



Depression in Coronary Artery Disease

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ABSTRACT

Introduction: Depression is one of the Common psychological disorders. From the cognitive point of view, the unhealthy attitudes increase the severity of the depression. The aim of this study was to investigate depression and unhealthy attitudes in coronary patients hospitalized at Tabriz Shahid Madani Heart Center. **Methods:** One hundred twenty eight hospitalized patients having myocardial infarctions were studied regarding unhealthy attitudes, severity of depression and demographic data. **Results:** The study showed a significant relation between unhealthy attitudes, BDI (Beck Depression Inventory) and severe depression. Moreover, a significant relation existed between gender and depression ($P=0.0001$). In addition, the level of education increased the intensity of unhealthy attitudes ($P=0.0001$). Several researches in both outside and inside Iran support the idea. **Conclusion:** Based on present study and more other investigations, it can be suggested to provide the necessary elements and parameters such as antidepressant medication, psychologists, complementary treatment for coping with negative mood and its unwanted consequences.

Introduction

Depression is one of the most frequent mental disorders which can be compared with common cold. About 20 percent of adults in every society may show one or several symptoms of depression.¹

It has been confirmed that coronary heart disease is the main cause of death in almost all over the world.² In cognitive approach, it is accepted that high dependence on an established belief can increase the degree of depression in his life. Based on this fact, a research was carried out at Tehran psychological Institute of Shahid Rajaei Heart center hypothesizing that, compared to the other patients; CAD patients are more neurotic, extrovert; yet less empiricist and less concordant.³

Accordingly, Yazdandust *et al.* conducted a research on coronary patients focusing on not only the frequency of depression but also severe coronary disease.³ Depression is the most common psychological and mental disorder among CAD patients having numerous direct and indirect risk factors.⁴ In a research conducted by Cincinnati Medical College on CAD patients, it was indicated that depression plays an important role as a risk factor in CAD.⁵

Furthermore, as reported by American psycho-somatic society, the patients denying their disease suffer less concordance and stay more in hospital as well.⁶ A report, by Iran university of Medical sciences showed that, when patients with myocardial infarction (MI) compared to normal individuals regarding depression and unhealthy attitudes, depression severity and unhealthy attitudes were significantly higher in MI patients in comparison

with normal cases ($P\leq 0.05$).⁷ Modabber's research in Kurdistan, Iran on the frequency and severity of depression in coronary and cataract patients demonstrated that almost 70% of the studied samples in the coronary patients had depression ($P=0.0001$). Significantly, the highest percentage of depression was seen among females ($P=0.003$).⁸

In a research conducted by Colombia university, it was figured out that among 314 patients affected by severe coronary syndrome, 166 cases had no symptom of depression in BDI test, while 91 cases had scores between 10 to 16 of BDI and 57 cases were diagnosed with average to severe depression with BDI >16 grades.⁹

A research by Isfahan cardiovascular research center pointed out that after participating in a mental health program, patients' depression decreased significantly ($P<0.0001$).¹⁰ In a research conducted by Brazilian Metropolitan University, it has been emphasized that physical diseases would lead to psychobiological alterations throughout one's life.¹¹

Also a research by Liverpool University in Canada emphasized on the mental and psychological supports being able to reduce the anxiety and signs of the depression.¹² Based on a study carried out by Tabriz Cardiovascular Research Center using MMPI test, 14 percent of the patients scheduled to undergo cardiac surgery experienced anxiety and depression during their hospitalization.¹³ Considering the high frequency and prevalence of MI, a study being conducted on the relation of MI and depression seemed quite necessary.

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Materials and methods

In this study, 128 patients with coronary disease hospitalized in Shahid Madani hospital were allocated. Unhealthy attitudes, degree of depression and the severity of CAD of the patients were studied. All data were analyzed using statistical methods.

Results

About 7% of the females had no symptoms of depression, while 34.9%, 22.2% and 9.5% of them had symptoms of mild, moderate and severe depression respectively. About 77.6% of the males had no symptoms of depression, while 11.9%, 6% and 4.5% of them had symptoms of mild, moderate and severe depression respectively. A statistically significant relation was detected between depression and gender. Additionally, a significant association was discovered between depression and sex of the patients with unhealthy attitudes based on literacy.

Furthermore, a significant relation was observed between the types of unhealthy attitudes and BDI scores as follows: The means of the unhealthy attitudes in patients with mild, moderate and severe BDI scores were 179.89 ± 20.56 , 169.72 ± 26.43 , and 182.62 ± 32.08 respectively. Therefore, unhealthy attitudes are more common in patients with severe BDI scores.

A significant relation between unhealthy attitudes and literacy was discovered. In addition, among those with BSc degree, the existence of unhealthy attitudes was severe.

Discussion

Throughout the research it was revealed that 22% of the individuals seem to show signs of mild to severe depression with more dominance in females. The mentioned findings are in line with the previous researches conducted by Tehran University (30%), Kurdistan University (70%), Iran University, Hayward, Colombia and Tabriz universities of medical sciences. As previously discussed, depression plays a fundamental role in the appearance of coronary disease.

Different mechanisms have been considered to be responsible for depression such as arrhythmia, changes in sympathetic and parasympathetic tones, heart rate changes, Ischemic Heart disease, decrease in serotonin levels and increase in cortisol levels.

On the other hand, the relation between unhealthy attitudes and depression intensity has been identified. These findings are in accordance with the report of the Kurdistan University of Medical Sciences.¹⁴ Generally, the probability of depression in vulnerable cases according to DAS test is 7 times higher than the others.

The findings also appeared to be equated with the findings of Iran University of Medical Sciences. According to the study, patients with myocardial infarction are more vulnerable than normal people to suffer from depression. The average number of unhealthy attitudes is also

significantly different.

As a result, the study suggests pharmacotherapy or psychotherapy for patients before or after their recovery from myocardial infarctions at discharge from the hospital. Based on the data obtained from the variance analysis, the means of the unhealthy attitudes in the illiterate, undergraduate, diploma, postgraduate and BSc. people were 160.66 ± 14.35 , 171.38 ± 21.95 , 176.55 ± 22.2 , 195 ± 21.18 , 202.60 ± 25.25 respectively. Considering $F=6.28$ and $P=0.0001$, it could be concluded that there is a significant relation between unhealthy attitudes and level of literacy and unhealthy attitudes tend to be more common in people with BSc degree.

The degree of depression in women is more significant. Therefore, considering the role of women in family, it can be suggested that before their discharge from the hospital, they should be visited by a psychiatrist.

This study completely confirms the findings of Kurdistan University of Medical Sciences¹⁴, Tehran, Liverpool, Mashhad, and Finland¹⁵ universities.

It is recommended that in addition to treatment by psychiatrists, psychological interventions are performed.

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Ethical issues: The local ethics committee of Tabriz University of Medical Sciences approved the study and all patients signed informed consent.

Conflict of interests: The authors declare no conflicts of interest.

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