VOLUME-8, ISSUE-10, OCTOBER-2019 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

Medical Science

A CROSS SECTIONAL STUDY ON CATASTROPHIC HOUSEHOLD EXPENDITURE ON HEALTH IN URBAN SLUM AREA OF AGARTALA

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ABSTRACT

Background: Health expenditure has been defined catastrophic if 5-20% of total household income is spent on healthcare.

Objectives: To estimate the prevalence of catastrophic household expenditures on health care in urban slum area of AMC and to determine the factors associated with catastrophic household expenditure while receiving healthcare.

Methodology: A cross sectional study was conducted among 230 households in the urban slum area of Agartala Municipal Corporation for a period of 25 days. A pretested, structured interview schedule was used to collect information.

Results: Prevalence of household catastrophic expenditure on health care is 62.61%. Family size (p = 0.001), total monthly income of the family (p = 0.000), types of illnesses (p = 0.0002), health service taken from (p = 0.0262), hospitalization (p = 0.005), number of OPD/ private clinic visits (p = 0.0008) had significantly associated with catastrophic health care expenditure.

KEYWORDS : Out of pocket expenditure, catastrophic health expenditure.

INTRODUCTION:

The World Health Report 2000 identified financial protection against the costs of ill health as a fundamental objective of health systems, on the premise that a fair health system ensures households make health care payments according to their ability to pay rather than the risk of illness.[1] Out-of-pocket expenditures are non reimbursable fees which a patient or family is responsible for paying directly to health practitioners or suppliers, without intervention of a third party. It often occurs, when publicly funded facilities are unable to provide the required health services and supplies for free or through insurance. Health policies are concerned not only with improving health status of population but also with protecting households from financial catastrophe of illness.[2] Catastrophic spending on health occurs when a household must reduce its basic expenses over a certain period of time in order to cope with health care expenses on one or more of its members.[3] Health expenditure has been defined catastrophic if 5-20% of total household income is spent on healthcare.[4] India was ranked as having the 42nd highest average out of pocket expenditure with 74.4% of private expenditure being paid as out of pocket (WHS 2011). Out-of-pocket expenditure accounts for an average increase in poverty by as much as 3.6 and 2.9 percent for rural and urban India respectively.[5] Poor public health delivery systems in India drive people to seek care from private providers at very high costs and such high out-of-pocket healthcare expenditures are very often catastrophic to the households. [7] NSSO 2014 Health survey shows that 86% of the rural population and 82% of the urban population are still not covered under any of the health expenditure protection scheme. Also, of the total hospitalisation expenditure, merely 1% cases in the rural area and 6% cases in the urban area was reimbursed partly or fully from any of the health expenditure support programs. Due to the lack of financial protection measures, 31% of the total hospitalisation expenses in the rural area and 24% in the urban areas were mobilised from the borrowings which is the primary cause of impoverishment. Every year millions of people in India are pushed below poverty line due to health care expenses. [8] Little is known about the factors that are associated with out-of-pocket health expenditure or catastrophic health expenditure. Therefore in the present study, an attempt has been made to estimate the prevalence of catastrophic household expenditures on health care in urban slum area of AMC and to determine the factors associated with catastrophic household expenditure while receiving healthcare.

METHODOLOGY

A cross sectional study was conducted in urban slum area of Agartala Municipal corporation area for a period of 25 days, starting from 14th July 2017 to 7th August 2017. Considering prevalence of catastrophic health expenditure 47.7%, 9 with 95% confidence level, taking absolute error as 7% and non response rate of 10%, sample size was calculated as 220. A multistage sampling method was followed for selecting the study participants. Agartala Municipality Corporation is divided into 4 zones, namely, North zone, Central zone, East zone and South zone. First stage, one slum from each zone (Bhati Abhoy Nagar from North zone, Krishna Nagar from Central zone, Aralia from East zone and Chandra Mohan colony from south zone) was selected randomly. In second stage, equal number of household from each slum area was selected randomly. If any house was found locked or family was not fulfilling our inclusion criteria then that family was rejected and just next to that house was visited. A predesigned, pretested, structured interview schedule was used for data collection. Informed consent was taken and data were collected from the head of the family or the eldest family member (age above 18 years) present during the visit time. Residents, who were not willing to participate, who were mentally and physically unable to state any valid consent , family not having adult member at the time of visit and house was found locked at the time of visit were excluded from the study. Data were analysed using SPSS version 21. Descriptive statistics were expressed as frequencies and percentages. Chi square statistics were applied to assess the association among different variables. P value < 0.05 was considered as significant. Study was approved by Institutional Ethics Committee of Agartala Govt. Medical College.

RESULTS:

Total 232 families were interviewed. But because of incompleteness of data 2 were discarded and analysis was done for 230 samples. Mean age of Head of the families was found to be 48.24 ± 12.50 years. Majority (81.7 %) of HOFs was males and 18.30% were females. Majority of the heads of the families (82.6%) were currently married, had completed primary education (52.2%), unskilled workers (39.10%). Families belonged Hinduism (82.2%) & were of nuclear type (65.7%). Majority families were having APL card (36.52%) and

belonged to class IV of SES (35.70%) as per Modified BG Prasad scale 2019 Only 21.3% families were RSBY beneficiary and only 15 families (6.50%) had health insurance. The families were having at least one under five child (30.43%), pregnant woman (2.17%), and Elderly person (28.70%) in last 3 months preceding the survey. We have noticed that 95.2% families had experienced any type of illness in last 3 months preceding the study. Majority of the families had experienced acute and chronic illness (43.04%), acute illness (32.6%), and chronic illness (19.56%). Fever/ cough/ ARI (62%) were the most common illness in last 3 months. Diarrhoea contributes 2.29% and injury 0.57% of all acute illnesses. Common chronic illnesses in the family were Hypertension (19.44%), Asthma (9.02%), and Arthritis / NM disease (6.94%), Diabetes (4.16%). Majority of the families went to Govt hospital (38.35%), private clinic (34.24%), both Govt. and private clinic (23.28%) for taking health care. More than 2% families taken health services from chemist shop and 1.35% took self medication. Out of the families suffered, 81.73% of the families took treatment by OPD or private clinic visit, while 18% families had to get admitted in the hospital. Total 6 families reported about child birth in last 3 months with 83% were conducted at Govt. institution, 33.33% were normal delivery and only 33% had received JSY/JSSK benefits.

Table 1: Socio demographic status of the families

Distribution of age group of Head of the families			
Sl No	**Age of HOF**	**Frequency (N)**	**Percentage (%)**
a	≤ 30 years	16	6.95
b	31- 50 years	133	57.82
c	51 – 70 years	71	30.86
d	>70 years	10	4.34
Sex of the Head of the families			
a	Male	188	81.70
b	Female	42	18.30
Marital status of the Head of the family.			
a	Never married	4	1.70
b	Currently married	190	82.60
c	Widowed/ divorced	36	15.70
Education of the Head of the family			
a	Illiterate	24	10.4
b	Sakshar	45	19.6
c	Primary education	120	52.2
d	Secondary education	21	9.1
e	Higher education & above	20	8.7
Religion			
a	Hindu	189	82.20
b	Muslim	41	17.80
Occupation of the HOF			
a	Unemployed/ Homemaker	35	15.21
b	Unskilled worker	95	41.30
c	Skilled worker	48	20.86
d	Businessman	17	7.39
e	Service holder	35	15.21
Type of family			
a	Nuclear	151	65.70
b	Joint	79	34.30
Family size			
a	Upto 3	53	52.99
b	4- 5	111	111
C	>5	66	66
Possession of various Ration cards by the families.			
a	APL	84	36.52
b	BPL	64	27.82
c	Adhoc BPL	78	33.91
d	Antodaya	4	1.73
Socio Economic status (Modified BG Prasad)			
a	Class I	9	3.90
b	Class II	37	16.10
c	Class III	76	33.00
d	Class IV	82	35.70
e	Class V	26	11.30
Monthly income of the families (Rs)			
a	**≤ 5000**	**52**	**22.60**
b	**5001- 10000**	**115**	**50.00**
c	**10001- 15000**	**30**	**13.04**
d	**15001- 20000**	**16**	**6.95**
e	**20001- 25000**	**7**	**3.04**
f	**>25000**	**10**	**4.34**
Families receiving RSBY benefits			
a	**Yes**	**49**	**21.30**
b	**No**	**181**	**78.70**
Possession of health insurance of families other than RSBY			
a	**Yes**	**15**	**6.50**
b	**No**	**215**	**93.50**
Distribution of any illnesses in the family in last 3 months			
a	Yes	219	95.2
b	No	11	4.8
Distribution of elderly person in the family			
a	**Yes**	66	28.70
b	**No**	164	71.30
Distribution of under five child in the family			
a	**Yes**	70	30.43
b	**No**	160	69.57

The study reported that the prevalence of household catastrophic expenditure on health care as defined by total health expenditure above 10% of the total family income is 62.61%. The age group, sex, marital status, education and occupation of the Head of the family, religions, community, and type of family were not significantly associated with catastrophic expenditure on health care. Ration card, Socio economic status of the family, RSBY card, possession of any other type of health insurance had got no significant association with catastrophic expenditure.

But Family size ($p = 0.001$), presence of under five children ($p = 0.034$), presence of elderly person in the family ($p = 0.008$), total monthly income of the family ($p = 0.000$), types of illnesses ($p = 0.0002$, health service taken from ($p = 0.0262$), hospitalization ($p = 0.005$), number of OPD/ private clinic visits ($p = 0.0008$) had significantly associated with catastrophic health care expenditure.

TABLE 2: Distribution of the factors associated with catastrophic expenditure. (Age, Sex, marital status, education, occupation)

Characteristics	Catastrophic Expenditure (N= 230)		P value
	Present	Absent	
Age of the Head of the family			
≤ 30years	14	5	0.445
31 - 50 years	83	47	$\chi^2 = 0.445$
51 - 70 years	42	28	df= 3
≥ 70 years	5	6	
Sex of the Head of the family			
Male	117	71	0.804
Female	27	15	χ^2=0.062 df=1

Marital Status			
Currently married	119	71	0.987
Never married/ Widowed/Divorced	25	15	x^2= 0.000 df=1
Education of the Head of the family			
Illiterate	17	7	0.399
Sakshar	24	21	χ^2= 4.045
Primary education	78	42	df= 4
Secondary education	11	10	
Higher education & above	**14**	**6**	
Occupation of the Head of the family			
Unemployed/Homemaker	21	14	0.562
Unskilled worker	63	32	χ^2= 2.970
Skilled worker	32	16	df= 4
Businessman	10	7	
Service holder	18	17	
Religion			
Hindu	117	72	0.636
Muslim	27	14	χ^2=0.224 df=1
Community			
General	41	21	0.263
SC	54	43	χ^2= 3.981
ST and OBC	22	8	df= 3
Minority	27	14	
Type of family			
Nuclear	96	55	0.675
Joint	48	31	χ^2= 0.176 df= 1
Family size			
Up to 3	21	30	**0.001**
4-5	80	39	**χ^2=13.194**
>5	43	17	**df=2**
Under 5 children in the family			
Yes	51	19	**0.034**
No	93	67	**χ^2=4.515 df=1**
Elderly person in the family			
Yes	50	16	**0.008**
No	94	70	**χ^2=6.836 df=1**
Total monthly income (Rs)			
≤ 5000	16	36	**0.000**
5001- 10000	83	32	**χ^2=29.661**
10001- 15000	20	10	**df=3**
>15000	25	8	
Type of illness (N = 219)			
Acute illness	36	39	**0.0002**
Chronic illness	31	14	**χ^2=17.051**
Acute + Chronic	77	22	**df=2**
Health services taken from			
Government institution	57	27	**0.0262**
Private clinic	45	30	**χ^2=9.249**
Chemist shop + self medication	4	5	**df=3**
Government + Private	42	9	
Hospitalization			
Yes	38	5	**0.005**
No	106	70	**χ^2=12.156 df=1**
No. of OPD/ private clinic visits			
Once	34	44	**0.0008**
2-3 times	53	23	**χ^2=14.286**
≥ 4 times	19	6	**df=2**

DISCUSSION:

This cross sectional study was conducted among 230 households in 4 urban slums under Agartala Municipal Corporation to assess the out of pocket expenditure on health and the prevalence of catastrophic expenditure and also the factors affecting them. The study reported that the prevalence of household catastrophic expenditure on health care is 62.61%. Whereas Poornima Varadarajan [10] reported about 81% of households were incurring out of pocket expenditure and 66% were facing catastrophic health expenses. In our study it was found that big family size, presence of under five child and elderly in the family increases the catastrophic expenditure of the family. Similar result was found by Singha RK [11] catastrophic health expenditure was high among households headed by person above 60 years, probably indicating the higher care requirements of aging population.

Also the monthly income of the family, type of illness and health services taken from are significant factors associated with catastrophic health expenditure. Similarly Singha RK [10] reported that poor people have higher risk exposure to illness due to a number of reasons like poor living conditions, poor nutritional status or difficult working conditions, or lower access to preventive measures. The study also found that CHE were very high where a household member was suffering from any chronic disease. At present insurance coverage is available only for inpatient care, which leaves out-patient care for chronic illnesses that could potentially predispose households to catastrophic expenses or avoidance of any treatment with equally catastrophic consequences. Only 28% families in our study were having any type insurance or RSBY card. So the insurance coverage (Ayushman Bharat or any other type of insurance) needs to be expanded in a manner that people, particularly theses vulnerable sections, enable to seek quality health care.

CONCLUSION AND RECOMMENDATION:

This study highlighted the various determinants, potentially responsible for high catastrophic health expenditures among the households of Agartala Municipality Corporation area. To ensure equitable health care delivery for all, OOP health expenditure should be minimized. The policies to reduce OOP expenditure should extend beyond curative medical attitudes, to include preventive social welfare aspects. We recommend improving the quality of primary care services to make it more accountable to community necessities which would minimize private healthcare expenses. Increased community awareness to participate in income-generating activities to strengthen their household economy is needed.

Further research in the same field is thereby recommended so as to assess the probable barriers behind the health care utilization and to formulate appropriate policies regarding the same.

Source of funding: Nil
Conflicts of interest: Nil

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