

Do Social Characteristics Affect to Aspects of Utilization of Health Care Services? A Case Study of Olders

Abstract

In India the caste system, with its social foliations created social barriers still have effect over various aspects of utilization of health care services, be it source of health treatment, health expenditure etc. In the social ladder of the society, the given caste bounded unparallels still in practice in the social and economic access to health healing consumptions. Parallely, it is also assumed that education can play a vital role in establishing the access to health services across the social strata of the society and has the potentiality to minimise the effects of caste background on the health enjoyment. 386 unit level sample based this study explores the effects of various social and educational background characteristics over the selection of source of treatment and amount of expenditure of olders¹ for their health care services.

Keywords: Caste, Educational Attainment, Out Of Pocket Expenditure, Bolpur-Sriniketan Community Development Block.

Introduction

India is the second most populous country in the world and continuous increase in the mammoth size of population, the health care needs are also continuously increasing. Indian health care system is mostly curative in nature, so, like most of the developing countries of the world, the health care needs of the individuals are financed by themselves only. It also stands fairly true because there is a co-existence of government and privately owned health care services where quality of the government health care sector is not satisfactory and insurance for the health care services is almost non-existence unlike developed countries. So, out of pocket expenditure² (OPE) is a major concern not only in India but also in most of the countries of the world.

The existing social system of the caste is a bitter insinuatory reality of the individuals. In the social ladder of the country the given caste bounded unparallels still in practice in the social and economic access to health healing consumptions which in turn lead to the differentials in the health care uses. Census of India classifies population into four major social groups vide, General, Other Backward Classes, Scheduled Classes and Scheduled Tribes. The same classification is used for this study also. It is the education which makes people aware about their choices, preferences and rights. It is also argued that education helps in the minimising the effects of the caste system in the society. So, the caste background and educational attainment of the aged are used for this analysis.

Justification and Objectives of the study

In the country increasing levels of economic and social development pushed life expectancy upwardly and parallely birth and death rates have gone down significantly. These momentums have created the bigger share of the older age cohorts. Moreover age structure is changing and the share of older population is continuously increasing like never before in the history of demography in the country. This has led to a larger magnitude and volume of elderly population and country is home of more than 100 million elderly (Census of India, 2011). And the same share will expand very rapidly in near future. Due to economic and social changes, rapid urbanization and migration, increasing western culture and individualism etc. the Indian family system is moving away from joint family to individual family system. The individual and nuclear family pattern have led to a widespread concern about the living conditions of aged population (Visaria, 2001). Olders are economically dependent, physically frail,



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physiologically prone to morbidity, socially secluded, restricted in functional movement etc. Thus, it is a vulnerable section of the society. So, in the grey ages senior citizens require health services more promptly. Thus it becomes imperative to go through the utilization aspects of health care services of the aged.

This paper tries to analyze the effects of background of caste and education of olders on the selection of source of the health care services and amount of expenditure incurred towards the treatment process. In this analysis, the incurred amount is termed as OPE.

Methodological steps

In order to represent a large volume of primary data various statistical tools are used for the precise visualization of the results of the unit level data. In order to measure the association between various variables of health utilization aspects, the correlation technique and students' 't' test are used. Pearson's product-movement correlation coefficient is calculated by the following formula:

$$r = \frac{\sum XY - \frac{\sum X \sum Y}{N}}{\sqrt{(\sum X^2 - \frac{(\sum X)^2}{N})(\sum Y^2 - \frac{(\sum Y)^2}{N})}}$$

Significance test of the calculated correlation is carried out by the student's t-test with (n-2) degree of freedom:

Table: 1 Comparison of a few developmental indicators between India and West Bengal

Indicators	West Bengal	India	Indicators	West Bengal	India
Population growth (%) ¹	13.84	17.7	Longevity (years) ³	70.2	67.9
Literacy (%) ²	76.26	74.04	Per capita income(Rs.) ⁴	70059	74380
Sex ratio (females per 000 males) ²	950	943	Poverty rate (%)	29.7	29.5

Source: Reserve Bank of India, 2016-17, Ministry of Health & Family Welfare (2018), Census of India. (2011), Planning Commission (2014),

Notes: ¹ of 2001-2011, ² of 2011, ³ of 2010-2014, ⁴ per capita Net States Domestic Product (NSDP) at factor cost 2013-14 (current price with base year 2004-05).

The study area of BSCDB is one of the most backward regions of the state. There is a larger concentration of SCs, OBCs, Muslim population etc. and their economic condition is also not satisfactory. Moreover the study area is characterized by economically poor, larger rural characteristics of population, wider agricultural base, inadequate urbanization and industrialization etc. A sizeable percentage of workforce is engaged in the unorganized sector of the economy where they lack regular income and social security. Prevailing poverty among the masses of the population is also another concern. So, there is need of a study, which can provide the in-depth view of health utilization aspects of elderly. This sort of micro level study will give

$$r \sqrt{\frac{n-2}{1-r^2}}$$

If any computed value of 't' is less than corresponding tabulated value then correlation coefficient is said to be insignificant and correlation coefficient is said to be significant if reverse stands true. The location map of study area is prepared by Q-GIS software.

Rationale of the selection of Study Area

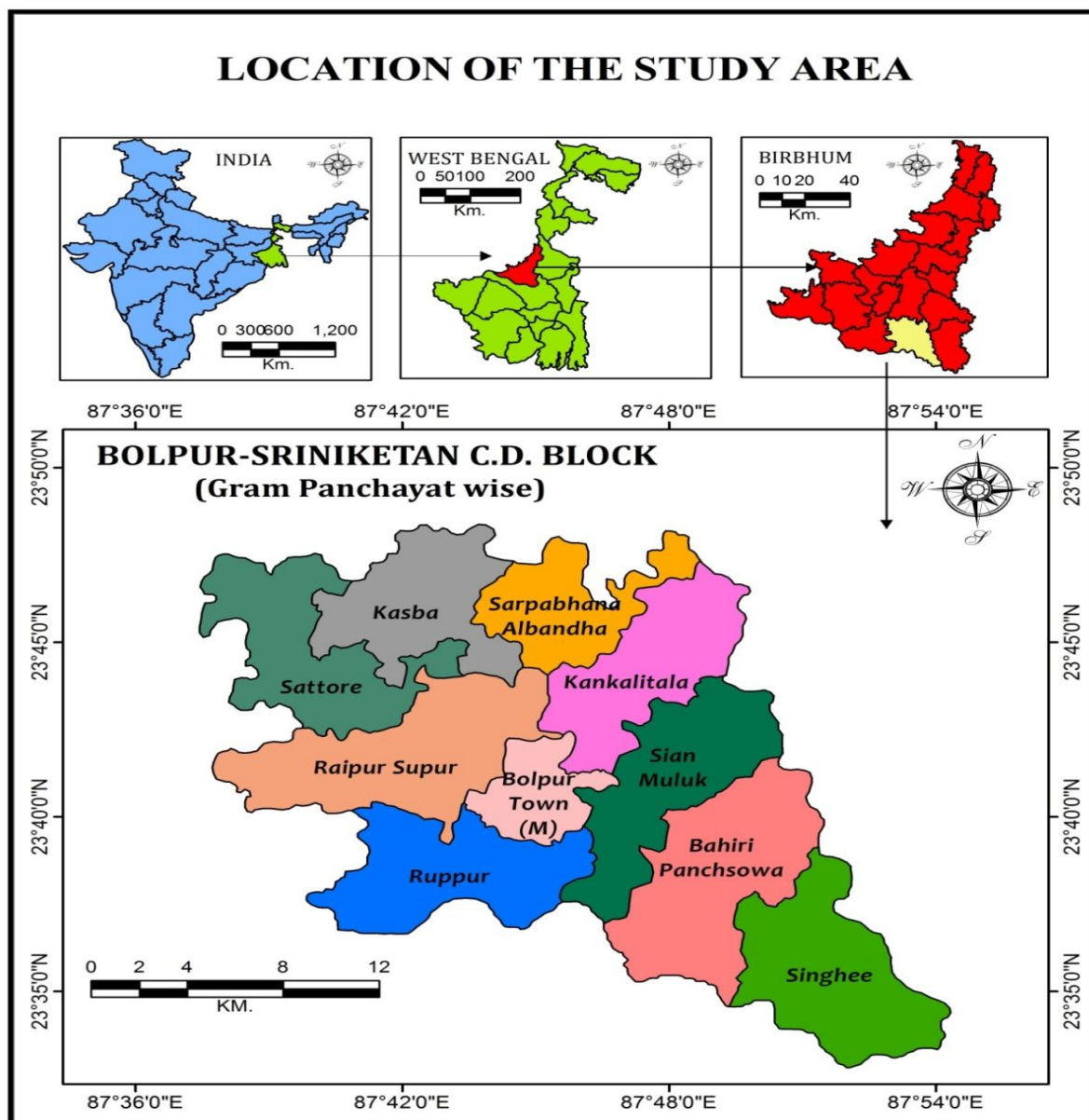
Bolpur-Sriniketan Community Development Block (BSCDB) in West Bengal is selected for this study. The rapid increase in the share of older population in total population pushes the state towards the ageing and final stage of demographic transition. Remarkable achievements have been observed during previous two census decades. Quantum jump has also been observed in indicators like sex ratio, fertility, mortality etc. (Census of India (2011), Government of West Bengal (2015-2016), Niti Aayog (2014), Press Information Bureau (2017), Registrar General of India (2016). Though the state is lagging behind than the national average in the economic indicators but the state had progressed fairly well in the socio-demographic indicators (table 1).

insights and scope for improving the life of older population.

Location of Study Area

The study area is located in Birbhum district of West Bengal. It is surrounded by Nanor Community Development block (East), Labhpur CD block (North East), Sainthia CD block (North), Illambazar CD block (West) and Bardhaman district in the south. The study area includes Bolpur municipality town (including Surul) and rural areas of nine *Gram Panchayats*, namely Bahiri, Kankalitala, Kasba, Raipur Supur, Ruppur, Sarpabhana, Sattore, Sian Muluk and Singhee. Map 1 shows location of the BSCDB.

Map: 1



Source: Prepared by investigator with the base map given in Census of India. (2011). *District census handbook: Birbhum. Village and town wise primary census abstract.*

Table: 2 Demographic indicators of Bolpur-Sriniketan C. D. Block

Items	Persons/Area/percentage etc.
Total Population (2011)	282763
Sex ratio (2011)	975
Area (sq. Km)	347.72
Population Growth (2001-2011) (%)	17.24
Density (person/sq.km) (2011)	813
Total Literacy (%) (2011)	67.35
Male literacy (%) (2011)	72.63
Female Literacy (%) (2011)	61.92
Percentage of urban Population (2011)	32.5
Percentage of rural population (2011)	67.5

Source: Compiled from various sources. Note: Figures may vary marginally due to rounded off decimal digits.

The total population of the study area has increased from 241183 in 2001 to 282763 in 2011 by registering a population growth of 17.24 per cent.

More than 67 per cent persons were recorded as literate during 2011 census. Sex ratio is fairly good.

Table 2 gives a few demographic indicators of the block.

Sample size and Sample design

The study area consists rural as well as urban areas. The total population of the block is 282763 out of which 32.5 per cent reside in urban areas and rest 67.5 per cent in rural areas. Keeping, the unequal distribution of urban and rural population in mind, the sample size has also been divided according to the proportion of urban and rural population. Thus 32.5 per cent of the samples are

taken from urban areas and rest 67.5 per cent are taken from rural areas (table 3). It gives the rationale allotment and distribution of the sample size according to the unequal distribution of urban and rural population. Such distribution, of sample size according to the residential distribution of population, nullifies the effects of unequal distribution of urban and rural areas and gives the proportional weightage to both the areas. The samples size for this study has been ceiled to 386.³

Table: 3 Sample size and design

Residence	Unit	No. of Units	Samples per unit	Total samples
Urban areas of BSCDB	Ward	5	25	5*25= 125
Rural areas of BSCDB	Gram-Panchayats/ Village	9	29	29*9= 261
Total samples				386

Source: Prepared by investigator.

Results and discussion

Descriptive Statistics of Morbidity Among Surveyed Elderly

Elderly, who reported themselves as sick during any time in the preceding one year (Park, 2002

& 2013) from date of survey, irrespective of the duration of the sickness, are considered as morbid. The broad patterns of morbidity in the study area are as follows:

Table: 4 Descriptive statistics of the morbidity among surveyed elderly

	Total respondents		Urban respondents		Rural respondents	
	Number	%	Number	%	Number	%
Sick and visited the health care facility	217	93.94	67	90.54	150	95.55
Sick but not visited any health care facility	14	6.06	7	9.46	7	4.45
Total sick respondents	231	100.00	74	100.00	157	100.00
Total respondents	386		125		261	
Morbidity rate	59.9		59.2		60.2	

Source: Field Survey 2015-2016

Table 4 depicts the morbidity load among the surveyed elderly in the study area. The total morbidity rate (60%) is considerably high among the elderly. About 6 per cent out of total 231 sick elderly felt themselves as sick but didn't visit any health care facility for their treatment. About 29 per cent respondents (out of total sick but not visited any health care facility after the perceived sickness) deprived from treatment due to financial crisis, whereas 64.3 per cent didn't want themselves to visit such facility. One woman was deprived from the treatment by the members of her own family.

Major Caste Groups and Characteristics of Utilization Of Health Care Services

Caste system is a bitter insinuation in Indian society. Different caste groups have different relationships with the various aspects of utilization of health care services and the caste background of

respondents affects utilization in the different pattern due to differentials in the socioeconomic aspects of household.

Major Caste Group and Source of Treatment

In order to analyze the association between different caste groups and different source of treatment of health care services, the caste groups are categorized into six major groups namely, General, OBC (Other Backward Classes, SC (Scheduled Caste), ST (Scheduled Tribe), Muslim non-OBC and Muslim OBC (table 5). Different caste groups of elders affect the different source of the treatment due to their heterogeneous socio-economic status. In order to analyze this relationship the source of treatment is categorized into five categories namely, private hospital, private practitioner, government hospital, quack/local healer and NGO/charity health facility (table 5).

Table: 5 Source of treatment by major caste groups

Caste groups of respondents	Source of treatment (%) sick respondents					Total number (%) of sick respondents
	Private hospital	Private practitioner	Government hospital	Quack/local healer	NGO/charity health facility	
General	9.8	45.1	26.6	8.5	11	82 (100)
OBC	0	30.4	45.7	19.6	4.3	46 (100)
SC	2.3	40.9	50	6.8	0	44 (100)
ST	0	50	50	0	0	2 (100)
Muslim non-OBC	0	47.4	31.6	10.5	10.5	19 (100)
Muslim OBC	0	25	66.7	8.3	0	24 (100)
Total	4.1	39.2	40.1	10.6	6	217 (100)

Source: Field Survey 2015-2016. Figures in parentheses refer percentage of respective observation.

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Note: Out of total 386 respondents 231 reported illness. Among them 14 ill respondents did not seek any medical treatment. Therefore 217 surveyed respondents who reported illness sought medical treatment.

The pattern of the source of treatment among different caste groups is presented in table 5. Private practitioners have been the preferred choice for the treatment of the general caste group respondents. Probably the financial edge of them allows them for going to privately owned health services whereas financial distress of OBCs, SCs, STs, and Muslim OBCs pushes them to the government health care services. Surprisingly, a little more than 10 per cent respondents also visited the quack/local healer for treatment.

Hypothesis setting for Major Caste Groups and Source of Treatment and OPE

Null hypothesis (H_0)

Both the variables (caste groups and source of treatment) are independent from each other likewise caste group and OPE are also independent from each other. Any correlation between the above said two variables is only by chance factor and not necessarily refers a significant association.

Alternative Hypothesis (H_1)

Both the variables (caste groups and source of treatment) are dependent over each other, likewise caste group and OPE are also dependent over each other.

Correlation between Caste Groups And Source Of Medical Treatment

Caste group of elderly and source of medical treatment have distinct association with each other. This association between above said two variables is represented in table 6.

Table: 6 Correlation between Major Caste Groups and Source of Medical Treatment

Variable (x)	Variable (y)	Correlation
Caste groups	Private hospital	.164*
	Private practitioner	.044
	Government hospital	-.166*
	Quack/local healer	.019
	NGO/charity health facility	.092

Source: Calculated from field data. N 217, df 215.

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

A considerable number of higher caste respondents prefer privately owned health care services (table 6). Probably, such elderly do not prefer government health care facilities due to long queues, very limited availability of drugs, non-availability of specialized practitioner etc. Lower caste elderly preferably visit the government health care facilities for their treatment and free drugs. Probably, their economic

distress forces them to do so and correlation is significant at 5 per cent level of significance. A sizeable number of general caste respondents also visit NGO/Charity health care services, from where they take free consultancy and purchase the prescribed drugs from open market. It is also learnt during field data investigation that due to non-availability of free drugs at NGO/charity health care services, lower caste people are less likely to visit such health care services. But, these correlation results are insignificant at 5 percent level of significance.

Correlation between Caste Groups And Out Of Pocket Expenditure

In order to analyze the correlation between caste group and out of pocket expenditure incurred on utilization of health care services, the caste group is classified into six earlier said groups and OPE is taken on actual basis (table 7).

Table: 7 Correlation between major caste groups and out of pocket expenditure

Variable (x)	Variable (y)	Correlation
Caste groups	Out of the pocket expenditure	.116

Source: Calculated from field data. N 217, df 215.

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

It is evident that higher caste group elderly spend sizeably more for the health care services. But, the correlation is applicable to the selected samples only due to insignificance level at 5 per cent (table 7).

Educational Attainment and Characteristics of Utilization of Health Care Services

Education is a key vital element for the various aspects of utilization of health care services. Differentials in educational attainment affect to the utilization of health care services in different ways. Moreover, it helps in creating the awareness and preferences and also empowers to the grey population for making the decisions about the different aspects of the utilization such services. Thus an attempt is made to analyze the relationship between educational attainment and various aspects of utilization of health care services of older respondents.

Educational Attainment and Source of Treatment

In order to analyze the association between educational attainment and source of treatment, the said attainment is classified into six major categories viz. graduation & above, higher secondary, school final, upper primary, primary and illiterate. Educational attainment helps individuals in choosing source of treatment and source is categorised into five categories viz private hospital, private practitioner, government hospital, quack/local healer and NGO/charity health facility.

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Table: 8 Source of treatment by educational attainment

Educational attainment of respondents	Source of treatment (%) of sick respondents					Total Number (%) of respondents
	Private hospital	Private practitioner	Government hospital	Quack/local healer	NGO/charity health facility	
Graduation & above	0	37.5	12.5	12.5	37.5	8 (100)
Higher secondary	0	50	50	0	0	8 (100)
School final	12.5	62.5	9.4	9.4	6.2	32 (100)
Upper primary	11.1	55.6	25	5.6	2.8	36 (100)
Primary	0	51.5	36.4	6.1	6.1	33 (100)
Illiterate	1	21	58	15	5	100 (100)
Total	4.1	39.2	40.1	10.6	6	217 (100)

Source: Field Survey 2015-2016. Figures in parentheses refer percentage of respective observation.

Note: Out of total 386 respondents 231 reported illness. Among them 14 ill respondents did not seek any medical treatment. Therefore, 217 surveyed respondents who reported illness sought medical treatment.

Table 8 illustrates the relationship between educational attainment and source of treatment. About 40 per cent respondents visited the government hospitals and closely followed by private practitioner (39.2%). There exist a negative association between educational attainment and government hospital as the source of treatment is concern. As the educational attainment increases the percentage of respondents going to government hospital decreases. Majority of the illiterates and other low educated elderly prefer government health care services. Probably, their economic hardships push them to such facilities. Surprisingly about 11 per cent elderly also visited quack/local healer for their treatment.

Hypothesis Setting for Educational Attainment and Source of Treatment and OPE

Null hypothesis (H₀)

Both the variables (educational attainment and source of treatment) are independent from each other, likewise educational attainment and OPE are also independent from each other. Any correlation between the said two variables is only by chance factor and not necessarily refers a significant association.

Alternative Hypothesis (H₁)

Both the variables (educational attainment and source of treatment) are dependent over each other, likewise educational attainment and OPE are also dependent over each other.

Correlation between Educational Attainment and Source of Medical Treatment

In order to analyze the correlations among educational attainment and OPE incurred on utilization of health care services, the attainment is classified into six earlier said groups and OPE is taken on actual basis.

Table: 9 Correlation between Educational Attainment and source of Medical Treatment

Variable (x)	Variable (y)	Correlation
Educational attainment	Private hospital	.139*
	Private practitioner	.269**
	Government hospital	-.323**
	Quack/local healer	-.093
	NGO/charity health facility	.117

Source: Calculated from field data. N 217, df 215.

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

It is evident that highly educated respondents are very reluctant to visit the government health care facilities and correlation is significant at 1 per cent level of significance (table 9). Probably long queues, very limited availability of drugs, non-availability of specialized practitioner at government health care facilities etc. apprehend them for visiting such health care facilities. A sizeable number of highly educated respondents prefer to visit privately owned services and correlations are also significant.

Correlation between Educational Attainment and out of Pocket Expenditure

Educational attainment plays a vital role in incurred OPE during utilization of health care services. Correlation result between educational attainment and OPE presented in table 10.

Table: 10 Correlation between Educational Attainment and Out of Pocket Expenditure

Variable (x)	Variable (y)	Correlation
educational attainment	Out of the pocket expenditure	.145*

Source: Calculated from field data. N 217, df 215.

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

It is evident (table 10) that considerable number of highly educated respondents spend sizably

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more on their treatment. It is also stands true that educational attainment and OPE increase proportionally and highly educated elderly visit privately owned health services and spend sizeable amount over their health care needs. It also makes the correlation significant at 5 per cent level of significance. Probably due to financial hardships illiterate and less educated elderly are more likely to visit government health care services and hence spend less for their health care needs.

Conclusion

The study reveals that caste background and educational attainment play a vital role for the selection of source and amount of OPE for treatment of the aged population. It is learnt during field data investigation that poverty prevalence is very common among less educated, illiterate and lower caste elderly. Mostly household members of such older people work in low paid activities like daily and casual labourer, agricultural and land less labourer, marginal workers, small farmers etc. So, the aged of such household are bound to visit government health care services. Their high amount of OPE for treatment to income ratio and almost non-existent of insurance coverage make them vulnerable in the existing social stratification in the society.

The ambit of insurance coverage may give them some hope for better treatment. Recently launched insurance plans are very good initiative from the government's side. There is further need to float, the government controlled and intervened insurance plans exclusively for the poor, illiterate, low caste people etc. across the social strata's of society. Such plans must cover indoor and outdoor health treatment for such individuals. Because mostly insurance plans cover indoor treatments only. It will give them access for satisfactory treatment during medical exigencies.

Education has a distinct and obvious relationship with source and amount of OPE for treatment. It helps in eroding the effects of caste background over the utilization of health services by creating the awareness about their choices, preferences, rights etc. Increase in educational attainment directly leads people towards high order source of treatment and sizeable amount for OPE.

Increase in the public spending and quality improvement of the government owned health infrastructure will directly affect positively to the poor, low caste, illiterate etc. persons because mostly such persons visit such health care facilities due to their economic distress.

Study concludes that both caste and educational background affect to the source and amount of OPE for treatment but later has a stronger effect than former. Hence, in order to minimise the

effects of caste over health care aspects, the educational aspects may be used as a very strong tool.

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Footnotes

1. *The terms of older, elderly and grey, refer the persons aged 60 years and above, are used interchangeably.*
2. *Out of pocket expenditure (OPE) implies the total sum of non-reimbursable cost of health service provider/ practicenor's consultancy charges, amount paid for drugs, radiological reports and diagnostic tests etc. This study is based on the aged population. So, the OPE of aged population is taken into consideration.*
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