Original Article

Major Depressive Disorder Among Patients Suffering From Myocardial Infarction

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Abstract

Background: *Depression is now a recognized independent risk factor of coronary artery disease. Post-myocardial infarction (MI) patients with a clinician-diagnosed depressive disorder or self-reported depressive symptoms carry a 2.0- to 2.5-fold increased relative risk of new cardiovascular events and cardiac mortality.* **Objective:** *The objective of this study was to determine the prevalence of depression among patients suffering from MI.* **Materials and Methods:** *This was a cross sectional study carried out in the department of Cardiology in collaboration with department of Psychiatry at North Bengal Medical College Hospital (NBMCH) Sirajganj, Bangladesh, during the period of July 2016 to December 2017 among purposively selected 50 patients attended the Cardiology in-patient department of NBMCH.* **Results:** *The heighest number of respondents (30%) were from 41-50 years of age group. Among the respondents, 68% were male and 32% were female. Most of them were married (80%), muslim (78%), completed higher secondary level of education (26%), businessmen (38%) and of rural background (60%). Total numbers of depression were 28 (56%), among them, 17 were males and 11 were females.* **Conclusion:** *This study reflects that post MI patients experienced significantly higher rate of depression. So we should pay attention for their cardiac management as well as to evaluate depression*

Introduction

Depression is now a recognized independent risk factor of coronary artery disease.[1] The commonest variables related to depression among post MI patients were gender, socio-economic status, marital status, education, relationship with the patient and the burden of care.[2,3] Approximately 40% of post-MI patients have either major or minor depression.[4] Standard diagnostic manuals of psychiatric disorders diagnose depression based on the sum of depressive symptoms adding up to a syndromal diagnosis of depression. Diagnostic manuals exclude concerns about the etiology of depression to arrive at a descriptive type of depressive disorder that can be reliably diagnosed by different investigators across different populations and times.

Given this unequivocal importance of depression to clinical cardiology, previously published results of the ENRICHD (Enhancing Recovery in Coronary Heart Disease) trial were disappointing news.[5] Various types of burden may occur in MI patients including financial difficulties, employment difficulties. Fear, sadness and anger. All of these factors may contribute for the development of depression. On the other hand, many studies suggest that depression onset before MI may not be causally linked with MI, supporting the most recent notion that this link is partially due to a shared genetic vulnerability.[6] The objective of this study was therefore to determine the prevalence of depression among patients suffering from MI.

Materials and Methods

This was a descriptive cross sectional study. Sampling technique was convenient and carried out in the department of

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Cardiology in collaboration with department of Psychiatry, North Bengal Medical College Hospital (NBMCH), Sirajganj, from July, 2016 to December, 2017. A structured questionnaire was prepared to determine socio-demographic characteristics such as age, gender, marital status, economic status, social background etc. In this way a total 50 patients with MI was selected as case. All of them were evaluated for Major Depressive Disorder by using SCID (Structured Clinical Interview for DSM)[6]

Results

Majority respondents were from the age group of 41-50 years 30% (Table I). Male respondents were more 68.0% than female. But prevalence of depression was more in female patients suffering from MI 68.8%. Most of the respondents were married 80.0% and came from rural area 66.0%. Maximum were Muslims 78.0%. Regarding occupation, businessmen were majority in number 38.0% (Table II). Major Depressive disorders were found 56% among the all MI patients, using Bengal version of SCID (Fig I).

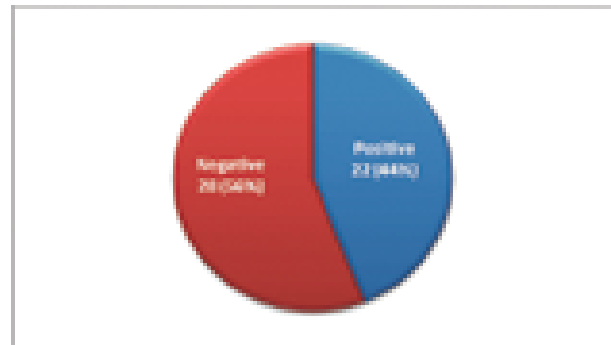**Table I:** Distribution of the respondents on the basis of age (n=50)

Age in years	Frequency	(%)
20 years and below	03	06
21-30	06	12
31-40	12	24
41-50	15	30
51-60	10	20
61 years and above	04	08

Table II: Distribution of the respondents according socio demographic variables (n=50)

Sociodemographic variables	Frequency	Percentage (%)
Gender		
Male	34	68
Female	16	32
Religion		
Muslim	39	78
Hindu	11	22
Social background		
Rural	30	60
Urban	20	40
Marital Status		
Married	40	80
Unmarried	10	20
Educational status		
Illiterate	04	08
Primary	08	16
Secondary	07	14
SSC	11	22
HSC	13	26
Graduation and above	07	14
Occupational status		
Serviceholder	10	20
Businessmen	19	38
Farmers	04	08
Housewives	11	22
Students	04	08
Unemployed	02	04

Table III: Gender difference and depression in MI patients (n=50)

Sex	No of MI patients	Depression
Male	34	17 (50.0%)
Female	16	11 (68.8%)

Figure I: Distribution of respondents by MDD according to SCID

Discussion

Depression is one of the most significant mental health problems because of its prevalence. Several medical conditions are associated with depression. Depression is now a recognized independent risk factor of coronary artery disease. Post-myocardial infarction (MI) patients with a clinician-diagnosed depressive disorder or self-reported depressive symptoms carry a 2.0- to 2.5-fold increased relative risk of new cardiovascular events and cardiac mortality.[1] More recent studies have reported a similar association, although some authors have found that this association is not significant if other predictors of mortality are taken into account.[2-4] Increasing attention has been focused on mood disturbance in patients recovering from an acute myocardial infarction (AMI), especially since it was first reported that depression was associated with increased mortality after AMI.[7] Study published in 2003 found that depression is associated with cardiac and all-cause mortality in post-AMI patients after controlling for other predictors.[8] A second study reported similar results, but focused more broadly on patients with coronary heart disease rather than specifically on patients with AMI. Depression may have a greater effect on quality of life and physical limitation in patients with coronary disease than traditionally determined measures of cardiac function.[9]

In our study, we found that highest number of respondents were from the age group of 41-50 years 30%. In the present study there were 34 (68.0%) male and 16 (32.0%) female. But percentages of depression are more in female patients with MI than those of male patients. This is similar with the result of other studies.[7,8] Regarding religion, 78.0% respondents were in Muslim, and 22.0% respondents were the Hindu. This is almost a real picture of Bangladeshi population. In current study 34% respondents were from middle class and 66% were

from lower class of socioeconomic condition. This might be due to the fact that people of poor socioeconomic condition constitute the major bulk of the population in Bangladesh and our place of study was in a district level of North Bengal region. This may be the cause of more poor class in this study.

In the present study 80% respondents were married and remaining 20% were unmarried. This may be due to that maximum respondents are aged person in this study (only 3 cases were under 20 years of age). Aged persons are mostly married in our society which may be the cause of more married in this study. In our study, we found that 66% respondents came from rural area. This may be due to the fact that most of our population still lives in rural area.

In the present study, according to SCID criteria, 56% MI patients were suffering from Major Depressive Disorder (MDD).[10] What we have not yet resolved and what ought to guide treatment recommendations in the future, are the presumably numerous contributing factors to incident post-MI depression. As suggested by the authors, these are best assumed to be both biological and psychosocial in nature. Several studies also have reported a similar association.[11-13] On the other hand some authors have found that this association is not significant if other predictors of mortality are taken into account,[14] or if one adjusts for potentially confounding symptoms, like fatigue, that may be common to depression and heart disease.[15]

Conclusion

In current study, it was found that MI patients experienced higher rate of depression. Though active assessment of depression in the patients suffering from myocardial infarction is crucial, it is recommended that during the treatment of MI patient, physicians should always search depression among the patients and treat them accordingly. Further study involving multicenter and large scale need to be conducted to evaluate depression among patients suffering from myocardial infarction.

Acknowledgement

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