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# A Study to Explore the Utilization of Health Care System by Rural Elderly in State of Haryana

Chitra\*  
A.M. Khan\*\*

## ABSTRACT

*Presently, under health care system old people are treated at par with the general population. We do not know that to what extent old people make use of healthcare system in the country. As the literature reflects older people relatively more vulnerable to various health problems. So three times increase of old people under demographic transition is really a challenge to health Care system, to make it friendly to older people. The designing of effective health care services requires views of elderly. Keeping this in view and the Study was conducted at Health care system and in the community to generate scientific information which can contribute to develop geriatric friendly services with two **Objectives**: 1. To know the felt needs of those who are utilizing the services at facility 2. To find out problems of older people at facility and to study how those problems could be solved, as perceived by them. Semi structured Interview and Exit Interview Technique's were used for generating data from a sample size of 240 (120 from the Health Care System and 120 from community) selected using sampling technique, particularly 120 sample from community. The results show 62 percentage reported that they do not get medicine from the hospital. Most of them purchased it from the market (75.7%), 47% faced lot of problems in getting the medicine. Majority of them suggested that medicine should be provided from the hospital (76.7%), and 39.2*

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percentage suggested that they should be given medicine for longer time. They should not be called frequently. The queue should be separate; it was reported by 27.5 percentage. The percentage of getting the investigations from the outside is very high (74.4%) , which is what old people don't like. They rather demand services within the hospital. Three major suggestions were recommended; At district hospital 1. Separate queue (93.3%) is must. 2. There has to be free investigations , 3.The reports of the test should be preferably given same day (26.7%) and periodic investigations was also suggested . While from the CHC, PHC, major suggestions were that all the investigations facility should be made available at the facility level only. The reasons for dissatisfaction with the services are: Medicines are not given from the hospital (73.3%), unavailability of doctors also contributes to dissatisfaction. Suggestions given by old people to strengthen the facilities are medicine (88.3%), separate OPD (73.3%) and facility for investigations (65%). More than one fourth of respondents have recommended for transport facility (38.3%), Facility for admission at CHC and PHC (34.2%) was also suggested by the old people participating in the study. The Hospital management at different level needs to recognize the constraint of age and design the services which are easily accessible.

## Introduction

Ageing is a universal phenomenon. The improved standard of living and advanced medical care have lengthened the average human life span across the world. Even in developing countries like India, the average life span has increased from 32 years in 1951 to 62 years in 1988 and expected to cross 76 years by 2031. It is expected that by 2025 nearly 71% of the world's elderly population will live in developing countries ( Gupta, 1997). India is no exception to this worldwide process of population ageing. The ageing of population demands more changes across society and health care .Individual, Society and the state ,all have a responsibility to meet these challenges of enhanced longevity and improve quality of life, and the ways and means to healthy ageing . (Dey A B Soneja S ,1999). Increases in the absolute numbers and the relative numbers of the population of the older people in the third world countries is a matter of growing concern for social policy. (Treas J, Logue B , 1986, (Grigsby J. 1993, World bank ,Oxford ,1994, World Bank ,2001). India is the second largest in the world of older persons. This demographic shift not only has serious implications in social, cultural, economic fields, but also affects health and medical care that attenuates the quality of life of community as well, especially in our country where resource crunch is a formidable hurdle ( Alexander Kalacha et al., 2002,Mehta and Sringapore,(2000) Primary health care system is envisaged as the basic structure of public healthcare for elderly. Public health care system will be strengthened and oriented to be able to meet the health care needs of older person's .Public health services, preventive, curative, restorative and rehabilitative, will be considerably expanded and strengthened and geriatric care facilities would be provided at secondary and tertiary levels. This will imply much larger public outlays, proper distribution of services in rural and urban areas and much better health administration and delivery systems (NPOP, 1999). The PHC and sub-centre are designed to cater to the basic

health needs of the rural population along with upgraded PHC and hospital at sub-division and district headquarters.

## Research Design

### Sample :

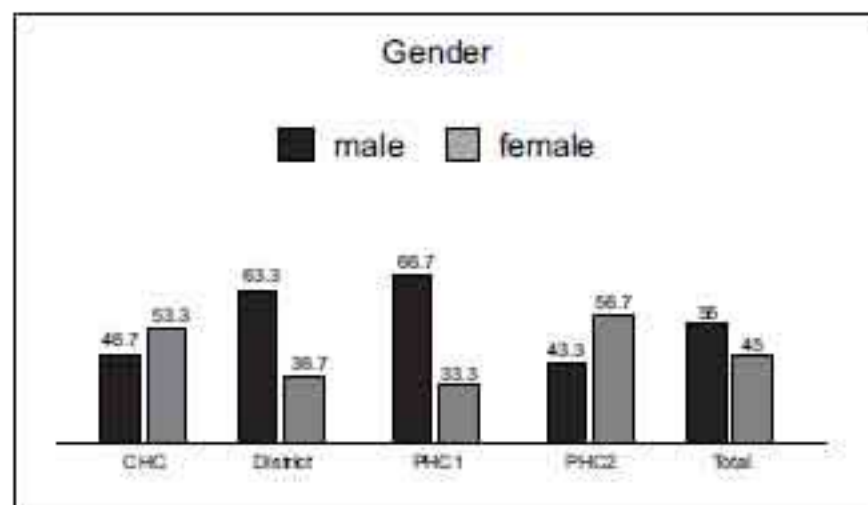
Community Health centre (CHC) Kurali Faridabad District of Haryana was selected by using simple random technique. Out of the selected CHC, two PHC i.e. Mohna and Panhera were selected by using simple random sampling method. From the two selected PHC, two Sub-centres i.e. Deeg and Heerapur were selected by using simple random technique. Similarly, from the other PHC Panhera, two sub-centers i.e. Karnera and Banakpur were selected by simple random technique. Overall multi-stage sample technique was used to select the areas of study and sample of 240 subjects, elderly divided in to two groups. Group one consisting of 120 subjects those available at the facility and group two consisting of 120 subjects from the community, who were making the use of facility.

**Research Tools :** Semi structured interview schedule was developed, it is comprised of 12 questions, four about background variables, which includes sex, marital status, education and family structure. Remaining questions focused on care givers' occupation, places of treatment of older persons, preference of place of treatment, expenditure, satisfaction and their suggestions to make health care services "elderly friendly". The interview schedule was pretested on 45 individuals from adjoining areas. The data was collected individually from 120 care givers. The average time expended on each respondent was 45 min excluding travel in time and pretesting was done. Exit Interview included 17 questions having focus on health problems, constraints in utilizing services and their suggestions for making health care services friendly to older people.

## Results & Discussion

Total one hundred twenty (120) older persons were interviewed to know the views about present health care services and what could be there for them at hospital. The following are the findings:

Figure 1: Sex-wise Profile of the Respondents at Health care system



The above figure 1 shows the sex wise profile of respondents at District hospital, CHC and PHC. As evident the percent wise, the load of male elderly patients is more at District Hospital, the pattern is not same in case of PHC 2 and CHC, where the percentage of female is relatively more. There is no clear cut pattern revealing the load of male and female elderly. There may be some situational and area specific reasons. It requires further research to find out the pattern of patients of old age, both male and female at different level of health care systems.

**Table 1: Age-wise Profile of the Respondents**

Age		CHC	District	PHC1	PHC2	Total
Young old	Freq	14	21	15	14	64
	%	46.7	70.0	50.0	46.7	53.3
Old old	Freq	5	7	13	9	34
	%	16.7	23.3	43.3	30.0	28.3
Oldest old	Freq	11	2	2	7	22
	%	36.7	6.7	6.7	23.3	18.3
Total	Freq	Freq	30	30	30	120
	%	%	100.0	100.0	100.0	100.0

At district level, the utilization of services by the oldest old group is just 6.7% while young old population is 70%. Difficult accessibility of health services for oldest old may be the reason. It is also possible that in the city area old people may be utilizing private facilities more than public facility of health care services. At the village level i.e CHC, the utilization of services by oldest old is 36.7% and young old is 46.7 percent. At PHC 1 and PHC 2 the utilization decline sharply. At district Hospital, relatively more old people utilize the health care services. The reason may be that there is nothing to offer to older people at this level. As we move down from district to CHC and PHC, the percent of utilization decline sharply. These findings suggest two important information. 1. The services at district hospital to old people gets relatively better place; and these services are not available at the lower level 2. This possibly forces at the village level to venture for services to the private agencies /which is matter of greater concern in designing the elderly friendly services. As the age proceeds, the utilization of public health care system declines sharply. Difficult accessibility for this age group may be genuine reason. Designing of primary health care services for older people therefore needs an urgent attention of health planners and policy makers.

**Table 2: Literacy Level of Elderly**

Literacy Level		CHC	District	PHC1	PHC2	Total
Illiterate	Freq	25	14	18	19	76
	%	83.3%	53.3%	60.0%	63.3%	65.0%
Up to Middle	Freq	5	10	12	9	36
	%	16.7%	33.3%	40.0%	30.0%	30.0%
Up to senior secondary	Freq	0	3	0	1	4
	%	0.0%	10.0%	0.0%	3.3%	3.3%
Graduate	Freq	0	1	0	1	2
	%	0.0%	3.3%	0.0%	3.3%	1.7%
Total	Freq	30	30	30	30	120
	%	100.0%	100.0%	100.0%	100.0%	100.0%

As evident the table no 2, illiteracy level among older people is highest among those living around CHC (83.3%), followed by PHC2 (63.3%) and PHC 1 (60%). Highest literacy in CHC area is possibly because of the backwardness of the area, which may varies from district hospital to CHC.

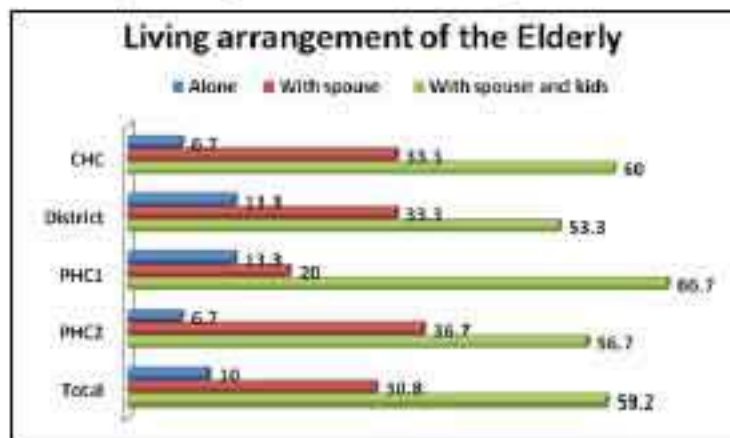
**Table 3: Marital status OF Elderly**

Marital status		CHC	District	PHC1	PHC2	Total
Unmarried	Freq	0	2	0	0	2
	%	0.0%	6.7%	0.0%	0.0%	1.7%
Married	Freq	18	27	24	22	91
	%	60.0%	90.0%	80.0%	73.3%	75.8%
Widowed	Freq	12	1	6	8	27
	%	40.0%	3.3%	20.0%	26.7%	22.5%
Total	Freq	30	30	30	30	120
	%	100.0%	100.0%	100.0%	100.0%	100.0%

From the above table no 3, it is evident that respondents who avail services majority were married (75.8%) and living with their spouse 24.2% were widow/widowers. From the results it looks that rural widow/widower avails services from the nearby facilities when compared to District hospital.

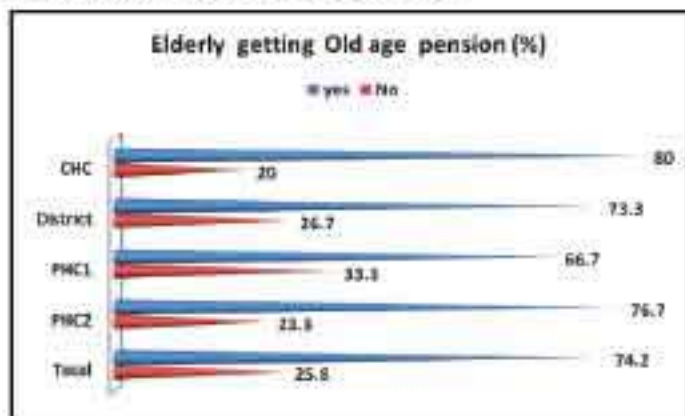


**Figure 2: Living arrangement of the Elderly**



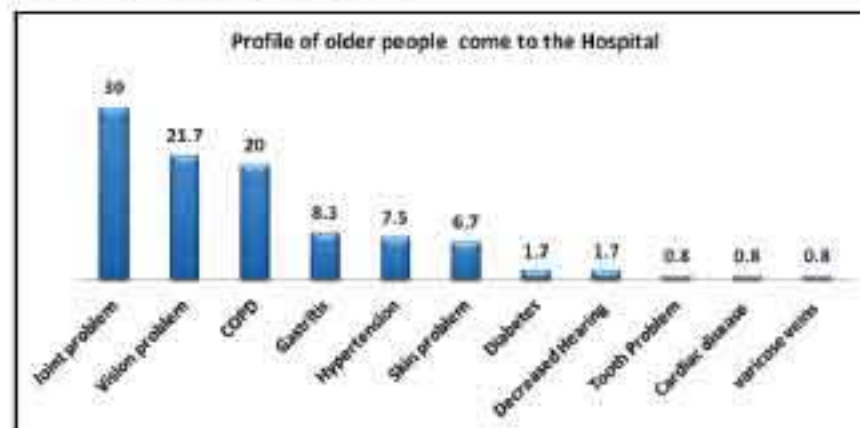
The size of old people living alone varies from 6.7% in CHC area to 13.3% in the district area. Majority of them live with spouse and children's as evident from the figure. However the percentage of such people is relatively low at district level. Overall, the size of elderly living alone is lesser than generally believed.

**Figure 3: Elderly getting Old age pension**



three fourth of respondents had reported that they were getting old age pension. About one fourth (25.8%) of the respondents however don't get old age pension. Possibly many of them may not be entitled. However, they reported some difficulties in getting the pension in time.

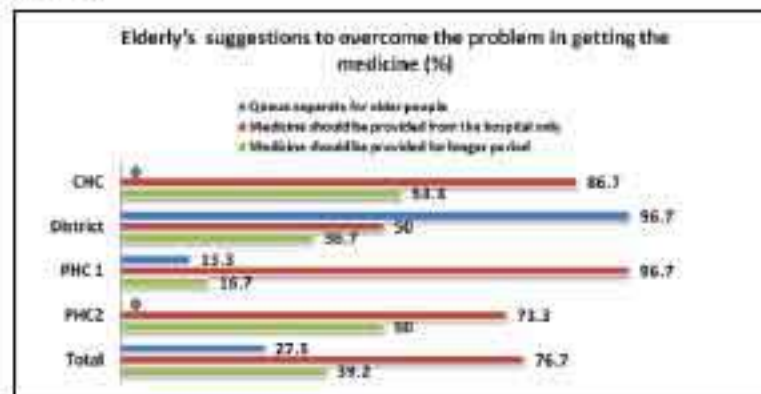
**Figure 4 : Different diseases for which they come to hospital was collected from medical record**



From the above figure no 4, it is evident that the most of the health problems with which old people come to the hospital are joint problems (30%), Vision Problems (21.7%), COPD (20%). Diabetics, hearing problems, dental problems are not perhaps taken seriously people don't come to the hospital or there is lack of specialized services older people may not be reporting. Such kind of data requires verification by conducting well planned studies.

Information was collected regarding medicine. Majority of them reported that they do not get medicine from the hospital.

**Figure 5 : Elderly suggestions to overcome the problem in getting the medicine**



Majority of the old people suggested that medicine should be provided from the hospital (76.7%) and for longer duration. They should not be called repeatedly because they face problem of transportation.

Diagnosis of the problem by investigating in major problems. Old people strongly feel that the investigations should be provided in the hospital itself. It is difficult for them to get desired investigation, and circumstances force them to avoid investigation. Quite often the problem remain uninvestigated, all these were reported during the discussion with the old people

**Table 4 : Have you undergone some investigations**

Investigation done		CHC	District	PHC1	PHC2	Total
Yes	Freq	13	7	8	9	39
	%	43.3%	23.3%	26.7%	30.0%	30.8%
No	Freq	17	23	22	21	81
	%	56.7%	76.7%	73.3%	66.7%	69.3%
Total	Freq	30	30	30	30	120
	%	100.0%	100.0%	100.0%	100.0%	100.0%

**Table 5 : Suggestion to overcome the problem in getting the investigation**

Suggestion to overcome the problem in getting the investigation		CHC	District	PHC 1	PHC2	Total
Separate queue	Freq	1	28	1	1	31
	%	3.3%	93.3%	3.3%	3.3%	25.8%
Free investigation	Freq	0	15	0	1	16
	%	0.0%	50.0%	0.0%	3.3%	13.3%
Same day reports	Freq	0	8	0	0	8
	%	0.0%	26.7%	0.0%	0.0%	6.7%
No suggestion	Freq	6	3	1	6	16
	%	20.0%	10.0%	3.3%	20.0%	13.3%
Periodically investigation should be done	Freq	0	4	0	0	4
	%	0.0%	13.3%	0.0%	0.0%	3.3%
All investigations should be done from here only	Freq	24	1	29	24	78
	%	80.0%	3.3%	96.7%	80.0%	65.0%

From the above table no 4 & 5, Three major suggestions were recommended at district level, separate queue (93.3%), free investigations (50%), getting the reports same day (26.7%) and periodic investigations should be done (13.3%). While from the CHC, PHC major suggestions were that all the investigations facility should be available at the facility only.

**Figure 6 : Help extended from the hospital staff nurse**

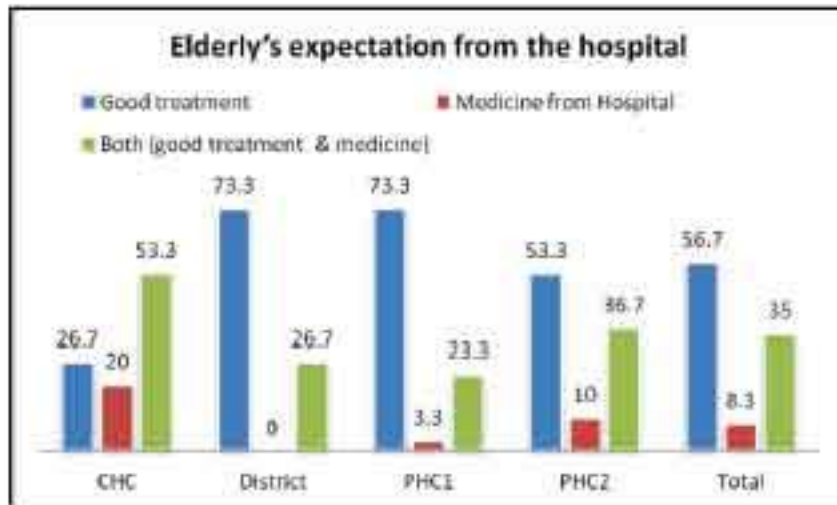


**Table 6 : Help extended from the hospital staff nurse**

Help extended from the hospital staff nurse		CHC	District	PHC1	PHC2	Total
Yes	Freq	7	9	10	7	33
	%	23.3%	30.0%	33.3%	23.3%	27.5%
No	Freq	23	21	20	23	87
	%	76.7%	70.0%	66.7%	76.7%	72.5%
Total	Freq	30	30	30	30	120
	%	100.0%	100.0%	100.0%	100.0%	100.0%

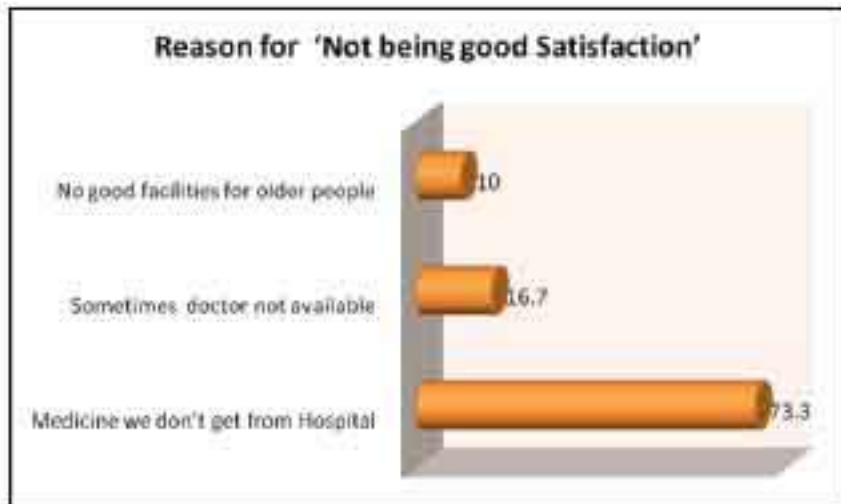
From the above figure no. 6 and table no. 6, at all the places the support of the hospital staff nurse as reported by old persons ranges from 66.7% to 76.7%. It looks fairly good. However; more support from the staff nurse is expected by the patient of old age.

**Figure 7: Elderly's Expectation from the Hospital**



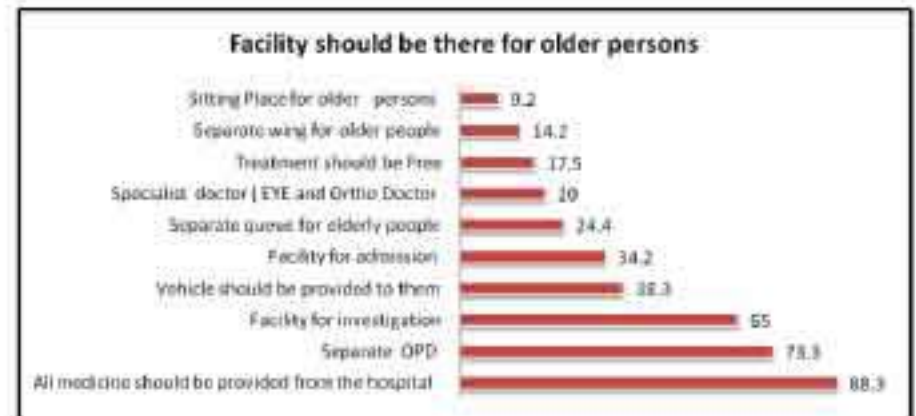
The expectations of old people looks to be confined to good treatment (56.7%) and more and more medicine from the hospital which looks natural. The main reason for dissatisfaction roams around the medicine. Hospital authority need look the issue of supply of geriatric medicine.

**Figure 8: Reasons for the dissatisfaction of older people**



From the figure 8, it is evident that One fourth of old persons are not satisfied with the services they receive at health facilities. However 73.3% have shown their satisfaction to whatever they get from the facility. Their satisfaction range good (5.8%) to O.K (68.3%) and not good (25%). Those who have rated services as not good have also given reasons: Medicines are not given from the hospital (73.3%), unavailability of doctors (16.7%). Respondents were asked about their expectations and suggestions. the findings are reflected in the figure-8.

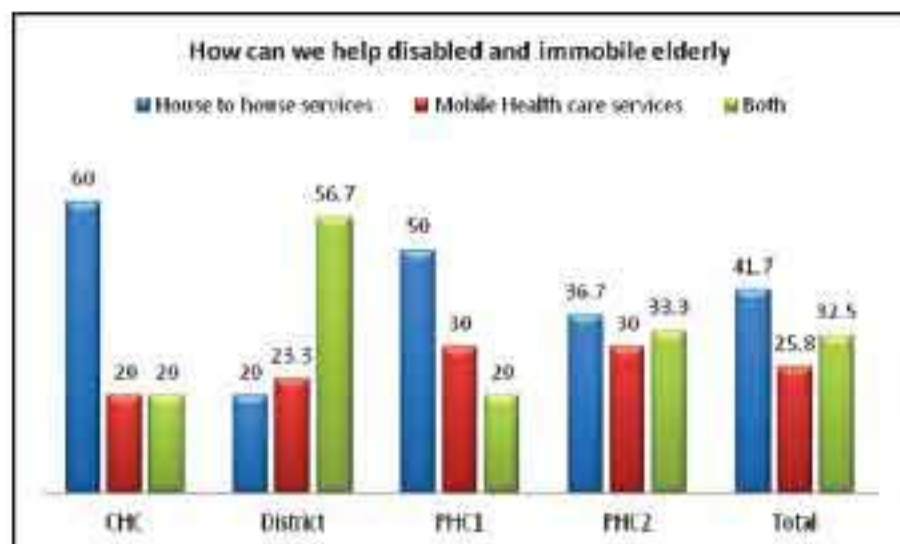
**Figure 9 : Facility should be available for older persons**



From the figure 9 it is clear that more than 50% respondents have recommended for the facilities like medicine (88.3%), separate OPD (73.3%) and facility for investigations (65%). More than one fourth of respondents have recommended for transport facility (38.3%), Facility for admission at CHC and PHC (34.2%).

Information regarding services for disabled and immobile was also collected. The findings are reflected in the following figure-10.

**Figure 10: Suggestions given for the Disabled/immobile old people**



Authority of health care system need to restructure the health care services for disabled and immobile person. In the rural set up, there appear to mark indifference towards vulnerable persons, particularly those who become immobile. Those suffering with immobility are generally overlooked. In the absence of care givers support; these people are hardly brought to the hospital. Therefore, if health care of old people become constitutional right, restructuring of health care services become mandatory. Even if, there is no constitutional right, hundred percentage coverage of services to all needy people need health care services at door step; and mobile health care services is essential to fulfill the expectations of old people because, many of them sometimes come to hospital just to get word from the doctor that they do not have major problem. In other words counseling needs of older people has to be taken care while designing health care system for them.

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## Population Ageing Process in India

A. K. Ravishankar\*

### ABSTRACT

*The phenomenon of population ageing is pervasive, and affecting every man, woman and child. While the ageing process in the developed world took place over a relatively long period of time, the experience in the less developed nations are being compressed into a few decades. This fast ageing process is the result of impressive gains in life expectancy at birth – reflecting fast declining mortality rates, particularly since the 1950s – followed by even faster declines in total fertility rates. India's demographic curves suggest a steep rise in the elderly population in the coming decades as a result of declining fertility, increasing expectation of life at birth and at later ages. This phenomenon, coupled with rapid social changes resulting in the gradual breakdown of the traditional joint family system and ever-increasing financial constraints at the national level, is likely to pose serious problems for the elderly.*

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\*Assistant Professor, Department of Population Studies, Annamalai University, Annamalainagar – 608 002, Tamilnadu, India

## Introduction

All the countries in the world, irrespective of their status have the global phenomenon of ageing. Thanks to unprecedented public health advances and successes in many parts of the world, the proportion of aged 60 and over is growing faster than any other age group. The phenomenon of population ageing is pervasive, and affecting every man, woman and child. The alteration of the age pyramid, however, poses profound impact on a broad range of economic, political and social conditions that requires urgent action.

Today, there are 603.6 million people in the world aged 60 years and over. In 2025, this will be expected to almost double (1193.6 million) and a quarter century later by 2050, the number of over 60s will reach 2 billion and will exceed the number of young for the first time in history with vast majority of them in the developing world (UN Population Division 2001). The speed of population ageing in developing countries is unprecedented. While the ageing process in the developed world took place over a relatively long period of time, the experience in the less developed nations are being compressed into a few decades. This fast ageing process is the result of impressive gains in life expectancy at birth – reflecting fast declining mortality rates, particularly since the 1950s – followed by even faster declines in total fertility rates. Under this backdrop, this paper try to attempt to provides an overview of the population ageing process in India.

## Data and Method

The term Old can be associated with physical incapacity, biological deterioration or disabilities or even psychological factors. A man ages biologically as a continuing process, socially as perceived by the members of the society, economically when retired from the work force and *chronologically* one grows older with time” (Benyaklef 1991). World Assembly on Aging held at Vienna in 1982, all persons aged 60 years and above are taken as the aged. Similarly, in the United Nations International Conference on Aging and Urbanisation (1991) the term *elderly* is defined as the

population aged 60 years and above. In this study the similar definition is followed for the ageing population. Data for this analysis are compiled from United Nations publications (United Nations, 2006; United Nations Department of Economic and Social Affairs, Population Division, 2009a), the Demographic Yearbook database of the Statistics Division of the United Nations Department of Economic and Social Affairs (including updates through August 2009)

## Result and Discussion

India is graying fast, with its elderly population next only to China, which has the largest number of elderly in the world. The phenomenon population ageing is enduring in India, during the twentieth century the proportion of older persons continued to rise, and this trend is expected to continue throughout the twenty-first century.

**Table No. 1 Population aged 60 and above in India during 1950-2050**

Year	Population aged 60+ (in millions)	Percentage to total population
1950	20.0	5.4
1955	20.6	5.1
1960	23.3	5.2
1965	26.1	5.3
1970	30.2	5.5
1975	34.8	5.6
1980	40.4	5.8
1985	45.2	6.0
1990	52.9	6.1
1995	60.6	6.4
2000	69.8	6.7
2005	79.4	7.0
2010	91.6	7.5
2015	111.9	8.7
2020	134.5	9.8
2025	158.8	11.1
2030	184.6	12.4
2035	212.7	13.9
2040	244.7	15.6
2045	279.4	17.5
2050	315.6	19.6

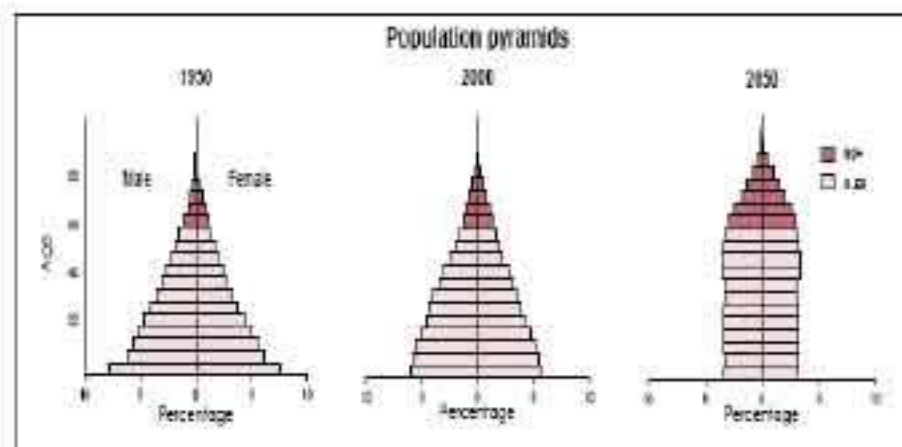
Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, *World Population Prospects: The 2008 Revision*

## Ageing in India

India had 12.06 million (5.1 percent of aged population in 1901 and it reaches to 69.8 million (6.7 percent) in 2000. It is estimated that this will cross 100 million by the year 2015 (111.9 million, 8.7 percent) and to reach 315.6 million (19.6 percent) in 2050. Further, the oldest old among them are growing more rapidly indicating the ageing of the aged. The United Nations (2008) estimates 16 percent of the world's aged population or twenty percent of the less developed region's aged population will be in India by about the middle the century (2050). The increase in the older population is the result of the demographic transition from high to low levels of fertility and mortality. In India, the proportion of the old persons has remained fluctuating till 1951, because of high fertility and mortality rates. Afterwards, there has been steady increase in the proportion of elderly population and there has been continuous acceleration in the speed of ageing process.

According to UN Population Division of the Department of Economic and Social Affairs, 20 million people are in the age of 60+ years in India during 1950. These aged populations are doubled in the next thirty years (40.4 million in 1980). This population was further increased to 52.9 million in 1990 and at the turn of the century there were 70 million elderly Indians, making up about 6.7 percent of the total population and is expected to be 134.5 million (9.8 percent) by 2020 and 315.6 million (19.6 percent) by 2050. It can be inferred from the above table that the old age population was stagnant during 1950-75 during the next quarter between 1975-2000 the aged population was increased by 20 percent. But during 2000-25 the ageing population will be increased almost cent percent however in-between 2025-50 the Indian ageing population will be increased only by eighty percent. It can be inferred from the above table that population ageing in India is enduring. During the twentieth century the absolute number of older persons continued to rise, and this trend is expected to continue into the twenty-first century.

Figure 1 Changing Pattern of Population Pyramids in India (1950-2050)



The figure 1 describes the changing pattern of population pyramids in India during 1950-2050. An exact pyramid shape was seen during 1950 with broad base population and the shape was changed slightly during 2000 and it will be almost precise barrel shape in 2050. It changing pattern of population pyramids indicates that the sixty and above population is expected to continue growing more rapidly than other age groups in India in a span of 50 years.

### Structural Changes in the Ageing of the Aged :

The changed pattern of the mortality not only affect the population ageing but also results into the faster growth of oldest age groups than the elderly population as whole i.e., the share of the oldest-old (80+) has steadily increased. During 1950, India had only 1.3 million oldest-old population it was increased to 2.87 million in 1980 and 5.20 million during 2000. The oldest-old population will be increased by three fold during 2000-25 (from 5.20 million to 14.8 million) and it will be reached at maximum of 42.6 million at the middle of this century (Figure 2). It can be concluded that the absolute number of oldest-old (80+) population constantly increased in a span of 50 years from 1950 to 2050.

## Ageing and Gender :

Another important social dimension of ageing in India will be the faster ageing process among female - an increasing share of women in the elderly population, particularly in oldest-old age groups. It is a very distinct gender dimension to ageing in India. Further, India is one of the few countries in the world where men outnumber women at all ages till about 70 years. As seen in Table 2, only in the very old age group, 80 and over (Dandekar, 1996) are there more women in the population than men.

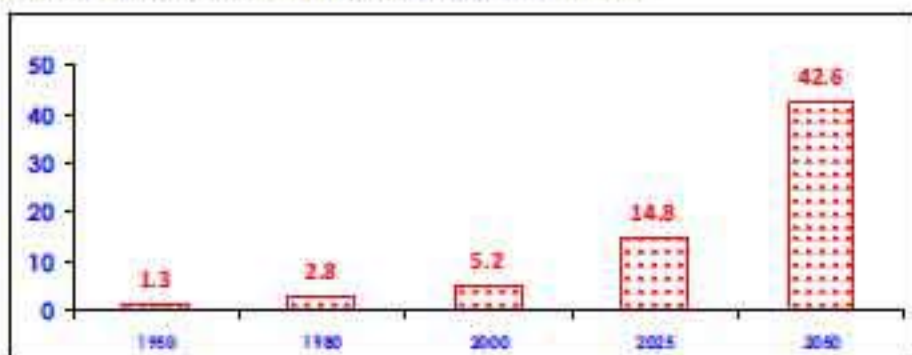


Figure No. 2 Structural change of oldest-old populations (80+) in India (in millions)

The United Nations estimated that in the next fifty years, there will be about more than four and half time increases of female aged population (60+ from 35.7 million to 166.2 million) and during the same period (2000 to 2050) the male aged population will be increased only 115 millions (from 34.1 million to 149.4 million). It indicates that in the 21st century the elderly women will outnumber elderly men. It clearly shows that, reversing the previous situation, there will be more females aged 60 years and above as compared to men of the same age. Likewise during this period, the absolute increase of female oldest-old population will be higher than the male oldest-old population. Hence, a special attention should be given to this problem while framing any policy and planning for services to this elderly women population.

## Oldest-old Population:

As the twenty-first century began, the India's population included

approximately 5.2 million oldest-old persons (80+), this is four times higher than the number recorded fifty years earlier (1.3 million 1950). By mid-century, there will be 42.6 million oldest old persons which are eight times higher of this age group in a span of 50 years. The increasing female share of the oldest-old population is also relevant to public policy. Because mortality rates are usually higher among men than among women, even at oldest ages, the percentage female tends to increase with advancing age. In India, oldest-old women greatly outnumber older men. The implications of this gender imbalance for social support and public planning can be great since older women are more likely to be widowed. They also have less education, less work experience and less access to public assistance and other private income sources (Higuchi, 1996; United Nations, 1999b). Indeed, the concerns of the oldest-old population should be viewed primarily as the concerns of older women. It can be inferred from the analysis that the rapid growth of the oldest groups among the older population is of special relevance in terms of public policy. The 80 and over age group was growing faster than any other, and is expected to continue as the fastest growing segment of the population for at least the next 50 years. Although this group still constitutes a small proportion of the total population, its numbers are becoming increasingly important.

Table No. 2 Trend of older and oldest-old populations by sex (in millions)

Year	Age-group	Male	Female
1950	60+	10.1	10.0
	80+	0.6	0.7
1980	60+	20.7	19.7
	80+	1.3	1.5
2000	60+	34.1	35.7
	80+	2.5	2.7
2025	60+	75.7	83.0
	80+	6.3	8.5
2050	60+	149.4	166.2
	80+	17.9	24.6

Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, *World Population Prospects: The 2008 Revision*.



### Percentage increase in the Elderly Population :

The table 3 discloses the percentage distribution of older population in India by sex. While in 1950, about 5.4 percent of the total populations in India are aged 60 years and above, this was reached to 6.7 in 2000, the figure is projected to be 11.1 percent in 2025 and will further rise up to 19.6 by mid of twenty-first century. The percentage of females having age 60 years and above out of the total female population has always been more than the corresponding percentage of males. While in 1950, 6.1 percent of females and 5.2 percent of males are aged 60 years and above, these figures are raised up to 8.2 percent for females and 7.1 percent for males during 2000. By the year 2050, the female share would be reaches to more than one-fifth of the total population (21.8 percent) and the male will be less than one-fifth (19.5 percent).

**Table No. 3 Percentage distribution of older population in India by sex**

Sex	age	1950	1975	2000	2025	2050
TOTAL	60+	5.4	5.6	6.7	11.1	19.6
	65+	3.1	3.4	4.3	7.3	13.7
	80+	0.4	0.3	0.5	1.0	2.6
Male	60+	5.2	6.1	7.1	11.7	19.5
	65+	2.9	3.8	4.6	7.6	13.7
	80+	0.2	0.3	0.5	1.0	2.6
Female	60+	6.1	6.3	8.2	13.2	21.8
	65+	3.8	3.9	5.4	9.0	15.9
	80+	0.3	0.3	0.7	1.5	3.6

Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2008 Revision.

The total increase in this portion of the population during the period 1950-1975 was around 11 percent, i.e. about 0.4 percent per year. In the next twenty-five years (1975 to 2000), the increase was 2.6 percent per year. By the mid of twenty-first century, the UN estimated that it would be increased around 65 percent. With regard to oldest old population (80+), during the period 1950-1975 there was no increase, however, during 1975 to 2000 there was hundred percent increases in the oldest old population and it will be added more than hundred percent by 2025 (119 percent) and by 2050 (140 percent). It can be concluded that during the upcoming years, the oldest old population increases very drastically than the

older population.

Even though the percentage of India's elderly population (60+) is small compared with that of any developed nation because of the large size of India's base population, the elderly population is very large in absolute numbers. The number of persons 60 or more years of age was 23.3 million in 1950; this number increased by 51 per cent to 34.8 million in 1975. In 2050 it is expected to increase to about 158.8 million, i.e. 6.8 times the size of the elderly population in 1950 and 2.3 times higher than 2000 population. The number of female elderly, both in absolute and percentage terms, is larger than males.

### Age Composition :

The ageing process of any population is studied through the trends in the broad age structure or/and Index of ageing (see table 4). The broad age structure in a population reflects the changing composition of 0-14, 15-59, and 60+ age groups. In India, the young proportion (0-14) has declined by 5.4 units over the fifty years from 1950-2000 and is expected to decline drastically by 14 points in the next five decades, on the other hand, the 60+ population has steady increased from 5.6 in 1950 to 7.6 in 2000 and is expected to be around 20.6 percent by 2050.

**Table No. 4 Composition of percentage of Population by Broad age groups and indices of ageing 1950-2050**

Year/Broad age group	1950	1975	2000	2025	2050	
0-14	38.9	39.8	33.5	23.2	19.7	
15-59	55.5	54.0	58.9	64.3	59.7	
60+	5.6	6.2	7.6	12.5	20.6	
Index of Ageing*	14.4	15.6	22.7	53.6	105.0	
Dependency ratio	young	67.4	70.6	54.4	33.9	30.0
	old	5.8	6.8	8.1	12.1	22.6
	total	73.2	77.4	62.5	46.1	52.6

Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2008 Revision.

\* No. of persons aged 60+ per 100 persons aged 0-14

### Index of Ageing :

According to the Index of ageing, the process is very slower during 1950-2000, but it is expected to increase within the next fifty years resulting in an index value of 53.6 by the year 2025 and 105 by 2050. This kind of index of ageing confirms that the Indian ageing phenomenon to be more serious in near future. India will have the highest numbers of elderly people in South Asia in 2021 (9.87 percent); it is mainly because of the slowing down of the population growth rates. Besides, the ageing process is intensified owing the higher survival rate of elderly persons beyond the age of 60+.

### Growth Rate :

In India over a period, the growth rate difference between elderly and general population has shown an increase. The projected populations also show an increasing trend in the growth of the elderly sector of the population. In India, the older population is growing by more than 2 per cent each year, considerably faster than the population as a whole. In India, the oldest old population (80+) is expected to continue growing more rapidly than other age groups in the next twenty-five years (table 5). The growth rate of those 60 or older will reach 3.2 per cent annually in 2025-2030. During the same period, the growth rate of 65+ and 80+ would be increased to 3.5 and 3.9 per cent respectively. Such rapid growth will require far-reaching economic and social adjustments in India.

Table No. 5 Growth rate trend of older population

Age groups	1950-55	1975-80	2000-05	2025-30	2045-50
All ages	2.0	2.1	1.5	0.8	0.4
60+	2.0	2.9	2.7	3.2	2.2
65+	2.1	3.2	3.0	3.5	2.5
80+	1.4	4.1	4.7	3.9	3.5

Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2008 Revision.

In India, the fastest growing age group is the oldest-old, those aged 80 years or older. It indicates that the older population is itself ageing. They are currently increasing at 4.7 per cent per year and however, by the middle of the century, growth rate will be 3.5

percent. At the middle of twentieth century the growth rate of oldest old population was 1.4 percent, and it reaches the maximum growth rate of 4.7 in the beginning of twenty-first century. However, mid of this century it will come down to 3.5. The older population 60 and over and 65+ also shows a similar trend though the growth rate is comparatively less. By 2045-50, the growth rate of elderly persons (2.2) will be four and half times higher than the growth rate of general population (0.4), it is found that the elderly population has grown faster than the general population, mainly because of increases in the expectation of life. This comparison brings to light another dimension of the ageing process that is the increase in the growth rate of elderly persons is accompanied by a decline in the growth rate of the general population.

### Dependency Ratio:

Dependency ratio measures the responsibilities of the aged to the working-age population. In India, generally, persons aged 15 to 59 years are supposed to form the population of working ages and at age 60, people generally retire or withdraw themselves from work. Thus, the population aged 60 and over divided by the number aged 15 to 59 gives the old-age dependency ratio. The relatively faster increase in the elderly population will contribute to a higher dependency ratio of the population in the non-productive age group (60+). The old age dependency ratio (number of persons of 60 years and over to the working age group between 15-59 years) was consistently increased from 5.6 per cent in 1950 to 7.6 percent in 2000 and it would be reached to 12.5 in the year 2025 and to reach to 20.6 percent by 2050. Therefore, responsibility for caring for the elderly will fall either on young wage earners or on the Government.

### Sex ratio of Aged Population :

An accelerated pace of growth of the old population, gradual tracking of gender ratio is in favour of females - especially among the oldest old - when compared with that of the older population (60+ years and 65+ years). As expected, it is also higher than that of the general population from 1950 to 2050. It can be concluded that the sex ratio of the old age population is in favour of females, as occurs in more developed countries.

**Table No. 6 Sex Ratio (per 100 female) of elderly and general population (1950-2050)**

Age groups	1950	1975	2000	2025	2050
Over all SR	108.0	108.9	107.6	105.6	103.5
60+	89.9	104.6	91.8	92.5	90.9
65+	80.2	104.2	90.2	88.5	87.6
80+	98.1	102.0	81.8	71.4	73.7

Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2008 Revision.

According to UN World Population Ageing 1950-2050 data, sex ratio in 2000 was 91.8 men per hundred women among persons aged 60 or over, and 81.8 among those aged 80 years or older. By 2050, the sex ratio is projected to be 90.9 among people over 60, and 73.7 among those over 80, lower than the 2000 levels of 91.8 and 81.8 respectively. After an increase, from 89.9 men per hundred women in 1950 to 104.6 in 1975 at ages 60 or over, and from 80.2 to 104.2 at ages 65 or over, the India's sex ratios returned in 2000 to the levels of 1950 and would be decline further in 2050.

The sex ratios of the population aged 60 or over remained practically the almost same in 2000 and 2050 as they were in 1950. After a slight increase, from 90 men per hundred women in 1950 to 105 in 1975 at ages 60 or over, the India's sex ratios returned in 2000 to the almost original levels of 1950 and will be remain same in 2050. In the case of the population aged 80 or over, the sex ratio consistently declined over the whole 50-year period, from 98 in 1950 to 81.8 in 2000 and expected to 73.7 in 2050, however, it favor for females. It can be concluded that the sex ratio for the past century to indicate the "feminization" of the aged expectancy. An accelerated pace of growth of the old population, gradual tracking of gender ratio in favour of females (especially among the older old).

### Expectation of Life at Birth :

Because of the general improvement in the health care facilities over the years, there is a continuous increase in the expectation of life. This has resulted in the fact that more and more people are now living longer. In most of the developed world, women live longer than men by four to eight years, but this is not true for India. During the last 50 years, India has undergone dramatic changes in its demographic parameters such that the expectation of life at birth

has increased by 25 years, from 38.7 years in 1950-55 to 64.2 years 2000-05 which is higher than the average increase at global level (20 years).

By the end of the next quarter century, life expectancy at birth is expected to reach, on average, 80 years in the more developed regions and 71 years in the less developed regions. A similar trend is also expected in India (71.6 years in 2025-30). By 2050, the expectation of life at birth in India is expected to reach 75 years which is lengthened by 10.8 years over the last half century, which is substantially less that the average for the developed regions (82 years). The expectation of life at birth is higher both for men and women and this is the only state in India at present with sex ratio favourable to women (Krishnakumari & Sudeva, 1996).

**Table No. 7 Trend of Life expectancy at Birth, at 60, 65 and 80 years**

Sex	Age	2000-05	2025-30	2045-50
Total	Birth	64.2	71.6	75.4
	60	17.0	19.4	20.8
	65	13.7	15.7	16.9
	80	6.2	7.2	7.7
Male	Birth	63.6	69.9	73.5
	60	16.1	18.1	19.4
	65	13.0	14.7	15.8
	80	6.0	6.8	7.3
Female	Birth	64.9	73.4	77.4
	60	17.9	20.7	22.2
	65	14.4	16.7	18.1
	80	6.5	7.5	8.1

Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2008 Revision.

Not only are more people surviving to old age, but once there, they tend to live longer. Over the next 50 years Indian life expectancy at age 60 is expected to increase from 17.0 years in 2000-2005 to 20.8 years in 2045-2050 (an 23 per cent gain), from 13.7 to 16.9 years (23 per cent) at age 65 and from 6.2 to 7.7 years (25 per cent) at age 80. Those figures show that, in fact, the older the age group, the more remarkable are the expected relative gains in life expectancy. Average life expectancy at age 80 is expected to increase by 25

percent as compared with 22 percent at age 60 and almost 18 percent at birth. In India, where mortality levels at young ages remain high, proportional improvements in life expectancy during the next 50 years are still expected to be higher at birth than at older ages. In India, the gender gap has been significantly smaller and the gap is expected to continue to increase, from the current 1.8 years to 2.6 years by the middle of the century (age 60). Over the next 50 years, female life expectancy at age 80 is expected to reach 8.1 years and 7.3 years for male.

### In conclusion

It is evident that exceptional demographic changes, which had their origins in the nineteenth and twentieth century and are continuing well into the twenty-first century, are transforming the country's demographic scenario. The declines in fertility reinforced by increasing longevity have produced and will continue to produce unprecedented changes in the structure of all societies, notably the historic reversal in the proportions of young and older persons. Further, India's demographic curves suggest a steep rise in the elderly population in the coming decades as a result of declining fertility, increasing expectation of life at birth and at later ages. This phenomenon, coupled with rapid social changes resulting in the gradual breakdown of the traditional joint family system and ever-increasing financial constraints at the national level, is likely to pose serious problems for the elderly. The profound, pervasive and enduring consequences of population ageing present enormous opportunities as well as enormous challenges for all societies. The aging of India's population will pose problems in the future unless they are addressed now with sound policy initiatives.

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**Impact of Socio-economic and  
Demographic, Environmental and  
Behavioral Factors, and Psychiatric  
Symptoms on Hindi Mini Mental State  
Examination Score in Rural  
Northern India**

Alok Kumar\*  
Pawan Kumar\*\*  
Sangeeta Kansal\*\*\*

**ABSTRACT**

**Background:** *The Mini Mental State Examination (MMSE) is among the most commonly worldwide used screening tests for evaluating the cognitive status. Age and education are the well known factors to affect the MMSE scores of normal elderly population, but there have been no studies on rural Indian elderly population that assessed the impact of environmental and behavioral factors and psychiatric symptoms on this test.*

**Objective:** *We aimed to assess the influence of a large set of socio-economic and demographic, environmental and behavioral factors and psychiatric symptoms on the total HMMSE score in normal elderly community population.*

**Method:** *The sample consisted of 594 elderly people aged 60 years and above, drawn by applying multistage random sampling technique from the different parts of Uttar Pradesh, a northern and most populous state of India. Chi-square test and multivariate logistic regression analysis has been carried out.*

**Result:** *The logistic regression revealed that sex, age, education level, close contacts with relatives, playing with grandchildren, visiting religious places regularly, feeling agitation and social*

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*withdrawal to be independent predictors of the HMMSE score.*

**Conclusion:** *In this study, along with various socio-economic and demographic variables, a number of environmental & behavioral factors and psychiatric symptoms were incorporated into a single model. The findings confirm that age and educational level, as in many other studies, found to be statistically relevant predictors for the total HMMSE score. Among the different psychiatric symptoms, social withdrawal and feelings of agitation were found to be significantly associated with test score. Although, some other important predictors like food habits and intoxicant addiction habits have no significant impact on the test score.*

**Key words:** cognitive impairment, mental health, elderly.

## Introduction

India is the home of nearly 1200 million people. The population of the elderly constitutes 7.8 percent of the total population of India. Uttar Pradesh is the most populated state (16.16% of India's total population, census of India, 2001) of India. Due to better health facilities, increased life expectancy rate and decreased mortality rate, Indian population is ageing rapidly. Ageing poses some important questions regarding mental and physical health of the elderly people. The elderly specially belonging to rural settings are generally avoided regarding social, psychological and economic support etc. It is generally considered that during the ageing process, lack of mental ability becomes a common phenomenon among the elderly, and hence there is no need to pay special attention towards them regarding this aspect. However, lack of mental ability which might be associated to cognitive impairment may lead to dementia. The Mini Mental State Examination (MMSE) which was developed by Folstein *et al.*, 1975 has been globally used for screening cognitive impairment among older adults. It provides a quick and reliable quantitative assessment of an individual's cognitive state (Jones & Gallo, 2000). This test demands for an education higher than four years, so it's very difficult to administer it among illiterate people. Thus, in India, MMSE was modified and translated into Hindi for the large illiterate rural elderly population, in Indo-US Cross National Dementia Epidemiological Study and was validated and declared very useful to measure cognitive impairment among highly illiterate rural Indian population (Ganguly *et al.*, 1995). Thus using the Hindi version of MMSE (HMMSE), this paper has tried to assess the impact of a large set of socio-economic, demographic, environmental, behavioral factors and psychiatric symptoms on the total HMMSE score in rural community based normal elderly population.

## Data and Methodology

This study is based on a sample of 594 elderly people from the different parts of rural Uttar Pradesh (UP), a northern and most populated state of India, under a survey entitled "*Socio-Economic Status, Behavioural Problems and Health Hazards of the Elderly*

*across Diverse Settings in India*". A sample of 600 elderly was drawn by applying a multistage random sampling technique. The Sampling procedure was completed in four stages. At first stage, six districts of UP have been selected based on Human Development Index (HDI). Using the planning atlas of Government of Uttar Pradesh, all the districts of UP were divided into six categories: Lowest (if HDI is below 0.45), Very low (if HDI is between 0.45-0.50) Low (if HDI is between 0.50-0.54), Medium (if HDI is between 0.54-0.60), High (if HDI is between 0.60-0.65) and Very high (if HDI is 0.65 & above). From each category, one district is selected randomly and in this way a total of six districts i.e., Shrawasti (lowest), Mahoba (very low), Moradabad (low), Ghazipur (medium), Varanasi (high), and Lucknow (very high) have been selected. Later on after selecting the districts, one block was selected randomly in each district and then from each selected block, randomly a village is selected. Finally at village level, 100 respondents were taken for interview according to population proportion to size in every Bastis / Purvas (generally a small group of household belonging to same caste) from each of the selected villages. So, applying a multistage random sampling technique, a sample of 600 elderly people was taken. Due to physical inability and unable to complete the test, six cases were excluded from the analysis. Thus this study deals with 594 elderly people only.

The data at both the household level and at the individual level (elderly person concerned) have been taken. The instrument of data collection was a personal interview method. Statistical analysis was performed using SPSS software. Group differences were calculated with a chi-square test and to assess the relative contribution of independent variables on the HMMSE score, multiple logistic regression analyses were used. Backward selection stepwise regression was applied to create a model of predictors of test performance.

## Variables

### Dependent Variable

In present study, the score of HMMSE is used as dependent variable. The HMMSE score falls in a range from lowest possible (0)

to highest possible (30) value. The HMMSE score was dichotomized (High & Low), and the median was used as cut-off point. The median score was 27 (18-30) and the range was 12. The respondents who scored below median score falls under low scoring criteria, while the respondents who scored equal to or greater than median falls under high scoring criterion.

### Independent Variables

Three categories of the possible predictors of the HMMSE score were established:

**1. Socio-economic and Demographic Variables** that were considered as objective and stable characteristic to describe the socio-economic status of an elderly. The socio-economic and demographic variables included age, sex, marital status, caste, religion, educational level, social and economic status of the household. Age was classified into three groups- 60-69, 70-79 and 80+. Marital status was categorized as *currently married* and *Widow / widower* as no respondent found to be divorced or abandoned in the study group. Caste was classified into three categories- *General* (those who are considered to be socially and economically forward and privileged castes), *OBC* (other backward castes; those who are considered to be socially and economically backward) and *SC / ST* (schedule castes/schedule tribes; those who were earlier treated as untouchables, excluded from Indian Hindu society and now scheduled in Indian constitution). In Uttar Pradesh, the religious composition consists of two main religions; Hindu & Muslim. So, religion was included three categories- *Hindu, Muslim, and others* (those who neither belong to Hindu or Muslim religion). The educational status of the elderly was assessed by years of schooling completed and each respondent was assigned to the category corresponding to the highest grade achieved. Social status of a household was calculated on the basis of different kinds of facilities available in a household. Facilities included in this study are - 1. total income in excess of Rs. 3,000 per month, 2. land possession in excess of 3.125 acre, 3. residential accommodation more than on 'pukka room', 4. regular use of milk and vegetables, 5. education at graduate level of at least one member of the



household, 6. possession of at least two of the following facilities; (i) drinking water facilities - well / hand pump / pumping set, (ii) entertainment facilities - radio / tape - recorder / T.V. / V.C.R., (iii) travelling or transportation facilities - bicycle / scooter / motorcycle / car / jeep, (iv) kitchen facilities- gas chulha (stove) / bio-gas chulha, (vii) other facilities- electricity/toilet. In light of presence of facilities mentioned above, their social status has been classified into three different groups as low- if at most one facility is available in the household, middle-if two or three facilities are available in the household and high-if four or more facilities are available in the household. Economic status of the household is calculated after computing income index. The income index of a household is defined as the ratio of total earning from all sources of a household to effective size of the household. The effective size of a household is defined considering each person aged above 14 years as one unit, and aged 14 or less than 14 as half unit. After calculating the total earnings from all sources and effective size of the household, the income index (I.I.) = total earning of a household ÷ effective size of the household. Thus, the economic status of a household is classified into three groups as Low, Middle and High if I.I. lies in the categories I.I. < Rs 301/-, Rs 301 < I.I. < Rs 501 and I.I. > Rs 501 respectively.

**2. Environmental and Behavioral Factors** assessing participant social and health related behaviors. These factors included social interactions with friends and distant relatives, food habit, Intoxicants habits included tobacco and alcohol consumption, day to day activities in leisure time which involves physical exercise, playing with grand children and visit to religious places. All the above factors may directly or indirectly affect the mental health of the elderly. Social interactions with the friends and relatives were assessed by the total number of friends and relatives not living with whom an elderly was keeping close contact. Food habit was classified into currently vegetarian or non-vegetarian. Tobacco consumption was generally in the form of smoking (Cigarette, Bidi & Hukka) or chewing (Paan, Gutka & Shurti) in India. The study participants were defined as smokers or tobacco chewers if

currently their frequency of taking these intoxicants were above 10 per day. Similarly alcohol consumption was categorized as regularly or not regularly.

Physical exercise was mainly assessed by evaluating the current occupational activity status of the elderly. If their nature of work related to farming, agricultural or industrial laborer and do things that involve some kind physical labor, then they were considered as physically active. If they were in service or doing business that involves the work that was done mainly while sitting, without much walking, considered them as physically inactive. Playing with grand children is a great source of domestic amusement for the elderly. Going to religious places may be a great source of mental peace in later life. It is a kind of meditation. So, the above mentioned variables were categorized as - never, occasionally (2-3 times in a week) and regularly (every day).

**3. Psychiatric Symptoms:** The effect of some psychiatric symptoms are also tried to be seen in this study. Memory loss, appetite and sleeping disturbances, anxiety, social withdrawal, agitation, irritation and loss of interest were assessed by self reported responses (Yes or No) of the elderly. In the survey, each elderly person was asked different questions about the above symptoms like "Do they perform social responsibility by their own desire?" denying to this leads to loss of interest. "Do they want to live alone rather than living with family members and other people?" denying to this statement leads to social withdrawal. "Do they get irritated by the thoughts that life is useless now?" This might be related to the depressive thoughts in life. "Do they think sometimes that there is nothing for elderly people to do in this world?" the response of this question might indicate their sadness. Similarly questions were asked about agitation (Do they generally feel agitation?), appetite and sleeping disturbances.

### Results and Discussions

Table 1 depicts different socio-economic and demographic characteristics of the elderly according to dichotomized HMMSE score. Most previous investigations based on community data included socio-demographic variables such as age, sex, marital

status and educational level to see any association with HMMSE score. Several studies (Escobar et al., 1986; Fillenbaum et al., 1988; Mortimer & Graves, 1993; O'Connor et al., 1989; R. D'Alessandro et al. 1996; Salmon et al., 1989; Zhang et al., 1990) suggested that age and educational status affects scoring in MMSE i.e., increased educational level tends towards better performance in MMSE. Generally, poor performance was seen more among those of advanced age. In the present study also, the HMMSE score was found to be significantly associated with the age & educational level of the elderly. Poor performance was also found more among female elderly persons than males unlike with many investigations done in western countries. The highly significant association ( $p < 0.001$ ) between sex of the elderly and HMMSE score was observed. It may be due to the illiteracy level that was much higher among female elderly persons as compared to males in the study areas. So far as the HMMSE results of elderly persons according to marital status is concerned, the percentage of currently married elderly persons was higher in upper half of the HMMSE scores compared to widow/widower and the difference was found statistically significant. We have also tried to observe the relationship of HMMSE score with some other characteristics of the elderly like caste, religion and social & economic status of the household. The HMMSE scores of the elderly was found to be associated with the caste ( $p < 0.05$ ). A higher percentage of the elderly possessing better score were found higher up in the caste hierarchy. Nevertheless, no association was observed between religion and HMMSE score of the elderly. Both social and economic status of the household was found to be directly related to the low percentage scores of the elderly.

**Table I. Socio-economic & demographic characteristics and test performance of respondents**

Variables	HMMSE Score		N	Group difference
	Low (%)	High (%)		
<b>Sex</b>				
Male	27.1	72.9	299	} $p < 0.001$
Female	47.1	52.9	296	
<b>Age Group</b>				
60 to 69	25.3	71.7	311	} $p < 0.001$
70 to 79	41.8	58.2	184	
80 & above	55.6	44.4	99	
<b>Marital Status</b>				
Presently Married	30.8	69.2	402	} $p < 0.001$
Widow/Widower	50.0	50.0	192	
<b>Caste</b>				
General	31.5	68.5	168	} $p < 0.05$
O.B.C.	33.0	67.0	178	
S.C / S.T.	43.6	56.4	230	
<b>Religion</b>				
Hindu	37.0	63.0	460	} $ns$
Muslim	37.1	62.9	124	
Others	40.0	60.0	10	
<b>Education (year of schooling)</b>				
0	44.3	55.7	456	} $p < 0.001$
1 - 7	15.1	84.9	36	
8 & above	9.6	90.4	52	
<b>Social Status</b>				
Low	44.0	56.0	168	} $p < 0.01$
Middle	39.4	60.6	241	
High	27.6	72.4	185	
<b>Economic Status</b>				
Low	44.2	55.8	267	} $p < 0.01$
Middle	34.1	65.9	138	
High	29.1	70.9	189	
<b>Total</b>	<b>37.0</b>	<b>63.0</b>	<b>594</b>	

Active engagement in society and social affairs play an important role for better health in later life (Elwood *et al.* 1999). Elwood *et al.* (1999) used MMSE in their study and found significant difference between social contact and cognitive test performance. Table 2 shows that the close contact (any means of communication) with the relatives and friends not living with the respondents with HMMSE performance was found to be highly significant ( $P < 0.001$ ). Food habit was not found associated with the HMMSE score. Regarding intoxicant habits, the test performance of the respondents who were currently smokers, drinkers and tobacco chewers was found better than their counterparts. However, no significant association between intoxicant habits and HMMSE score was observed in the present study and similar results have also been found in studies of Elwood *et al.* (1999) and Freidl *et al.* (1996).

**Table 2. Environmental & behavioral factors and test performance of respondents**

Factors	HMMSE Score		N	Group difference
	Low (%)	High (%)		
<b>CLOSE CONTACTS</b>				
<b>Relative living separately</b>				
0		45.3	117	p<0.001
1 - 2	54.7	64.7	269	
3 & Above	29.3	70.7	208	
<b>Friends</b>				
0		44.2	104	p<0.001
1 - 2	55.8	62.6	138	
3 & above	37.4	68.7	301	
<b>FOOD HABITS</b>				
Vegetarian	37.3	62.7	357	ns
Non-Vegetarian	36.7	63.3	237	
<b>INTOXICANT HABITS</b>				
<b>Smoking</b>				
No	39.7	60.3	403	ns
Yes	31.4	68.6	191	
<b>Tobacco Chewing</b>				
No	38.3	61.7	308	ns
Yes	35.7	64.3	286	
<b>Drinking</b>				
No	37.4	62.6	575	ns
Yes	26.3	73.7	19	
<b>PHYSICAL ACTIVITY (current working status)</b>				
<b>Never</b>				
Occasionally	40.3	59.7	501	p<0.001
Regularly	19.2	80.8	73	
	20.0	80.0	20	
<b>Play with Grand Children</b>				
Never	48.5	51.5	169	p<0.001
Occasionally	32.4	67.6	225	
Regularly	32.5	67.5	200	
<b>Go to Religious Places</b>				
Never	53.4	46.6	174	p<0.001
Occasionally	31.3	68.7	367	
Regularly	22.6	77.4	53	
<b>Total</b>	<b>37.0</b>	<b>63.0</b>	<b>594</b>	

The day to day activities which the elderly prefer to do in their leisure time may have also some effect on the mental health. Physical activity may be associated with cognition performance of the elderly. Data for the Nurse health studies have showed that walking for a minimum of 1.5 h/week is associated with better cognitive performance (Weuve *et al.* 2004) and in another study by Gelder *et al.* 2004 based on a cohort of Dutch men that decreasing activity duration by more than 60 min/day over 10 years resulted in significant cognitive decline. In the present study, as we have

mentioned above that, physical activity was mainly assessed by evaluating the current occupational status of the elderly. The above table shows that the elderly who were occasionally or regularly doing some kind of physical activity did much better performance in HMMSE as compared to those who were physically inactive. HMMSE score was found to be statistically significant with physical activity ( $p < 0.01$ ). Some of our findings seem to be in the focus of interest. Generally, the elderly in rural areas often live with their children and grandchildren, comparing with those in urban areas. Sometimes, adult members in working age have moved out with their family to urban or industrial areas. This phenomenon causes a decaying relationship in families and has impact on living arrangements of older people. Physical and mental health conditions of the elderly were found to be associated directly or indirectly with the pattern of living arrangement, particularly living with their children/grandchildren. It has been seen that elderly enjoy expanding time or playing with grand children and is a kind of amusement for the elderly that won't make them stressed. In the present study, the cognitive test performances of the elderly playing with their grandchildren were found better than those not expending time with their grandchildren and this relationship was found statistically significant. It has been established that meditation keeps mind healthy. Going to religious places for praying and the ways of praying to the Gods i.e. meditation (e.g., yoga) is a way of prayer. Meditation is especially useful and practiced throughout the world to stop or prevent possible resulting mental agonies. Religious places are not only made for prayer for 'the good' through worshiping the images of Gods or Goddesses but also for releasing individual social stress. The philosophy includes complete submission of one's soul onto the feet of the Gods and it is believed that such submissiveness could be essential to prevent anxiety, depression and personality disorders. Table 2 shows that the elderly who used to go to religious places regularly or even occasionally performed better in HMMSE examination than their counterparts. HMMSE score was found to be significantly associated with the frequency of visiting to religious places ( $p < 0.001$ ).

**Table 3. The psychiatric symptoms and performance in HMMSE**

Symptoms (Self reported)	HMMSE Score		N	Group difference
	Low (%)	High (%)		
<b>Memory Loss</b>				
No	82 (30.8)	184 (69.2)	266 (44.8)	p<0.01
Yes	138 (42.1)	190 (57.9)	328 (55.2)	
<b>Appetite Disturbance</b>				
No	97 (29.9)	227 (70.1)	324 (54.5)	p<0.01
Yes	123 (45.8)	147 (54.4)	270 (45.5)	
<b>Sleeping Disorder</b>				
No	53 (30.3)	122 (69.7)	175 (29.5)	p<0.05
Yes	167 (39.9)	252 (60.1)	419 (70.5)	
<b>Sadness (nothing to do in this world)</b>				
No	31 (27.4)	82 (72.6)	113 (19.0)	p<0.05
Yes	189 (39.3)	292 (60.7)	481 (81.0)	
<b>Loss of interest (in social affairs)</b>				
No	30 (46.2)	35 (53.8)	65 (10.9)	ns
Yes	190 (35.9)	339 (64.1)	529 (89.1)	
<b>Depressive thoughts (life is useless)</b>				
No	21 (19.3)	88 (80.7)	109 (18.3)	p<0.001
Yes	199 (41.0)	286 (59.0)	485 (81.7)	
<b>Social withdrawal (like to live alone)</b>				
No	166 (33.7)	327 (66.3)	493 (83.0)	p<0.001
Yes	54 (53.5)	47 (46.5)	101 (17.0)	
<b>Generally feel agitation</b>				
No	42 (23.2)	138 (76.8)	181 (30.5)	p<0.001
Yes	178 (43.1)	235 (56.9)	413 (69.5)	
<b>Total</b>	<b>220 (37.0)</b>	<b>374 (63.0)</b>	<b>594 (100.0)</b>	

Table 3 depicts the association of psychiatric symptoms with HMMSE scores of the elderly. In this study about 55 per cent of respondents reported the problem of memory loss. Mild cognitive impairment often found more in persons with memory loss problem than in those without (Forsell *et al.* 2003). Here, the low scoring in HMMSE was found significantly associated with memory loss problem. Some time appetite disturbance may cause different kinds of problems in person's day to day life. Due to these problems, one can suffer with mental stress. About 45 per cent respondents reported appetite disturbance in this study and this symptom was also found significantly related with HMMSE performance. Sound sleep plays an important role to keep mind healthy and relaxed. Sleeping disorder can cause mental stress and is directly or indirectly related to other health problems. More than 70 percent of the elderly reported the problem of sleeping disorder. Generally, the elderly who did not report sleeping disorder performed well (about 70 per cent scored above the median in HMMSE). In present study,

the symptoms of sadness, depressive thoughts, social withdrawal and agitation feeling were also found to be significantly related with the HMMSE scores. However, loss of interest was not found to be associated with HMMSE scores of the elderly.

**Table: 4 Final models of logistic regression analysis using backward elimination procedure**

Variables	Model I			Model II		
	B	S.E.	Odds ratio (B)	B	S.E.	Odds ratio (B)
<b>Sex</b>						
Male			Reference			Reference
Female	-0.497	0.219	0.605 (0.396-0.934)*	-0.602	0.208	0.548 (0.365-0.823)**
<b>Marital Status</b>						
Married			Reference			Reference
Widow/Widower	-0.372	0.211	0.689 (0.456-1.042)	-0.611	0.198	0.543 (0.368-0.800)**
<b>Close contact with relative(s) living separately</b>						
0			Reference*			Reference*
1-2	0.561	0.253	1.735 (1.055-2.851)*	0.524	0.250	1.688 (1.034-2.756)*
3 & above	0.642	0.271	1.900 (1.117-3.231)*	0.631	0.267	1.879 (1.113-3.174)*
<b>Play with Grand Children</b>						
Never			Reference*			Reference*
Occasionally	0.515	0.244	1.674 (1.037-2.704)*	0.545	0.241	1.725 (1.076-2.765)*
Regularly	0.525	0.236	1.691 (1.055-2.687)*	0.542	0.231	1.719 (1.094-2.702)*
<b>Going to Religious places</b>						
Never			Reference			Reference*
Occasionally	0.329	0.407	1.390 (0.625-3.068)	0.685	0.396	1.984 (0.913-4.310)
Regularly	0.586	0.213	1.797 (1.183-2.729)**	0.697	0.209	2.007 (1.333-3.022)**
<b>Feel Agitation</b>						
No			Reference			Reference
Yes	-0.504	0.229	0.604 (0.386-0.946)*	-0.494	0.229	0.610 (0.389-0.966)*
<b>Like to live Alone</b>						
No			Reference			Reference
Yes	-0.703	0.259	0.495 (0.298-0.825)**	-0.621	0.253	0.537 (0.327-0.883)**

Model I : Unadjusted odds ratio; Model II : Odds ratio adjusted for age and education  
Figures in parentheses are confidence interval; \*p<0.05, \*\*p<0.01

Table 4 displays the results of logistic regression analysis taken all the variables together in model I for predicting the likelihood of scoring high or low in the HMMSE. The final model using backward elimination procedure included age, gender, marital status, education, close contact with relative/s living separately, play with grand children, visiting religious places, feel agitation and social withdrawal as independent predictors of the HMMSE score. Since, in most previous studies (Tiwari *et al.*, 2008; Ganguli *et al.*, 1991; D'Alessandro *et al.*, 1996), age and educational level was found to be one of the important contributory factors in explaining the likelihood of scoring high or low in the MMSE / HMMSE. Also, in the study, the elderly who were highly educated and of low age were more likely to obtain high HMMSE scores. So, Model II displayed the odds ratio adjusted for age and education. Elderly females and widow/widower were less likely to obtain high HMMSE scores in the study. The incidence of dementia was found lower in individuals who participated in more social, leisure, and work activities (Fabrigoule *et al.*, 1995). In the present study, the HMMSE score was associated with the frequency of close contacts with relatives living separately. The elderly having no close contacts with relatives as compared to those having at least one close contact were found less likely to get higher score in HMMSE. The above table also shows that almost 72% increase in the adjusted odds of getting higher scores in HMMSE amongst the elderly who used to spent time playing with their grandchildren either occasionally or regularly and this difference was found statistically significant. As we have mentioned that visiting religious places are not only for worship but also for releasing social stress. So, here it was found that the aged who used to go to religious places regularly were more likely to score high in HMMSE. However, no statistical difference of scoring high or low in HMMSE was observed amongst the elderly who never visit and visiting occasionally to the religious places. As far as concerned with psychiatric symptoms, the elderly who were generally feeling agitation and would like to live alone were found less likely to obtain high score in HMMSE.

## Conclusions

Using a community based data taken from different parts of a most populous northern state in India, it was attempted to search out some possible determinants about the performance status of the elderly in HMMSE. The strength of the study is that it is based on a large and diversified population sample of elderly people. Three categories of the possible predictors have been identified that may explain the variance of HMMSE results in a normal population. Most previous investigations in India included the socio-demographic variables such as age, sex and educational level to predict the HMMSE score among rural elderly people. Few other studies discussed environmental and behavioral factors as influencing variables but were never incorporated into a single observed model. To overcome this weakness, we have integrated these relevant predictors along with some other possible determinants from the above groups and also incorporated a number of self-reported psychiatric symptoms in this study. Some important results emerged from the analyses. This study also, as in many other studies, indicates that among different socio-economic and demographic variables, sex, age and education are statistically relevant predictors for the dementia test score. Our findings also reveal that the elderly who had no close social ties with the relatives or friends living separately were more likely to obtain less HMMSE scores and had an increased risk of developing dementia. Some of our results seem to be in the focus of interest. The elderly who enjoyed spending time or playing with their grandchildren regularly or even occasionally were more likely to obtain higher scores in HMMSE than those who did not participate in such activity. Also, interestingly in the study, visiting to religious places regularly has been found to be a significant predictor for obtaining higher score in the test. Among the different psychiatric symptoms, social withdrawal and feeling agitation were found to be significantly associated with test score. These might reflect the sign and symptoms in personality change that may indicate the need for evaluation for dementia. Furthermore, there is a need of clinical studies to assess depression and other neuropsychiatric symptoms on Mini mental state examination score as they have a significant bearing on the cognitive function.

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# Commodification of Health Service

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## ABSTRACT

*Commodity is a salable goods that can be bought from the market in exchange of a price. Health previously has never been included in that category. However with the introduction of open economy in the Indian sub-continent such lofty notions of public utility service in the arena of health sector has undergone radical change. Instead of the state, private health enterprises have occupied the centre-stage and as a result of which barring a small section of the affluent the elderly all over the country have become the worse sufferers. It is now the Medical Industrial Complex (MIC) that rules the health-care services. The present article is a small effort to explore such nexus between different stakeholders of the MIC and the state as a whole throwing in the winds the concept of public health and benovolent community services.*

**Key words : Commodity, Medical Industrial Complex (MIC), Elder Age-Care.**

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## INTRODUCTION

*[In classical political economy and especially Karl Marx's critique of political economy, a commodity is any good or service produced by human labour and offered as a product for general sale on the market (Marx & Angles, 1996). A service that is performed for the benefit of the public or its institution may be defined as a community service.]*

The above two definitions have adequately presented a difference between a commodity and a community service. In the present article the researchers intend to understand how do the health services in Indian context particularly in a Metropolis like Kolkata has manifested for the aged population.

"Health is a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity" (WHO, 1946). This classical definition still holds good for the entire population of a country and particularly for the aged. India achieved independence in 1947. However the health scenario is still dismal even after the country entered into the era of open economy. The redeeming feature is an enhancement of the average longevity where the elderly can now attain an age of 62yrs and more.

Population aging in the above context has attained a greater significance. India has now an elderly population of 80 million. Of these 72% reside in the rural areas and 28% dwell in the urban region. The upward movement in the elderly age strata has made the health services an important component of elder care. Prior to independence and till about the eighties these services were a domain of the government where hospitals, primary health centers and other auxiliary medical options were run by the government agencies. Health services thus were entirely under government control. But in the nineties this scenario changed with the intrusion of private medical agencies in the arena of health. As a result of which the entire situation particularly for the aged worsened but for the handful of affluent people. The privatization of health services thus became a marketable commodity like any other salable goods in the market.

This process of commodification of health has been described by the experts in the field as biomedicalization and a precursor of

medical industrial complex (MIC) (Estes 2004, Walker 2005).

According to National Sample Survey (NSS) aged women in India are roughly 64.5% of the entire elderly people. Commodification of the health services has hit hard these aged women most. Maintenance of health has now become a very difficult proposition. The main reason is of course poverty and secondly the dependency syndrome. Invariably these women do not get any priority in so far as their health is concerned. Barring the affluent section overwhelming aged women have to depend either on their sons or kins or on the spouses wherever they are not widows. In fact widowhood literally means enhanced vulnerability for these women.

### Population Aging in India

As has been mentioned above, population aging has made a number of impacts on the aged population. In India, since 1961 sharp decline in the over all death rate and mortality levels initiated a process of ageing. This has accelerated in 1971 when the fertility level also started to decline. Infact in the post independence era every decade has witnessed the enlargement of the elder population which according to the census of 2001 will be 113 million in 2016. The other notable feature is the ratio of men and women in the 60+ population. This is interesting to note as chronological age progresses, women outnumber men. The vulnerability of aged female is mentioned above also an off-shoot of population ageing. But another surprising feature is the enhanced life expectancy of the women in comparison to their men-folk. Health in this context has assumed a greater significance for the well being of the aged. Consequent upon which the many facades of the health include health status, health needs, health care and health expenditure.

### Post Independent Health services

At the time of independence India remained at the bottom wrung in comparison with any of the developing countries. Infact India had been equated in terms of health services with the poorest nations of Sub-Saharan Africa.

With regard to health status both falling mortality rate and fertility

rate have given rise to an aged elder population that now stands at roughly 9% of the total population. Till about the nineties the mortality pattern reflected certain terminal diseases like typhoid, tuberculosis, malaria, cancer etc. A stress was laid upon eradication and treatment of some such diseases. With the rising aged population all over the world a shift has been noticed in treating the chronic diseases, the worse sufferer being the elderly. This shift also occurred in India.

Some of the striking features now are being discussed to understand the post independence medical services available to the entire population. India now faces a huge gap in terms of availability of number of hospital beds per 1000 population. With the world average of 3.96 hospital beds per 1000 population India stands just a little over 0.7 hospital beds per 1000 population.

(<http://www.technopark.com/tkc/index.asp?01=5>)

Primary health centers are the corner stone of the rural health care system. By 1991 India had about 22,400 primary health center (PHC), 11,200 hospitals and 27,400 clinics. These facilities are part of a tiered health care system that funnels more difficult cases into urban hospitals while attempting to provide routine medical care to the vast majority in the country side. The main problems affecting the success of primary health centers are the predominance of clinical and curative concerns over the intended emphasis on preventive work and the reluctance of staff to work in rural areas.

### **Changes in Health Services**

Most important change in the post-independence health services is the intrusion of private investment. At a rough estimate, "The Government probably accounts for no more than 22-30% of total health spending. The share of the private sector has grown from 14% in 1976 to 67% in 1993. About 67% of all hospitals, 63% of dispensary and 78% of all doctors in India are in the private/corporate sector. This brings us to the concept of Bio-medicalization and Medical Industrial Complex, significant

components leading to the commodification of medical services in Indian sub continent, Bio- medicalization has developed in conjunction with the aging enterprise, this system that services the aging population by isolating elderly needs from those of other age groups and treating those needs as commodities. In this Bio-medical model ageing is treated as a pathological problem and entire Medical Industrial Complex has been built around this concept ignoring the social political and economic forces that also condition old age. The concept of Medical Industrial Complex (MIC) first came into being in 1971 in a book, in American Health Empire. The MIC refers to the health industry that includes multinational companies and doctors, hospital, nursing homes, insurance companies, drug manufacturers, hospitals supply and equipment companies, real estate and construction business, health systems consulting and accounting firms and banks. Infact the major thrust of this concept is business and health care as a system of profit making, research and education being secondary functions.

This privatization began in the Indian sub continent with liberalization of economy in the nineties. Both modernization and globalization have made this commercialization flourish at a rapid pace. For example while WHO recommends 140 essential drugs, as many as 4000 drugs are available in Indian market. Health insurance sector is another area that has become a major field of operation in getting high quality health care. Due to the high cost involved in private medical treatment most of the aged populations are unable to avail of these facilities. As a result of which a number of such insurance providers entered in to the Indian health care market since 75% of expenditure of health care in India is still being made by consumers from their 'Out-of-pocket' expenses.

(<http://www.technopark.com/tkc/index.asp?01=8>)

However in a rough estimate only 10% of Indian population today has health insurance coverage and are only confined among urban middle and upper class Indians. The share of the elderly population in this regard appears to be very insignificant.

## Literature Review

The concept of health as a commodity began with the adoption of liberalization policies in the nineties. It, infact means entry of the private capital in the health sector (Bali, 1995).

This is because of such late entry in the literature, the subject of the comodification of the health sector has not yet reached in its maturity. However on the other hand there is a plethora of literature in the countries like United States, Great Britain, and Canada etc. These countries have a large literature describing the effects of comodification in the health services.

The first book that highlighted in details, describing different aspects of health services and its ramifications as a commodity in different health sectors was published in United States (Tibbits, 1960). This book is still considered a basic text book on Social Gerontology. The two articles in this context: 'The health status of aging people' (Confrey and Goldstein, 1960) and the second one is 'Health programmes in aging population' (Rosen, 1961 ). These two are classical examples of how health has been gradually intruded by a range of political decisions that affected the group interest of bio-medicalization which was steadily going beyond the control of the state.

However the comodification of the health services from the late seventies attracted the attentions of the political economists belonging to the school of social gerontology. It was infact Carol Estes who began to write forcefully about the comodification of the American health care system where stress has been put on the roles of private enterprises taking away the responsibilities in this regard. It was she who showed the real beneficiaries in the health sector were Medical Industrial Complex consisting of the private management group, the bureaucracy, the professional medico technical, medical experts etc. Later on father of Critical Gerontology Harry. R. Moody (1988) took the cudgel and began to explore the subject truthfully analyzing the roles of states, commodity and society at large. He thereafter went into dissect

health care concepts that were adopted by the private sector, health care institutions, health care enterprises and various other vested interested groups.

In Great Britain it was Prof. Allan Walker of Sheffield University who shared the inter connectivity between state and the private capital. According to him onus of solving health problems were basically entrusted to the individual who was supposed to buy the needs from the market (Walker, 1995, 2005).

The bio-medicalization of aging was thoroughly described in the article in *The Gerontologist* (Estes. C & Binney, AE 1989).

Bio-medicalization has further been defined in an excellent article where the relationships between bio-medicalization and comodification have been shown expressively. (Clerk, et al. 2003. 163).

Dementia and Alzheimer's are two aspects of critical diseases that are suffered by aged all over the world. An excellent article in this regard is titled *Securing the Elderly body, Dementia, Surveillance and the politics of 'Aging in place'* (Kenner AM 2008)

<http://www.surveillance&society.org>

Surprisingly in Canadian Prof. Joseph Heath wrote an article 'Health care as a commodity' (date unknown) where he argued in favour of the comodification in health services. This was of course in the background of universal Medclaim policies available to all. Canadian citizens. In the same article he also mentioned what was known as Romanow report on the review of health care in Canada. The report was published in real bulletin and calendar, 2002, 31 :8. The gentleman argued in favour of Medicare as a moral enterprise and not as a business venture.

In Indian context contribution of Dr. Arun Bali (1995, 2004) is quite significant. He showed how the Indian State and government is

making rooms for the private capital to enter into the Indian aged health services. He also pointed out how informal care is losing its ground due to gender discrimination and time constraint on the part of the informal caregivers who are basically women. However health care in India has also been described in the article titled 'Health care in India': 1995 India <http://www.mohfw.nic.in>. The data collected in 1995 describe the different studies available in private health care centers, government hospitals, charitable trust managed by particularly government and also some small time private hospitals.

In our realm of affairs we also consulted the article titled: Health care in India that was published in wikipedia. The article shows the National Health Policy endorsed by the parliament of India in 1993 and updated in 2002. It also described in detail the health care infrastructure available in India and the Indian health care market that is ever flourishing. According to the investment commission of India the health care section has experienced the phenomenal growth of 12% per annum in last four years. (<http://cii.in/menucontent.thp?menuid=238>) This article also described the Central Government role that lacks specific measures to be adopted to activate broad stated goals. It also shows how health care spending as a share of total government spending decreased. Interestingly enough the private sectors spending on health care was about 1.5 times as much as government spending. It has also given in detail the health insurance availability to the average Indian citizen including elderly. The average Indian is unable to access high quality health care provided by the private sector as a result of high cost. (<http://bostonanalytics.com/indiawatch/20in20india20executive20summary.pdf>)

There are also periodicals books and journals and newspaper of health reports that show that India is catching up with the concept of health as commodity. Due to paucity of space we refrain from citing further and the omission if any is not intentional.

## AIMS & OBJECTIVES

With the advancement of age, health occupies the centre stage in the life of an aged person. But as has been described in the introductory part the health services in the Indian sub-continent appears to be quite inadequate. The situation did not improve even after India attained independence. The nature of this inadequacy is reflected in the numbers of hospitals, primary health care centers and other medical facilities throughout the country. The main objective of this paper is to understand how the aged are trying to cope up with such paucity of medical services in their daily lives. The second important aspect in the health services is the concept of "Care-for-Profit" which is a new addition in the privatization of medical services. The second objective in this regard is to understand the nature of commodification that has taken place once private capital has been allowed to enter the biomedical fields.

This paper finally tries to understand whether health services have lost the basic objective of community services and whether in the name of excellence and expertise, such services have taken recourse to private profit orientation giving an enormous leeway to the Medical Industrial Complex. (MIC)

## AREA SELECTION

The venue of this dissertation is ward no-107 of Kolkata Corporation. The area is located at the eastern fringe of the city bordering both Gariahat Rashbehari Connector and Eastern Metropolitan By-pass. It includes both high rise urban apartments, middleclass dwelling houses and a big slum. Thus the number of respondents were selected from heterogeneous population both belonging to the affluent and the poor. The co-residences of the multi storied apartment and canal side make-shift tenants have permitted the worker to have a glimpse of the medical predicaments of both the rich and under privileged aged population. The different socio-economic statuses have allowed the present workers to understand

the medical predicament of the aged population within a given location. The selection in this way is therefore a purposive one and respondents were selected according to the age group of 60-65 years, 66-70 years and 71 onwards. In the modern literature the groups are also known as 'go-go', 'slow-go' and 'no-go' (Palmore, 1999).

## METHOD

The method applied in this study is basically anthropological. First of all a schedule was prepared to collect the demographical data of hundred selected respondents evenly distributed among age and sex.

Thereafter a semi-structured questionnaire was constructed by virtue of which a subjective question answer session was conducted. Following which there were incisive interviews done to understand the mechanism and the modalities of the subject. The other tools such as chat session, discussion and recall visits were also taken out to understand how far the respondents understood the core meaning of the captioned subject.

Another important aspect of this discourse is visit to the hospitals both government and private. Due to paucity of time the present workers could only visit one government hospital that is SSKM and a private hospital like Peerless. The idea was to look at the comparative structure of expenditure, the quality of treatment, the behavioral pattern of the doctors, nurses, attendants and the satisfaction level of the aged patient undergoing treatment in these hospitals. The data analysis in this regard is appended in the section titled analysis.

## DATA ANALYSIS

We may now begin analysis of the data collected through intensive field work. There are as many as twenty two tables showing different contours of the aged population.

**Table- I** indicates age and sex distribution of the respondents. There are as many as 100 respondents of which 52 are males and 48 are females. The highest number inclusive of both male and female aged persons may be seen in the age group of 60-65 years. However the striking feature in this group is the predominance of aged women. It is quite common in the Indian tradition where with the upward progression of age females outnumber their male counterparts.

**Table-II** shows the marital status of the respondents. It reflects predominance of married person both male and female. In fact of the 52 males there is no widower or divorcee/separated person. Of the 48 females 38(79.2%) are married and 10(20.8%) are widows. This again is a phenomenal feature due to the fact that with the upward progression of age women become widow more in number than in comparison with the male widowers. For the males in this table it is expected that care giving for them by the spouses are more conspicuous than the aged females.

**Table-III** shows the educational status of the respondents. This table in general reflects a good education status among the respondents. Of the 52 males there are as many as 32(61.5%) graduates spread over all three age groups. Of the female respondents there are as many as 10(20.8%) postgraduates in the age group of 60-65 years. There are also 8(16.7%) women having primary education and 8(16.7%) others who have gone through higher secondary standard. As mentioned above the education status of the respondents gives birth to an expectation that they will be able to furnish exact data with regard to their illness and treatment cost.

**Table-IV** shows the present occupation status of the respondents. This table interalia is a reflection of current financial status as well as the earning capability of the respondents. Of the 100 respondents there are only 2(3.8%) aged male persons in the age group of 60-65 years who are still in the service, 6(11.5%) males in the age group of 66-70 years are doing business. Interestingly enough in the same age group there are two females also who are conducting business. But the more striking feature of this table is the predominance of the respondents in the category labeled as 'any other'. By the term 'any other' we mean elderly people getting pension, earning through monthly income scheme, rents and other financial supports that are rendered by their sons, daughters, grand children, next off kins etc. The highest number of females indicated in this category is in the age group of 60-65 years. This proliferation in fact indicates somewhat a dependent status normally found in the aged female. In comparison to this there are altogether 36(69.2%) male respondents in the age groups of 60-65 years and 66-70 years. These people are mostly pensioners and/or the recipients of post offices or bank interest or even rents. However the earning status of all these people will be discussed in detail in a later table.

**Table- V** reflects the monthly family expenditure patterns of the respondents. Combining all three age groups there are altogether 62(62%) respondents whose monthly family expenditure stands above Rs.5000. Followed by this there are 28(28%) respondents whose family expenditure stands between Rs.3000 and Rs.5000. There are only 10(10%) respondents who have family expenditure less than Rs.3000. Altogether therefore 62 respondents who hail from families that can spend a considerable sum as family expenditures. In other word it means that the respondents belonging to these families can have some financial support for their ailments and illness. These respondents therefore can spend more from out of pocket expenses and may even have the freedom of their medical requirements. This table is an important one to understand the rationale behind comodification of health services.

**Table- VI** reflects the financial/economic status of the respondents. Most of the males in all age groups are independent. Of these males highest incidence of independence is reflected in the group of 66-70 years. In fact combining all male age groups there are as many as 48(92.3%) respondents who claim to be independent. Corresponding to these in the female age group of 60-65 years there are 12(85.7%) respondents who are independent. In the same age group categories there are 24(80%) female respondents who are fully dependent. Most of the males in fact enjoy some kind of financial stability where as the females are to depend either on their spouses or sons, daughters even at times next off kins. By logic it may be assumed that the males are more assured of treatment in their ailment. In fact in the bio-medical parlance this is called an androcentric bias.

**Table- VII** shows financial independence is a prime importance for an aged person. It helps him or her to spend or sell according to their needs. Medical expenditure is one of such need that requires considerable financial freedom.

**Table VII** in this regard is an indication of income/earnings of individual aged person. Of the 52 male respondents combining all groups 18(34.6%) are pension holder, 14(27%) enjoy interest/rent and 12(23%) still earns from business. Strikingly enough none of these male respondents receive support from their next off kins. A noteworthy feature is the fact that there are as many as 48(92.3%) male respondents within the age group of 60 and above who enjoy financial independence. Compared to this the female dependency syndrome with regard to less income is quite high. There are as many as 30(62.5%) respondents out of a total of 48 aged females who are dependent on their off kins for financial support. There are of course 16(33.5%) respondents who receive pensions and there are only 4(8%) women who earn from business. It shows that some 42% of the female respondents have financial support and are supposed to be quite independent. Over all table VII shows the predominance of male independent financial status.

Another aspect of financial support is generally extended by husband, son, daughter, both married and unmarried, grandchildren and other assorted known neighbors, distant relatives etc. **Table-VIII** shows the kind of financial support extended by these people to the respondents both male and female. Of the 52 males' sons are the pre dominant financial supporters. This is followed by 12(23%) spouses (wives) and 8(15.5%) are the direct recipients of government/ corporate medical facilities. In case of female respondents there are 26(54.2%) aged females who are supported by their husbands and 20(41.7%) are supported by their sons. This is quite compatible with the previous table showing a pre dominant female dependency within the family structure. In other words 46 females (95.83%) are been looked after financially by their husbands and sons.

On the other hand of the males there are as many as 44 respondents (84.61 %) who get financial support either from their sons or spouses. This table also shows an ability to buy medical facilities with the financial support they get from their family members.

**Table-IX** is a reflection of the present health condition of the respondents. Of the 52 males there are as many as 34(65.3%) male respondents suffering from minor problems. On the other hand there are as many as 18 males (34.6%) are suffering from major problems and there are 14 aged females (29.16%) who are suffering from major illness. In fact these major problems for both male and female respondents are likely to cause financial dents in their family expenditure. For these people commodification of health services is a big obstacle for their treatment and recovery.

The overwhelming majority of the respondents in the **Table-X** go for allopathy treatment both for preventing and curative measures. Combining all three age groups 36 males (69.2%) and 32 females (66.6%) opt out for allopathy treatment. On other hand there are 32(32%) males and females go for homeopathy treatment. Looking back at the income and expenditure pattern tables (income &

expenditure tables) it is quite logical that the aged group go for allopathy treatment. The traditional treatment like ayurvedic, unani etc. are not being adhered to by the respondents.

**Table-XI** shows the type of medical institutions respondents visit for their medical treatment. Of the 52 male respondents only 16(30.8%) males combining all age group go to government hospitals and another 16(30.8%) go to private hospitals. But for general treatment outside the hospitals 20(38.4%) males visits their private doctors. Among the female respondents there are 20(41.6%) aged women who also go for private doctors. But there are 14(29.2%) female respondents who go for government hospitals and two go to private hospital. None of the males go to any charitable dispensary or trust and there are only 4(8.4%) females who go for such kind of charity.

**Table-XII** is an indicator of the respondent's pathological / radiological tests. The table is a typical reflection of doctor's choice. It means be it a doctor's clinic or a hospital or nursing home the radiological/pathological test are to be under taken at a laboratory advised by the concerned physician. Combining all age groups there are as many as 48(92.3%) males and 40(83.3%) females who cannot exercise their own choice for conducting such tests in a laboratory of their own choice. This is a kind of unwritten law that enforces the patients to undergo pathological / radiological tests as per the doctor's choice.

Health insurance policies are now indispensable for medical treatment of the elderly. However such policies are still not very popular because of high premiums along with certain bureaucratic rules governing these policies. **Table- XIII** shows the number of medical policy holders of both genders. Of the 100 respondents only 28(28%) male and female have such policies whereas as many as 72(72%) respondents do not have these medical policies. In other words high expensive medical treatments are beyond the reach of majority of the respondents.

**Table-XIV** is a complimentary table to table no XIII. It has been seen that as many as 40 male respondents and 32(44.4%) female respondents do not have any health insurance. Table XIV shows the medical expenditure borne by these respondents through expenditure support extended to them by their spouses, sons or even self. The other kinds of insurance policies are available to 4(10%) males and 2(6.2%) female respondents when the expenditure is borne by corporate /government /defence /railway etc. Of the 40 males in this table 18(45%) bear their medical expenses from their own resources. And 16(40%) some such males have this kind of support extended to them by their sons. On the other hand of the 32 females 16(50%) are supported by their spouses and 14(43.8%) are supported by sons. Therefore it may be assumed that these elderly respondents both male & female can fall back upon their sons, spouses etc. for medical treatment.

**Table- XV** is an important one where a pen picture of the health care facilities in government hospitals are described. Combining all three age groups there are 38(73%) of males who have expressed such absence of care and facilities due to adverse hospital management. By faulty hospital management they meant faulty delivery systems, absence of doctors, rude behaviors of the hospital employees, defective radiological instruments, too much of crowd and too little attention. Surprisingly of the 48 females as many as 24(50%) respondents have opined that the motivation of the government hospital is some what money making. All these 24 respondents belonging to the age group of 60-65 years expressed a common grouse against a kind of unofficial brokerage they had to pay to get a foothold in the hospital services. For example to get an outdoor treatment and a ticket for that they had to pay an amount of brokerage though not recorded officially. But inspite of these lacunae most of the respondents still prefer to visit a government hospital instead of the high cost private hospitals and nursing homes.

**Table- XVI & XVII** reflect the health care services available both in government & private hospitals. The male respondents in this regard have overall termed it as moderate for the various services they availed of in these government hospitals. However 40(77%) of the male respondents described the government hospital food to be abominal.

On the other hand these services in private hospitals according to 52 males are by and large satisfactory. To these male respondents the health care services in private hospitals are much better, rewarding and assuming. The preferences to private hospitals for these respondents are unmistakable.

**Table- XVIII** shows the health care services available to male respondents in other medical institution such as, homeopathy, ayurvedic, charitable hospitals etc. Here again the overall services has been termed as mediocre and the low incidents of failure has been expressed only in terms of overall care. At times of necessity many of the respondents visit to these institutions clubbed as 'any other'.

The next three tables that are **XIX, XX and XXI** show the nature of health care services meted out to the aged female respondents. Like their male counterparts most of the female respondents have termed the health care services in government hospital to be moderate. Almost 50% of the respondents had declared food to be quite bad, cleanliness downgrading and treatment facilities rather worse. In terms of overall care at least 8(16.7%) respondents declare the services to be very poor.

The picture is quite otherwise with regard to health services available in the private hospitals. All the female respondents are quite happy at the overall care and cleanliness. Followed by these 42(87.5%) respondents expressed happiness over the quality of food available to them and another 40(83.3%) respondents were quite satisfied with medicine administration. However in terms of doctors behavior, treatment and nursing, number of respondents felt there could be over all improvement in all these spheres.



**Table XXI** reflects the health care services available to female respondents in the institutions other than government & private hospitals. These other institutions include homeopathic, ayurvedic, charitable hospitals and trust etc. In comparison to the males, females have mixed reaction towards the other institutions. As many as 40(83.3%) respondents declared doctor's behavior to be good. In terms of cleanliness, another 36(75%) have expressed satisfaction; even quality of food to 30(62.5%) respondents appear to be better than the government hospitals. Another 34(70.8%) declared their satisfaction in terms of overall care. But with regard to treatment, nursing & medicare administration, majority of respondents are not happy.

## ANALYTICAL DISCUSSION

The present work is an attempt to understand the plight of the aged in terms of health care services available to them in a crowded metropolis like Kolkata. The title of this paper is a pointer towards understanding the nature of the health care services, the cost push expenditure patterns and the load of expenditure consciously or unconsciously borne by our respondents of which 52 are males and 48 are females selected purposively from the three age groups namely 60-65 years, 66-70 years and 71 years above. The demographic tables have shown in details three age groups, the gender distribution, marital status and educational qualifications. The data reveal a plethora of quite educated persons. The occupation status of these respondents shows most of them are getting either pension or monthly income from savings, rents etc. Thus table VII shows the source of income of the respondents and most of the males do have a source of income independently. The picture is different in terms of female respondents of whom 28 are supported either by their spouses or their sons, even next off kins. Females in this context somewhat have disadvantageous position. This is also reflected in table VIII where males are predominately supported either by their sons or spouses whereas for females this trend is reversed because they are supported mostly by their

spouses followed by sons. Thus both the demographic tables and financial tables show that all the respondents are capable of spending money for their personal upkeep and day to day expenses. But even then with regard to medical expenses there are as many as 22 males and 16 females who have mediclaim insurance and are assured of some kind of medical independence in so far as expenditure in this regard is concerned (See table XIII). But there are as many as 72 respondents (40 males and 32 females) who have fallen back on others for medical expenditures. Thus there are 40 males that depend either on themselves or the spouse or the son. Of the 32 such females not having medical insurances have to fall back heavily on their spouses or sons. Thus the medical expenditure followed by good services is not available to them easily. We have discussed threadbare the back ground of our respondents to understand how bio-medicalization and Medical Industrial Complex (MIC) are affecting their health status. This has a direct relationship where commodification of health care services has become a prime issue in terms of the senior citizens in Kolkata Metropolis.

The concept of bio-medicalization and intrusion of Medical Industrial Complex has become a central issue of research in the developed country. (Grossman, 2004).

In course of the present study it has been observed that 40% of the male respondents and 30% of the female respondents are inter-alia unable to bear their medical expenses themselves. During the course of interviews most of the households have expressed dissatisfaction against government hospitals where the services have been found to be quite appalling. On the other hand the some affluent respondents have no serious grudge against the non government hospitals where they have to pay through their noses to get good health care services from these private institutions.

The package deals that have been appended in this discourse show clearly a high divide between private hospitals and government hospitals. All 100 of our respondents irrespective of gender have

visited these hospitals number of times in the last five years. All respondents agree that the services available in the government hospitals are quite insignificant in comparison with the health care services available in the private hospitals, nursing home etc. But they also agree that the high prices charged by the latter are somewhat impossible for them to meet. Package deals for bypass surgery, angioplasty, kidney transplantation, dialysis or even treatment of a terminal disease like carcinoma is impossible to bear unless they borrow or keep houses pawned or beg and beseech from their next off kins, neighbors and even unknown persons for any kind of benovolent financial asistance.

## CONCLUSION

The commodification of the medical services has thus become a reality and the so-called community services in the health sector has become distinctly a myth of the past. The social gerontologist of the present era belonging to the school of critical gerontology like Carol Estes, Harry Moody, Chris Philipson, Jan Baares, Shelia Piece and Allan Walker have been writing vigorously about this comodification of the health care services. To this school we may also add the name of Arun Bali the Indian social Gerontologist who is also aware of this commodification and is urging the Indian Government for certain rectification. The apathy shown in this regard is a matter of policy that requires a fresh look. The state appeared to be more keen in allowing the private capital to enter into the Medical Industrial Complex. The opinion of our elderly in this study clearly establishes the commodification of health services which are only available to the elite and affluent of the present society. Even the statement known as National Policy on Older Persons (NPOP) has not recognized this anomaly and till date no rectification campaign has been undertaken either by the state or the central government. Health care services thus for the elderly at an affordable price are yet to take any concrete shape and have remained an illusory dream on paper.

## APPENDIX

Table I: Socio-demographic profile of the respondents :

Age Group	Gender				Total	
	Male		female			
60-65yrs	12	(23.0)	36	(75.0)	48	(48.0)
66-70yrs	24	(46.2)	8	(16.7)	32	(32.0)
71&above	16	(30.8)	4	(8.3)	20	(20.0)
<b>Total</b>	52	(52.0)	48	(48.0)	100	(100.0)

Table II: Marital status of the respondents :

Gender and Age Group	Marital status		Total		
	Married	Widow / Widower			
<b>Male</b>					
60-65yrs	12	(23.0)	-	12 (23.0)	
66-70yrs	24	(46.2)	-	24 (46.2)	
71&above	16	(30.8)	-	16 (30.8)	
Sub-total	52	(100.0)	-	52 (100.0)	
<b>Female</b>					
60-65yrs	34	(89.5)	2	(20.0)	36 (75.0)
66-70yrs	4	(10.5)	4	(40.0)	8 (16.67)
71&above	-	-	4	(40.0)	4 (8.33)
Sub-total	38	(79.2)	10	(20.8)	48 (100.0)

Table III: Educational qualification of the respondents :

Gender and Age Group	Education								Total		
	1	2	3	4	5	6	7	8			
<b>Male</b>											
60-65yrs	-	-	-	-	-	-	12	(37.5)	-	12 (23.0)	
66-70yrs	-	-	2	(33.3)	4	(100)	2	(100)	4	(66.7)	24 (46.2)
71&above	-	-	4	(66.7)	-	-	-	-	10	(31.25)	16 (30.8)
Sub-total	-	-	6	(11.6)	4	(7.7)	2	(3.85)	32	(61.5)	52 (100.0)
<b>Female</b>											
60-65yrs	2	(100)	4	(50.0)	-	-	6	(75.0)	10	(100)	36 (75.0)
66-70yrs	-	-	2	(25.0)	-	-	4	(100)	-	-	6 (16.67)
71&above	-	-	2	(25.0)	-	-	-	-	2	(33.3)	4 (8.33)
Sub-total	2	(4.2)	4	(8.33)	8	(16.7)	4	(8.33)	8	(16.7)	48 (100)

Note : 1. Can sign only  
5. Secondary  
2. Lower Primary  
6. H.S.  
3. Primary  
7. Graduate  
4. Upper Primary  
8. Above Graduate

Table IV: Occupation of the respondents:

Gender and Age Group	Occupation				Total
	Service	Business	Wage earner	Any other	
Male	2 (100)	-	-	10 (25.0)	12 (23.0)
60-65yrs					
66-70yrs	-	6 (100)	2 (50.0)	16 (40.0)	24 (46.2)
71 & above	-	-	2 (50.0)	14 (35.0)	16 (30.8)
Sub-total	2 (3.8)	6 (11.5)	4 (7.7)	40 (77.0)	52 (100)
Female	-	-	-	36 (78.3)	36 (75.0)
60-65yrs					
66-70yrs	-	2 (100)	-	6 (13.0)	8 (16.7)
71 & above	-	-	-	4 (8.7)	4 (8.3)
Sub-total	-	2 (4.2)	-	46 (95.8)	48 (100)

N. B. : Any other covers pensioners, MIS holders, rent receipts etc.

Table VI: Financial / economic status of the respondents :

Gender and Age Group	Independent	Dependent		Total
		Partial	Full	
Male	12 (25.0)	-	-	12 (23.0)
60-65yrs				
66-70yrs	22 (45.8)	2 (50.0)	-	24 (46.2)
71 & above	14 (29.2)	2 (50.0)	-	16 (30.8)
Sub-total	48 (92.3)	4 (7.7)	-	52 (100)
Female	12 (85.7)	-	24 (80.0)	36 (75.0)
60-65yrs				
66-70yrs	2 (14.3)	2 (50.0)	4 (13.4)	8 (16.7)
71 & above	-	2 (50.0)	2 (6.6)	4 (8.3)
Sub-total	14 (29.2)	4 (8.3)	30 (62.5)	48 (100)

Table V: Monthly family expenditure of the respondents :

Age Group	Rs.2001 - 3000	Rs.3000 - 5000	Rs.5000 & above	Total
60-65yrs	4 (40.0)	14 (50.0)	30 (48.4)	48 (48)
66-70yrs	4 (40.0)	8 (28.6)	20 (32.2)	32 (32)
71 & above	2 (20.0)	6 (21.4)	12 (19.4)	20 (20)
Total	10 (10.0)	28 (28.0)	62 (62.0)	100 (100)

Table VII: Present source of income of the respondents :

Gender and Age Group	Service	Business	Wage earner	Pension	Interest/ Rent	Support from next of kin	Total
<b>Male</b>							
60-65yrs	4 (100)	2 (16.6)	-	4 (22.2)	2 (14.2)	-	12 (23.0)
66-70yrs		8 (66.8)	2 (50.0)	8 (44.4)	6 (42.9)	-	24 (46.2)
71 & above		2 (16.6)	2 (50.0)	6 (33.4)	6 (42.9)	-	16 (30.8)
<b>Sub-total</b>	<b>4 (7.7)</b>	<b>12 (23.0)</b>	<b>4 (7.7)</b>	<b>18 (34.6)</b>	<b>14 (27.0)</b>	<b>-</b>	<b>52 (100)</b>
<b>Female</b>							
60-65yrs		2 (50.0)	-	10 (62.5)	-	24 (85.8)	36 (75.0)
66-70yrs		2 (50.0)	-	4 (25.0)	-	2 (7.1)	8 (16.7)
71 & above		-	-	2 (12.5)	-	2 (7.1)	4 (8.3)
<b>Sub-total</b>	<b>4 (8.0)</b>	<b>4 (8.0)</b>	<b>-</b>	<b>16 (33.5)</b>	<b>-</b>	<b>28 (58.5)</b>	<b>48 (100)</b>

Table VIII: Looks after financial requirements of the respondents:

Gender and Age Group	Spouse	Sex	Any other	Total
<b>Male</b>				
60-65yrs	2 (16.7)	6 (18.7)	4 (50.0)	12 (23.0)
66-70yrs	8 (66.6)	16 (50.0)	-	24 (46.2)
71 & above	2 (16.7)	10 (31.3)	4 (50.0)	16 (30.8)
<b>Sub-total</b>	<b>12 (23.0)</b>	<b>32 (61.5)</b>	<b>8 (15.5)</b>	<b>52 (100)</b>
<b>Female</b>				
60-65yrs	24 (92.3)	10 (50.0)	2 (100)	36 (75.0)
66-70yrs	2 (7.7)	6 (30.0)	-	8 (16.7)
71 & above	-	4 (20.0)	-	4 (8.3)
<b>Sub-total</b>	<b>26 (54.2)</b>	<b>20 (41.7)</b>	<b>2 (4.1)</b>	<b>48 (100)</b>

Table IX: Present health condition of the respondents:

Gender and Age Group	On whole good	Minor problem	Major problem	Total
<b>Male</b>				
60-65yrs	-	8 (23.5)	4 (22.0)	12 (23.0)
66-70yrs	-	16 (47.0)	8 (45.0)	24 (46.2)
71 & above	-	10 (29.5)	6 (33.0)	16 (30.8)
<b>Sub-total</b>	<b>-</b>	<b>34 (65.5)</b>	<b>18 (34.5)</b>	<b>52 (100)</b>
<b>Female</b>				
60-65yrs	2 (100)	22 (68.8)	12 (85.7)	36 (75.0)
66-70yrs	-	8 (25.0)	-	8 (16.7)
71 & above		2 (6.2)	2 (14.3)	4 (8.3)
<b>Sub-total</b>	<b>2 (4.1)</b>	<b>32 (66.7)</b>	<b>14 (29.2)</b>	<b>48 (100)</b>

Table X: Respondents generally opt for the treatments:

Gender and Age Group	Allopath		Homeopath		Total	
<b>Male</b>	6	(16.7)	6	(37.5)	12	((23.0)
60-65yrs						
66-70yrs	20	(55.5)	4	(25.0)	24	(46.2)
71 & above	10	(27.8)	6	(37.5)	16	(30.8)
<b>Sub-total</b>	36	(69.2)	16	(30.8)	52	(100)
<b>Female</b>	24	(75.0)	12	(75.0)	36	(75.0)
60-65yrs						
66-70yrs	6	(18.8)	2	(12.5)	8	(16.7)
71 & above	2	(6.2)	2	(12.5)	4	(8.3)
<b>Sub-total</b>	32	(66.7)	16	(33.3)	48	(100)

Table XII : Respondents go for pathological tests :

Gender and Age Group	Self choice		Doctor's choice		Any other		Total	
<b>Male</b>			12	(25.0)			12	((23.0)
60-65yrs								
66-70yrs			22	(45.8)	2	(50.0)	24	(46.2)
71 & above			14	(29.2)	2	(50.0)	16	(30.8)
<b>Sub-total</b>			48	(92.3)	4	(7.7)	52	(100)
<b>Female</b>	2	(100)	30	(75.0)	4	(66.7)	36	(75.0)
60-65yrs								
66-70yrs			8	(20.0)			8	(16.7)
71 & above			2	(5.0)	2	(33.3)	4	(8.3)
<b>Sub-total</b>	2	(4.2)	40	(83.3)	6	(12.5)	48	(100)

Table XI : Respondents generally go for the treatments :

Gender and Age Group	Govt. Hospital		Private Hospital		Private Doctors		Charitable dispensary		Total	
<b>Male</b>	4	(25.0)	2	(12.5)	6	(30.0)	-		12	((23.0)
60-65yrs										
66-70yrs	8	(50.0)	6	(37.5)	10	(50.0)	-		24	(46.2)
71 & above	4	(25.0)	8	(50.0)	4	(20.0)	-		16	(30.8)
<b>Sub-total</b>	16	(30.8)	16	(30.8)	20	(38.4)	-		52	(100)
<b>Female</b>	10	(71.4)	8	(80.0)	18	(90.0)	-		36	(75.0)
60-65yrs										
66-70yrs	2	(14.3)	2	(20.0)	2	(10.0)	2	(50.0)	8	(16.7)
71 & above	2	(14.3)	-		-		2	(50.0)	4	(8.3)
<b>Sub-total</b>	14	(29.2)	10	(20.8)	20	(41.6)	4	(8.4)	48	(100)

Table XIII : Medical / health Insurance policy of the respondents :

Gender	Yes		No		Total	
<b>Male</b>	12	(42.9)	40	(55.6)	52	(52.0)
<b>Female</b>	16	(57.1)	32	(44.4)	48	(48.0)
<b>Total</b>	28	(28.0)	72	(72.0)	100	(100)

Table XIV : Respondent's medical expenses bears, those who have no medical insurance policy :

Gender and Age Group	Self	Spouse	Son	Any other	Total
<b>Male</b>					
60-65yrs	4 (22.2)	2 (100)	2 (12.5)	2 (50.0)	10 (25.0)
66-70yrs	10 (55.6)		8 (50.0)	2 (50.0)	20 (50.0)
71 & above	4 (22.2)		6 (37.5)		10 (25.0)
Sub-total	18 (45.0)	2 (5.0)	16 (40.0)	4 (10.0)	40 (100)
<b>Female</b>					
60-65yrs	-	16 (100)	8 (57.1)	2 (100)	26 (81.3)
66-70yrs	-	-	4 (28.6)		4 (12.5)
71 & above	-	-	2 (14.3)		2 (6.2)
Sub-total	-	16 (50.0)	14 (43.8)	2 (6.2)	32 (100)

Table XV : Present health care facilities in Govt. hospital

Gender and Age Group	On whole good	Absence of Accredited doctors	Absence of dedicated nurses	Fit in hospital management	Mainly money making	Improper facilities for the poor	Total
<b>Males</b>							
60-65yrs	-	-	-	12 (31.6)	-	12 (23.0)	12 (23.0)
66-70yrs	2 (50.0)	2 (100)	2 (100)	14 (36.8)		4 (66.7)	24 (46.2)
71 & above	2 (50.0)	-	-	12 (31.6)		2 (33.3)	16 (30.8)
Sub-total	4 (7.8)	2 (3.8)	2 (3.8)	38 (73.0)		6 (11.6)	52 (100)
<b>Females</b>							
60-65yrs	6 (75.0)	-	2 (50.0)	-	24 (100)	4 (100)	36 (75.0)
66-70yrs	-	-	2 (50.0)	6 (75.0)		-	8 (16.7)
71 & above	2 (25.0)	-	-	2 (25.0)		-	4 (8.3)
Sub-total	8 (16.7)	-	4 (8.3)	8 (16.7)	24 (50.0)	4 (8.3)	48 (100)

**Table XVI : Opinion of aged males about health care services : Government Hospital**

Health care facilities	Nature of opinion			
	Good	Moderate	Bad	Very bad
Treatment (n=52)	2 (3.8)	48 (92.4)	2 (3.8)	-
Nursing (n=52)	2 (3.8)	40 (77.0)	10 (19.2)	-
Medicine administrator (n=52)	-	48 (92.4)	4 (7.6)	-
Over all care (n=52)	-	34 (65.4)	18 (34.6)	-
Quality of food (n=52)	2 (3.8)	4 (7.6)	40 (77.0)	6 (11.6)
Cleaning (n=52)	2 (3.8)	2 (3.8)	14 (26.9)	34 (65.5)
Doctors Behavior (n=52)	10 (19.2)	40 (77.0)	2 (3.8)	-

**Table XVIII : Opinion of aged males about health care services : Others**

Health care facilities	Nature of opinion			
	Good	Moderate	Bad	Very bad
Treatment (n=52)	12 (23.0)	40 (77.0)	-	-
Nursing (n=52)	4 (7.7)	48 (92.3)	-	-
Medicine administrator (n=52)	10 (19.2)	42 (80.8)	-	-
Over all care (n=52)	22 (42.3)	30 (57.7)	-	-
Quality of food (n=52)	12 (23.0)	40 (77.0)	-	-
Cleaning (n=52)	8 (15.4)	44 (84.6)	-	-
Doctors Behavior (n=52)	20 (38.4)	32 (61.6)	-	-

**Table XVII : Opinion of aged males about health care services: Private hospital**

Health care facilities	Nature of opinion			
	Good	Moderate	Bad	Very bad
Treatment (n=52)	40 (77.0)	12 (23.0)	-	-
Nursing (n=52)	44 (84.6)	8 (15.4)	-	-
Medicine administrator (n=52)	42 (80.8)	10 (19.2)	-	-
Over all care (n=52)	48 (92.3)	4 (7.7)	-	-
Quality of food (n=52)	52 (100)	-	-	-
Cleaning (n=52)	50 (96.2)	2 (3.8)	-	-
Doctors Behavior (n=52)	48 (92.3)	4 (7.7)	-	-

**Table XIX : Opinion of aged female about health care services : Government Hospital**

Health care facilities	Nature of opinion			
	Good	Moderate	Bad	Very bad
Treatment (n=48)	10 (20.8)	20 (41.7)	18 (37.5)	-
Nursing (n=48)	6 (12.5)	30 (62.5)	12 (25.0)	-
Medicine administrator (n=48)	10 (20.8)	26 (54.2)	10 (20.8)	2 (4.2)
Over all care (n=48)	10 (20.8)	20 (41.7)	10 (20.8)	8 (16.7)
Quality of food (n=48)	4 (8.3)	18 (37.5)	20 (41.7)	6 (12.5)
Cleaning (n=48)	4 (8.3)	20 (41.7)	24 (50.0)	-
Doctors Behavior (n=48)	10 (20.8)	22 (45.8)	16 (33.4)	-



**Table XX : Opinion of aged females about health care services :  
Private Hospital**

Health care facilities	Nature of opinion			
	Good	Moderate	Bad	Very bad
Treatment (n=48)	34 (70.8)	14 (29.2)	-	-
Nursing (n=48)	30 (62.5)	18 (37.5)	-	-
Medicine administrator (n=48)	40 (83.3)	8 (16.7)	-	-
Over all care (n=48)	48 (100.0)	-	-	-
Quality of food (n=48)	42 (87.5)	6 (12.5)	-	-
Cleaning (n=48)	48 (100.0)	-	-	-
Doctors Behaviour (n=48)	26 (54.2)	22 (45.8)	-	-

**Table XXI : Opinion of aged females about health care services :  
Others**

Health care facilities	Nature of opinion			
	Good	Moderate	Bad	Very bad
Treatment (n=48)	18 (37.5)	30 (62.5)	-	-
Nursing (n=48)	20 (41.7)	28 (58.3)	-	-
Medicine administrator (n=48)	24 (50.0)	24 (50.0)	-	-
Over all care (n=48)	34 (70.8)	14 (29.2)	-	-
Quality of food (n=48)	30 (62.5)	18 (37.5)	-	-
Cleaning (n=48)	36 (75.0)	12 (25.0)	-	-
Doctors Behavior (n=48)	40 (83.3)	8 (16.7)	-	-

### RATE CHART OF GOVT & PVT. HOSPITALS

#### Government Hospitals

Sl. No.	Name of the Diseases	Approx. Rate (in Rs.)
1.	Coronary Angiography	2000
2.	Coronary Angioplasty	10000
3.	Peripheral Angiography	3000
4.	Peripheral Angioplasty	6000
5.	Open Heart Surgery(CABG)	30000
6.	Extended Open Heart Surgery	40000
7.	Closed Heart Surgery	7000
8.	Lap Choley	6000
9.	Lap (Appendix)	5000
10.	Lap PG	8000
11.	IOL PHACO	2000
12.	IOL PHACO(PP)	1200

#### Private Hospitals:-

Sl. No.	Name of the Diseases	Approx. Package Rate (in Rs.)		
		Day	Suit	Normal
1.	Coronary Angiography	1	25000	10500
13.	Coronary Angioplasty	3	80000	42000
14.	Peripheral Angioplasty	1	25000	9000
15.	Peripheral Angiography	3	40000	20200
16.	Open Heart Surgery(CABG)	12	195000	12000
17.	Extended Open Heart Surgery	12	230000	14000
18.	Closed Heart Surgery	8	75000	30000
19.	Lap Choley	3	40000	18000
20.	Lap (Appendix)	3	40000	18000
21.	Lap PG	2	50000	24000
22.	IOL PHACO	1	22000	9000
23.	IOL PHACO(PP)	1	12500	4500

N. B. : Rates are as on Nov. 2008

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