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A Study On OOPE On Health Among Rural People Of Bhojipura Block Of District Bareilly.

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ABSTRACT

High out-of-pocket expenditure (OOPE) on health can increase poverty, reduce access to healthcare, and lead to long-term poverty and irrational use of drugs. Catastrophic health spending (CHS) and its impoverishment effect are gaining attention from policymakers and healthcare providers. Aim: To estimate the out-of-pocket expenditure on health among study participants and identify socio-demographic factors associated with higher out-of-pocket expenditures in the study participants. The study was carried out in the rural area of Bareilly. This study was conducted as over a period of one year. It was a retrospective cross sectional study. Study population: Rural people residing in the Bhojipura block of district Bareilly. Sampling unit is family residing in bhojipura block of district Bareilly. Sample size came out to be 260. Out of total 264 study subjects, majority 71.2% of the study subjects were Hindu by religion as compared to 28.80% who were Muslim by religion. Majority 87.12% of the subjects belonged to the category of (OBC) as compared to 7.19% and 5.68% belonging to the category of SC and General Class respectively. Out of total 264, most 62.70% of the families were nuclear type and 34.96% were joint families. It also reveals the distribution of the families on the basis of heads of the families. Out Of Pocket Expenditure (OOPE) is the major mechanisms for health financing across the sample population. OOPE are many times high enough so that families suffer from catastrophic effects of such high OOPE

Keywords: OOPE, healthcare, Catastrophic health spending.

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INTRODUCTION

WHO defined “Out Of Pocket Expenditure (OOPE) as direct payments by individuals to health care providers at the time of service utilisation. This excludes any pre-payments for health services, for example in the form of taxes or specific insurance premiums or contributions and, where possible, not of any reimbursements to the individual who made the payments” [1]. It is vital to estimate to determine the OOPE for the better planning of public health care services.

Per capita health expenditure is associated with economic development, the level of and growth in health expenditures is different within countries [2].

Health care is unlike any other budget items in ways such as its consumption is unpredictable and irregular.

Principal goals of health reforms primarily in developing countries is to ensure that households and individuals do not face any financial load from accessing and utilising healthcare. Principle that healthcare is based on human rights, financial barriers are a significant obstruction to healthcare access mainly for the poor and sick [3, 4].

Countries face large expenditures in public health because of its cost. There are barriers in gaining health for all the people, in which expenditure is one of it.

The Sustainable Development Goals (SDGs) initiative has put health at the centre of the development agenda [5].

Poverty is a major problem in the developing countries; many programmes have been run by governments to face these challenges. Ill Health is also a determinant of poverty.

In many low- and middle-income countries, a huge amount of health expenditure is paid as OOPE by households. Excessive dependence on OOPE can lead to increased financial barriers, thereby increasing disproportional access to health care, or can result in financial catastrophe [6-9]. There is a growing concern for betterments in the delivery of healthcare services. However, the use of these healthcare services can lead into paying huge amounts of their incomes as OOPE. It may also push them into poverty or increases the poverty of households that are already poor [8].

Estimates from household surveys show that, each year worldwide, around 100 million individuals suffer and another 150 million face severe financial difficulties due to direct expenditure on health and that more than 90% of people affected are living in low-income countries [6]. Financing health care through OOPE results in catastrophic health expenditure and impoverishment in many Asian countries, particularly India [7-10].

High OOPE remains common in India, where only 15% of the population is covered by health insurance [11]. In 2014, such payments were estimated to account for 62% of total health expenditure (60.6 billion United States dollars, US\$, out of US\$ 97.1 billion) [12].

In India, health expenditure accounts for <5% of the GDP and the level of OOPE is 69.5 per cent of total health expenditures [13].

Aim

To estimate the out-of-pocket expenditure on health among study participants and identify socio-demographic factors associated with out-of-pocket expenditures in the study participants.

Objectives

- To estimate the out-of-pocket expenditure on health among study participants
- To explore the socio-demographic determinants of the out-of-pocket expenditure on health

METHODS

Study setting: The study was carried out in the rural area of Bareilly.

Study Period: This study was conducted as over a period of one year i.e. from 1st February 2021 to 31st July 2022.

Study design: It was a retrospective cross-sectional study.

Study population: Rural people residing in the Bhojipura block of district Bareilly.

Sampling Unit: Family residing in Bhojipura block of district Bareilly.

Sample size: has been calculated based on the study conducted by **Loganathan**, et al [14].

The sample size has been calculated by using the formula

$$n = \frac{Z_{1-\alpha}^2 pq}{d^2}$$

p = 18.9% **q** = (1-p) **d** =absolute precision taken as 5 %,

putting these values in the formula. The sample size came out to be 236,

After considering 10% non-response rate, minimum sample size came out to be 260.

Sampling Technique: The study population has been selected by using Multi stage sampling technique.

Sampling procedure: Villages were selected based on the list of sub centres obtained from CHC Bhojipura. In Bhojipura block there are 27 sub-centres, with the help of map of Bhojipura Block a list of sub-centres was prepared based on whether accessibility of road was there or not.

All Four sub-centres were chosen from the category where the accessibility of road was not there and eight from sub-centre category where accessibility of road was there, randomly by using lottery method. In this manner total of 12 sub-centres were chosen.

The Information was collected from head of the family by personnel interview, information was collected on the pre designed, pretested, semi structured interview schedule for health-related events in past one year.

Study Tool: Information was collected from head of the family using a pre designed pre tested semi open-ended interview schedule.

Interview schedule: It was modelled on Socioeconomic and caste-based questionnaire for rural area used in SECC based census in 2011. Socio-economic survey, 71st round: January to June, 2014, National Sample Survey Office Government of India.

Inclusion criteria

- Family residing permanently in that village at least for past one year.
- Head of the family giving written informed consent to participate in the study.

Exclusion criteria

- If head of family was not present at home for 2 subsequent visits.

Pilot study: 1 village from 1 sub centre was randomly selected of which 30 (that is 10% of sample size) families were selected randomly utilising voter list using the same sampling methodology. This village was not included in the of main study

Data analysis- Data was entered in MS excel software and was analyzed using SPSS trial version. As the data was not normally distributed, non-parametric tests including Kruskal - Wallis H and Mann- Whitney tests were applied as data was not normally distributed.

Operational definitions

Family: The family is a group of biologically related individuals living together and eating from a common kitchen [15].

Household health expenditure: defined as the annual direct OOP health spending by households on medical goods and services and maintenance of good health [16].

Direct health expenditure: It includes all annual medical expenditure towards treatment which includes doctor's fee, purchase of medicine, diagnostic charges and hospital charges [17].

Indirect health expenditure: It includes the other annual expenses incurred by a household which includes transportation charge, lodging charges and loss of wages for both the patients and the family members [17].

Catastrophic health expenditure: defined as the household's annual health expenditure when exceeds 10 per cent of the total annual household income [18].

Ethical clearance:-Study started after getting ethical clearance from the Institute Ethical Committee.

Cost involved: No

Permission from Drug Controller General of India: Not required

Conflict of Interest: None

RESULTS

Out of total 264 study subjects, majority 71.2% of the study subjects were Hindu by religion as compared to 28.80% who were Muslim by religion. Majority 87.12% of the subjects belonged to the category of Other Backward Classes (OBC) as compared to 7.19% and 5.68% belonging to the category of Scheduled Classes (SC) and General Class respectively. Out of total 264, most 62.70% of the families were nuclear type and 34.96% were joint families. It also reveals the distribution of the families on the basis of heads of the families. 91.7% head of families were male as compared to 8.3% females. Mostly 75.00% of heads of the families were illiterate as compared to only 1.90% head of the families who were having education up to below primary level. 37.50% heads of the families were involved in agriculture as their occupation and 25.00% were daily wage laborers as compared to 11.36% and 9.85% who were salaried worker and self-employed respectively. 38.64% and 33.71% head of the families belonged to Class III and Class II of modified B. G. Prasad classification of socio economic status. Out of 264 families 60.23% and 39.77% were large and small families with more than or equal to 5 and less than 5 family members respectively.

Table 2 shows the distribution of families according to standard of living index (SLI) score. Out of 264 families most 86.40% belonged to middle class whereas only 13.60% belonged to upper class as per SLI score.

Out of 264, 73.48% had personal hand pump as a source of water as compared to 25.76% and 0.76% who had own tap and shared tap respectively as a source of water. 78.79% families were living in semi pucca house as compared to 20.83% and 0.38% respectively who resided in pucca and kutch house respectively. Most 96.59% of the families were having electricity as a source of illumination. Similarly, most of the families 96.21% were having LPG as a fuel for cooking. Approximately three fourth 75.76% families out of 264 were not having separate kitchen in their house. Out of 264 families, 80.30 and 19.70% were using shared and personal sanitary toilet.

Table 4 depicts the distribution of study participants on the basis of Expenditure on Healthcare Facilities Utilized during pregnancy for delivery, 8 (61.54%) reported average expenditure of INR 3000 whereas 5 (46.15%) reported average expenditure of INR 5000 on natal and post-natal care.

Table 5 describes about village wise out of pocket expenditure on health in two categories depending upon are road accessibility.

Table 1: Socio-demographic profile of study population (N=264)

Characteristic	Category	Frequency	Percent
Religion	Hindu	188	71.20
	Muslim	76	28.80
Caste	SC	21	7.19
	OBC	227	87.12
	General	16	5.68
Socio economic status*	Class I	17	6.44
	Class II	89	33.71
	Class III	102	38.64
	Class IV	42	15.91
	Class V	14	5.30

*B.G. Prasad classification modified on January 2022 {Class I: 8220 and above, II: 4110-8219, III: 2465-4109, IV: 1230-2464, V: <1230}, ^b Family size consider as small (less than Median=5)

Table 2: Distribution of study population according to standard of living index (SLI) (N=264)

Class	Frequency	Percent
Upper (>19)	36	13.60
Middle (9 and ≤19)	228	86.40
Lower (≤ 9)	0	0
Total	264	100.00

Table 3: Distribution of study population on the basis of housing standards (N = 264)

Indicator	Response	Frequency	Percent (%)
Water Sources	Hand pump	194	73.48
	Tap Shared	2	0.76
	Tap-Own	68	25.76
House Type	Semi Pucca	208	78.79
	Kutchha	1	0.38
	Pucca	55	20.83
Source of Illumination	Electricity	255	96.59
	Others	9	3.41
fuel for cooking	LPG	254	96.21
	Non LPG	10	3.79
Toilet	Personal Sanitary Toilet	52	19.70
	Shared Sanitary Toilet	212	80.30
Kitchen	Separate	64	24.24
	Not separate	200	75.76

Table 4: Distribution of study population according to Expenditure on Healthcare Facilities Utilized during pregnancy or delivery (N=13)

Type of service	Healthcare Facilities (%)	Average Expenditure incurred
Pre Natal care	8 (61.54)	3000
Post Natal care Overall	5 (46.15)	5000

Table 5: Distribution of families on the basis of OOPE and accessibility of their sub-centre from road

Accessibility from Road	Village	Median	Range
Accessible	Abhaypur	7200	2200-80000
	Attapatti	3500	1600-13800
	Bilwa	12650	3400-140000
	Dhabora	6300	2200-66800
	Pareva	6250	2600-14900
	Aspur	7900	1900-26700
	Chitiya	7100	3700-62700
Not Accessible	Miyapur	9200	1300- 89600
	Pipariya	9300	3402-35000
	Sagalpur	10250	2200- 90700
	Lakshmiyapur	6840.5	3420-16673
	Latoori	12600	5600-77000
Total		1300	7650-140000

DISCUSSION

In a study conducted by Ghosh S. [19] in November 2011 concluded that among study participants 114 (95%) were Hindu, 73 (60.8%) were OBC. The proportion (95% CI) of households which incurred OOPE was 68.3% (59.5%–76%). These findings are similar to current study which had 188 (71.20%) Hindu, 227 (87.12%) OBC.

Out of the total 986 households in a study conducted by Sinha [20] concluded that 8% households were from Scheduled Tribe (ST) community, 10% households were from Scheduled Caste (SC), 59% households were of Other Backward Classes and 23% households were of General categories as stated by. In current study Out of 264 families majority 87.12% families belonged to OBC and those belonging to SC and general category were 7.19%, 5.68% respectively.

Sinha [20] also found that the primary source of drinking water was either a tube well or well and primary fuel of cooking was firewood in most cases, and in some of the cases, cooking gas. In current study approximately two third out of 264 families, 194 (73.48%) had hand pump as a primary source of drinking water rest had tap water for drinking purpose. The cooking fuel in most of the families 254 (96.21%) out of 264 families was LPG.

In the study conducted by Niharika Mahajan et al [21], out of the 420 respondents surveyed, 406 (96.7%) reported bearing expenditure on childbearing, irrespective of the type of health facility used in comparison to current study where 8 (61.54%) and 5 (46.15%) expenditure on pre and post natal care respectively. In the study carried out by Mukesh Shukla et al [22], the mean total expenditure was found Rs 1406.00. The study by Niharika Mahajan et al [21] shows that risk of bearing catastrophic expenditure and being pushed down to abject poverty is higher for respondents who are already at the bottom of wealth quintiles whereas the median expenditure reported in current study has been 3000 & 5000 on pre and post-natal care respectively.

Better the social determinants of health lower the households' exposure to catastrophic health expenditure. Similarly, a negative relationship has been found among catastrophic health expenditure, economic status and educational level of the households.

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