CHAPTER 5

RESULTS OF STUDY 1: COST ANALYSIS

The results of this study are presented under three parts;

1) Results of analysis on the socio-demographic and socio-economic characteristic of patient and their parents, distance and time to different service point in relation to urban and rural population. 2) The costs incurred by patients and their parents during the treatment period in the hospital 3) Knowledge, attitude and perception on the use of rural health care facilities.

5.1 Socio-demographic characteristic of the Sample

Data gathered from total of 100 children and their parents were used for different analytical purposes. Out of 100 samples there were 20 urban samples and the rest were rural. Distribution of Patient's from rural and urban areas in relation to age, gender is given in table 5.1

Table 5.1 Age and gender wise distribution of patients sampled.

Age (in yrs)	Urban (n=20)				Rural (n=80)			
	Male	Female	Total	%	Male	Female	Total	%
0-1	1	0	1	5.0	7	4	11	13.75
1.5-2	1	2	3	15.0	4	7	11	13.75
2.5-3	3	1	4	20.0	11	11	22	27.75
3.5-4	2	3	5	25.0	15	7	22	27.50
4.5-5	5	2	7	35.0	9	5	14	17.50
Total	12	8	20	100.0	46	24	80	100.00

The age specific distribution of diarrhoeal in-patient under 5 years of age from urban and rural areas showed that the highest percentage (35%) of diarrhoeal patients from urban area was in the age class among 4-5 years age group. patients in the age class 0-1 age group were minimal(5%)

It has been observed that the incidence of diarrhoea was less among under 1 year of age group both in urban and rural sampled, the reason is that, during this age mostly the mothers take care of their child. But when the child grown up (ie. pre-school age to school going age) and started to go outside like playground, school etc. the mother

becomes reluctant about the child's care and the incidence gradually increases.

5.2 Cost Incurred by Patient and Parents.

Table 5.2 Cost (in Taka) incurred to travel to different service point by rural and urban people.

Service points	Urban(n=20)				Rural(n=80)			
	Range		Mean	Std	Range		Mean	Std
	Min	Max			Min	Max		
Health center	15	60	31.40	12.83	00	40	9.50	10.1
Health complex	8	45	22.75	7.97	00	32	12.95	8.0
Dist. hospital	8	45	22.75	7.97	15	140	38.08	15.3

Table 5.2 shows that the estimated costs in relation to distance towards conveyance to different service point. Usually the urban people don't use the rural health facilities, when they attend the District hospital the conveyance cost they have to pay Taka 8.00 to Taka 45.00 with a mean of Taka 22.75. While the rural people have to pay Taka 15.00 to Taka 140.00 with a mean of Taka 38.08.

5.3 Cost Analysis

Cost incurred during the treatment of diarrhoeal patient by the urban area was different from that of these from rural area. Some cost components to be higher among the rural population than the urban.

Cost in relation to cost components, incurred by the urban patients is shown in table 5.3. Food cost was the highest component (22.29) followed by laboratory cost (17.53). While the cost towards drugs (medical) was about 17% of the total cost it was only 6.5% and 7.4% towards bed cost and transport cost respectively. The cost due to loss of work constituted about 15.1% of the total cost.

Urban people are economically better than rural people. The average daily income also higher than rural, so that they spend more money for food than rural people. Laboratory and drug cost was high because,urban people prefer costly drug for quick recovery. Physician always prescribed costly drug to those people who has ability to buy. Repeated follow up investigation leads to high laboratory cost.

Due to easy accessibility urban people spend minimum transport cost of their cost component, and due to that reason they may continue their work as a result urban people incur less wage lost. But in

comparison to rural people they spend more transport cost because, urban people visit their house every day at least ones or more than ones.

Component of Costs

Table 5.3 Total and average treatment and associated cost incurred by **Urban** people (n=20).

Cost category	Range		Total	Mean	Standard deviation	%
	Min.	Max.				
Direct cost:						
Reg. fee	8.0	8.00	160	8.00	---	0.55
Bed cost	0.0	188.00	1880	94.00	94.00	6.48
Medical cost	115.0	540.00	5060	253.00	97.00	17.43
Lab. cost	0.0	440.00	5090	254.50	101.00	17.53
Food cost (patient)	80.0	300.00	3680	184.00	70.60	12.68
Indirect cost:						
Food cost (attendants)	200.0	480.00	6470	323.50	78.60	22.29
Wage lost(parent)	0.0	600.00	4535	226.75	151.21	15.62
Total conveyance cost (parents)	45.0	160.00	2155	107.75	36.46	7.42
Total	448.0	2716.0	29030	1451.50	401.85	100%

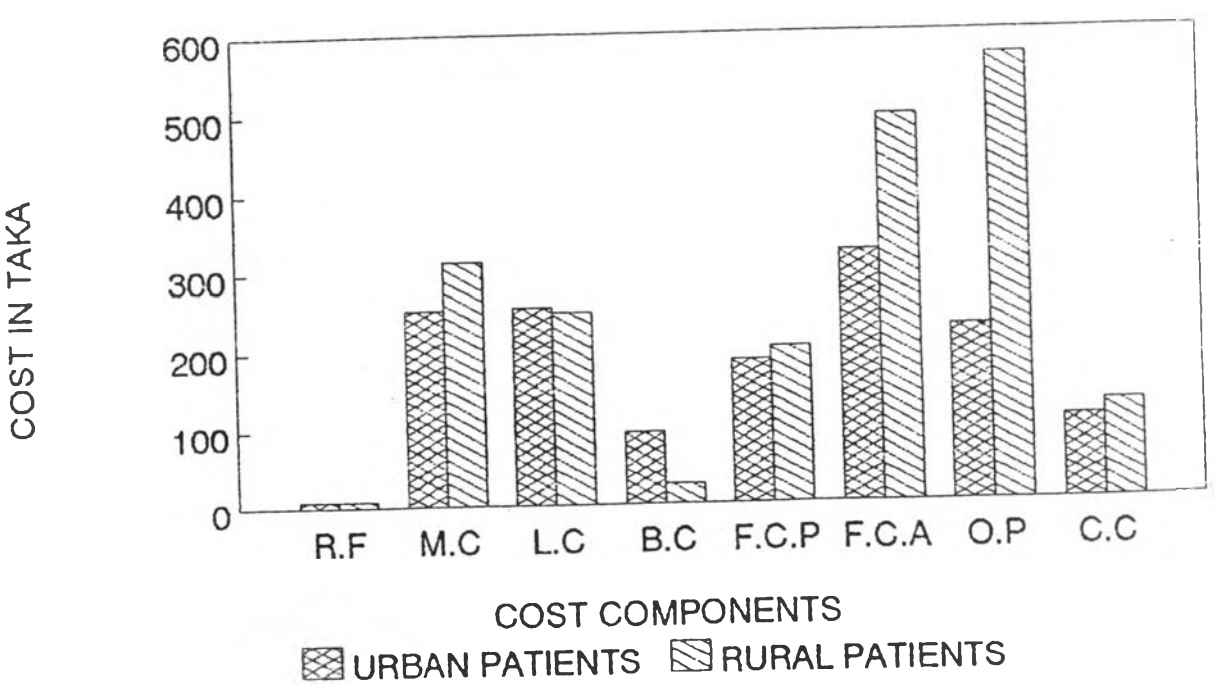
Table 5.4 shows the total and average cost incurred by rural patients in different component. Wage lost was the highest component among the rural patients (28.63). Food cost constituted about 25% of the total cost. Drug cost and laboratory cost was 15.80% and 12.48%. Bed cost and transportation cost was the minimum of the total cost incurred by the rural patients. The average cost incurred per rural and urban patient in relation to cost component is shown in figure 5.1.

Table 5.4 Total and average treatment and associated cost incurred by Rural people (n=80).

Cost category	Range Min.	Max.	Total	Mean	Standard deviation	%
Direct cost:						
Reg. fee	8.0	8.0	616	8.00	NA	0.40
Bed cost	0.0	376.0	2068	25.85	75.02	1.30
Medical cost	110.0	660.0	25138	314.23	110.69	15.80
Lab. cost	0.0	550.0	19865	248.38	101.86	12.48
Food cost (patient)	80.0	500.0	16060	200.75	85.96	10.09
Indirect cost:						
Food cost (attendants)	470.0	1200.0	39550	496.36	221.20	24.95
Wage lost(parent)	0.0	2000.0	45570	569.63	407.26	28.63
Total conveyance cost (parent)	0.0	500.0	10110	126.36	132.78	6.35
Total	660.0	4764.0	158977	1989.56	860.00	100%

* NA= Not applicable

figure 5.1 Cost incurred at hospital by urban and rural patients in relation to cost component.



High component of wage lost was due to illiteracy and negligence they bring their sick children to the hospital too late. At the beginning they treat their patient by quacks, traditional healers, untrained homeopathic and village health practitioner and others.

As a consequence, the condition of the patient deteriorates and they come to the district hospital with various types of complications which needs more medical, laboratory, as well as bed charge for staying longer period for the treatment in the hospital. This also leads to the higher opportunity cost of the parents or attendants.

On the other hand, urban people came to the hospital earlier for the treatment of their patient. Due to convenient location they could not stay all the times in the hospital, rather they could continue their normal work except the first one or two days when their child was in serious condition. It has also been observed that the rural people had to spent more food cost than the urban because they bought foods from hotel or restaurants which are more costly.

In the above table it has been observed that the average cost of rural patient iss higher than urban patient. Therefore, difference between the two means should be tested, and the result does not show any significant difference ($t=3.39, p = 0.05$). Therefore the null hypothesis is rejected and alternative hypothesisis excepted

Results:

1. The average cost incurred by the rural diarrhoeal inpatients was significantly higher than urban diarrhoeal inpatient ($t=3.39$; $p<0.05$).

2. Opportunity cost (time cost) was the major component for rural patient. food cost was the major component of urban patient.

3. Laboratory and drug cost was relatively higher for urban patients.

4. As bed charge was not collected from all the rural population unlike urban, it was higher among the urban population.

5.4 Discussion of Results 1:

A major health problem in the developing world is the lack of adequate and appropriate health care infrastructure. About 80-90% of the illness are preventable and their occurrence reflects poverty and inadequate health prevention and promotion measures. For instance childhood diarrhoea is a major cause of mortality among children who constitute about 40% of the total population in developing countries. Such a high level of childhood mortality has very high economic implication.

This study was conducted at Narayanganj District hospital Bangladesh. Purposively selected 100 parents having children below 5 years of age attacked by diarrhoeal disease were suppose to be interviewed. Questionnaire were constructed for collecting information about general as well as specific characteristic related to parents socio- economic, demographic factors, cost information during treatment period and information about attitude and perception towards different health care services.(This part will discuss on chapter 6)

Out of 100 patients 80% of them belonging to rural the rest 20% were urban. Probably this indicates that the incidence of diarrhoeal diseases is higher in urban (35%) among 4-5 years of age and 27.5% in rural between 2-4 years of age. The maximum of the rural respondents were within 30 kms from the hospital and among urban respondents the distance was 4 kms. Most of the rural respondents came to the hospital by using more than one transports which involved more costs (140 Taka) with a mean 38.08 Taka. So far, the urban respondents came to the hospital by rickshaw (tri-cycle), which is comparatively a cheaper means of transportation in Bangladesh and it involves only about Taka 22.75 each time.

Majority of rural respondents (73%) were from low income group whose average monthly household income was less than 3000 Taka. (75 US $) and among urban respondents 40% were from low income groups. All most all respondents in both rural(50%) and urban(25%) areas were illiterate respectively. 36.25% of the rural respondents were laborers, 25% urban respondents were businessman, and 55% were house wife.

Treatment and associated costs were different for both urban and rural respondents. In rural respondents the highest cost component was opportunity cost with a mean cost Taka 569.63 and food costs with a mean cost Taka 494.36 spent per attendants. Medical cost was Taka 248.31 and mean laboratory cost was Taka 248.32. On the other hand, urban respondent's opportunity costs was Taka 226.75, food costs per attendants was Taka 323.50, medical costs Taka 253.00, laboratory costs Taka 254.50.

The tradition of the country is that the physician always prescribe medicines to cure the patient quickly and effectively, which are more costly than other medicines generally to the patients who are able to purchase the same from the market. Due to long distance, ignorance and illiteracy, the rural parents usually bring their diseased children to the hospital too late and with other complications. As a result, the length of stay in hospital was longer for rural patients.

Due to easy accessibility, the urban people usually bring their patients earlier for treatment and they had not to stay all the times in the hospital, rather they could continue their normal jobs except first one or two days when their children were in serious conditions.

The study attempts to find out the difference between costs incurred by rural and urban diarrhoeal inpatients and accompanying respondents and also to find out the association between the socio-economic, cultural, demographic as well as accessibility of health services. It was found that the average cost incurred by rural respondents was higher than that of the urban respondents. It has also been observed that the illiterates and the low income groups were mostly affected both in rural and urban.

Illiterate and low income groups of people incurred more cost. Almost in all component, they spend more than urban people. The large component of cost incurred by rural patient is opportunity cost because rural poor people unconsciously neglect their own health. The inferior status of a rural people manifests itself to their recipient least proportion of health facilities, and opportunities on their own merit and inadequate diet. They also neglect their children's health. They came to the hospital late and stay longer due to lack of awareness.

Almost of the rural people are day labor, they loss their average wages when they stay in the hospital with their sick child. The average wages per day is Taka 50-60.00 only. Urban people had not to loss their wages, as they could perform their usual job side by side, so the wages loss for the rural people is higher than urban people.

Urban people normally willing to pay the bed cost and that is the reason for them to incur more cost on this cost component. Rural people also prefer to pay for the bed charge if non paying beds are not available. Bed charge per day is Taka 47.00. This cost reflects a considerable financial burden on many rural patients. Transport cost to the attendants is almost same in both group of respondents. Due to far distance rural people came to the district hospital and stay till discharge of their patient, while urban respondents travel everyday once or more than once.

Rural people are not satisfied with their rural health facilities though the facilities are provided by the government free of charge. But all the government personnel are very much reluctant to carry out the health services to rural people and surrounding communities, because they want to stay in urban areas. Lack of faith of the rural people towards the rural health personnel, inconvenient location, limited health services and inexpensive cost of medical services leads to under utilization of rural health facilities.

Satisfaction which is the major influencing factors on the demand of services is also an important aspect that require adequate consideration, though relies on the perception level of the consumers, analysis of this behavioral phenomena will be useful to identify the major areas which require serious consideration to address some issues related to improve the efficiency of rural health facilities as well as diarrhoea control program s a whole.