

Prevalence and associated factors of depression in post acute myocardial infarction in patients attending Colombo South Teaching Hospital, Kalubowila

Abstract

Back ground

Ischaemic heart disease is the leading cause of death and disability in Sri Lanka. Developing countries account for 80% of global morbidity and mortality caused by CVD and these figures are predicted to double by 2020.

Depression is common, persistent yet, under recognized in post acute myocardial infarction. In addition, depression is found to have independent yet significant high relative risk of developing cardiac disease. Compared to non depressed patients those with depression have poorer cardiac and overall morbidity, mortality and quality of life.

Aims

Various screening instruments and structured interviews found 20% - 35% prevalence of depression in post acute myocardial infarction cohorts. There is a dearth of information pertaining to the prevalence and associations of depression in post acute myocardial infarction in Sri Lanka.

This study aimed to evaluate the prevalence of depression and risk factors of depression and it's associations among patients with post acute myocardial infarction attending Colombo South Teaching Hospital.

Method

This is a cross sectional descriptive study to determine the prevalence and associations of depression among patients with post acute myocardial infarction. Consecutive 155 patients who fulfilled the research criteria attending the medical/ cardiology wards and the cardiology clinic of Colombo South Teaching Hospital from August 2018 to September 2018 were included in the study. All the patients were concurrently assessed with self administered Hospital Anxiety and Depression Scale (HADS) and a clinical diagnostic interview carried out by the principal investigator using a diagnostic aid based on research version of International Classification of Diseases -10 (ICD – 10).

Results

Majority of the study sample consisted of Sinhalese 91%, Buddhists 83.2%, 68.4% married, 1/3 (36.8%, n=57) received highest education up to grade 5. 40% (n=62) of the

participants were professionals, 63.9% (n=99) unemployed at the time of study and 38.1% (n=59) belonged in monthly income category of (SLR) 20,000- 30,000

Out of the cardiovascular risk factors assessed in the study, 7.7% (n=12) were current smokers, 24.8% (n=38) ex-smokers, 2.6% (n=4) admitted to drinking regularly surpassing safe limits while 1.9% (n=3) had alcohol dependence. More than three quarter of study recruits 78.7% (n=122) had hypercholesterolemia, 56.1% (n=87) had diabetes mellitus while 91.1% (n=141) had hypertension. 12.3 % (n=19) and 4.5% (n= 7) of the study sample fell in over weight and obese category each. A proportion of 11.6% (n=18) and 39.4 (n=61) admitted as having sedentary lifestyle or mild activity level respectively while 49% had positive family history of CHD.

A 20.6% (n=32) of the study participants had HADS intermediate scores (8 -10), while 21.3% (n=33) received score of 11-21. Point prevalence of depression amongst the study sample measured using ICD - 10 research criteria was 34.9% (n=53), further categorized as mild 14.8% (n=23), moderate 14.2% (n=22) and severe depression 5.2 % (n=8) according to severity of the disorder. A proportion of 41.6% females and 23.6% male participants were diagnosed with a depressive disorder.

Many of study participants 40.6% (n=63) considered acute myocardial infarction to have had severe impact on their daily functioning and 47.7% (n=74) for it to have caused severe impact on their families. A proportion of 40% (n=62) regarded treatment received for cardiac disease satisfactory, while 19.4 % (n=30), 25.8% (n=40) and 29.7% (n=46) perceived severe, moderate and mild level of stress at the time of study.

STEMI was diagnosed in 58.1% (n=90) of the study participants and 71.6% (n=111) received anticoagulants alone for acute MI while 9.7% (n=15) underwent CABG. It was found that 18.1% (n=28) underwent primary PCI and only one participant 0.6% received fibrinolytic therapy as main treatment intervention for acute myocardial infarction.

A LV ejection fraction < 35% was found in 29% (n= 44) study participants while 58.5% (n=89) had > 35% - < 60%. Mean length of hospital stay for patients diagnosed with depression in post acute myocardial infarction was 8 days with SD of 4 days compared to non depressed counterparts who had a mean hospital stay of 6 days, SD 3 days. Depressed participants had a mean 2.41 complications (SD 1.34), whilst mean 1.92 (SD 1.41) complications were experienced by non depressed participants.

The mean duration of coronary heart disease, hypertension and diabetes mellitus were 5 (SD 3), 8 (SD 7) and 8 (SD 5) years each for study participants who developed depression following acute myocardial infarction respectively while their non depressed counterparts had mean duration of 4 (SD 3) years for coronary heart disease, 9 (SD 6) years for hypertension and 9 (SD 8) years for diabetes mellitus at the time of index episode of MI.

Conclusions

Female sex, participants' occupation (unemployment and manual labor) and Tamil ethnicity showed statistically significant associations with depression in post acute myocardial infarction at $p = 0.05$; while civil status, religion, highest level of education, current employment status and monthly income were not found to have similar associations.

A HADS score of 11-21 were found among 21.3% ($n=33$) of the participants, while 20.6% ($n=32$) had an intermediate score between 8 -10. Depression was found among 34.9% ($n=53$) when ICD-10 criteria were used. It could be further categorized as mild 14.8% ($n=23$), moderate 14.2% ($n=22$) and severe depression 5.2 % ($n=8$) according to severity of the disorder. A total of 41.6% females and 23.6% male participants were diagnosed with depressive disorder.

Out of the psychosocial factors analyzed, perceived psychosocial support (CSV = 5.451; $P=0.244$) and current stress levels (CSV= 5.451 and $P= 0.244$) did not show any statistically significant associations between post acute MI depression where as statistically significant associations were discovered between perceived impact of acute myocardial infarction on daily functioning and perceived impact of acute myocardial infarction on the family at $p < 0.05$.

Study did not reveal any statistically significant associations between post MI depression and known cardiovascular risk factors. Longer length of hospital stay, more number of complications during hospital stay for index episode of acute myocardial infarction and severe LV dysfunction were significantly associated with depression in post acute MI at $p=0.05$ level. Duration of coronary heart disease, hypertension and diabetes mellitus did not reveal statistically significant associations with depression following acute myocardial infarction.

Limitations

Study sample characteristics specific to subpopulation receiving treatment at Colombo South Teaching Hospital and use of HADS which is not specifically validated for post myocardial infarction are the limitations of index study.