

HEALTH CARE EXPENDITURE: RESULTS FROM A STUDY IN TRIBAL AREAS OF RAJASTHAN

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Abstract

This paper provides insights into the health care expenditure and utilisation to elicit information on patterns of household expenditure on government and private sources of treatment in both rural and urban segments of the tribal areas of Rajasthan. The data were collected from a sample of 450 households in three districts of Banswara, Dungarpur, and Udaipur. The study revealed a high dependence (50%) of the traditional practitioners in the rural areas. There was a substantial rural-urban differential in the average expenditure per illness episode. Rural people spent on an average Rs. 931.7 per illness episode for treatment which was one and half times more than urban people, considering both acute and chronic illness together. However, this differential was more pronounced for acute illness as compared for chronic illness. The study also revealed that rural people have significantly higher burden of almost all components of indirect expenses for treatment. Some policy implications have been suggested to improve the health status and reduce health care expenditure.

Introduction

The escalation of health care costs and growing egalitarian concept that all members of the society deserve adequate medical care have promoted economists and other social scientists to study the health care sector extensively. A reliable estimate of the size and composition of national health expenditures is a basic input to rational health planning and policy development. In India, various efforts have been made to study and analyse the utilisation of health services and estimate health care expenditures at the micro and macro levels (IIM 1987; FRCH 1987; Duggal 1986; Ravishankar 1989; Subbarao 1989, NSSO 1992, NCAER, 1992, NCAER, 1992). These studies have suggested that most of the health care expenditure is shared by private sector especially the households. Wide variations has been observed in both the total health care expenditure and its components (Berman, 1991). A comprehensive assessment and review of health interview surveys in India have been done by Gumber and Berman (1997). Burden of disease and cost of ill health in India have been attempted by Gumber (1997).

According to World Bank (1995) estimates, health spending in rupees per capita in 1990-91, the major share, 78 per cent is contributed by the private sector to the

total health care expenditure in India. The public sector contributed only 22 per cent. The largest contributor in health expenditure are the households (75.2 per cent). The aggregated per capital expenditure was Rs. 319.3 equivalent to US\$13 at the exchange rates prevailing at that time, is very small amount to meet the total health needs of a country with widespread poverty and high mortality, morbidity and malnutrition. The situation is further grim in special population groups, especially tribal, who have limited access and availability of healthcare, in addition to their poor socio-economic conditions, and divergent cultural and behavioural level in tribal areas of Rajasthan, mainly at (a) analysing the health services utilisation pattern in rural and urban areas; (b) estimating average health care expenditure per illness episode for rural and urban areas, fracture and chronic illnesses, and for availing services at different sources; (c) estimating direct and indirect expenditure per illness episode; (d) estimating break-up of total health care expenditure; and (e) suggesting some policy implications for reducing the health care expenditure.

Methodology

This section discusses the profile of study area and socio-economic and demographic characteristics. After describing the study area and population the study design has been discussed in detail. It follows with defining various concepts e.g. survey instrument, recall period, proxy respondents, health care expenditure, direct and indirect expenditures.

Study Area and Population

Rajasthan is one of the major states of India with a total population of 4.4 million. The tribal population of India is 6.78 million as per the 1991 census, which constitutes 8.08 per cent of the total population of the country. Rajasthan's tribal population constitutes about 12.44 per cent of the total population of the state. The tribal population of the state is concentrated in a few pockets under three broad geographic areas. These are as follows: i) Tribal Sub-Plan (TSP) area which covers 5 districts of Southern Rajasthan; ii) Scattered tribal concentrated pockets in 13 districts of the state, known as Modified Area Development Approach (MADA); and iii) A small pocket of a primitive tribe concentrated in the south-east of the state (Saharia Block).

The TSP Area comprised of all the blocks of Banswara and Dungarpur, seven blocks of Udaipur, two blocks of Chittorgarh and one block of Sirohi districts. The TSP Area covers 4409 villages in 23 blocks, with 66.4 per cent tribal population (Planning Department, 1993). The TSP area is hilly and has a rugged topography due to the traversing of the Aravalli Hill ranges. Irrigated land is only 6 per cent of the total area. The area possesses significant deposits of a variety of minerals. Forestry and forest produce provide livelihood to a sizable population of the region. Three major dis-

tracts, i.e. Banswara, Dugarpur and Udaipur were selected for the study. The socio-economic and demographic characteristics of these districts as well as state are presented in Table-1. As is evident from the table, the study districts have low socio-economic characteristics.

Table 1: Socio-Economic and Demographic Characteristics of Study Districts and State of Rajasthan

Indicators	Study Districts			State
	Banswara	Dungarpur	Udaipur	Rajasthan
Population	1155600	874549	2067000	44005990
Growth Rate	+30.34	+1.199	+24.52	+28.44
Density of Population (per sq.km)	229	232	165	129
Sex Ratio	969	995	956	910
Per cent Urban	7.72	7.30	19.15	22.88
Per cent Scheduled Caste	5.00	4.61	6.60	17.29
Per cent Scheduled Tribe	73.47	65.84	46.34	12.44
Per cent Literate Persons	26.00	30.55	34.90	38.55
Per cent Literate Males	38.16	45.71	48.73	54.99
Per cent Literate Females	13.42	15.40	20.41	20.44

Source: Directorate of Census Operations Rajasthan (1994). Census of India, 1991, Series 21, Rajasthan, Part XII A&B, District Census Handbook, District Banswara, Dungarpur and Udaipur, Jaipur: Office of the Joint Director, Census Operations Rajasthan.

The health care services are being provided in the area through Allopathic, Ayurved, Homeopathy, Unani and Naturopathy systems of medicine. The allopathic system is the major system of medicine in the area. The government is providing the services in these three tribal districts through a network public health facilities which included 13 hospitals, 26 dispensaries, 32 community health centers, 155 primary health centers and 1037 sub-centers (DMHS, 1997). Traditional practitioners also play an important role in providing health care because of its traditional acceptance by the population.

Data and Study Design

The paper uses the data collected for another study (Sodani 1997). The data were collected during the months of June-August 1996. It was a one time survey and therefore could not reflect the seasonal variations in the morbidity pattern.

Sampling A multistage sampling design was adopted. The detailed procedure followed for sampling is presented here. State I: The three major districts

of TSP region i.e. Banswara, Dugarpur and Udaipur were selected for the study. Stage II: From each district one block with sub-divisional HQ was selected. Thus the selected blocks were as follows: Kushalgarh (from Banswara district), Sagwara (from Dungarpur district) and Salumber (from Udaipur district) From the selected blocks sample for urban and rural areas were collected. Stage III: For selecting urban sample, a census town the Community Health Center was selected. In this way, three urban towns were selected to obtain a sample of 75 households from each town. Thus we had a sample of 225 household to make up the urban sample for the TSP region. Stage IV: For selecting rural sample, one Primary Health Center (PHC) area was randomly selected. From the selected PHC area three villages were identified randomly for the study. The first, where the PHC was located (i.e. PHC HQ village). The other two villages were also identified from the selected PHC area. For the one Sub-centre area was again identified randomly and from this Sub-center area two villages were selected, one where the Sub-center was located, and one where no health facility was available. A random sample of 25 households from each of the three villages was obtained to make up a random sample of 75 households from each district. Thus we had a sample of 225 households to make up the rural sample for the TSP region.

Household Selection

From the selected towns and villages sample households for urban and rural areas were respectively selected. Only those households were selected where any family member had experienced an event of ill health during the reference period (last 12 weeks from the date of survey) for which a treatment was sought. Untreated illnesses were not included in the study.

Various Methodological Concepts

Recall Period The length of a recall period is influenced not only by type of disease, its degree of severity and use of health services, but also by the socio-economic background of the area and persons involved. Hence, the decision of defining a recall period of appropriate length is trivial and can not be universalized (Gumber 1997). In this study a longer recall period of 12 weeks was considered because of : (a) to include both acute and chronic illnesses; (b) to include only treated cases who had some expenditure; (c) to get maximum number of cases for analysis from the selected sample households; and (d) limited resources to collect the data.

Proxy Respondents The information from only those households were collected by administering a structured schedule which contained the following sections: a) identification; b) household level characteristics; c) profile of family members; d) utilisation of health care; and e) expenditure on health care. Information of first three sections of the schedule were collected either from the head of the household or with any knowledgeable person of the family who could be able to respond appropriately on each member of the patient himself/herself if he/she is available at the home at the time of interview and able to respond in a desired fashion. In case if either he/she was not available at the home at the time of interview or was not able to respond (like children, old age persons, very sick at the time of interview, etc.), appropriate proxy respondents were identified from within the household to respond for the ill person. The proxy reporting was observed mainly due to time and resource constraints. Because of proxy respondents some bias in reporting is bound to exists.

Self Perceived Morbidity Many of the health surveys conducted in India have adopted the self-perceived approach to collect data on morbidity due to various logistic reasons, the most important being cost. Belcher et. Al. (1976) estimated that the medical examination survey turned out to be eight times costlier than the self-perceived approach. The present study also adopted the self-perceived morbidity approach to collect the data on illness during the reference period. Various procedures were employed for improving the self-perceived morbidity reporting during household survey which include mainly use of proxy respondents, use of local language (Mewadi and Bagdi) while asking the questions, use of better trained investigators having experience of conducting health surveys. The study included prevalence and incidence of illness during the reference period of 12 weeks. In other words, it included all illness episodes that started during the reference period and all illness episodes that existed during the reference period, even if the illness episode had started before the reference period. The survey included the following categories of illness episodes: (a) episodes starting before the reference within the reference period and terminating within the reference period; (b) episodes starting and terminating within the reference period; (c) episodes starting within the reference period and continuing at the time of interview; and (d) episodes starting before the first day of the reference period and continuing on the date of interview.

Health Care Expenditure The health care expenditure is defined as the expenditure incurred on various items to recover from illness during the reference period of 12 weeks. This have been divided into two major categories: i) direct expenditure and ii) indirect expenditure. The direct expenditure on health care is defined as the expenditure incurred on items which are directly related (as perceived by the households also) to the treatment during the reference period of 12 week. It includes the following items: (1) providers fee, expenditure incurred for payment to doctors/providers for consultation fee; (2) medicines expenses incurred on purchasing medicines (prescribed by provider or self care administration); (3) tests expenses incurred on diagnostic tests (i.e. blood, urine, stool, X-rays, ECG, etc.) as a partial fulfillment of the treatment; (4) hospitalisation fee expenses incurred for paying hospitalisation fee to utilise the facilities; and (5) surgery expenses incurred to surgery get performed.

The indirect expenditure on health care is defined as the expenditure incurred on items which are not directly related to the treatment, but are associated with the treatment, during the reference period of 12 week. It includes the following items: (1) special diet expenses incurred on special diet suggested by provider to patient for early recovery; (2) transport expenses incurred on transportation for patient and accompanying person (s) from residence to the source of care (to and fro); (3) accompanying persons expenses incurred on accompanying persons on food/stay arrangements during the course of treatment; (4) Tips given to get access to any person/facility at any level in the sense for getting better care; (5) rituals expenses incurred on all religious or customary means of achieving relief from the concerned ailment. Expenses incurred for temple offerings, domiciliary pooja (prasad, agarbatti, etc.) and similar religious /cultural events carried out for the sole purpose of alleviating the suffering of sick person; (6) Apart from these loss of earnings to patient (real money loss) himself/herself due to illness; and (7) loss of earnings to accompanying persons (real money loss) for providing support /company to the ill person during the course of treatment.

Results and Discussions

The analysis has been made to study the pattern of utilization of health care facilities in rural and urban areas. The analysis has also been performed to estimate the average health care expenditure by type of illness, type of health facility utilized for treatment and area of residence (rural/urban). A break-up of total health care expenditure by direct and indirect categories; and by various other components have also been analyzed.

Utilization of Health Care Services

There are various types of health care facilities available for treatment of illnesses in the area. The available health care facilities have been divided into the following five categories, i.e., public, private, traditional practitioners, chemists' shop, and family/friends, for the analysis purpose. Public Facility included all the government-run health care institutions irrespective of the system of medicines. Private Facility included all the allopathic private hospitals, dispensaries and clinics run by charitable institutions, non-governmental organizations, and individual practitioners. Besides, the medical or para-medical personnel giving treatment and collecting fees as a result of private practice, are also included in this category. Traditional Practitioners included folk healers, registered medical practitioners (non-allopathic), Herbalists, Vaidyas, Hakims, Bhagat, etc. Chemists' Shops included the treatment taken directly by approaching the chemist's shop without consulting any health care provider. Family/friends included measures taken for health care by family members, relatives, friends, and self at the household level with some remedies. Only treated cases were analysed here. The study revealed a high dependence on the traditional practitioners among the persons who have undergone any type of treatment in the rural areas, while in urban areas on public health facility. In the rural areas about 50.7 per cent of the ill persons utilized the services of traditional practitioners, while in urban areas, a majority of the ill persons utilized the services of public health facility (45.1 per cent) for the treatment of illness (Table 2).

Table 2: Percentage Distribution of Sick Persons by Health Care Facility Utilized for Treatment in Rural and Urban Areas of TSP Region, Rajasthan

Type of Health Care Facility	Rural Area	Urban Area
Public Facility	27.3	45.1
Private Facility	20.3	30.2
Traditional Practitioners	50.7	18.0
Chemist Shop	1.4	6.1
Family/Self	0.3	0.6
N	355	295

In spite of a well-developed public health infrastructure in the rural areas, the public health facilities has been far from being the only source for providing health care. The traditional practitioners (51 per cent) and the private sector (20 per cent) played an important role in providing health care, specially in rural areas where majority of population belongs scheduled tribe. Similar results have also been reported by various researchers in India.

Health Care Expenditure per illness Episode

There was a substantial rural-urban differential in the average expenditure per illness episode during the reference period of 12 weeks (Table 3). On an average, rural people incurred in expenditure of RS. 931.7 per illness episode, while the urban people incurred Rs. 610.8. Rural people spent one and half times more on treatment of illness than urban people, considering both acute and chronic illnesses together. However, this differential was more pronounced for acute illness (1.5 times) as compared to chronic illness (1.09 times).

Table 3: Average Health Care Expenditure Per Illness Episode in Rural and Urban Areas of TSP Region of Rajasthan

(During Reference Period of 12 Weeks)

Expenditure Indicators	Expenditure Amount (Rs.)	
	Rural	Urban
Average health care expenditure per illness episode including all type of illness	931.7	610.8
Average health care expenditure per illness episode for acute illnesses only	714.6	465.6
Average health care expenditure per illness episode for chronic illnesses	1817.1	1655.5
Average health care expenditure per illness episode when public health facility utilized for treatment	621.1	304.4
Average health care expenditure per illness episode when private health facility utilized for treatment	2051.0	1384.8
Average health care expenditure per illness episode when traditional practitioners utilized for treatment	679.2	293.1
Average health care expenditure per illness episode when chemist's shop was utilized for treatment	13.0	230.0
Average health care expenditure per illness episode when family/ friend utilized for treatment	116.4	26.1

The study further revealed that average expenditure per illness episode was higher for chronic illnesses. People, both in rural and urban areas, spent more on treatment of chronic illness compared to acute illness. The rural people spent 2.5

times more on treatment of chronic illness than on treatment of acute illness, whereas urban people spent four times higher for treatment of chronic illnesses. Higher expenditures on chronic illnesses (during reference period) are mainly due to the nature of illnesses and their continued treatment. The higher ratio of expenditure between chronic and acute illnesses in the urban areas was mainly on account of lower expenditure on acute illnesses as well as higher expenses incurred for cost of diagnosis.

The results suggests that expenditure incurred on treatment is on higher side (in case of both acute as well as chronic illnesses) for rural people compared to urban people, reason being people in rural areas are mostly belonged to scheduled tribal category and because of their socio-economic and cultural differences they perceived illness in a different manner. They usually approach health facility late when the disease become aggravated, causing frequent visits for consultation. They believe in performing rituals for early relief from the illness.

People in rural areas spent more on treatment irrespective of the type of the facility used compared to urban areas (Table 3). Interestingly, in comparison to public facility, people spent more on treatment while using private facility both in rural and urban areas. This is understandable since the public health facilities are highly subsidised.

People spent 3.3 and 4.5 times more when private health facility was utilized as compared to the public health facility in rural and urban areas respectively. The average amount spent per illness episode for treatment from traditional practitioners was much lower in comparison to private health facilities. This was observed in both rural and urban areas. The average health care expenditure was considerably lower for illnesses for which medicines were purchased directly from the medical shops.

Direct health expenditure accounted for about two-thirds of total health expenditure. This was higher in urban areas. The direct expenses accounted for 63.3 per cent in the urban areas and 59.6 per cent in the rural areas (Table 4). In case of multiple sources are used the expenses are worked out in each item of expenditure and then indirect expenditures were worked out.

Table 4: Health Care Expenditure Per Illness Episode by Type Expenses Category in Rural and Urban Areas of TSP Region of Rajasthan

Expense Category	Rural		Urban	
	Amount (Rs.)	Percent	Amount (Rs.)	Percent
Direct Expenditure	555.1	59.6	386.5	63.3
Indirect Expenditure	376.6	40.4	224.3	36.7
Total	931.7	100.0	610.8	100.0

Table 5 shows the break-up of total health care expenditure by various components for the rural and urban areas separately. The components included providers' fee, medicines, test charges, hospitalization fees, surgery, special diet, transportation, accompanying persons, tips, rituals, monetary loss of earnings to patient due to illness and loss of earnings to accompanying persons for providing support/company to the ill person during the course of treatment. The total health care expenditure is sum total of expenss incurred for treatment on all components.

Component analysis showed that rural people spent significantly higher amount on provers' fee and medicine as the direct expenses which accounted for a major share of direct expenses, compared to urban areas. The main reasons for increased direct expenditure were delayed reporting thus allowing the disease to progress to sever form coupled with frequent consultation and hospitalization.

The study also revealed that rural people have significantly more burden of almost all components of indirect expense category except transport. The rural people incurred more expenses on special diet for sick person compared to the urban counterpart, because of the perception they have regarding special diet, i.e. for example in case of taking medicine with milk, the milk here may be considered as special diet in rural areas but not in urban areas. Again, the expenses incurred on accompanying person is also more in rural areas because of the fact that sick person is generally accompanied by two-three persons, but this is not the case in urban area. Tribals in rural areas have strong belief in performing rituals for early care.

Table 5: Break-Up of Health Care Expenditure Per Illness Episode by Components According to Rural and Urban of TSP Region, Rajasthan

Components	Rural		Urban	
	Amount (Rs.)	Percent	Amount (Rs.)	Percent
Doctor's/Provider's fee	86.4	9.3	52.1	8.5
Medicine	409.6	43.9	279.6	46.0
Test Charges	34.6	3.7	31.6	5.2
Hospital fee	8.0	0.9	11.1	1.8
Surgery	16.3	1.8	11.8	1.9
Special diet	51.7	5.5	6.7	1.1
Transport	71.6	7.7	94.5	15.5
Accompanying person	68.0	7.3	47.9	7.8
Tips	1.4	0.2	0.08	0.01
Rituals	1.5	0.2	0.2	0.03
Loss of earning to sick person	105.7	11.3	53.2	8.7
Loss of earning to accomp. Person	76.5	8.2	21.5	3.5
Total	931.7	100.0	610.8	100.0

The indirect expenses category also calculated the amount which the loss of earning to sick person because of the illness. In rural areas people are dependent on daily wages, and therefore, if a person falls sick he/she loses the wages. After probing it was found that this losing of wages is of two fold: a) losing of wages during the illness period, and b) waiting for again getting the job in the market. The job in the market. The wage loss to the sick persons and the persons accompanying the sick persons have been calculated only for those who were employed in income generating activities and it was not worked out for those who were not involved in any income generating activities.

Conclusions

This paper provides insights into the health care expenditure at household level for both rural and urban segments of the tribal area of Rajasthan. The results indicate that health care expenditure indicators, as defined in the study, are simple but powerful indicators to estimate the nature and extent of direct and indirect expenditure born by households for getting treatment.

Considering the fact that the household sector of the economy is the main contributor in financing of the health care in India, and health insurance is not universal, health planners and policy makers would have to pay more attention on how to reduce the financial burden of households for getting treatment specially in tribal areas. The fact that people in tribal area incurred a huge amount for getting the treatment per illness episode suggests that there is an urgent need for improving hospital and health management practices in both public and private sectors in tribal areas. Most of traditional practitioners are even not registered.

The health expenditure, both direct and indirect, born by the households is far too high and gets concerned about the fact that people in tribal area have no other way but to approach poor equipped and low quality public/private facility when they are confronted with the serious illness. Therefore, an effort should be made to improve the quality of services in both public and private sectors. Focusing on quality improvements, health and hospital management practices, quality of treatment will be improved which will reduce the financial burden of the households (both direct and indirect) for getting the treatment. All these efforts may lead to improved health status at lower health expenditure.

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Notes

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