Original Article

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

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ABSTRACT

OBJECTIVE: To determine the effectiveness of hospital-based 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 were 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 the purposive sampling method. Data analysis was done by Statistical Package for Social sciences (SPSS) version 20.0. Variables were calculated by frequency and percentage. A bar graph was used for graphical presentation for analysis.

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

CONCLUSION: This study concluded that a well-organized discharge planning program is very effective treatment or intervention to improve patient health status. It can change life style behaviors of the patient and reduce complications and hospital readmissions.

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

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INTRODUCTION

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

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

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

In 2017, one study conducted in Karachi, Pakistan, showed that health care providers are accountable for providing adequate information to patients at hospital discharge time[9]. Discharge teaching plays a

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

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 a pilot study with ten post-MI patients, and these ten patients were not enrolled in this study.
Data were collected using the Non-probability purposive sampling technique through a self-structured questionnaire. Total 33 questions contained in the questionnaire and divided into two sections. Section I demographic data and section two effects of Discharge teaching.
An expert cardiologist validated the questionnaire, and the reliability of the questionnaire was tested by using SPSS Cronbach's Alpha test through a pilot study, and Cronbach's Alpha test result was .80. The data were analyzed by Statistical Package for Social sciences (SPSS) version 20.0, and variables were calculated by frequency, percentage, and bar graph was used for graphical presentation.

RESULTS

Demographic characteristics of study participants

It shows the demographic characteristics of the study participants. There were 180 participants included in this study, 93 (51.7%) females and 87 (48.3%) male participants. The majority (78.3%) of the participants were from urban areas. Nearly three-fourths of participants were either primary or secondary level educated. Most of the patients were married, and almost half of them belonged to middle-class status (Table I).
It has shown that Life style-changing characteristics of study participants after hospital-based discharge teaching. It was observed that 98.3% of patients felt improvement, and 90% were satisfied with discharge teaching. All patients reported that they thought changes in lifestyle after discharge teaching. Conclusion This study finding conveyed the message and recommended precautions regarding health status should be followed according to AHA guidelines, including diet, exercise, sleep and cessation of smoking, optimal blood pressure control, and weight control such as BMI not exceeding 25 and encouraging physical activity Table II.

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

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

It has depicted compliance of medicine, regular checkup, and blood tests related characteristics of study participants; 95% of patients mentioned that they are compliant with medication and take medicine, respectively. It was found that all patients go for checkups regularly and half of the participants go for checkups monthly, and 85% of patients did not check blood tests; only 17 (63.0%) subjects did this before coming to visit. The majority (93.3%) reported maintaining their blood pressure, 96.7% had not checked their BMI, 90.2% of patients have supported their sexual activity Table III.

TABLE II: LIFESTYLE 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 satisfied with discharge teaching	Neutral	18	10.0
	Agree	162	90.0
Do you have felt the effects of discharge teaching	Yes	176	97.8
	No	4	2.2
Do you feel changes in lifestyle	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 taken alcohol?	Yes	29	16.1
	No	151	83.9
If yes, how much	1 glass/day	9	31.0
do you drink alcohol (n=29)	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 your diet	Yes	180	100.0
	No		
Do you have reduced to use of salt	Yes	180	100.0
	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

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 a 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 checkups 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 your 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

This study's findings were 93 (51.7%) females and 87 (48.3%) male participants. Majorities 141 (78.3%) of the participants were from urban areas; nearly three-fourths of participants were either primary or secondary level educated. The majority of the patients were married, and half a percent belonged to middle-class status. We found that 177 (98.3%) patients felt improvement and 162 (90%) were satisfied with discharge teaching. All patients reported that they thought changes in lifestyle after discharge teaching.

Similarly, some studies[9-10] was conducted in Germany showed improvement among post-MI patients, and patients reported changes in behavior and lifestyle after post-discharge. These findings concurred with the study[11] led to the multidimensional assessment of patient care and stated that patient perceptions about discharge care and level of comprehension were good. However, several studies have shown that patients have received improper and insufficient care in the emergency department due to a lack of knowledge. At the same time, understanding competency is an essential factor of consideration, such as medications and about diagnosis[12-15].

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

In the future, we will need to educate post-MI patients with properly organized teaching at the time of discharge and encourage post-MI patients to perform the exercise, should be checking blood tests 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[19].

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

CONCLUSION

This study concluded that a well-organized discharge planning teaching program is an effective treatment or intervention to improve patient health status. It can change patient lifestyle behaviors, and discharge teaching can be reduced 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: Proofreading and critical review

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