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EFFECT OF SHORT TERM PSYCHOTHERAPY ON DEPRESSION IN POST MYOCARDIAL INFARCTION PATIENTS

Khola Fattah[1], Fatima Zulfiqar[2], Shazia Hafiz[3], Mohammad Hafizullah[4], Adnan Mehmood Gul[5]

[1-3,5] Department of Cardiology, Lady Reading Hospital, Peshawar, Pakistan
[4] Khyber Medical University, Peshawar, Pakistan

Address for Correspondence:

Khola Fattah,

Department of Cardiology, Lady Reading Hospital, Peshawar, Pakistan

E-Mail: kholaabdulfattah14@gmail.com

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Contribution
SH, MH conceived the idea, planned the study and drafted the manuscript, KF, FZ and AMG helped in acquisition of data and did statistical analysis. SH drafted the manuscript and critically revised the manuscript. All authors contributed significantly to the submitted manuscript.

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ABSTRACT

Objectives: To measure the frequency of depression and assess the benefits of short term psychotherapy on depression in post MI patients.

Methodology: This cross sectional study was conducted in Cardiology department, Lady Reading Hospital, Peshawar from August 2014 to February 2015. Patients with depression were identified using Beck Depression Inventory (BDI) tool. The severity of depression was divided into mild, borderline, moderate and severe. Patients included in the study were divided into Treatment and Non-Treatment groups. Patients in the treatment group were called on weekly basis and administered three therapeutic sessions. The 1st session included problem identification with HFD (Human Figure Drawing) and projective personality test. In 2nd session patients underwent relaxation and thought stopping techniques. The 3rd session included cognitive restructuring, reevaluation through BDI. Besides this patients were given specific therapy tailored according to their needs. Patients were reassessed for their depression level using BDI.

Results: A sample of 250 patients was recruited in the study. The frequency of depression was 42%. The mean age was 56.12 ±10.94 years. Males were 78%, Educated were 43%. Family history for CHD , Hypertension , Diabetes, Current smokers and past smokers were 54%, 81%, 39%, 14% and 25% respectively. Significant reduction in level of depression and BDI score after therapy was ($p \leqslant 0.0001$) observed.

Conclusion: Psychotherapy is effective in reducing the level of depression in patients with myocardial infarction

Key Words: Myocardial Infarction, Depression, BDI, Psychotherapy, Smokers, Human Figure Drawing

INTRODUCTION

Cardiovascular disease remains the leading cause of death and disability among men and women of all ethnic groups throughout the world.[1] Depression is common predictor of mortality and morbidity in patients with coronary heart disease particularly after an episode of myocardial infarction. As many as 65% of patients with acute MI experience symptoms of depression, and major depression is present in 15% to 22% of these patients.[1] About 1 in 6 patients experience depression after MI.[2] Depression may adversely influence recovery of patients with MI. The correlation of depression with adverse cardiac outcomes has led to many studies showing the benefit of treatment of depression on coronary and depression outcomes. Furthermore to improve cardiac outcomes in patients with MI, besides medication and revascularization procedure, psychotherapy and life style modification can play an important.[3] The aim of present is to find the frequency of depression in our setting and to find the effect of psychotherapy on depression in patients with CHD.

The aim of our study was to assess the benefits of psychotherapy on depression in post MI patients.

METHODOLOGY

This cross sectional comparitive study was conducted in Cardiology Unit, Lady Reading Hospital, Peshawar from August 2014 to February 2015. Patients admitted in cardiology unit diagnosed with MI were recruited in the study. Sample was taken through purposive sampling. Patients of all ages and either gender, admitted to cardiology unit with first MI who were willing to participate in the study were included . Patients with known mental illness, clinically unstable with recurrent chest pain were excluded from the study.

Patients with MI and depression were divided into two groups. Treatment group included patients with MI and depression that underwent psychotherapy. Non Treatment included patients with MI and depression who did not undergo psychotherapy.

Patients with depression were identified by using an assessment tool BDI (Beck Depression Inventory). This tool was created by Aaron T Beck. BDI is a 21 questioned multiple choice self reported inventory. It is a widely used instrument for identifying and measuring the severity of depression. The severity of depression according to BDI score was divided into mild, borderline, moderate and severe.

Patients undergoing psychotherapy were called on weekly basis for therapeutic sessions. The patients undergoing psychotherapy were administered 3 therapeutic sessions. In the 1st session problem identification with HFD (Human Figure Drawing), projective personality test, catharsis, Strength and Weaknesses scales were applied. In 2nd session patients underwent progressive muscle relaxation techniques, Thought stopping and tips for stress management were given. The 3rd session included cognitive restructuring, reevaluation through BDI. Besides this patients were given specific therapy tailored according to individual problem and needs. This specific therapy included effective time management, aggression management and here and now technique. Chi square test was used for statistical analysis

RESULTS

A sample of about 250 patients presenting with MI to cardiology unit Lady Reading Hospital Peshawar was taken . Of them depression was found in 100 patients constituting about 42% of the sample as shown in figure 1. Males were about 78%. Treatment group as well as no treatment group consisted of 50 patients each. Mean age was 56.12±10.94 years. Most of the patients were uneducated (57%), married (99%), diabetics (39%) and hypertensive (81%). About 54% of them had positive family history for CAD as shown in table 1.

A significant reduction in depression level was found in therapy group post session (16% vs. 01% in moderate group and 26% vs. 01% in severe group, p = 0.001). Similarly improvement in BDI score was found with 16 vs. 01 (21-30 score) and 26 vs. 01 (31-40 score) with p = 0.001 as shown in table 2.

Figure 1: Frequency of Depression in Patients Presenting with MI

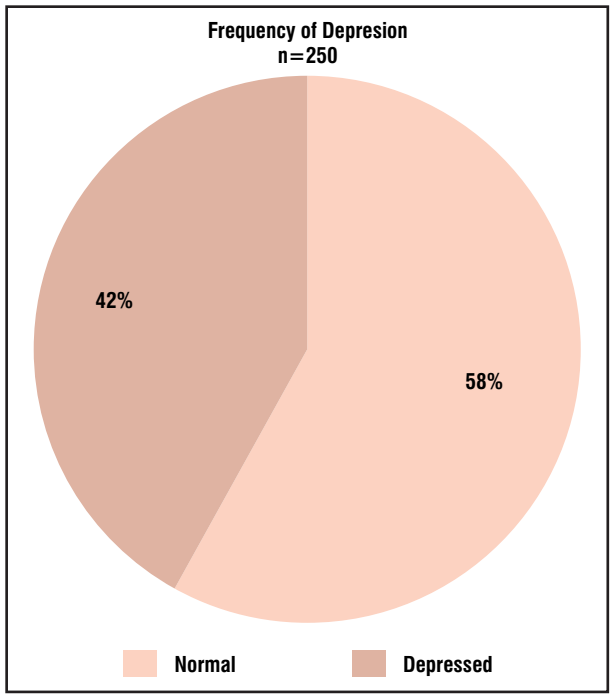

Table 1: Description of Demographic Characteristics of the Study

Variables	n = 100	%
Age M±SD	Mean age 56.12 ± 10.94	
Gender		
Male	78	78.0%
Female	22	22.0%
Education		
Educated	43	43.0%
Non-Educated	57	57.0%
Residency		
Rural	65	65.05%
Urban	35	35.0%
Socio-economic		
Personal	45	45.0%
Family	55	55.0%
Marital Status		
Married	99	99.0%
Unmarried	1	1.0%
Family History of CVD		
Yes	54	54.0%
No	46	46.0%
Patient with Hypertension		
Yes	81	81.0%
No	19	19.0%
Patient with Diabetes		
Yes	39	39.0%
No	61	61.0%
Smoking Status		
Current Smoker	14	14.0%
Past Smoker	25	25.0%
Non-smoker	61	61.0%
Height in Cm (M±SD)	64.0 ± 4.30	
Weight in Kg (M±SD)	74.0 ± 11.85	
Waist Circumference Cm (M±SD)	40.7 ± 4.97	
Mean waist circumference in Cm		
Male	41.17 ± 5.11	
Female	39.00 ± 4.10	
Mean weight in Kilogram		
Male	75.61 ± 12.42	
Female	69.72 ± 8.23	
Level of Depression Before Psychotherapy		
Normal		1%
Mild		9%
Borderline		5%
Moderate		49%
Severe		32%
Level of Depression after Psychotherapy		
Normal		30%
Mild		11%
Borderline		10%
Moderate		17%
Severe		27%

Table 2: Level of Depression and BDI Score in Therapy vs. Non Therapy Group

Depression Level	Non Therapy Group	Therapy Group	p-value
Normal	00(0%)	30(30%)	.0001
Mild	01(1%)	10(10%)	
Borderline	02(2%)	08(8%)	
Moderate	16(16%)	01(1%)	
Severe	26(26%)	01(1%)	
BDI score			
1-10	00	30 .0001	
11-16	00	10	
17-20	03	07	
21-30	16	01	
31-40	26	01	
>40	05	00	

DISCUSSION

Our study showed depressed group undergoing psychotherapy showed marked improvement in their depression status. This was particularly noticeable in moderate and severe category of depressed patients. Patients in moderate group before therapy were 49% and in severe group were 32 %. Their levels of depression showed marked improvement with levels going to 17% and 27% in each group respectively.

Studies show evidence that psychological treatment has positive effects on depressed patients with MI. Psychotherapy is useful in reducing mental stress and improving their depression.[3]

The addition of psychosocial treatments to standard cardiac rehabilitation regimens reduces mortality and morbidity, psychological distress, and some biological risk factors.[4]

A study done in cardiology unit LRH in 2011 investigated the frequency of depression and anxiety in patient admitted with MI.[3] The study recruited 200 consecutive patients of AMI without complications presenting to the coronary care unit and 200 healthy controls among patient's attendants. Patients were interviewed with standard scales of HADS and HRS for the presence of depression. Depression was more common in patients presenting with acute myocardial infarction as assessed by standard scales as compared to controls.

A Meta analysis evaluated 2024 patients who received psychosocial treatment vs. 1156 control subjects. The psychosocially treated patients showed greater reductions in psychological distress and improved levels of systolic blood pressure, heart rate, and cholesterol level.[8] Patients who did not receive psychosocial treatment showed greater mortality and cardiac event recurrence rates during the first 2 years of follow-up. The benefits were evident during the first 2 years and were weaker after this period. Therefore it is recommended to include psychosocial treatment as an integral component of cardiac rehabilitation (CR). The findings also suggest an urgent need to identify the specific, most effective types of psychosocial interventions via controlled research.[1]

A review clearly identified the role of psychological interventions in cardiac rehabilitation. Some practitioners favor bio behavioral approaches with strong relaxation/ breathing components, whereas others offer unstructured support. The aim of psychological education in these cases is to maximize patient compliance to cardiac rehab.[2]

Depression and low perceived social support (LPSS) after myocardial infarction (MI) are associated with higher morbidity and mortality, but it is still not evident whether this increased risk can be reduced through treatment.[6] A study concluded whether mortality and recurrent infarction are reduced by treatment of depression and LPSS with cognitive behavior therapy (CBT). It could be supplemented with a selective serotonin reuptake inhibitor (SSRI) antidepressant when indicated. The study showed that the intervention did not increase event free survival .However depression and social isolation was improved but when the relative improvement of psychosocial intervention group was compared with the usual care group, the benefit was less than expected due to considerable improvement in usual care patients.

In patients with CHD, the prevalence of major depression is nearly 20% and the prevalence of minor depression is approximately 27%. After an acute myocardial infarction (MI), depression is a risk factor for mortality independent of cardiac disease severity.[4] A recent randomized clinical trial (RCT) showed that the antidepressant sertraline hydrochloride improved recurrent depression in patients with an acute MI and episode of unstable angina. However, no clinical trial has examined whether treating depression with counseling or antidepressants after an acute MI improves survival or reduces cardiac risk. The absence of social support is also a risk factor for cardiac morbidity and mortality in patients with CHD.[4]

In a randomized trial of home-based psychosocial nursing interventions (the Montreal Heart), a secondary analysis examines the relationships between a reduction in psychological distress and long-term cardiac and psychological outcomes in post–myocardial infarction patients. Attack Readjustment Trial [M-HART]), gender differences were considered. Post-myocardial infarction interventions that reduce psychological distress have the potential to improve long-term prognosis and psychological status for both men and women.[5]

There is increasingly growing evidence that depression drastically and unfavorably affects cardiovascular health. The most important finding is the documented increase in mortality rate in patients with depression after myocardial infarction.[6]

Prospective cohort studies on healthy subjects have shown an association between depression and the subsequent development of coronary heart disease (CHD).[7] Depressive symptoms and clinical depression have an adverse impact on mortality in CHD patients. The results are however heterogeneous as shown in the primary studies. Nonetheless, depression has to be considered a relevant risk factor in patients with CHD.[7]

LIMITATIONS

This is a single center study including patients presenting to Lady Reading Hospital CCU only so the sample size was not large enough. Therefore a large and multicentre study is needed to generalize the effects of depression therapy for Myocardial Infarction patients

CONCLUSION

Our finding shows that psychological interventions have a beneficial role in reducing depression in patient with coronary heart disease. Clinicians should take notice of the depressive symptoms and should refer to the experts for psychological intervention.

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