%	No	%
Class I	63	(23.59)	9	(2.41)	72	(11.25)
Class II	54	(20.22)	119	(31.90)	173	(27.03)
Class III	50	(18.72)	76	(20.37)	126	(19.68)
Class IV	96	(35.95)	137	(36.72)	233	(36.40)
Class V	4	(1.49)	32	(8.57)	36	(5.62)
Total	267	100	373	100	640	100

$\chi^2 = 84.028; df = 4, p < 0.0001$

In the present study, 36.40% of the total elderly population belong to class IV followed by Class II (27.03%), Class III (19.68%), and Class 1 (11.25%).where as only 5.62% belong to class V. There was statistically significant difference between male and female socioeconomic status. Except in Class I, of all other socio-economic classes, female elderly were more than male elderly.

In other study similar observations were made. Shradha K. *et al.* (2012) in a study of urban Population of Mysore, Karnataka, India observed that socio-economic status revealed that there were mainly three classes where elderly belongs to; upper middle, upper lower, lower and lower middle. Most of the elderly (64.8%) belong to class IV. None of the elderly belong to upper socioeconomic group. 27.6% of the aged females and 10.6% of the aged males belong to lower socioeconomic class according to Modified Kuppuswamy's socio-economic scale.

Table 5. Occupation wise distribution of elderly population

Occupation	Number of persons	Percentage (%)
Professional	116	18.12
Clerical/Shop owner/Farmer	72	11.25
Skilled worker	26	4.06
Semiskilled worker	12	1.87
Unskilled	62	9.68
Unemployed	269	42.03
None	83	12.96
Total	640	100

In the present study, a large proportion (42.03%) of the population was unemployed. The principal occupation of the persons who were currently employed in some gainful occupation was agricultural farming/shop owner/clerical (11.25%), while 18.12% were professional including retired persons. In the remaining of the population,

unskilled workers were 9.68%, skilled 4.06%, and semiskilled 1.87%. The small chunk 12.96% was not doing anything. In the present study 42.03% population was unemployed. This may be due to greater percentage of the female in study population and maximum were house wives. Enquiry into the past occupation of the respondents revealed that the principal past occupation was also agricultural farming/clerical/shop owners. Majority of the females were looking after their household work in the past. Many were also doing farming.

Purohit and Sharma (1972) had also reported agricultural farming as the chief current (62.25%) as well as the past occupation (63.25%). Shradha K et al (2012) observed that 68.8% of the respondents were unemployed followed by 16.2% unskilled worker, 5.9% semiskilled worker, 5.7% semi professional and 3.4% skilled workers. None of the elderly belonged to professional occupation and semi professional was mainly comprised of businessmen. Above table indicates that about a third of the female elderly and 58% of the male elderly population were unemployed. In all category of occupation, proportion of male respondents was higher than female respondents except in the category of skilled worker which was found to be 4.7% among both genders.

Table 6. Distribution of population by type of family

Type of family	Number	Percentage (%)
Nuclear	102	10%
Joint	538	84.07%
Total	640	100%

In the present study, above table shows a large proportion (84.07%) were living in joint families and 15.93% in nuclear family settings, only a few (5.93%) were living alone. Those who were living in well knit settings were either living with their spouse, children and grand children or with spouse or children only. It has been seen that the elderly are not only happier if actively occupied at home but remain healthier in such surroundings as well. Many of the happiest old people were members of large families. Independent living arrangements may be inadvisable in some instances and even dangerous in others for as the years advance, the physical disabilities keep on adding up and at that time they require maximum help. Similar findings were observed in other study in India. In western culture pattern, is opposite. Bose and Saxena (1964), Mitra et al (1971) and Purohit and Sharma (1972) have all reported a very small proportion of the elderly living alone, the percentages reported being 1.30%, 4.71% and 2.6% respectively.

Studies from the West, on the other hand, have shown a larger proportion of the aged living alone. Meyrick and Cox (1969) reported that 22.0% of the aged were living alone in U.K. in 1968 as compared to only 15.0% in 1960-61. Thus the problem of loneliness and social isolation is far less, in our country, as compared to western countries.

The percentage of elderly living alone is low in India as the care of the old is a part of our cultural heritage and the old are treated with respect and affection. However, increasing urbanization, along with stress on smaller family norms may cause a change in social values resulting in lack of attention towards the old. This might create problems for the old and they might find themselves in the same predicament as their counterparts in the West. This tendency needs to be arrested by taking positive steps to

inculcate a sense of respect and attachment towards their elders among the young people from now.

Table 7. Distribution of population as per source of income ($n = 640$)

Source of income	Number of persons	Percentage (%)
Salary	22	3.43
Pension	128	20
Old age pension	95	14.84
Financial investment	90	14.06
Business	118	18.43
Financially dependent on others	309	48.28
Total	762	-

Note: Multiple source of income was observed in many subjects.

The above table shows 48.28% were financially dependent on others. Only 14.84% were getting old age pension. Out of total dependents, 66.66% were dependent on their own children, 13.26% on grand children and 1.29% on spouse, 14.56% on others.

In other studies, observations were different. Shradha K. *et. al.* (2012) in a study of urban population of Mysore, Karnataka, India observed that about 48.6% elderly population were receiving pension (16.9% male elderly and 29.8% female elderly).

Table 8. Distribution of elderly according to awareness of Government welfare scheme for elderly

Status of awareness	Number of elderly	Percentage (%)
Aware	215	33.59
Not aware	425	66.40
Total	640	100

The above table shows, out of total 640 elderly 33.59% were aware of various Government welfare schemes for the elderly. 29.68% were eligible for old age pension, out of which 65.26% were getting old age pension.

In another study by Lena A, et al (2012), only 35.7% were aware of the Government welfare schemes for the elderly and only 14.6% had utilized the geriatric welfare services. Three-fourths of the population studied was not eligible for these schemes because of having male children or property. A study conducted by Goel *et al.* (2003) *showed* that 45% of the respondents had utilized geriatric welfare services. In another study by Lena A., *et al.* (2012), reported 14.6% elderly had utilized geriatric welfare services.

Seal (1973) in a survey in Calcutta found that 70% of the elderly people between 60-85 years of age received no pension.

K. Shradha (2012) in a study in urban population in Mysore, Karnataka observed that about 48.6% of the elderly were receiving pension (16.9% male elderly and 29.8% female elderly). Mehrotra (1969) reported that four states: Tamil Nadu, Kerala, U.P. and West Bengal give old age pension ranging from Rs 15/- to Rs 20/- per month, which is too meager .

Table 9. Distribution of elderly as per housing conditions

Constructions	Slum		Non Slum		Total	
	No	%	No	%	No	%
Kachha	93	100	0	0	93	14.53
Semi Pakka	95	100	0	0	95	14.84
Pakka	132	29.20	320	70.79	452	70.62
Total	320	50	320	50	640	100
2.Cross ventilation (in living rooms)						
Present	161	40.04	241	59.95	402	62.81
Absent	159	66.80	79	33.19	238	37.18
Total	320	50	320	50	640	100
3. Natural light (In living rooms)						
Adequate	120	28.30	304	71.69	424	66.25 .
Inadequate	200	92.59	16	7.40	216	33.75
Total	320	50	320	50	640	100
4. Overcrowding						
Present	205	72.18	79	27.81	284	44.37
Not Present	115	32.30	241	67.69	356	55.62
Total	320	50	320	50	640	100
5. Drinking water source						
Pipe water	245	47.85	267	52.14	512	80
Ground water	75	58.59	53	41.40	128	20
Well water	0	0	0	0	0	0
Bottled water	0	0	0	0	0.	0
Total	320	50	320	50	640	100

Table 9 shows majority (91.25%) of the elderly persons were living in their own houses without any large open space. About 70.62% had *pakka* (concrete) houses (14.84%) semi-*pakka*, and 14.53% had *kachha* houses. Out of all who were residing in *pakka* houses, majority (70.79%) were urban dwellers. Cross ventilation was present in 62.81% houses, more in urban (59.95%) than slum houses (40.04%). Natural light especially in the living room was adequately present in the majority of the houses (66.25%). Urban houses were more (71.69%) adequately lighted than slum houses (28.30%). Houses in slum areas were usually having single door rooms with no windows/ventilators resulting in poor ventilation and light. About 44.37% of the elderly were living in overcrowded conditions in their houses. More than three fourth of the houses i.e. 80% had tap water supply, where as 20% were using ground water. A remarkable observation was well-water and bottled water users were nil. Among tap-water users, 52.14% resided in urban areas and 47.85% in slum areas. Ground water was maximally used by slum dwellers (58.59%).

Table 10. Distribution of elderly persons according to Substance abuse

Substance use	Male	Female	Total
Yes	124(61.38 %)	78(38.61%)	202(31.56%)
No	143(32.64%)	295(69.35%)	438(68.43%)
Total	267	373	640

$\chi^2 = 46.956; df = 1, p < 0.0001.$

The above table shows statistically significant relation between substance abuser and sex.Table-10 shows 31.56% of total elderly population was substance abuser. Out of which, male elderly were more (61.38%) in comparison to female elderly (38.61%).

Table 11. Distribution of elderly among substance abusers

Substance	Number	Percentage
Tobacco chewing	31	12.10
Smoking(Cigarette/Bidi/Hukka)	88	34.37
Gutka/Pan	19	7.42
Gudakhu.	69	26.95
Alcohol	46	17.96
Others	3	1.17
Total	256	100

Multiple substance abuse was observed in many subjects.

The above table shows that out of total substance abusers (202), 34.37% were practicing smoking, followed by Gudakhu (26.95%), Alcohol (17.96%), Tobacco chewing (12.10%), Gutka/Pan (7.42%) and others (1.17%).

Table 12. Distribution of population as per physical activity

Grading	Male		Female		Total	
	No	%	No	%	No	%
Light activity	127	31.05	282	68.94	409	63.90
Moderate activity	120	60.30	79	39.69	199	31.09
Heavy activity	20	62.5	12	37.5	32	5
Total	267	41.71	373	58.28	640	100

$\chi^2 = 53.088; df = 2, p < 0.0001$.

As evident from the Table 12, majority (63.90%) of the people were in light activity group followed by moderate activity group (31.09%) while only 5% were in heavy activity group. There was statistically significant difference observed between males and females, Males were harder working than females. Among elderly performing light activity, 68.94% were females whereas 31.05% were males. Among moderate activity, 60.30% were males whereas 39.69% were females. In heavy activity performer, males were (62.5%) and females were (37.5%). In a study by Aggrawal Anupam (1992) similar finding was observed. Light activity was performed by 67.65%, moderate activity 28.43% and heavy activity was done by only 3.92% population. This is almost comparable to the present study.

Table 13. Distribution of elderly as per leisure time activity

Activity	Male $(n = 267)$	Female $(n = 373)$	Total $(n = 640)$
Nothing	65(24.34%)	88(23.59%)	153(23.90%)
Household activity	102(38.20%)	157(42.09%)	259(40.46%)
Visit friends or old people gathering	114(42.69%)	182(48.79%)	296(46.25%)
Religious functions	114(42.69%)	182(48.79%)	296(46.25%)
Reading/writing	40(14.98%)	53(14.20%)	93(14.53%)
Music/Cinema/Radio/TV	88(32.95%)	90(24.12%)	178(27.81%)
Playing card or Gambling	31(11.61%)	16(4.28%)	47(7.34%)
Involve with family in gossiping.	88(32.95%)	103(27.61%)	191(29.84%)

Multiple activities were observed in many subjects. $\chi^2 = 19.983; df = 7, p < 0.005$.

The above table shows statistically significant relation between leisure time activity and elderly people. In leisure time maximum (46.25%) were utilizing in religious functions and old people gathering. Females (48.79%) were more in comparison to males (42.69%). Only 7.34% were involved in card playing and gambling. Male involvement was more than female.

Utilization of free time is a major problem of the elderly, all over the world. After retirement, their free time increases while the income decreases, the latter in turn limits the variety of social contacts that the elderly can, resulting many a times in a feeling of boredom, loneliness and isolation.

More frequently reported leisure time activities were religious and to visit old people gathering (46.25%) followed by household activities (40.46%). Other activity reported were, gossiping (29.84%), music/cinema/radio/TV (27.81%), reading/writing (14.53%), and card playing (7.34%).

Out of total population 23.9% were sitting idle doing nothing. In few activities like religious, visiting to friend, household activity, females were more than males.

Card playing or gambling was reported by 10.78% persons as compared to 1.44% in Rajasthan study conducted by Purohit and Sharma (1972).

Sharma (1969) had reported *puja* and singing *bhajans* in 46.02%, reading or writing in 84.65% and listening to radio in 59.65% as a leisure time activity ,while Mittra et al (1971) reported *puja* and *bhajans*/prayers as a leisure time activity in 63.41% of their respondents. However, since both of these studies were urban studies, in present study slum dwellers were also included. The difference observed while comparing these with the present study is justified as far as pattern of leisure time activities are concerned.

5. CONCLUSION

Indian tradition is automatically respectful and sympathetic towards elders. Ageing as a natural fact has all along engaged the consideration for the civilized world. Provisions for the aged in the society have become one of the constitutive subjects of modern welfare state. The issues of the aged differ from society to society and have various dimensions in our country. Though a large number of studies on various factors influencing the aged are available in western countries, not much data have been generated as applicable to the Indian scenario. Urban areas are expected to grow at higher rate as compared to non-urban. Out of 640 elderly included in the study, 466 perceived themselves ill, whereas perception of illness was less 67.81% in slum areas. Perceived illness was increasing with advancement of age, 70.93% in young old to 100% in very old. Perception of ill health was more in urban area than slum area and more in females than in males. The outcome of this study reveals that a major section of the aged is out of the work force, partly or totally dependent on others, and suffering from health problems with a sense of neglect by their family members. There is an urgent need for involvement to ensure the health of this vulnerable section and to create a strategy to meet the care and requirements of the aged people. Finally, it could be concluded that the general feelings of the elderly living in the joint families have better position than that of the elderly of the nuclear family. Better social relations are maintained by the joint family dwellers because they have regular interaction, expressions of feelings and support from the family members. The existing condition of the elderly living in as separated is that they feel lonelier, depressive and have a lower level of satisfaction with life. In this perspective, the need for preserving Indian tradition of joint family

and the reciprocal cooperation and understanding between the younger and the older generations could be more pressing.

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