

Health Expenditure and Health Care Burden of the Rural and Urban households in Kerala – A Perspective Analysis

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Abstract: Kerala has emerged as the best state in India in terms of healthcare performance. Kerala's health status is almost on a par with that of developed economies. The state has succeeded in increasing life expectancy as well as reducing infant and maternal mortalities. Kerala's publicly funded healthcare system has helped in providing treatment facilities to people. The high literacy rate, especially among the females, also played a major role in improving the health scenario. The Kerala Model of Health is often described as "good health based on social justice and equity". Despite, better health outcomes on certain indicators, the much-proclaimed Kerala model of health has been showing a number of disturbing trends. Although mortality is low, the morbidity (those suffering from chronic/non-communicable diseases) levels in urban and rural Kerala is high in Kerala compared to other Indian States. Thus the paradox is that on the one side Kerala stands as the State with all indicators of better health care development in terms of IMR, MMR, birth rate, death rate etc. On the other it outstrips all other Indian States in terms of morbidity especially the chronic illness. Considering the pre-cited problems prevailing in the health sector, it is high time to conduct an extensive study on the health expenditure and the resultant health care burden of the rural and urban households in Kerala.

Keywords: Health expenditure, Health care burden.

1. Introduction

Recently, "Economics of Health" is being acknowledged as an important branch of Development Economics. Hence, it is given high priority by planners, thinkers and economists not only in India but also all over the world. Attainment of good health is a significant component of human capital and the health status of the citizens reflect the economic development of a nation. Assuring a minimum level of health care to the population is a critical constituent of the development process. Health is a basic need along with food, shelter and education and as such, it is a pre-condition for productivity and growth. Health services have a major influence on the well-being of individuals and society. Hence, it had a positive impact of a nation's political and economical environment. The maxim that 'health is wealth' highlights the increasing importance of good health as an integral part of social development. As it is an important indicator of development, health is increasingly being seen as a matter of concern for development rather than

just a medical one.

Health is influenced by different indicators like employment, income, educational attainment, social groups, level of medical awareness, accessibility to health care and availability of health services. Improvement in the health status of population not only contributes directly to human happiness, but also enhances capabilities and freedom. The development of a society, rich or poor, can be judged by the quality of its population's health, how fairly health is distributed across the social spectrum and the degree of protection provided against disadvantages due to ill-health. In this context, the extent to which the health problems and associated expensive medical expenditure impede the capability and development of the people in our state had to be examined.

2. Objectives of the Study

The specific objectives of the study are given below.

1. To analyze the socio economic background of sample households.
2. To identify the perceived health problems of the respondents.
3. To estimate the expenditure on health care and its burden on the sample population.

3. Sources of Data

This study is, in fact, an exploratory work mainly based on primary data. Primary data is collected from a diversified sample of 500 households belonging to the rural and urban area. Apart from the primary data, secondary data is widely used for an analytical study of the existing literature relating to the proposed research work. For this, it is collected from different sources such as WHO and ILO reports, Indian Census figures, estimates of NSSO, Directorate of Economics and Statistics, periodicals, journals, newspapers and various micro and macro level studies related to the topic.

4. Selection of the Universe

With regard to the selection of universe, we selected two districts of Kerala, (Ernakulam and Idduki) for elaborate field

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Table 1
Socio- Economic status of the sample households

Category		Rural %		Urban %		Total %	
Gender	Male	547	48.62	496	48.39	1043	48.51
	Female	578	51.38	529	51.61	1107	51.49
	Total	1125	100	1025	100	2150	100
Religion	Hindus	110	44.00	104	41.60	214	42.8
	Muslims	62	24.80	69	27.60	131	26.2
	Christians	78	31.20	77	30.80	155	31.00
	Total	250	100	250	100	500	100
Household	2-3 members	28	11.20	56	22.40	84	16.80
	4-5 members	117	46.80	115	46.00	232	46.40
	> 5 members	105	42.00	79	31.60	184	36.80
	Total	250	100	250	100	500	100
Age composition	0-5	102	9.06	99	9.66	201	9.35
	6-10	166	14.76	128	12.49	294	13.67
	11-20	143	12.71	143	13.95	286	13.30
	21-40	267	23.73	227	22.15	494	22.98
	41-60	278	24.71	266	25.95	544	25.30
	Above 60	169	15.02	162	15.80	331	15.40
	Total	1125	100	1025	100	2150	100
Educational status	0-5	6	0.58	0	0	6	0.31
	6-10	425	41.54	326	35.21	751	38.53
	11-20	304	29.72	270	29.16	574	29.45
	21-40	198	19.35	198	21.38	396	20.32
	41-60	79	7.72	99	10.69	178	9.13
	Above 60	11	1.08	33	3.56	44	2.56
	Total	1023	100	926	100	1949	100
Occupational Status	Agriculture/allied activity	242	21.51	189	18.43	431	20.04
	Profession/Business	151	13.42	178	17.37	329	15.30
	Daily wages	179	15.91	162	15.80	341	15.86
	Unemployment	553	49.16	496	48.39	1049	48.79
	Total	1125	100	1025	100	1369	100
Monthly income of the household	Low income <Rs.10000	39	15.60	33	13.20	72	14.40
	Lower middle income Rs.10000-30000	101	39.60	89	35.80	190	37.20
	Upper middle income Rs. 30001-50000	78	29.60	87	34.80	165	32.20
	High income > Rs.50000	32	15.20	41	17.20	73	16.20
	Total	250	100	250	100	500	100

Source: Primary data

investigation. These are adjacent districts and chosen for the sake of convenience. Ernakulam is highly advanced and highest revenue yielding district in the state and is known as the commercial capital of Kerala. At the same time, Idduki district is considered as a backward district, mainly consisting of rural population.

For considering the universe of urban area, the researcher selected two municipalities from Ernakulam district and one from Idukki district for field survey. The universe of rural area constitutes three panchayats of Idukki district and two panchayat from Ernakulam district.

5. Sampling Technique

A stratified sampling technique is applied for the selection of respondents. The total sample constitutes 500 households (250 each from rural and urban area). The data are collected from the head of the households who were interviewed by using pretested and structured questionnaire relating to socio-economic variables and all other possible health indicators with regards to health expenditure. Appropriate data are classified and tabulated by proper tools and techniques conforming to the stated objectives.

6. Period of Study and Field survey

The survey was launched in the first week of December 2019

and completed by third week of March 2020. The researcher spent 4 months for completing the field survey. The reference period for data on illness and health care expenditure is one year.

7. Socio- Economic Status of the Sample Households

Table 1 demonstrates that 51.49% of the total respondents are women and 48.51% of respondents are males. Majority of the sample population (38.53%) have only primary level education, but some of them do not know to read and write. About 32 percent of respondents had studied degree or more and this is higher among the respondents of urban area (35%). The distribution of households according to the family size revealed that about 46 per cent of households belong to the medium sized families (4-5) members. Distribution of the Households population by the Occupational Status found that more than 48% of the population is unemployed. The unemployed population includes children, housewives, aged people and adults those who are voluntarily unemployed. The distribution of household heads by age shows that the largest number is found against the class interval of 41-60 which means that a good proportion belonged to middle aged group. Distribution of the Households by the monthly percapita income found that about 14 per cent of the households are belonging to low income group ($\leq 10,000$). These households fall into below

poverty line in the study area.

8. Illness Profile of the Workers

Total number of illness episode reported in the study area among the members of 500 sample households (total population 2150) during the last year was 2052 comprising of 1042 (50.78%) from rural area and 1010 (49.22 %) from urban area. Out of this, 147 (7.16 %) illness constitute chronic diseases like heart diseases, liver diseases, bone fracture, Alzheimer's disease, Arthritis, Cancer, Diabetes, High blood pressure, High cholesterol, Stroke etc., 852 (41.52%) are seasonal diseases like viral fever, asthma, dengue, chikungunya, diarrhoea, Typhoid, Hepatitis A etc. and 1053(51.32%) are general diseases like head ache, body pain/ back pain, infectious diseases. deficiency diseases, hereditary diseases, common cold, fungal diseases etc.

Area wise analysis of illness episode indicates that there is not much difference but slightly higher among the respondents of rural area. Seasonal diseases are reported more from rural area while general diseases are higher among urban people. Chronic diseases are reported more from rural area.

Table 2
Area wise distribution of illness episode of respondents on the basis of nature of diseases (in numbers)

Nature of diseases	Rural	Urban	Total
General	491 (47.12)	504 (49.90)	995 (48.49)
Seasonal	453 (43.47)	415 (41.09)	868 (42.30)
Chronic	98 (9.41)	91 (9.01)	189 (9.21)
Total	1042 (50.78) (100)	1010 (49.22) (100)	2052 (100) (100)

Source: Primary data. Figures in parentheses indicate percentages to total

9. Total Cost of Treatment for Illness Among the Workers

After analyzing the illness profile of the respondents of the study area, the researcher estimated the cost of treatment of the illness based on the data provided by the respondents.

Total health expenditure comprises of direct and indirect cost and they are estimated on the basis of research studies conducted in the context of health services. In order to highlight the health burden, we have to consider some invisible items of health expenditure due to the occurrence of an illness episode. They are the components of indirect cost such as cost of food during stay in the hospital, tips given to secure access to the concerned person or facility, opportunity cost of lost wages of the sick as well as the bystander, reduced or sacrificed consumption levels in the household, etc.

10. Direct Cost of Health Expenditure

Firstly, the direct cost of treatment of each illness episode like medical practitioner's fees and cost of medicines, diagnostic tests, hospitalization charges, surgery charges, etc. are calculated and then total of each item is estimated. Table 3 shows that total direct cost of 2052 illness episode was Rs. 2123900 out of which Rs. 1014400 (47.76%) is spent for practitioner's fees and cost of medicines and this is the major item of direct cost. Besides, there is the cost of hospitalization and surgery, operation theatre charges etc. which form 41.51

percentage of the direct cost. Cost of diagnostic tests form 10.73 percent of the total direct cost which includes pathology tests, X-rays, ECG, etc.

It is seen that households in the rural area spent more amount of money (Rs. 1086740) for treatment than urban area (Rs. 1037160) as direct cost of treatment. This is because the intensity of illness episode is higher among rural people. Besides, the transport cost and other personal expenditure associated with medical treatment for them are also higher. Considering the total direct cost and number of illness episode, average direct cost per illness episode is Rs. 1043 in the rural area, which is greater than in the urban area (Rs.1027). Item-wise expenditure is illustrated in the table 3.

Table 3
Distribution of direct cost of treatment on the basis of area (in rupees)

Type of cost	Rural	Urban	Total
Practitioners fees and medicines	511440 (47.06)	502960 (48.49)	1014400 (47.76)
Hospitalization and surgery	456400 (42.00)	425200 (41.00)	881600 (41.51)
Diagnostic tests	118900 (10.94)	109000 (10.51)	227900 (10.73)
Total direct cost	1086740 (51.17)	1037160 (48.83)	2123900 (100)
Total number of illness	1042	1010	2052
Average direct cost per illness	1043	1027	1035

Source: Primary data. Figures in parentheses indicate percentages to total

11. Indirect Cost of Health Expenditure

After calculating direct cost of treatment, the researcher estimated varied items of indirect cost like loss of income of the worker due to illness, loss of income of the accompanying person and cost for special diet, transport cost and other associated expenditure such as tips and bribe given to hospital staff. Another type of indirect cost consists of the sacrifice of the household members in the form of reduced consumption of food items, entertainment etc. which are unaccountable in money terms. The calculation is based on information provided by the respondents during the period of data collection. The analysis of the data indicates that out of 2052 illness episode, total indirect cost of treatment is Rs. 2007575 and out of this, 58.06 percent is loss of income of the workers due to illness and this is the major item of indirect cost. In addition, there is loss of wage of the accompanying person (28.50%), the cost of travel to access health care (7.55 %) and occurrence of expenditure for special food, etc. (5.89%).

Considering the total indirect cost and number of illness episode, it is found that average indirect cost per illness episode is estimated as Rs. 978. It is higher in the rural area (Rs.1002) compared to urban area (Rs. 982). This is shown in table 4.

12. Analysis of Total Cost of Treatment

A Comparative study of direct and indirect cost of treatment of reported illness episode illustrates that major part of the total medical expenditure is direct cost. Out of the total cost of Rs. 4131475, direct cost is Rs. 2123900 (51.41 %) and indirect cost is Rs. 2007575 (48.59 %). By analyzing the treatment cost among rural and urban households, it is realized that health

expenditure of rural area is Rs. 2102190 (51.88 % of total cost). Out of this, Rs. 1086740 (51.70%) is incurred as direct cost of treatment and Rs. 1015450 (48.30 %) as indirect cost. In the case of urban households, total treatment cost is Rs. 2029285 (49.12 % of total cost). Out of this, Rs. 1037160 (51.11 %) is direct cost for treatment and Rs. 992125 (48.89%) is indirect cost.

Average cost per illness episode considering both direct and indirect is estimated as Rs. 2013. The study reveals that average cost per illness episode is higher in the rural area (Rs. 2017) compared to urban area (Rs. 2009).

Table 4

Distribution of indirect cost among rural and urban respondents (in rupees)

Type of cost	Rural	Urban	Total
Loss of income due to illness	565825 (55.71)	599925 (60.47)	1165750 (58.06)
Loss of income of the accompanying person	301800 (29.73)	270400 (27.25)	572200 (28.50)
Transport cost	91000 (8.96)	60500 (6.09)	151500 (7.55)
Cost for tips, food, special diet etc.	56825 (5.60)	61300 (6.19)	118125 (5.89)
Total indirect cost	1015450 (51.58)	992125 (49.42)	2007575 (100)
Total number of illness	1042	1010	2052
Average indirect cost per illness	1002	982	978

Source: Primary data. Figures in parentheses indicate percentages to total

Table 5

Area wise distribution of total and average cost of treatment (in rupees)

Type of cost	Rural	Urban	Total
Direct cost	1086740 (51.70)	037160 (51.11)	2123900 (51.41)
Indirect cost	1015450 (48.30)	992125 (48.89)	2007575 (48.59)
Total cost	2102190 (51.88)	2029285 (49.12)	4131475 (100)
Total number of illness	1042	1010	2052
Average cost per illness	2017	2009	2013

Source: Primary data. Figures in parentheses indicate percentages to total

13. Monthly Health Expenditure of the Household

To analyze the health burden, we have to estimate the monthly income and monthly health expenditure of the households. Average monthly income of the sample population is estimated by dividing total monthly income earned by them by total number of households. The table indicates that average monthly income of the sample population is Rs. 30712 and it is higher among urban households (Rs. 31936) than rural households (Rs. 22576). The average monthly health expenditure of the household is estimated by dividing total cost of treatment by total number of respondents. In table 6, we can see that average monthly health expenditure of the sample households is Rs. 8263 and it is higher among rural area (Rs. 8409) than urban area (Rs. 8117).

The percentage of monthly health expenditure out of income is estimated by dividing monthly health expenditure of the respondents by their monthly income. The table 6 shows that 26.90 percent of income is spent by the respondents for health purpose per month and the proportion for rural and urban

workers are 37.24 percent and 25.41 percent respectively.

Table 6

Area wise distribution of monthly income and monthly health expenditure of the household per month (in rupees)

Category	Rural	Urban	Total
Average monthly income of the household	22576	31936	30712
Average monthly health expenditure	8409	8117	8263
% of monthly health expenditure out of monthly Income	37.24	25.41	26.90

Source: Primary data

14. Conclusion

Health care expenditure cuts poor households' budget in two ways. Not only they have to spend a large amount of money and resources on medical care but they are also unable to earn during illness. Apart from the direct cost of treatment like cost on medicines, diagnostic tests and consultation fees etc., the patient has also to bear a high burden by way of a series of other costs termed as indirect cost such as expenses on transport, room rent, food etc. during stay in the hospital, opportunity cost of lost wages of the sick as well as of the bystander and other forms of expenditure which are all associated with an illness episode. For people living below the poverty line, an illness definitely represents a threat to their income earning capacity ultimately leading the family falling into a debt trap. The onset of a long and expensive illness can drive even the rich into poverty. High health care costs and related expenditure can lead to the exacerbation of poverty. Very often, the poor have to borrow funds at a high interest rate to meet the high medical expenditure which carries them into indebtedness, further aggravating the intensity of health burden.

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