

Treatment Modality (Private or Government/Safety Net) Choices for CABG and Factors Involved in Decision Making

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ABSTRACT

Background: The treatment of cardiovascular disease is an expensive treatment and need expertise also. There are facilities in private setup as well as in government hospital. At times it becomes difficult to choose between private and government facilities for various reason, cost and safety being the two most important factors.

Objective: To assess the choice of patient for treatment of CVD as a private patient or through government/safety nets and see its association with factors involved in decision making.

Study Design: Cross-sectional analytical

Place and Duration of Study: Faisalabad Institute of Cardiology from 1st January 2020 to 30th June 2020.

Methodology: Sixty patients chose private treatment and government/safety net treatment was assessed. Then the frequency of various factors involved was determined and their association was evaluated with choice of treatment.

Results: Fifty one (85%) opted government/ safety net treatment and 9 (15%) opted private treatment. Education, Income and cost of treatment were the three major factors associated with choice of treatment having respective p-values 0.015, <0.001 and <0.001. The attitude toward consultation was also found associated with option of treatment. The median waiting time for government/safety net treatment was 129(119–143) days while for private treatment it was 3 (2–4) days.

Conclusion: The frequency for choice of private treatment is very low and, those with less education and low on resources opt for government treatment while those who had better income and education and prefer to be treated earlier opt for private treatment but still take the option of government health facilities due to safety and cost concern.

Keywords: CABG, Safety nets

INTRODUCTION

Surgery is a great intervention for treatment of a disease. Just like other interventions used in medical field it is also linked to morbid condition of body. There are many supra specialties in surgery, cardiac surgery is one of them performed to treat different cardiac diseases. The incidence of cardiac diseases has increased in recent times. The incidence of coronary heart disease has increased so much that by 60 years of age, every 5th man and every 17th women is suffering from some form of coronary heart disease.¹ The incidence of congenital heart diseases has been reported to be 12 to 14/1,000 live births.² The incidence rate of stroke is 1 in 15 people (1). The risk of heart failure also increases in old age with 30.02% probability after 55 years of life.³ Ischemic Heart Disease alone caused 12.7% of total global mortality.⁴ According to the global health projections, cardiovascular diseases (CVD) is going to remain the foremost cause of mortality in 2030.⁵ Risk factors for CVD have been characterized as conventional or classical and novel. The role of these risk factors is still primary in socio-deprived countries like Pakistan.⁶ The Asian region has been documented to have a higher CVD burden as compared to the western populations, and majority of this burden is held by the economically disadvantaged populations that are mainly in the South Asian region.⁷ Different countries in the world are making efforts to decrease the incidence of heart diseases.

Different interventions have been developed in this regard. Cardiac surgery is an important intervention developed to combat cardiac comorbidities. But most of the cardiac surgeries are quite expensive and many people in the world cannot afford them. To meet the need of these people to treatment governments and nongovernmental organizations (NGOs) of different countries have developed different safety nets. For example in United States, Department of Veterans Affairs VA is a health safety net.⁸ Similarly there is a need of healthcare safety nets in Pakistan because many people in the country are unable to afford the expenses of treatment. Between 21 and 29 percent population of Pakistan have income below poverty level.⁹ The government and NGOs on Pakistan have different safety nets. Two types of safety nets are working in Pakistan, budgetary and non-budgetary safety nets. Pakistan Poverty Alleviation Fund (PPAF), Benazir Income Support Program (BISP), People Works Programme-1&11 (PWP-

1&11). Non-budgetary safety nets include Pakistan Bait-ul-Maal, Zakat, Employees Old Age Benefits Institution (EOBI), Workers Welfare Fund (WWF) and microfinance initiatives.¹⁰ As human health is a very important thing so it is necessary to assess the measures taken to support health. Therefore, assessment of safety nets for patients needs is very important and keeping this in view, this study focuses on assessment of safety nets for patients undergoing CABG surgery and their decision making process.

MATERIALS AND METHODS

It was a cross-sectional analytical study conducted at Faisalabad Institute of Cardiology, a 202 bed cardiac hospital and research center in Faisalabad, Pakistan from 1st January 2020 to 30th June 2020. This Institution is providing services to cardiac patients of Faisalabad and its adjacent districts like Sargodha, Toba Tek Singh, Jhang, Chiniot and beyond areas. Sixty consecutive cardiac patients were selected after coronary artery bypass graft (CABG). Any patient with severe post-op complication and those who did not consent were excluded.

Social safety nets: Social Safety is non-contributory transfer programs seeking to prevent the poor or those vulnerable to shocks and poverty from falling below a certain poverty level.¹¹ The data were collected through structured questionnaires from the CABG surgery postoperative patient available within the study duration.

Data were analyzed using SPSS-20. Data were presented by frequencies and percentages and association of factors for choice and decision for opting treatment modality was evaluated by using Likelihood ratio test. P-value \leq 0.05 was considered significant.

RESULTS

Twenty two (36.0%) were of age \leq 55 years, 45 (75.0%) were males. There were 13 (21.7%) who had no or primary education, 26(43.3%) had matric or less, 10 (16.7%) had intermediate and 11 (18.3%) had university education. There were 4 (6.7%) who belonged to very large families with number of persons 9 or more, 21(35.0%) with family members 7-9, 23 (38.3%) with family size 5-6, while 12(20.0%) had 4 or less members in the family. There were 19(31.7%) with income <20000, 20 (33.3%) with income (21000–

40000), 12(20.0%) with income (41000–60000), only one (1.7%) with income (61000–80000), 3 (5.0%) with income (81000–10000) and 5 (8.3%) had income above 100000. Also among them 25 (41.7%) were smokers and 51(85.0%) of them got their treatment covered through some government or safety net. Of these 51, 12 were covered through an NGO, one was paid by some well-wisher and rest got treated by government either on zakat or being the govt employee. When they were asked about how they reached to decision, 39 (65.0%) of them consulted govt. doctors, 5 (8.3%) of them were given second opinion by same doctor, getting treatment in the same category was decided by 59 (98.3%) of the patients, while 11 (18.3%) thought of changing the category of treatment. The cost was told 350000–450000 to 9 (15.0%) of the patients while others were told no cost. Five (8.3%) of them consulted other hospital as well, and were told the cost between 550000–600000. The help from NGO/foundation was taken by 12(20.0%) of the patients, 9(15.0%) were helped for taking date of operation, 31(51.7%) of them had no family history of same disease, while 11 (18.3%) consulted more than 3 doctors before making any decision. (Table 1)

There were 36 (60.0%) with no cost at all, 9 (15.0%) had the cost between 360000–425000 while other patients reported minor expenditures 1000–3500 during treatment time (Fig. 1). The age and gender and family size had no role in decision making about treatment modality with respective p-values of 0.821, 0.833 and 0.470, while those who opted private treatment had significantly higher education as compared to those who opted govt/safety net treatment with p-value 0.015. The income of private patients was also significantly higher with p-value <0.001, 5 (55.6%) having income more than 100000. Also 8 (88.9%) private patients were non-smokers while 14 (47.1%) of the other group were smokers (Table 2).

Those who got private treatment at least consulted two doctors and maximum three, while among those who went for govt/safety net treatment their doctors before making any decision. This difference of attitude was highly significant with p-value 0.004. There was lot of variation in consultation attitude. Among them 13(25.5%) consulted only one doctor, while 11(21.6%) of them consulted even four or more Those who got private treatment, all got their procedure done within 10 days of their first visit while there were only 2(3.9%) among govt/safety net group who were treated within 10 days of their first visit. There was only one patient who was treated within 51–90 days, majority (47.1%) had to wait 91–130 days, and 43.1% to 131–170 days. This difference of waiting time between two modalities was highly significant with p-value <0.001. Similarly the treatment cost was highly significant with private patients to bear 36000 to 425000 and Govt/safety net patients hardly bearing any cost with p-value <0.001 (Table 3).

Those who received government treatment, 47(92.1%) were very satisfied, but of those with private treatment only 2(22.2%) were very satisfied and 5(55.5%) were somewhat satisfied with expenses of the treatment. Among free treatment recipients 48(94.1%) were very satisfied on the other hand 3(33.3%) of private treatment recipients were very satisfied with facilities rendered to them in hospital. The private patients were all 100.0% very satisfied with the behavior of doctors and staff while this rate among government treatment recipients was 92.2%. Only one patient among government treatment was of opinion “not to recommend same hospital to others” while none in the private treatment group. Out of government treatment recipients 50 (98.0%) said government treatment good while all 9 (100.0%) rated private treatment good (Table 4).

Table 1: Treatment modalities and decision making process

Question	No.	%
Consulted to		
Government doctor	39	65.0
Private doctor	21	35.0
Second opinion given by doctor		
Yes	5	8.3
No	55	91.7

Getting this category was own decision		
Yes	59	98.3
No	1	1.7
Doctor suggested any category		
Government treatment	9	15.0
Private treatment	-	-
No suggestion	51	85.0
Thought about getting other category of treatment		
Yes	11	18.3
No	49	81.7
Cost told by hospital Administration		
None	51	85.0
350000	1	1.7
375000	2	3.3
400000	4	6.7
420000	1	1.7
450000	1	1.7
Consulted other hospital for the same treatment		
Yes	5	8.3
No	55	91.7
Cost given by other hospital		
550000	2	66.7
600000	1	33.3
Took help of any Foundation or NGO?		
Yes	12	20.0
No	48	80.0
Helped by someone for getting the operation date		
Yes	9	15.0
No	51	85.0
Family history of disease/WHOM		
No	31	51.7
Mother	10	16.7
Father	11	18.3
Other relative	8	13.3
Before deciding for treatment how many doctors did you consulted?		
1	13	21.7
2	21	35.0
3	15	25.0
>3	11	18.3

Table 2: Basic characteristics in relation to the treatment mode

Variable	Government (n=51)	Private (n=9)	P value
Age (years)			
≤ 55	19 (37.3%)	3 (33.3%)	0.821
> 55	32 (62.7%)	6 (66.7%)	
Gender			
Male	38 (74.5%)	7 (77.8%)	0.833
Female	13 (25.5%)	2 (22.2%)	
Education			
Primary	13 (25.5%)	-	0.015
Matric	23 (45.1%)	3 (33.3%)	
Inter	9 (17.6%)	1 (11.1%)	
University	6 (11.8%)	5 (55.6%)	
Income			
≤ 2 k	18 (35.3%)	1 (11.1%)	<0.001
21 –40 k	20 (39.2%)	-	
41–60 k	12 (23.5%)	-	
61-80 k	1 (2%)	-	
81-100 k	-	3 (33.3%)	
>100 K	-	5 (55.6%)	
Family Size			
≤ 4	11 (%)	1 (%)	0.470
5 – 6	18 (%)	5 (%)	
7 – 9	18 (%)	3 (%)	
> 9	4 (%)	-	
Smoker			
Yes	24 (47.1%)	1 (11.1%)	0.030
No	27 (52.9%)	8 (88.9%)	

Table 3: Consultation attitude, treatment time and expenditures in relation to treatment modality

Variable	Government (n=51)	Private (n=9)	P value
Number of doctors consulted before decision			

1	13 (25.5%)	-	0.004
2	18 (35.3%)	3 (33.3%)	
3	9 (17.6%)	6 (66.7%)	
4+	11 (21.6%)	-	
Days to admission for surgery after first visit			
≤ 10	2 (3.9%)	9 (100%)	<0.001
11 - 50	-	-	
51 - 90	1 (2%)	-	
91 - 130	24 (47.1%)	-	
131 - 170	22 (43.1%)	-	
171+	2 (3.9%)	-	
Money paid			
Nil	36 (%)	-	<0.001
< 1500	7 (%)	-	
1501 - 3500	8 (%)	-	
360000	-	1 (11.1%)	
375000	-	2 (22.2%)	
380000	-	1(11.1%)	
400000	-	3 (33.3%)	
420000	-	1(11.1%)	
425000	-	1(11.1%)	

Table 4: Satisfaction level of the patients with treatment

Level of Treatment	Government	Private
Expenses for this treatment		
Neither satisfied nor dissatisfied	1 (2%)	2 (22.2%)
Somewhat satisfied	3 (5.9%)	5 (55.5%)
Very Satisfied	47 (92.1%)	2 (22.2%)
Facilities given by the hospital		
Neither satisfied nor dissatisfied	1 (2%)	-
Somewhat satisfied	2 (3.9%)	6 (66.7%)
Very satisfied	48 (94.1%)	3 (33.3%)
Behavior of doctors and nurses		
Somewhat satisfied	4 (7.8%)	-
Very satisfied	47 (82.2%)	9 (100%)
Would you suggest this hospital for this treatment to anyone else?		
Yes	46 (90.2%)	6 (66.7%)
No	1 (2%)	-
May be	4 (7.8%)	3 (33.3%)
Which treatment you think is better		
Government	50 (98%)	-
Private	1 (2%)	9 (100%)

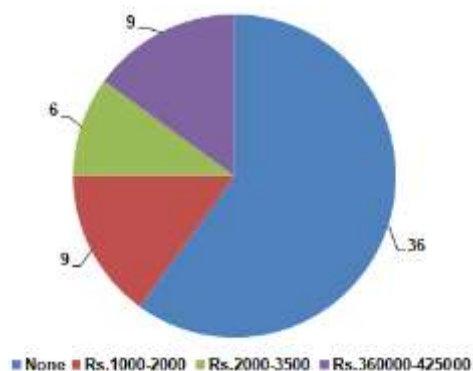


Fig. 1: Expenditures made on treatment as reported by the patients

DISCUSSION

In the present study, there were 51 (85%) patients taking government treatment and only 9 (15%) patients were taking private treatment suggesting that majority of the patients chose government treatment for their disease. As 12 out of 51 patients, who got government treatment used health card and 89 got help from some NGO, so all 51 were declared users of safety-nets, fulfilling both set criteria, and none out of the 9 patients getting private treatment got any help from NGO. Majority (64.0%) were of age above 55 years (old age) which makes it clear that majority of the patients suffering from the coronary artery disease are old aged. Since age represents the largest risk factor for

cardiovascular disease, the prevalence of these pathologies increases many folds with increasing age.¹² Most of the patients, 45 (75%) were males giving a male to female ratio of 3:1. According to a study conducted in Gaza involving 155 cardiac patients, around 77.4% were males and 22.6% of the patients were females.¹³ For patients getting government treatment, mean of number of days since admission for surgery were 23.98 days and for it was 10.67 days. Median interval between first visit of patient and admission for surgery was 129 (119–143) days, while for private patients were 3 (2–4) days. These two clearly indicate that there is a significant delay in the surgery of patients getting government treatment. The delay in CABG surgery obviously is a risk for patient's health. Population-based prospective study of 8,325 patients, the probability of death conditional on not having undergone a required CABG increases with time spent on wait lists.¹⁴ Thirty one (51.7%) had no family member having same disease or any cardiac problem, 10 (16.7%) had their mother suffering from the same disease, 11 (18.3%) had their father suffering from the same disease and 8 (13.3%) had their other relatives suffering from the same disease suggesting almost half of the patients having family history of cardiovascular disorders making it an important risk factor. According to a study conducted on 5209 individual, persons with a positive parental history have a 29% increased risk of CAD, and the strength of the association between parental history and CAD is similar to that found for other standard risk factors such as systolic blood pressure, cholesterol level, and cigarette smoking (15). Out of 51 patients getting government/safety net 36(70.6%) had no expenditure, 13.7% had <1500 and 15.7% had 1500–3500, while for patient on private treatment expenditures are between 360000–425000 indicating that CABG surgery is quite expensive for majority of population of country. From this and socio-economic classification data of patients, it is clear that patients belonging to upper class and upper middle class could afford private treatment and patients belonging to other classes used safety nets. For 51 government patients, the satisfaction score for facilities of hospital was very satisfied for 92.1% and for private patients it was somewhat satisfied for 55.5% while very satisfied for 22.2% indicating that people receiving government treatment were a bit more satisfied with facilities than those receiving private treatment. For behavior of staff, 92.2% of government patients were very satisfied and for private patients All 9(100.0%) were very satisfied indicating almost same level of satisfaction. Out of 51 patients getting government treatment, 46(90.2%) intended to recommend the same hospital, 1(2%) not recommend same hospital to others and 4(7.8%) were indecisive by saying they may recommend the same hospital. Out of 9 patients getting private treatment, 6(66.7%) recommend and 3 said they may recommend same hospital giving an important measure for overall satisfaction that majority was satisfied enough to recommend same hospital to others. It was found by this study that there is much delay in surgery of patients getting private treatment and it needs to be improved. This big interval should be reduced to improve the health condition of patients by providing early treatment.

Few of the findings in this study were corresponding with some previous studies. In this study it was found that people getting private treatment had early access to treatment as compared to patients getting government treatment, but not much difference in other facilities as well as staff behavior. A review of the quality of surgical care at safety-net hospitals found that they tended to have worse performance with regard to timeliness, patient centeredness, and equity of treatment.¹⁶ This study also provides information that Faisalabad Institute of cardiology provides free of cost treatment to non-affording patients. According to a study in past, Pakistan different government institutes like Punjab institute of Cardiology , NICVD Sindh, Mayo hospital Lahore, Faisalabad institute of Cardiology are providing free of cost services to non-affording patients. Also the levels of services are not inferior to these patients. The findings of a study conducted on cost-effectiveness of treatment of cardiovascular

diseases in Japan were reassuring regarding the quality of cardiac surgery care provided to underinsured patient groups.¹⁷

CONCLUSION

The frequency for choice of private treatment is very low and, those with less education and low on resources opt for government treatment while those who had better income and education and prefer to be treated earlier opt for private treatment but still take the option of government health facilities due to safety and cost concern

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