Coping ways of the medical cost in Ischemic Heart Disease patients of Bangladesh

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Abstract

Background : Ischemic Heart Disease (IHD) requires long term treatment which poses huge financial burden.It is very difficult for the patients of developing countries to maintain the treatment costs of IHD.

Objectives : To estimate the medical treatment cost and to find out the coping ways of that in Ischemic Heart Disease patients.Methods: A descriptive type of cross sectional study was done during January 2014 to December 2014 at medical out-patient department of National Institute of Cardiovascular Disease (NICVD), Dhaka. Data were collected by using a pre-tested, semi-structured Questionnaire. Medical cost was calculated by drug cost, consultation cost, laboratory investigation cost, surgical cost, hospital cost and food cost. Data analysis was performed by using SPSS software version 20.

Results : Out of 201 patients, majority (64.7%) were in the age group of 40-59 years. Most (92.54%)of them were male. Majority (56.2%) of the respondents had monthly family income of Tk. 10001-20000. Among all patients 43.8%spent total medical cost was with a range from Tk.50001-180000. 85.71%, 81.8%, 69.9% and 66.71% had coped with families by life style change whose monthly Tk. 20001-50000,Tk. 50001-100000, Tk. 10001-20000, Tk. 5000-10000 respectively. Coping ways in family by compromising treatment cost of other family members was minimum 0.0% within the income group Tk.5000-10000, which was statistically significant ($p < 0.05$).

Conclusion : The study concluded that the largest component of medical cost of IHD was the surgical cost which includes coronary angiogram, PTCA and bypass surgery. The patient compensate the burden of medical treatment cost of IHD from family savings, personal income, selling of property, personal loan, donation, health insurance and by Life style change, Reduction of food cost,and reducing social contact.

Key words : IHD, Coping ways, Medical cost.

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Introduction

Ischemic Heart Disease (IHD) is one of the leading cause of death in both developed and developing countries including Bangladesh.[1] It is one of the most common type of heart disease and a major cause of hospital admission.[2] Graduallythe incidence and prevalence of IHD has been increasing in Bangladeshand unless concerned efforts are made and national policy of prevention of risk factors are undertaken, it is feared by next 10-15 years time the number of patients will increase dramatically.[3] The improvement in clinical and interventional cardiology has been progressing at a galloping speed all over the world but it is difficult for our country to transfer that technology due to limited number of specialists in the field and a high cost of technology. The infrastructural development of cardiology both in government and private sectorhas been progressing at a snail's space.[3] that's why treatment of IHDremain still costly. It also contributes major cause of disablement and death.[4]

The high cost of IHD has tremendous impact on the patients, especiallyon their families. It is therefore important to understand the coping experience. Coping with the financial hardship become difficult by maximum affected families of our country. For heavy financial load IHD treatment is often discontinued leading to permanent disability and premature death.A significant portion of treatment cost is related to events that require hospital services, specifically inpatient procedures and emergency room visits. The expenditures on inpatient procedures and emergency room visits for all U.S. adults over the age of 55 with IHD exceeded $64.00 billion in 2012. This equates to a mean per person

expenditure on heart disease related inpatient procedures and emergency room visits of $13,317.[5]

But data related to the treatment cost of IHD and the coping ways for that in Bangladesh are often insufficient. Therefore it is necessary to explore themedical treatment cost and its coping ways.Therefore in this cross sectional study we have tried to evaluate the treatment cost and its coping ways.

Methods

A descriptive type of cross sectional study was conducted from January to December 2014 at medical out-patient department of National Institute of Cardiovascular Disease, (NICVD), Dhaka. Non probability purposive sampling technique was used for data collection. Data were collected by face to face interview using a pre-tested, semi-structured Questionnaire and reviewing medical records/documents of the IHD patients. Privacy and confidentiality of respondents were ensured. Questions were prepared in logical sequence as per the variables and specific objectives. The questionnaire was divided into Socio-demographic information of the patient, medical cost and the coping waysof IHD patients.Medical cost was calculated by drug cost, consultation cost, laboratory investigation cost, surgical cost (coronary angiogram, PTCA and bypass surgery), hospital cost and food cost. Coping ways includes source of fund, coping ways in family and socially. Informed consent of the respondents was taken before the interview. Data analysis was performed by using the SPSS software version 20.

Results

Among201 patients, majority (64.7%) were in the age group of 40-59 years and most of them (92.54%) were male. Regarding occupation, 28.8 %were service holder, followed by business 24.9% and unemployed 24.4%. Most of them (56.2%) had monthly family income of Tk. 10001-20000. (Table-I)

Table-I : Socio- demographic characteristics of IHD patients

Variables	Frequency (f)	Percentage (%)
Age in years		
24-39	35	17.4
40-59	130	64.7
60-75	36	17.9
Sex		
Male	186	92.54
Female	15	7.46
Occupation		
Service holder	58	28.8
Business	50	24.9
Unemployment	49	24.4
Farmer	30	14.9
House-wife	14	7.0
Monthly income (Tk.)		
5000-10000	42	20.9
10001-20000	113	56.2
20001- 50000	35	17.4
50001- 100000	11	5.5

Information regarding medical treatment cost revealed 45.3% patients spent Tk. 10001-20000 for drugs, 55.7% spent Tk. 10-499 for consultation costand 48.7% spent Tk. 300-999 for laboratory investigations. Regarding surgical cost, majority (38.7%) had to pay Tk. 95001-140000 and 28.4% spent Tk. 700-3000 for hospital cost. Food cost was Tk. 2000-2999among 43.8% respondents.(Table- II)

Table-II : Information related to Medical treatment cost

Drug cost (Tk.)	Frequency	Percent	Mean (± SD)
1000 -10000	72	35.8	
10001- 20000	91	45.3	15595.52 (± 7217.65)
20001- 35000	38	18.9	
Consultation cost (Tk.)			
10-499	112	55.7	
500-799	49	24.4	358.16 (± 431.49)
800-1500	40	19.9	
Investigation cost (Tk.)			
300-999	98	48.7	
1000-5000	94	46.8	1708.46 (± 2758.42)
5001-22000	9	4.5	
Surgical cost (Tk.)			
5000-50000	49	24.6	
50001-95000	35	17.1	95783.58 (± 62240.58)
95001-140000	78	38.7	
140001-250000	39	19.6	
Hospital cost (Tk.)			
No cost	124	61.7	
700-3000	57	28.3	1131.47 (± 1697.91)
3001-13000	20	10.0	
Food cost (Tk.)			
500-1999	64	31.8	
2000-2999	88	43.8	2208.46 (±1241.72)
3000-12000	49	24.4	

Majority (48.7%) spent Tk. 50001-150000 followed by (25.9%) spent Tk. 150000-295010 as a total medical cost. (Table- III)

Table- III : Distribution of the patients by total medical cost

Total medical cost (Tk.)	Frequency	Percent	Mean (± SD)
10000-50000	51	25.4	
50001-150000	98	48.7	118228.43 (± 67958.66)
150001-295010	52	25.9	

Information related to coping ways for treatment cost of IHD patients. Regarding sources of fund for treatment, majority (37.8%) had taken loanand most (72.6%) of them had changed their life style to cope up with the treatment cost, socially (37.3%) had coped by reducing social contact (Table- IV).

Table IV: Coping ways for medical treatment cost of IHD patients

Source of fund	Frequency	Percent
Family savings	29	14.4
Personal income	10	5.0
Sale of assets	49	24.4
Personal loan	76	37.8
Health insurance	3	1.5
Donation	34	16.9
Coping ways in family		
Life style change	146	72.6
Reduction of food cost	49	24.4
Compromising treatment cost of other family members	6	3.0
Coping up socially		
Avoiding social work	71	35.3
Reducing social contact	75	37.3
Avoiding visit to friends and relatives house	55	27.4

In this study majority (85.7%) of the patients with monthly family income of Tk. 20001-50000 coped this medical expenses by changing their life style, in monthly family income of Tk. 10001-20000 group most (27.4%) coped this by reduction of food cost. Coping ways in family by compromising treatment cost of other family members was minimum 0.0% within the income group Tk.5000-10000. This variation of IHD patients by monthly family income was found statistically significant [p<0.05], Table- V.

Table-V : Association between monthly family income and coping ways in family

Monthly Income group	Life Style change f (%)	Coping ways in family Reduction of food cost f (%)	Compromising treatment cost of other family members f (%)	Total
5000-10000	28 (66.7%)	14 (33.3%)	0 (0.0%)	42
10001-20000	79 (69.9%)	31 (27.4%)	3 (2.7%)	113
20001-50000	30 (85.7%)	4 (11.4%)	1 (2.9%)	35
50001-100000	9 (81.8%)	0 (0.0%)	2 (18.2%)	11
Total	146 (72.6%)	49 (24.4%)	6 (3.0%)	201
Significance	p = 0.006			

Discussion

Coronary artery disease is highly prevalent in Bangladesh.[6] Moreover Rising prevalence of ischemic heart disease poses huge burden to the individuals and the family. It is a chronic disease and may lead to acute and chronic left ventricular failure and ischemic cardiomyopathy, which requires long term treatment.[7]

In our study total 201 IHD patients were included and out of all patients 186 (92.54%) were male and 15 (7.46%) were female. Similarly several studies also showed that IHD was more in males.[8,9]

In this study, average age of the Ischemic Heart Disease patients was 52.37 (± 10.08) years. Most of the patients 130 (64.7%) were within 40-59 years. Several studies found that age is a non-modifiable risk factor for IHD. Men are in high risk of developing coronary heart disease after 45 years and women after 55 years.[10]

Among the medical cost, maximum amount of money incurred by the patient for surgical cost Tk. 95783 (±62240) followed by drug cost Tk. 15595 (±7217). This finding is consistent with Liu et.al. who found maximum amount of money needed in hospital inpatient care followed by drug treatment.[5] A study to estimate the economic burden of cardiovascular diseases in the enlarged European Union found inpatient care as maximum proportion of medical care cost followed by medication cost.[11]

In our study we found that the sources of fund for treatment, majority i.e. 37.8% had taken personal loan for ischemic heart disease treatment, while 24.4% sold their property, 16.9% received donation from friends and relatives followed by 14.4% spend family savings for treatment, 5.0% managed their treatment cost from personal income and only 1.5% patients had health insurance and got the expenses from health insurance. In the developed world, health insurance is a major source of coping for treatment cost. But for the developing countries the coverage of health insurance is very limited. In the present study, maximum number of families took loan from other person on interest.

Conclusion

The study concluded thatthe largest component of medical cost of IHD was the surgical cost which includes coronary angiogram, PTCA and bypass surgery. The patient compensate the burden of medical treatment cost of IHD from family savings, personal income, selling of property, personal loan, donation and health insuranceand by life style change, reduction of food cost, and reducing social contact.

References

1. Finegold J A, Asaria P, Francis DP.Mortality from ischaemic heart disease by country, region, and age: Statistics from World Health Organisation and United Nations. International journal of cardiology.2013; (168) 934-945.
2. Maniadakis, N., Gray, A. 2000The economic burden of back pain in the UK, Pain. 2000; No. (84) 95-103.
3. Zaman M A. Global scenario of cardiovascular risks and Bangladesh perspective.http://www.orion-group.net/journals/Journals/vol17_jan2004/130.htm
4. Singh S, Sen P. Coronary heart disease: the changing scenario. Indian J PrevSoc Med. 2003;(34) 74-80.
5. Liu J, Maniadakis N, Gray A, Rayner M.The economic burden of coronary heart disease in the US Heart. 2012; (88) 597-603.
6. Islam A, Majumder A. Coronary artery disease in Bangladesh: A review. Indian heart journal. 2013; No. (65) 424-435.
7. Pettersen, KL, Reikvam A, Rollag A, Stavem K. Understanding sex differences in health-related quality of life following myocardial infarction. Int J Crdiol. 2009; No. 130 (3) 449-456.
8. McMurray JJ, Stewar S. Epidemiology, etiology, and prognosis of Heart failure. Heart. 2000; No.83 (5) 596-602.
9. Finegold JA, Asaria P, Francis DP. Mortality from ischaemic heart disease by country, region, and age: Statistics from World Health Organisation and United Nations. International journal of cardiology. 2013; No. (168) 934-945.
10. Lozano R,Naghavi M, Foreman K., Lim S, Shibuya K, Aboyans V, Abraham J, Adair T, Aggarwal R, Ahn, SY. Global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2010: a systematic analysis for the Global Burden of Disease Study 2010. The Lancet.2013; (380) 2095-2128.
11. Leal J, Luengo-Fernández R, Gray A, Petersen S, Rayner M. Economic burden of cardiovascular diseases in the enlarged European Union. European heart journal. 2006;No. (27) 1610-1619.