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Original Research Article

Assessment of out-of–pocket health expenditure and prevalence of protective mechanisms against it among the households in an urban area, Bangalore: a longitudinal study

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ABSTRACT

Background: Achieving Universal Health Coverage according to The World Health Assembly's way to reinforce the principle of human right to health in 2005 has been a huge task for India. India has one of the highest proportions of household out-of-pocket expenditures on health in the world, estimated at 71.1% in 2008–09. The unpredictable payments are impoverishing an estimated 3.3% of India's population every year. In this regard various strategies have been adopted such as—reforming tax based health financing or introducing health insurance. This highlights the need for alternative finances which includes the provision of medical insurance. The study was conducted to assess the out-of-pocket health expenditure and estimate the prevalence of protective mechanisms against it in an urban area-Bangalore.
Methods: A longitudinal study was conducted in the urban area of Bangalore. Sample size was calculated to be 350 households. Data regarding socio-demographic profile, protective mechanisms and other details were obtained by interview method using a pre-tested and semi-structured questionnaire.
Results: Majority were in the productive age group i.e. 991 (62.68%) individuals. Female population was slightly higher in our study. Most of the households belonged to upper lower class (54.29%). A major burden of health care cost was experienced both in acute as well as chronic illness by the households. Only 8.9% (31 households) had one or the other type of health insurance.
Conclusions: Population has profound chances of experiencing catastrophic health expenditure in times of severe illness.

Keywords: Insurance, Health care, Chronic illness, Direct and indirect cost

INTRODUCTION

India a country with second largest population, diverse in nature and rapidly transforming socio-economic conditions; is also a home for double burden of diseases. Achieving universal health coverage according to The World Health Assembly's way to reinforce the principle of human right to health in 2005 has been a huge task for India. In this regard various strategies have been adopted such as—reforming tax based health financing or introducing health insurance.[1]

Health care financing in India is by both public and private sectors; where private sector includes private

providers, NGOs and more predominantly out- of –pocket expenditure. The private sector is responsible for the majority — 71.6%, while the public sector accounted for 26.7% and external funding constituted 1.7% of the total expenditure.[2] In developed countries, the government health spending is around 5% of GDP. Even in Asian developing countries excluding India, the average is around 3 per cent of GDP. But India seen as an economic powerhouse internationally, has government health expenditure amounting to less than 1 per cent of GDP.[3] The lack of commitment by the public sector to finance health care is reflected as poor health infrastructure, which has led to excessive financial burden on households forcing consumers to visit the private and relatively more expensive treatments.[4,5]

Households accounted for more than two-thirds of health spending in India and around three times the amount of all government expenditure taken together, by the Central, State and local governments.[2]

India has one of the highest proportions of household out-of-pocket expenditures on health in the world, estimated at 71.1% in 2008–09.[6] Out-of-pocket payments are defined in the World Health Report 2010 as ―charges or fees levied for consultations with health professionals, medical or investigative procedures, medicines and other supplies, and for laboratory tests levied by government, nongovernmental organizations, faith-based and private health facilities. They are sometimes officially sanctioned charges and sometimes unofficial or so-called 'under-the-table' payment.[7] National health accounts showed that 72% of all health expenditure is made by individual households which is one of the highest proportions in the world.[8] 14% of households in rural areas and 12% of households in urban areas spend more than 10% of their total consumption expenditure on healthcare.[9]

The three key preconditions for catastrophic payments are the availability of health services requiring high payment, low capacity to pay, and the lack of prepayment or health insurance.[10]

The unpredictable payments are impoverishing an estimated 3.3% of India's population every year.[11] This highlights the need for alternative finances which includes the provision of medical insurance. There is strong evidence that the prepayment mechanisms lower the burden of health spending and furthermore pooling is a major way to spread risks by ensuring transfers of funds from higher to lower income groups, and from low-risk to high-risk individuals.[12]

Only around 10% of the Indian population is covered by any form of health insurance, which is mainly offered through government schemes.[6] There are very few studies done in India in this field, hence this study was undertaken in an urban area of Bangalore.

Objectives

- To estimate the out-of-pocket health expenditure of the households.
- To assess the prevalence of protective mechanisms against out-of –pocket health expenditure among the households.

METHODS

A longitudinal study was conducted from November 2014 to February 2016 in an urban field practice area H. Siddaiah road of Bangalore which has three sectors and a total of 6237 households. Since out of pocket health expenditure is predominantly determined by the health seeking behaviour of the household, the sample size was calculated as 350 households, at 5% significance based on a previous study by Mani et al where 65% of the households preferred health care at a government facility.[13]

A multistage sampling method was adopted. Sample size was achieved ensuring equal representation to all households of all three sectors in the study area by probability proportional to size sampling. Households from the sectors were chosen by simple random sampling technique using lottery method.

Data collection was started after obtaining clearance from the institutional Ethical committee. An informed consent was obtained from the households. Data regarding socio-demographic profile, illness, health expenses incurred and other details were obtained by interview method during recruitment of household into the study. The information was collected by interview method using a pre-tested and semi-structured questionnaire. A well informed person was identified in each household for follow-up, where he/she was contacted every month to enquire about any health care expenses for a period of one year. Data was analyzed using frequencies and descriptive statistics. SPSS statistical software version 23 was used for analysis and results were presented in the form of tables, figures, graphs, diagrams wherever necessary.

RESULTS

Socio-demographic profile of the population

Study was conducted among 350 households of an urban area which included 1581 individuals. The age-wise distribution of the population was 991 (62.68%) adults, 211 (13.35%) adolescent (10-19 years), 162 (10.25%) 1-5 year old children, 95 (6.01%) 6-9 year old, 66 (4.17%) elderly population and only 56 (3.54%) infants. It was seen that female population was slightly higher in our study (811, 51.3%) than the males (770, 48.7%).

When the occupational profile of the population was seen, majority of the individuals were in the category of semi-skilled (246, 34.8%) and unskilled (195, 27.58%)

worker which majorly included occupations like manual labour, vegetable vendors etc.

Table 1: Socio-economic status of the households according to modified Kuppuswamy scale (n=350).

SES	Frequency	Percentage (%)
Upper middle	33	9.43
Lower middle	125	35.71
Upper lower	190	54.29
Lower	2	0.60

Table 1 shows that most of the households belonged to upper lower class (54.29%) followed by lower middle (35.71%) class. Majority of households i.e. 263 (75.10%) were below poverty line.

Out-of-pocket health expenditure

When interviewed about the health expenses spent for out-patient visits for acute illness, it was found that mean Total Health Expenditure was 567.45 INR. Mean direct cost was 519.02. (Table 2) 59.54% of the direct cost was found to be spent on drugs and 23.7% on consultation fees. Whereas lower proportion was for investigations (16.69%). In indirect expenses major contributor was food expenses and income loss which was mainly during in-patient episodes.

Table 2: Health expenditure incurred during each visit of acute illness.

Mean total health expenditure during each visit		**567.45 INR (median 400 INR)**	
Mean direct cost		519.02 INR (median 400 INR)	
1	Consultation	123.18 INR	23.70%
2	Drug expenses	309.72 INR	59.54%
3	Investigation expenses	86.63 INR	16.69%
Mean indirect cost		46.76 INR	
1	Transport expenses	10.47 INR	22.39%
2	Food expenses	20.27 INR	43.35%
3	Income loss	16.11 INR	34.45%

Table 3: Health expenditure incurred during each visit of chronic illness.

Mean THE* during each visit		**1155.67 INR (Median-800 INR)**	
Mean direct cost		1009.92 INR (median-600 INR)	
1	Consultation	180.4 INR	17.83%
2	Drug expenses	566.84 INR	56.09%
3	Investigation expenses	264.25 INR	26.16%
Mean indirect cost		131.34 INR (Median-30 INR)	
1	Transport expenses	62.16 INR	47.32%
2	Food expenses	25 INR	19.08%
3	Income loss	44.23 INR	33.59%

*THE- Total Health Expenditure

For chronic illness, Mean direct cost was 1009.92 INR. Mean Indirect cost was 131.34 INR. 56.09% of the direct cost was found to be spent on drugs and 26.16% on investigations.

Whereas lower proportion was for consultation fees. In indirect expenses major contributor was travel expenses followed by income loss (Table 3).

Protective mechanisms against out-of-pocket Health expenditure

Study found that only 8.9% (31 households) had one or the other type of health insurance. Table 4 shows that the major type of health insurance was for state Government employees and also Employee State health insurance. Social Security schemes were present for 38 individuals which majorly included widow benefit (22) and old age benefit (14).

Table 4: Type of health insurance among the households (n=31).

Type	Frequency	Percentage (%)
ESI scheme	9	29.03
State Government employee	11	35.48
Yeshaswini scheme	5	16.13
Others *	6	19.35

*Central Government Health Scheme, Rashtriya Swasthya Bima Yojan and Private health insurance

Table 5: Type of social security schemes among the households (n=38).

Type	Frequency	Percentage (%)
Widow benefit	22	57.89
Old age benefit	14	36.84
Disability benefit	2	5.26

DISCUSSION

The age-wise distribution of the population showed that majority were in the productive age group i.e. 62.68% individuals. And also the population composed a considerable number of vulnerable populations like (infants, under 5 and elderly) which gives an idea regarding burden of health problems in this area.

OOP health expenditure for acute illness

Study by Bhatia et al also showed that, of the total average expenditure of Rs 71, 48% was spent on consultation fees (which in some cases also included costs of drugs dispensed), 34% on drugs purchased, 8% on travel and 9.5% on other miscellaneous expenses such as special nutrition/ food prescribed.[14] A study by Qutntussi et al showed that out of outpatient spending on acute conditions about half of the costs were related to drugs and tests, while only a third was spent on doctor fees.[15]

Study conducted by Worrall et al found that indirect expenditure includes spending on transport, subsistence, loss of earnings for self and companion and tips to staff, which constituted respectively an average 35%, 25%, 23% and 17% of total indirect expenditure. Direct spending constituted the larger proportion of total expenditure.[16]

OOP health expenditure for chronic illness

Study done by Bhojani et al found similar expenditure results for chronic illness treatment. For the households that made OOP payments, the monthly median OOP payment on outpatient care was INR 400.

The median OOP payment on direct medical care was INR 360 which was greatest share; among the direct medical care costs greatest share (66.3%) was for the purchase of medications. The median OOP payment per chronic condition was INR 320.[17]

In a study by Quintussi et al, it was seen that the households' average monthly costs related to non-communicable diseases (1573 INR) and bulk of expenditures on care for chronic diseases (74%) were related to additional medical services, mostly drugs.[15]

Protective mechanisms

Study found that only 8.9% (31 households) had one or the other type of health insurance which is similar to a study done by Balarajan et al, where it was 10%.[6] But different from a study conducted by Mani et al, where 23% of houses were covered with health insurance.[13]

CONCLUSION

The study was conducted with the objective to estimate OOP health expenditure incurred and the prevalence of protective mechanisms against out of pocket health expenditure. It was found that most of the households were from poor economic background and incurred high health care cost due to acute and chronic illness. Only around 9% of them had one or the other form of protective mechanism. This shows that such a population has profound chances of experiencing catastrophic health expenditure in times of severe illness. It was seen that people with chronic illness end up spending high cost for health care constantly.

Recommendations

It becomes pertinent on the part of the Government to provide satisfactory and quality health care services in all the public sector hospitals. It is necessary to prevent people from attaining high health care expenses by increasing their awareness regarding various health insurance schemes. Encouraging many Community - based health insurance schemes in the country which covers the unorganized sector population. Empanelment of super- specialty hospitals under various schemes which can provide tertiary level health care at an affordable cost.

Limitations

- As the study was based on the recall of health visits of all family members by one informant who was selected initially, there was a possibility of recall bias.
- Health events for which no health care was sought were not included in the study.

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