

ORIGINAL ARTICLE

**Effects of Hospital Base “Discharge Teaching” on Self-Care  
among Post Myocardial Infarction of Follow-Up Patients  
at Tertiary Care Hospital**

**Ranjeeta Bai, Musarat Fatima**

**Ranjeeta Bai** (*Corresponding Author*)

Nursing lecturer, College of Nursing  
Jinnah Postgraduate Medical Center (JPMC)  
Karachi, Sindh-Pakistan.  
Email: ranjeetakumari23@gmail.com

**Musarat Fatima**

Assistant Professor  
Faculty of Community Medicine and Public Health Sciences  
People’s Nursing School  
Liaquat University Medical & Health Sciences  
Jamshoro, Sindh-Pakistan.

**ABSTRACT**

**OBJECTIVE:** To determine effectiveness of hospital base discharge teaching on self-care among post myocardial infarction patients.

**METHODOLOGY:** This cross-sectional descriptive study was carried out at Cardiology Outpatient Department (OPD), Liaquat University Hospital Hyderabad, from April to October 2019 and data collected from 180 follow up post myocardial patients at cardiology OPD with first time heart attack and stable angina, at Liaquat University Hospital Hyderabad. Participants were approached through purposive sampling method. Data analysis was done by Statistical Package for Social sciences (SPSS) version 20.0. Variables had been calculated by frequency and percentage and bar graph was used for graphical presentation for analysis.

**RESULTS:** There were 180 participants included in this study. There were 93 (51.7%) females and 87 (48.3%) male participants. Majority (78.3%) of the participants were from urban areas. It was observed that 98.3% patients felt improvement and 90% participants were satisfied with discharge teaching.

**CONCLUSION:** This study was concluded that well-organized discharge planning program is very effective treatment or intervention in order to improve patient health status, it can change life style behaviors of patient and it can reduce the complication and hospital readmissions.

**KEYWORDS:** Myocardial infarction, heart failure, hospital base discharge teaching

**INTRODUCTION**

Myocardial infarction (MI) is a considerable issue and most important cause of death around the world<sup>1-4</sup>. Approximately, more than three million people suffer from acute MI annually<sup>5</sup>. According to World Health Organization (WHO) reported that around 14 million people die due to MI<sup>5,6</sup>. One study conducted in America described that annually 550,000 death and 200,000 new events of myocardial infarction were occurred. China predicted that it will have patients of cardiovascular disease approximately 16 million in 2020 and 23 million in 2030<sup>6</sup>.

MI is the common type of cardiovascular disease and it is most common cause to lead death among both gender males and females. MI patients treated by medicines and through changes of life style behavior. Such as diet, exercise, sleep and cessation of smoking, blood pressure control and weight control such as BMI not exceed 25. Hospital base discharge teaching can minimize the risk factors because these risk factors can cause early mortality<sup>1</sup>. Many studies showed that discharge teaching improved patient's health status by following American Heart Association (AHA) guidelines. Therefore, AHA guidelines can enhance patient's quality of life<sup>1-3</sup>. A study was done in Pakistan, the primary and secondary prevention is very efficient and economical long-term technique to alleviate the disease burden and recurrent cardiovascular incidences because most patients are admitted in hospital for illness due to lack of knowledge about life style behaviors, risk factors, and illness itself<sup>7,8</sup>.

In 2018, study focused on primary and secondary prevention for cardiac patients.<sup>9</sup> After acute myocardial infarction patients suffered and faced multi problems such as suffocation, restless and discomfort. According to AHA guidelines to teach or educate at the time of discharge from hospital. Especially, physical activity and BMI, physical activity is very effective among post MI patients. For instance, physical activity directly effect on atherosclerosis progression and it can improve cardiac risk factors example obesity, cholesterol level, hypertension, diabetic mellitus and psychological aspects. Similarly, BMI less than 18.5 kg/m<sup>2</sup> is poor recovery among post MI follow-up patients and BMI more than 25kg/m<sup>2</sup> is not good also. Additionally, BMI more than 25kg/m<sup>2</sup> is count overweight or obesity and overweight or obesity can lead health problems. For example, cardiac issues, diabetic mellitus<sup>7-9</sup>.

In 2017, one study was conducted in Karachi, Pakistan, showed that health care providers are accountable to provide prepared adequate information to patient at hospital discharge time<sup>9</sup>. Discharge teaching plays a very important role for improving patients' health status.

The purpose of this study, Literature shown that no previous study has been done in Pakistani population to determine the effect of discharge teaching on self-care among patient suffering from myocardial infarction because of poor or insufficient information and lack of knowledge related the effectiveness of discharge teaching about self-care lead us to conduct this study. Hence this study will help to community and health care delivery system as well as policy maker to improve health status of population.

## **METHODOLOGY**

This was a cross-sectional descriptive design study and performed at Cardiology Outpatient Department (OPD) follow-up post MI patients with first time heart attack and stable angina at Liaquat University Hospital Hyderabad, from April to October 2019 after the approval from the Ethical Review Committee (ERC), Liaquat University Medical & Health Sciences Jamshoro.

The sample size of this study was 180 done by the survey of pilot study with 10 post MI patients and these 10 patients were not enrolled in this study.

Data collected by using Non-probability purposive sampling technique through self-structured questionnaire. Total 33 questions content in questionnaire and divided into two sections. Section I demographic data and section two effects of Discharge teaching.

Questionnaire was validated by expert cardiologist and reliability of questionnaire was tested by using SPSS Cronbach's Alpha test through pilot study and Cronbach's Alpha test result was .80.

The data was analysis by Statistical Package for Social sciences (SPSS) version 20.0 and variables have been calculated by frequency, percentage and bar graph was used for graphical presentation.

**RESULTS**

**Demographic characteristics of study participants**

It shows demographic characteristics of the study participants. There were 180 participants were included in this study. There were 93 (51.7%) females and 87 (48.3%) male participants. Majority (78.3%) of the participants were from urban areas. Nearly three-fourth of participants was either primary or secondary level educated. Majority of the patients were married, and nearly half of them were belonged to middle class status (Table I).

**TABLE I: DEMOGRAPHIC CHARACTERISTICS OF STUDY PARTICIPANTS (n=180)**

<b>Variables</b>	<b>Response</b>	<b>Percent (%)</b>	<b>Frequency (f)</b>
<b>Gender</b>	Male	48	87
	Female	52	93
<b>Age</b>	30-40	12	21
	40-50	44	79
	50-60	31	56
	60 or over	13	24
<b>Residency</b>	Rural	22	39
	Urban	78	141
<b>Educational Level</b>	Primary	35	63
	Secondary	39	70
	Bachelor	8	14
	Master	1	2
	Uneducated	17	31
<b>Marital Status</b>	Married	97	174
	Single	3	6
<b>Occupation</b>	Government Service	27	49
	Private Service	37	66
	Self-employed	16	28
	Not working	21	37
<b>Economic</b>	Upper class	9	17
	Middle class	43	78
	Lower class	24	43
	Total	77	138
	System	23	42

It has shown that Life style-changing characteristics of study participants after hospital based discharge teaching. It was observed that 98.3% patients felt improvement and 90% satisfied with discharge teaching. All patients reported that they felt changes in life style after discharge teaching. This study finding were convey the message and recommended precautions regarding to health status should be following according to AHA guidelines included diet, exercise, sleep and cessation of smoking, optimal blood pressure control and weight control such as BMI not exceed 25and encouraging physical activity Table II.

**TABLE II: LIFE STYLE CHANGING CHARACTERISTICS OF STUDY PARTICIPANTS (n= 180)**

Characteristics	Response	Frequency (f)	Percent (%)
Do you have felt improvement	Yes	177	98.3
	No	3	1.7
Are you satisfy with discharge teaching	Neutral	18	10.0
	Agree	162	90.0
Do you have felt effects of discharge teaching	Yes	176	97.8
	No	4	2.2
Do you feel changes in life style	Yes	180	100.0
	No	-	-
Have you smoked	Yes	78	43.3
	No	102	56.7
If yes, how many cigarettes do you smoke per day (n=27)	5-10 / day	34	43.6
	10-15 / day	13	16.7
	One packet/day	4	5.1
	Occasional	27	34.6
Have you quit smoking	Yes	72	92.3
	No	6	7.7
Have you take alcohol?	Yes	29	16.1
	No	151	83.9
If yes, how much do you drink alcohol (n=29)	1 glass/day	9	31.0
	2 glasses/ day	7	24.1
	Occasional	13	44.8
Have you quit taking alcohol	Yes	23	79.3
	No	6	20.7
Do you have maintained your diet in routine	Yes	174	96.7
	No	6	3.3
Do you reduce consumption of oil in diet	Yes	180	100.0
	No		
Do you have reduced to uses of salt	Yes	180	100.0

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	No		
Do you eat fresh fruit, fresh vegetables, and fish and low-fat dairy products	Yes	175	97.2
	No	5	2.8
Do you go for a walk regularly	Yes	33	18.3
	No	147	81.7
If yes, how much walk you(n=33)	< 30 min	7	21.2
	30-45 min	6	18.2
	Above 90 min	3	9.1
	Occasional	17	51.5
Do you sleep normally	Yes	161	89.4
	No	19	10.6

It has depicted compliance of medicine, regular checkup and blood tests related characteristics of study participants, there were 95% patients who mentioned that they compliance medicine and take medicine respectively. It was found that all patients go for checkup regularly and half of the participants go for checkups on monthly basis and there were 85% patients who did not checked blood tests, only 17 (63.0%) subjects did this before coming to visit. Majority (93.3%) reported that they have maintained their blood pressure and 96.7% have not checked their BMI. There were 90.2% patients who have maintained their sexual activity Table III.

**TABLE III: COMPLIANCE OF MEDICINE, REGULAR CHECKUP AND BLOOD TESTS RELATED CHARACTERISTICS OF STUDY PARTICIPANTS (n=180)**

Characteristics	Response	Frequency (f)	Percent (%)
Do you have compliance medicine	Yes	171	95.0
	No	9	5.0
Do you have taken medicine properly	Yes	170	94.4
	No	10	5.6
Do you have used medicine without prescription	Yes	23	12.8
	No	157	87.2
Do you skip your medicine	Yes	26	14.4
	No	154	85.6
Do you go for checkup regularly	Yes	180	100.0
	No		
If yes, when you go (n=180)	Weekly	49	27.2
	Monthly	92	51.1
	Occasional	39	21.7
Do you have checked blood tests (electrolytes, cholesterol or blood glucose)	Yes	27	15.0
	No	153	85.0
If yes, when do you have checked in routine (n=27)	Coming before visit	17	63.0
	Other	10	37.0
Do you have checked blood pressure?	Yes	29	16.1
	No	151	83.9
If yes, when do you have checked (n=29)	Before coming visit	16	55.2
	Other	13	44.8
Do you have maintained blood pressure	Yes	168	93.3
	No	12	6.7
Do you have checked BMI	Yes	6	3.3
	No	174	96.7
Do you have maintained sexual activity (n=174)	Yes	157	90.2
	No	17	9.8



**DISCUSSION**

In the findings of this study were 93 (51.7%) females and 87 (48.3%) male participants. Majorities 141 (78.3%) of the participants were from urban areas; nearly three-fourth of participants was either primary or secondary level educated. Majority of the patients were married, and half a percent belonged to middle class status. We found out that 177 (98.3%) patients felt improvement and 162 (90%) satisfied with discharge teaching. All patients reported that they felt changes in life style after discharge teaching.

Similarly, some studies<sup>9-10</sup> was conducted in Germany shown that improvement among post MI patients and patients were reporting that changes in behavior as well as life style after post discharge. These findings concurred with the study<sup>11</sup> conducted to multidimensional assessment of patients care and stated that perceptions of patient about discharge care and also level of comprehension was good. However, several studies shown that patients have received improper and insufficient care in the emergency department due to lack of knowledge while competency of understanding is important factors of care example medications and about diagnosis<sup>12-15</sup>.

Our study result findings are similar to those reported by Uysal H 2015<sup>16</sup>, Huo X et al<sup>17</sup> and Ghisi GL de M 2014<sup>18</sup> found that the efficacy of a structured planning about discharge teaching programs. Such as health status, hospitalizations or readmissions and revisits also. In 2019, one study showed that nurse and other health care providers to assess knowledge of patients. The most of patients readmitted, revisits and recurrent myocardial infarction due to lack of knowledge and may be institutional as well as department unorganized education program<sup>18</sup>.

In future, we will need to educate post MI patients with proper organized teaching at the time of discharge and encourage post MI patients do perform exercise, should be check blood test and BMI as well as use fresh fruit, fresh vegetables, fish and low-fat dairy products in diet according to American Heart Association (AHA) guidelines<sup>19</sup>.

Varieties of interventions are necessary in order to improve patient's health and may need essential changes in hospital system<sup>20</sup>. Recently, a study conducted that maintained cardiac programs in hospitals setting and provided cardiac sessions repeatedly among cardiovascular patients especially MI because myocardial infarction is life threatening condition and consequences of myocardial infarction is mortality as well as morbidity<sup>20-23</sup>.

## **CONCLUSION**

This study was concluded that well-organized discharge planning program of teaching is very effective treatment or intervention in order to improve patient health status, it can change life style behaviors of patient and discharge teaching can be reduced the complications and hospital readmissions.

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## **AUTHOR CONTRIBUTION**

Bai R: Created idea, statistical analysis, literature search, data collection and manuscript writing.

Fatima M: Proof reading and critical review

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