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Health treatment costs of rural households in Bangladesh

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ABSTRACT

Many people in low-middle-income countries depend on household for health treatment cost. In Bangladesh, in the absence of a functional health insurance market, and a lack of coverage by existing health insurance schemes, most costs people bear are out-of-pocket. Therefore, understanding the economic burden of health treatment cost on households in Bangladesh is important. This is a relatively unexplored policy issue in Bangladesh. The aim of this study was to reveal treatment costs and socio economic pattern in a rural setting of Bangladesh. A descriptive type of cross-sectional study was conducted on 184 villagers of Satgar village at Lohagara sub district of Chittagong district. Data were collected by face to face interview using a pretested questionnaire. The survey revealed that 16.67% of upper class respondents spent above BDT 3600 while 92.31% of lower class respondents spent a marginal amount of money. The poor respondents spent 15-20% of their monthly household income on treatment more than any other socioeconomic groups. The study reflected that treatment costs are significant burdens on the villagers. Providing affordable primary health care services as well as spreading awareness among the villagers can play an important role in securing their financial solvency.

INTRODUCTION

Healthy economic growth is intimately entwined with human welfare. In recent times, Bangladesh has been extraordinarily successful both in terms of economic growth and reaping its benefits in the socioeconomic arena. Though Bangladesh has already achieved the MDG by 2021, still many challenges await the country. For example, health sector has historically lagged behind considerably. According to WHO, at least 5% of GDP should be spent on health care. The budget allocation of Bangladesh for health care has been less than 1% of GDP. This allocation is the lowest among 46 least developed countries for the last two decades (Tawsia 2022). In the 2022-2023FY, health allocation was 5.4% which remained the same compared to the past years (New Age 2022).

With the terminal year of MDG having passed, the SDG have taken center stage as the frame work for global development. SDG refers to a set of 17 global goals to end poverty, protect the planet and ensure prosperity for all. Bangladesh has already embraced the SDG which can help guide the future development of the country as a signatory of the UN(ibid).

Recognizing the importance of universally accessible healthcare in socioeconomic development, the call to health reform (SDG 3) includes Universal Health Coverage (UHC) as one of its prime targets. The WHO defines (2017) UHC as a system to ensure that every individual and community, irrespective of their circumstances, should receive the health services they need without risking financial hardship. The chief indicators of UHC are coverage of essential healthcare facilities and financial risk protection (FRP).

In a country like Bangladesh, FRP is essential for the materialization of UHC (BNHA 2015). The level of catastrophic health expenditure is regarded as the chief indicator of this. The per capita health expenditure in Bangladesh is just $45, compared with $58 in Nepal, $73 in India, $103 in Bhutan and $157 in Sri Lanka. The WHO labels health

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expenditure as catastrophic when a family's medical bills account for 40% or more of their income available after buying food (Tawsia 2022). It is said that CHE (catastrophic health expenditure) incidence on hospitalization in the country has been rising from 14.2% in 2010 and 24.6% in 2016 to 26.1% in 2021(ibid).

OOP (out-of-pocket expenditures) is a part of the health financing landscape in all countries. It is defined as direct payments made by individuals to health care provided at the time of service use. It is an important parameter to gauge lack of FRP. The BNHA (2015) reports that household OOP remains the main source of health service financing in Bangladesh of total health expenditure (THE). Currently, the people of Bangladesh has to pay 68.50% of their total treatment costs out of their own pockets (Tawsia 2022). Among the SAARC countries, Bangladesh has the second highest out of pocket health expenditure after Afganistan where OOP expenditure is 78% (New Age 2022).

Besides increasing healthcare costs and lack of active prepayments system, the health system faces the threat of losing donations from developed countries before Bangladesh has obtained a steady foothold in its new economic tire. As such, to retain its momentum in the economic field, Bangladesh needs to adapt a pragmatic policy for effective transition to a modern, equitable health system.

Informed policy making requires understanding of the status quo. Estimation of FRP and catastrophic health expenditure is vital to that understanding. Rural communities are a low income and high expenditure group vulnerable to being sidelined. A close relationship exists between treatment cost and disease pattern. The treatment of chronic disease entails a higher cost than that of acute disease. Due to population exploration, environment pollution, lack of proper sanitation and other factors, communicable diseases are common here. Knowing these facts in details can contribute to a better understanding of health care expenditure.

The aim of this study was to learn the pattern in a rural setting to assess the treatment cost for disease and health problems and to reveal how much the people have to spend for treatment and health care purpose out of their total household income. Ultimately, it should serve to highlight the level of threat posed by rising healthcare costs to the financial stability of rural Bangladesh.

METHODOLOGY

Location

The study was done in Satgar village of Adhunagar union in Lohagara sub district of the Chittagong district. The location of the study was done purposively.

Sampling

The numbers of respondents were 184. The size of sample was comprised of male and female respondents. It was followed convenient sampling procedure to collect data.

Research instruments and data collection

A prepared, pre-tested questionnaire containing both structured and unstructured questions were the basic tools of the research procedures. The relevant data were collected by face to face interview.

Analysis techniques

After collection, data were checked and verified. The obtained information was presented by descriptive study such as frequency and percentage.

RESULTS AND DISCUSSION

Basic information of respondents

Age

Among 184 respondents, most were in the age group 28-38 years (26.09%) followed by 38-48 years (24.46%) and 18-28 years (22.83%) (Table 1). The mean age of the respondents were 49.15 years (Haque and Islam et al. 2021) while it is found 53.40 years in a study of Parvin et al (2022).

Table 1: Age of the respondents

Particulars	Frequency (%)
18-28	42(22.83%)
28-38	48(26.09%)
38-48	45(24.46%)
48-58	24(13.04%)
58-68	20(10.87%)
68-78	02(1.09%)
78 and above	09(1.63%)
Total	184(100%)

Sex

Among the respondents 112 (60.87%) were female and remaining 62 (39.13%) were male (Table 2) while 38 (35.5%) female and 69 (64.5%) male were observed in Haque et al (2021).

Table 2: Gender of the respondents

Particulars	Frequency (%)
Male	72(39.13%)
Female	112(60.87%)
Total	184(100%)

Marital status

Out of 184 respondents 161(87.5%) were married, 19 (10.33%) were single and 4 (2.17%) were divorced (Table 3). Parvin et al. (2022) found 86.3% were married, 3.9% were unmarried, 2% were widow and rest 7.8% were found divorced.

Table 3: Marital status of the respondents

Particulars	Frequency (%)
Unmarried	19(10.33%)
Married	161(87.50%)
Divorced	4(2.17%)
Total	184(100%)

Education

Among the respondents 84 (45.65%) were educated up to secondary level and equivalent. 36 (19.57%) respondents educated up to primary level and its equivalents while 16 (8.70%) had completed graduation (Table 4). In a study by Esmat et al. (2020), the highest level of education was schooling (30.26%) while the lowest frequency was related to the doctoral degree (1.25%). Regarding to another study, most of the respondents were graduates (22.1%) and non-educated (21.6%) respectively (Parvin et al. 2022). In case of Sarker et al. (2022), most of the participants completed the secondary (31%) school where as approximately 26% participants had no formal education.

Table 4: Level of respondents' education

Level of education	Frequency (%)
Illiterate	39(21.20%)
Primary/equivalent	36(19.57%)
SSC/ equivalent	84(45.65%)
HSC/ equivalent	7(3.80%)
Graduation and above	16(8.70%)
Others	2(1.09%)
Total	184(100%)

Occupation

Among the respondents, 100(54.35%) were housewives, 19(10.33%) were businessmen and 15(8.15%) were students (Table 5). Most of the respondents (41.96%) were found unemployed in Sarker et al (2022).

Table 5: Occupation of respondents' family members

Particulars	Frequency (%)
Housewife	100(54.35%)
Business	19(10.33%)
Student	15(8.15%)
Jobless	9(4.89%)
Day labourer	7(3.80%)
Teacher	6(3.26%)
Abroad job	4(2.17%)
Farmers	11(5.98%)
Others	13(7.06%)
Total	184(100%)

Health & hygiene status

Most of the respondents (55.98%) were reluctant to boil drinking water before usage. About 20.65% were taking cigarettes and 69.02% were taking betel leaf. 17.39% of the respondents did not use sanitary latrines but 94.02% washed their hands with soap after using toilet. 89.67% of respondents took green vegetables daily (Table 6). It was found (Sarker et al. 2022) that approximately 62% respondents had no utilization of safe water.

Table 6: Health & hygiene status of the respondents

Particulars	Yes	No	Total
Drinking water after boiling	81(44.02%)	103(55.98%)	184(100%)
Using sanitary latrine	152(82.61%)	32(17.39%)	184(100%)
Washing hands with soap after using toilet	173(94.02%)	11(5.98%)	184(100%)
Eating green vegetables daily	165(89.67%)	19(10.38%)	184(100%)
Taking cigarettes	38(20.65%)	146(79.35%)	184(100%)
Taking betal leaf	57(30.98%)	127(69.02%)	184(100%)

A total of 214 instances of disease were recorded, with an average of 1.5 disease per family compared to per 2.8 per household in the study by Islam et al (2017) conducted in Rajshahi city.

Most commonly reported illness was fever (24.77%), followed by gastrointestinal (16.36%), respiratory (15.42%), metabolic (11.2%) and cardiovascular (9.35%) diseases.

Table 7: Disease status of the respondents by type of cases

Types of Disease	Frequency (%)
Gastrointestinal	35(16.36%)
Respiratory	33(15.42%)
Cardiovascular	20(9.35%)
Musculoskeletal	5(2.34%)
Genitourinary	8(3.74%)
Neurological, Eye & ENT	13(6.07%)
Metabolic	24(11.21%)
Other diagnosed	4(1.87%)
Accidents	9(4.21%)
Malnutrition	1(0.47%)
FUO	53(24.77%)
Undiagnosed	9(4.21%)
Total cases	214(100%)

However, both communicable and non-communicable diseases were observed (Table 7). In 2011, community-based study on disease pattern was conducted by Rahman et al (2011) found fever (33.3%), gastrointestinal diseases (24.9%) and respiratory diseases (17.8%) the most commonly reported complaints. It is seen that compared to fever was, however, relatively higher in the study conducted by Rahman et al (2011). Another study of Rahman et al (2022) found that most of the respondents had no chronic illness. A similar study was performed by Hussain et al (2004) in four large cities in Pakistan along with the adjacent rural areas. Most common acute illness was fever (30.5%) followed by upper and lower respiratory tract infections (7.4%), gastrointestinal diseases (6.5%) etc. The most common chronic disease was diabetes mellitus (4.4%), hypertension (2.8%) and cardiovascular disease (1.8%).

Treatment costs

Among the respondents, 109(59.24%) spent 0-5%, 36 (19.57%) spent 5-10% and 39 (21.20%) spent 10% or more of their monthly household income on seeking healthcare (Table 8). This last value may be considered catastrophic expenditure (Table 8). In a study conducted by Van Doorslaer et al. (2006), the level of catastrophic health expenditure in Bangladesh is 15.57%. The study conducted by Rahman et al. (2022) observed that around 25% of households in Bangladesh incurred financial catastrophe when they received health care services.

Table 8: Percentage of monthly household income occupied by treatment costs among respondents

Income brackets	Frequency (%)
0-5%	109 (59.24%)
5-10%	36 (19.57%)
10-15%	12 (6.52%)
15-20%	9 (4.89%)
20-25%	11(5.98%)
25≥	7 (3.80%)
Total	184 (100%)

Out of 184 respondents 18 (9.78%) respondents in this study spent more than 20% of monthly household income. In 2011, a study was conducted in Rajshahi city by Islam et al. (2017) who found 9% households incurred healthcare costs

amounting to a minimum of 20% of their monthly income.

Most of the lower-class respondents (92.31%) spent in the range of Taka 0- Taka 900 while only 50% of the upper-class respondents spent in the same range (Table 9). In a study (Mahmud et al. 2017) on the distribution and determinants of OOP healthcare expenditure in Bangladesh found the cost of medicine was the highest cost driver (61.38%). The upper 20% of the population in terms of socio-economic status had higher average OOP healthcare expenditure which was 4.34% of their monthly household income. On the contrary, the lowest quintal of the individuals spent less for receiving healthcare (Mahmud et al 2017). Sarker et al (2022) showed that the overall OOP healthcare expenditure was 7.7% of the household monthly income. It was also indicated (ibid) that the poorer income group suffered more and spent up to 35% of their household income on healthcare.

18 (9.78%) of the respondents spent more than Taka 3600 on treatment (Table 9), out of which only 2 (11.11%) were of upper class while the remaining 16 (88.89%) were middle class people. Thus, middle class respondents were found to spend a relatively larger amount of money in comparison to lower or upper class respondents (Table 9).

Among the 184 respondents, 7 (3.80%) spent >25% of their monthly household income for treatment of different diseases. They all belonged to middle class. A relatively greater percentage (10.61%) of those in lower middle class spent in the range of 20-25% of their monthly household income on treatment compared to those in upper middle class (4.30%). Those in progressively higher socioeconomic classes spent progressively larger amounts of money but which represented a smaller portion of their overall monthly household income (Table 10). It is found in Sarker et al. (2022) that the richest quintile only spent 5.2% of their household income on healthcare. They (ibid) also added that the poorest households spent approximately six times more than the richest households in their study.

Table 9: Expenditure on treatment in various socioeconomic groups

SES	0-9%	9-18%	18-27%	27-36%	>36	Total
Lower	12(92.31) (10.26)	01(7.69) (3.85)	00(0.00) (0.00)	00(0.00) (0.00)	00(0.00) (0.00)	13(100) (7.07)
Lower Middle	46(69.70) (39.32)	06(9.09) (23.08)	09(13.64) (56.25)	01(1.52) (14.29)	04(6.06) (22.22)	66(100) (35.87)
Upper Middle	52(55.91) (44.44)	18(19.35) (69.23)	06(6.45) (37.50)	05(5.38) (71.43)	12(12.90) (66.67)	93(100) (50.54)
Upper	07(58.33) (5.98)	01(8.33) (3.85)	01(8.33) (6.25)	01(8.33) (14.29)	02(16.67) (11.11)	12(100) (6.52)
Total	117(63.59) (100)	26(14.13) (100)	16(8.70) (100)	07(8.70) (100)	18(9.78) (100)	184(100) (100)

Table 10: Percentage of monthly household income spent on treatment in various socioeconomic groups

SES	0-5%	5-10%	10-15%	15-20%	20-25%	>25	Total
Lower	10(76.92) (9.17)	02(15.38) (5.56)	00(0.00) (0.00)	01(7.69) (11.11)	00(0.00) (0.00)	00(0.00) (0.00)	13(100) (7.07)
Lower Middle	39(59.09) (35.78)	10(15.15) (27.78)	04(6.06) (33.33)	03(4.55) (33.33)	07(10.61) (63.64)	03(4.55) (42.86)	66(100) (35.87)
Upper Middle	51(54.84) (46.79)	24(25.81) (66.67)	05(5.38) (41.67)	05(5.38) (55.56)	04(4.30) (36.36)	04(4.30) (57.14)	93(100) (50.54)
Upper	09(75) (8.26)	00(0.00) (0.00)	03(25.0) (25.0)	00(0.00) (0.00)	00(0.00) (0.00)	00(0.00) (0.00)	12(100) (6.52)
Total	109(59.24) (100)	36(19.57) (100)	12(6.52) (100)	09(4.89) (100)	11(5.98) (100)	07(3.80) (100)	184(100) (100)

For seeking treatment, 30.43% of the respondents went to private chambers, 20.65% of them went to private clinics and 9.24% went to government hospitals while 13.04% of the respondents received treatment from medicine shops (Table 11). Many other respondents went to the Union Health Center and Sub district Health and Family Welfare Complex etc.

Table 11: Treatment site of the respondents

Particulars	Frequency(%)
Govt.hospital	17(9.24%)
Private clinic	38(20.65%)
Private chamber	56(30.43%)
Medicine shop	24(13.04%)
Multiple	8(4,35%)
Others	41(22.28%)
Total	184(100%)

Regarding in the treatment, 111(60.33%) respondents completed the course while 73 (39.67%) respondents did not do so, most of them citing financial reasons. Out of 73 respondents, 49 (67.12%) respondents said that they would have continued treatment if the cost were lower. Their statement resonates with the findings of study by Pavel et al. (2016) found that the cost of medicine was the highest cost driver for seeking treatment and those with the least capacity to pay were paying the highest costs of illness and treatment.

Table 12: Status of treatment

Particulars	Frequency (%)	Frequency (%)
Completed treatment course	-	111(60.33%)
Not completed treatment course	-	-
Would complete course	49(67.12%)	-
Would not complete	24(32.88%)	-
Sub total	-	73(39.67%)
Total	-	184(100%)

CONCLUSION

In attempting to determine the percentage of monthly household income delegated to seeking out the basic fundamental right of health, this study reveals the plight of the villagers and the status of socioeconomic classes of rural peoples in Bangladesh. This study also elucidates the major cost drivers and problems of health seeking behavior. The CHE of the current study is found to be similar with others despite many limitations of it. The study also found that the abilities of expenditures of upper class respondents were higher comparable to other socioeconomic classes. The disease pattern revealed predominance of gastrointestinal and respiratory illness with communicable and non-communicable disease equally represented. Thus cheaper primary health care, better health education, raising awareness of free of cost services at government facilities and the importance of a healthy lifestyle may be understandable through the findings.

RECOMMENDATIONS

1. Similar study to determine the lack of FRP should be conducted on a large scale with documentary evidence of household expenditure breakdown to increase accuracy and allow estimation of more indicators e.g. capacity to pay.
2. Random sampling techniques may be employed to eliminate risk of bias.
3. The villagers should be made aware of cost saving strategies e.g. availing healthcare services at primary healthcare facilities such as community clinic instead of getting admitted in private clinics or visiting chambers.
4. The government should initiate a registration program to enlist all individuals engaged in catastrophic spending and ensure delivery of affordable healthcare to them
5. Measure should be taken by the government to improve local health facilities so that rural people can take advantage of better treatment at affordable cost.

The Government of Bangladesh has already taken many fruitful steps in both health and health related sectors. The impact of such programs should be assessed by means of similar studies. Through all these activities, Bangladesh can repeat its impressive performance in MDGs and act as a role model in

achieving the SDGs for other developing nations of the world.

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