

Original Article

Depressive Symptoms among Patients of Myocardial Infarction

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Abstract

Objective To investigate the prevalence of depressive symptoms among pre-diagnosed patients of myocardial infarction at a tertiary care hospital in Hyderabad. **Methodology** This observational, cross-sectional communal survey comprised of a sample of 100 patients chosen via simple random sampling from 1st December 2015 to 28th February 2016. Written informed consent was obtained before collecting data using interview based structured questionnaires. The data obtained was analyzed using SPSS v. 19.0 and Microsoft Excel 2013. **Results** All the patients in the study belonged to an age group between 40 to 90 years. 69% of them being males and 31% females. 48% were uneducated while 52% were educated. 54% belonged to lower economic class, 43 were middle class and just 3% belonged to higher economic class. Mean depression score remained 16.12 for the patients with single heart attack whereas for the patients with repeated heart attacks the score was 19.62. 83% of the patients showed symptoms of anxiety. 51% were retarded in their speech and thought process, while 90% complained of difficulty in work. 62% complained of general aches, 54% had loss of appetite 38% had somatic complaints. 63% of the patients has health worries, 59% lost weight while 52% felt depressed. **Conclusion** Study suggests that patients belonged to an age group of mostly 40 and onwards. Major number of patients belonged to male gender. A significant number of patients were un-educated. Patients with repeated attacks showed higher levels of depression. Majority of the patients showed symptoms of depression and complaints due to it.

Keywords

Ischemia, Myocardial Infarction, Depression, Anxiety, Heart Attack and Depressive Symptoms.

Introduction

Although abundant scientific literature regarding mood disorders following myocardial infarction (MI) exists, the severity, prevalence, and persistence of depression have been uncertain, and standard rating scales and criteria for depressive disorders have infrequently been utilized. In 1912, Herrick reported an absence of significant psychopathology in patients recovering from acute myocardial infarction (Herrick, 1912), but subsequent investigators

observed a high prevalence of depression (Weiss, 1957; Verwoerd, 1964 & Rosen, 1964) with adverse effects on rehabilitation (Wynn, 1967). Hackett and colleagues found that 80 percent of admissions for acute MI were anxious, 58 percent depressed, and that these symptoms were the most common cause for consultation referrals (Hackett, 1968 & Cassem, 1971).

Lloyd and Cawley examined 100 consecutive males admitted for first acute MI using the

Standardized Psychiatric Interview (SPI) and ICD-8 psychiatric diagnoses (Lloyd, 1978; Lollyd & Cawley, 1982, 1983). “Psychiatric morbidity” was found among 35 percent of the sample at one week post-MI: sixteen patients were judged to have been psychiatrically ill at the time of MI, whereas nineteen developed their psychiatric disorder after the cardiac event. In the latter group, twelve patients had “depressive neurosis” and six had “anxiety neurosis,” but only 25 percent maintained a psychiatric diagnosis at four and twelve months follow-up. There was a much wider range of psychiatric diagnoses in the sixteen patients whose psychiatric disorder preceded myocardial infarction, and 75 percent were still psychiatrically ill at follow-up.

More recently, Schleifer et al. interviewed 283 acute MI patients using the Schedule for Affective Disorders and Schizophrenia (Schleifer, et al., 1989). They found that 18 percent had “probable or definite” major depression (the proportion of “definite” cases was not specified) and 27 percent had minor depression by Research Diagnostic Criteria. Seventy-seven percent of the patients with major depression in hospital had major or minor depression at three months follow-up. Failure to return to work was most frequent among patients with persisting cardiac

symptoms who also had major depression. We report the initial evaluation of a longitudinal investigation of patients hospitalized for acute MI.

Methodology

This observational, cross-sectional communal survey comprised of a sample of 100 patients chosen via simple random sampling from 1st December 2015 to 28th February 2016. Written informed consent was obtained before collecting data using interview based structured questionnaires. The data obtained was analyzed using SPSS v. 19.0 and Microsoft Excel 2013. Our study utilized a structured psychiatric interview, standardized rating scales (for depression, social function, and intellectual or physical impairment), and DSM-III diagnostic criteria.

Results

All the patients in the study belonged to an age group between 40 to 90 years. 69% of them being males and 31% females. 48% were uneducated while 52% were educated. 54% belonged to lower economic class, 43 were middle class and just 3% belonged to higher economic class. The Figure 1 below, graphically illustrates the demographic spectrum of the sample clearly.

Figure 1 Uneducated males belonging to the lower socioeconomic class dominated the sample in terms of quantity. While uneducated females belonging to higher socioeconomic class were present in the least quantity in the sample.

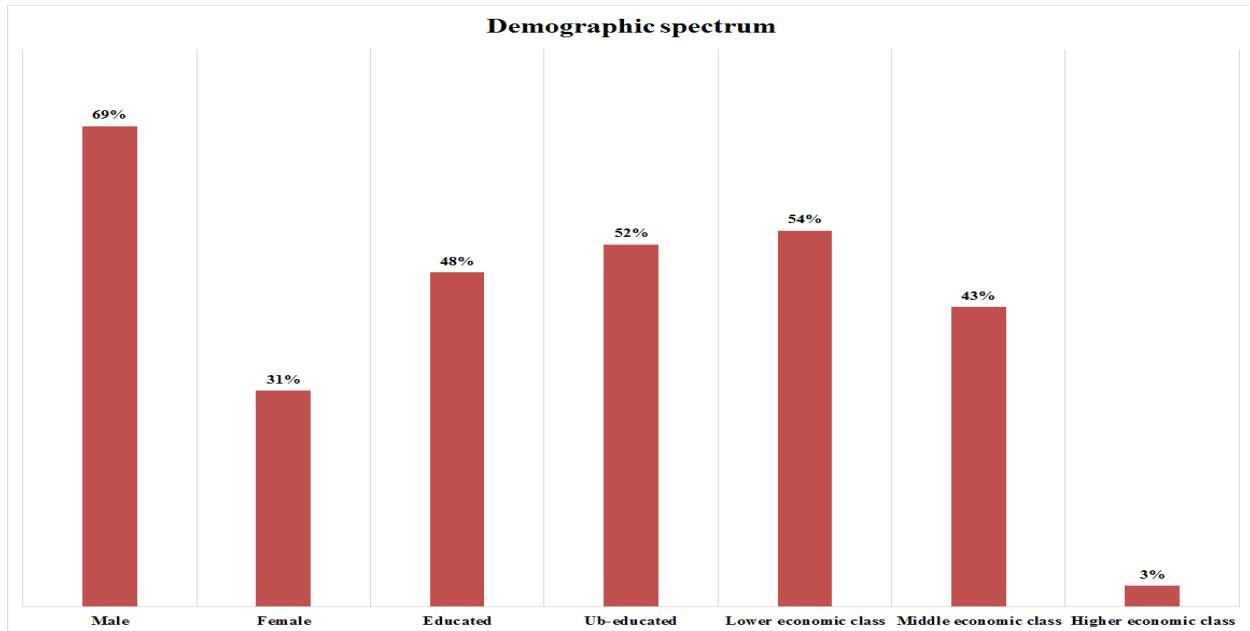


Figure 2 Mean depression score remained 16.12 for the patients with single heart attack whereas for the patients with repeated heart attacks the score was 19.62. 83% of the patients showed symptoms of anxiety. 51% were retarded in their speech and thought process, while 90% complained of difficulty in work.

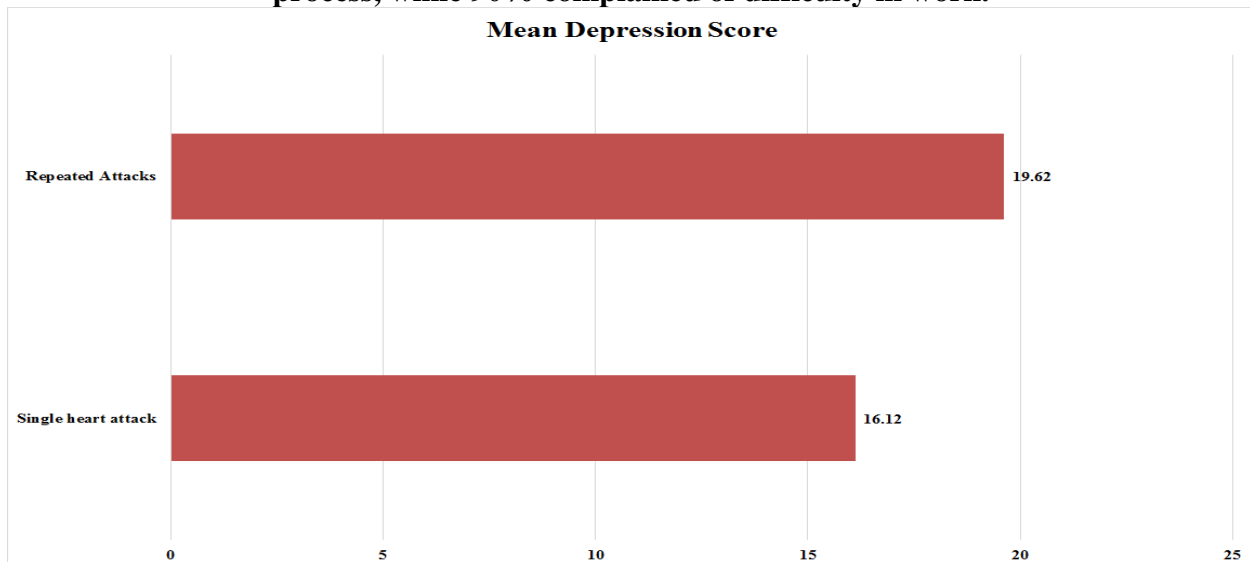


Figure 3 Difficulty in work was the most common complaint, immediately followed by the complaint of anxiety. However, less than half of the sample complained of retardation in thinking and speech. 62% of the sample complained of general aches, 54% had loss of appetite 38% had somatic complaints. Figure 4 shows the problems in relation to each other graphically.

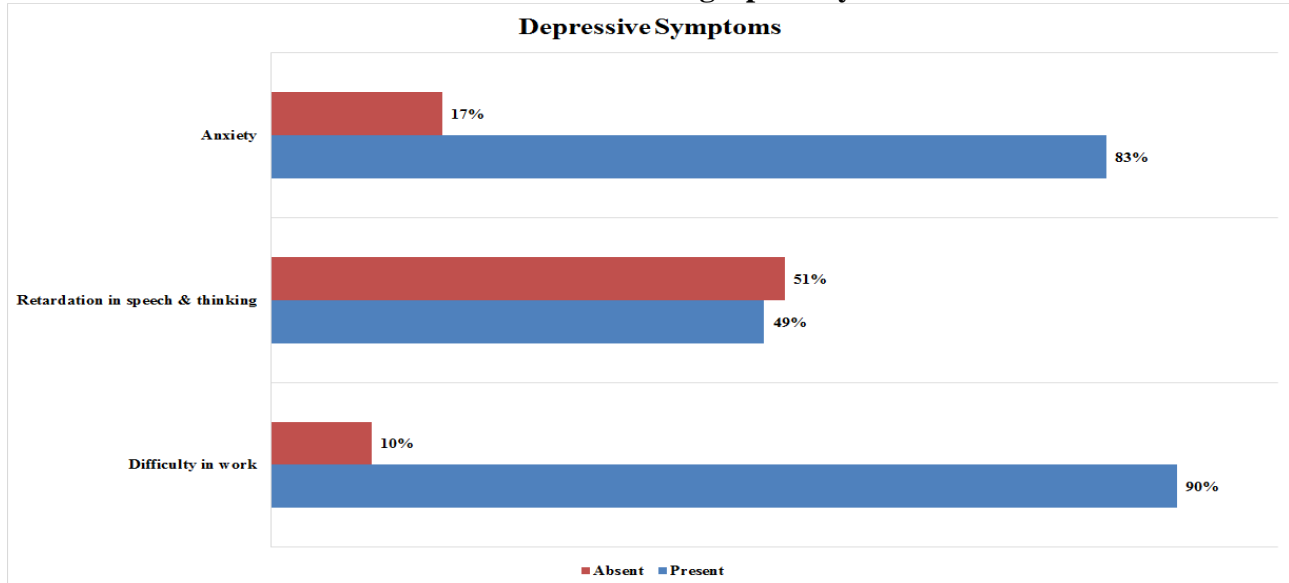


Figure 4 shows the greatest proportion of patients reported to suffer from general aches, followed by the complaint of loss of appetite and then somatic complaints. All of these complaints can lead to serious discomfort if experienced chronically. 63% of the patients has health worries, 59% lost their weight while 52% felt depressed. Figure 5 below illustrates the intensity of the said problems.

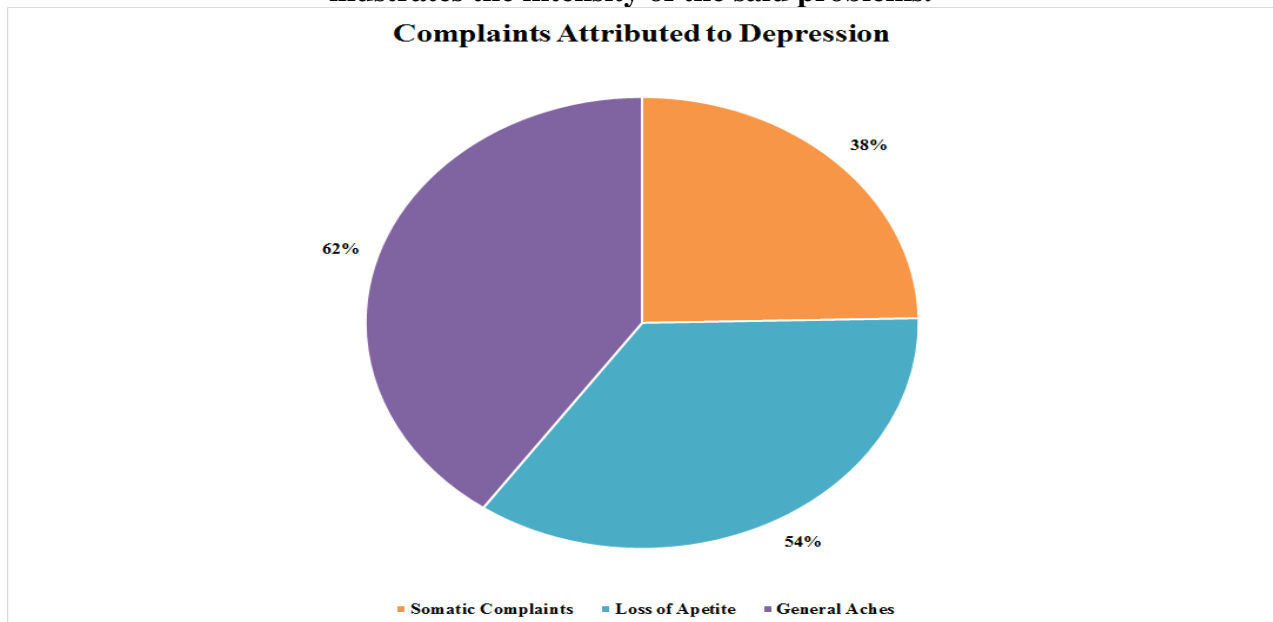
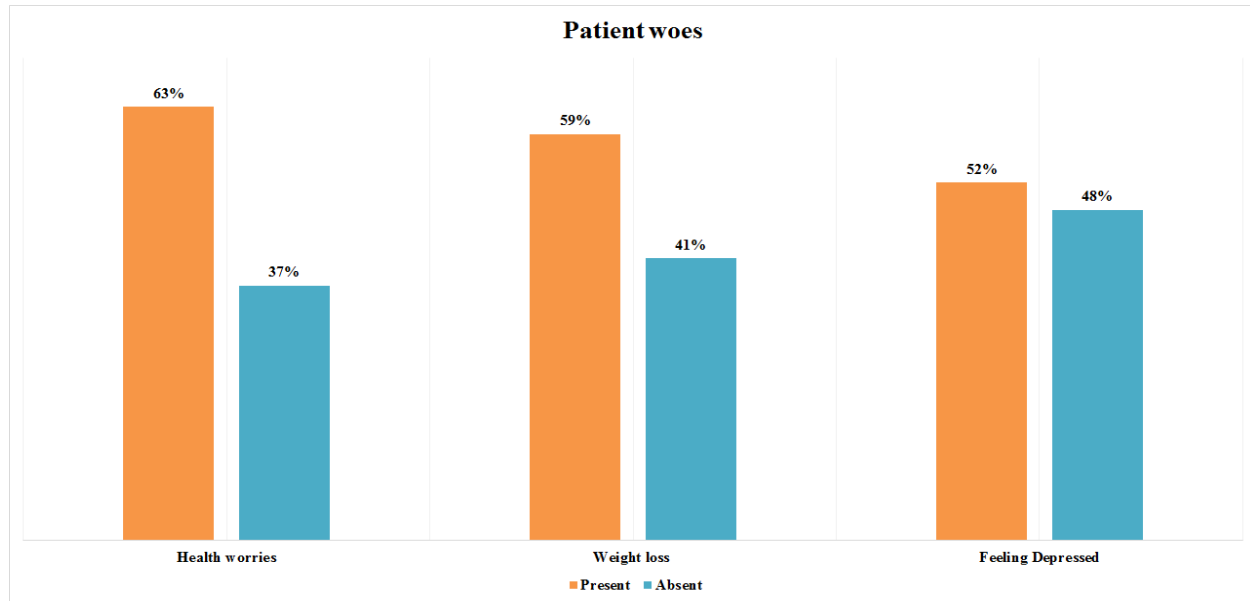


Figure 5 shows worries were high frequent among the patients and complaints of weight loss too were common. A little more than half of the sample self-professedly suffered from depression as well.



Discussion

The present study has demonstrated that 19 percent of a series of acute MI patients had the DSM-III symptom cluster of major depression: Less severe forms of depression were far less prevalent: only 2 percent of the population had dysthymic disorder, and just 5 percent had depressed mood in the absence of a DSM-III affective or anxiety disorder. Eight percent of the patients had generalized anxiety disorder. Several factors were associated with the diagnosis of mood disorder and its severity: gender, past history of mood disorder, large myocardial infarction (as indicated by peak CK > 1500), severity of functional physical impairment (JHFI), and quality of social relationships (SFE).

Our study population was predominantly male, and from lower socioeconomic classes. Thus, our results may not be fully applicable to patients with different demographic characteristics. Moreover, we could not

reliably examine the most critically ill patients, and chose not to examine those scheduled for emergency bypass surgery or angioplasty (whose mental state would have been affected by intraoperative and postoperative variables in addition to MI). However, we did sample patients from three different hospital settings, and this should enhance the generalizability of our findings to other groups of patients of similar medical acuity. Finally, we failed to enlist a substantial number of patients secondary to refusal or early discharge. Whether assessments of such patients would have substantially affected the prevalence of depression is uncertain. Future studies with other patient groups are needed to corroborate the generalizability of our findings.

Early studies of acute MI inpatients reported prevalence rates for depression ranging from 22 percent to 64 percent, although none of

these studies utilized strict diagnostic criteria and structured psychiatric interviews for the assessment of depression (Weiss, 1957; Verwoerd, 1964; Rosen, 1964; Hackett, 1968 & Cawley, 1971). The largest outpatient study of depression in patients with ischemic heart disease found that depression contributed to disability in 40 percent of cases (Wynn, 1967). This important study, however, investigated only patients “whom standard medical measures had failed to rehabilitate,” and therefore probably exaggerated the prevalence of psychiatric cases. The comparatively lower prevalence of depression found in our study is in accord with more recent investigations: Cay et al. found that 26 percent of 131 acute MI patients were depressed and 32 percent were anxious, using “maximal clinical estimates” without specific diagnostic criteria (Cay, et al., 1972). Stem and colleagues found depression in 25 percent of acute MI cases, using clinical impressions in their initial study and Zung Self-Rating Depression Scales > 40 as the criterion in their second investigation (Stem et al; 1972, 1973). Lloyd and Cawley’s work, detailed above, found ICD-8 “depressive neurosis” in 18 percent of patients (Lloyd, 1978; 1982 & 1983). Schleifer, et al., did observe depressive syndromes in 45 percent of their sample, but the majority of these were minor depressions (Schleifer, et al., 1978). Stem et al. found that six weeks after MI, 25 percent to 50 percent of depressed patients admitted to anxiety or depression in the preceding year. (Stem M. J. et al., 1976 & 1977). (Cay, et al., 1972) reported that two thirds of the patients they rated as emotionally disturbed post-MI reported mounting psychological distress pre-MI. Lloyd and Cawley found that one third of their patients with depressive neurosis were psychiatrically ill prior to their MI (Lloyd, 1978; 1982 & 1983). Schleifer, et al., found no such correlation with prior

mood disorder, but speculated that their patients may have underreported their past histories (Schleifer, et al., 1978).

We suspect that the greater frequency of major depression versus dysthymic disorder in our study is partly the reflection of pre-existing genetic vulnerability to severe forms of mood disorder being precipitated by the physiological and emotional distress of MI. Perhaps those without such a constitutional vulnerability develop only mild depressions, if they become depressed at all. Such a conclusion, of course, remains speculative because most of our patients with major depression had no known prior history of mood disorder, and family histories of mood disorder did not distinguish our diagnostic groups. Yet, we had only one informant for past personal and family psychiatric histories, and this probably underestimated such risk factors for affective disorder. Our observation of a greater vulnerability to depression among females post-MI has been suggested by Stem et al., and confirmed by (Schleifer, et al., 1978). This Observation, which appears to be independent of prior history of mood disorder, warrants further inquiry.

Despite Cassem and Hackett’s comment that severity of depression positively correlated with severity of myocardial infarction (Cassem, 1971), subsequent quantitative assessments have generally failed to support this observation. Severity of infarction as measured by Peel and Norris indices have not positively correlated with psychiatric morbidity (Lloyd; 1978, 1982 & 1983) and Stem found no difference between depressed and non-depressed patients for peak CK values (Stem, M. J., et al., 1977). Our study, one of the few to quantitate peak CK as an independent variable, found no significant

evidence that large MIS contribute to depression severity.

Many investigators have described post-MI depressions as “seldom pathological” (Hackett, T. P., et al., 1968; Cassem, N. H., et al., 1971) or “neurotic rather than psychotic” (Stern, 1976 & 1977). Others have noted more severe depressive problems requiring specific antidepressant treatment (Wynn, 1967; Schleifer, 1978 & Wishnie, 1971). It is difficult to reconcile these divergent views simply because uniform diagnostic measures have not been used. Although certain aspects of our findings have been reported by other investigators, our study is one of the few to utilize a structured psychiatric interview with well-defined diagnostic criteria.

Since our patients were examined in hospital within two weeks of MI, a strict DSM-III duration criterion for major depression obviously could not be utilized. It can however be argued that the DSM-III duration criterion for major depression is, at best, arbitrary, but it is a matter for inquiry whether the major depressive syndromes seen acutely in our patients will persist on longer term follow-up. If symptoms of major depression persist as reported by (Schleifer, et al., 1978) we believe that these are the patients most likely to benefit from specific antidepressant treatment, treatments which are safe if used carefully in this population (Goldman, 1986).

Conclusion

Study suggests that patients belonged to an age group of mostly 40 and onwards. Major number of patients were male. A significant number of patients were un-educated. Patients with repeated attacks showed higher levels of depression. Majority of the patients showed symptoms of depression and complaints due to it.

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Conflict of Interest

All the authors disclosed that there is no competing interest associated with the preparation of this article.

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