Psychiatric morbidity and quality of life in cardiac patients

Mostafa A. Bastawy, Samah H. Rabei

Department of Psychiatry, Faculty of Medicine, Misr University for Sciences and Technology, Giza, Egypt

Correspondence to Samah Hamed Rabei, MD, 5 Omroo Al Kaysst, 7th District, Nasr City, Cairo, Egypt
Tel: +20 222 609 967;
e-mail: samahrabe@yahoo.com

Received 03 August 2015
Accepted 13 September 2015

Egyptian Journal of Psychiatry
2015, 36:139–143

Background
Cardiac patients have increased rates of psychiatric morbidity and unsatisfactory quality of life (QoL).
Aim of the study
The study aims to detect psychiatric morbidity and QoL in cardiac patients.
Study design
This is an observational, analytical, cross-sectional field study.
Patients and methods
Thirty patients were recruited from the cardiac clinics, wards, and critical care units of three hospitals (10 from Ain Shams University Hospital, 10 from Kasr Al Ainy University Hospital, and 10 from Misr University Hospital). Patients were assessed using the ICD-10 criteria, the Egyptian version of the Suicide Probability Scale, and the Arabic version of the World Health Organization Quality of Life Questionnaire.
Results
Cardiac patients have increased rates of psychiatric morbidity and unsatisfactory QoL and increased suicidal probability. Positive associations were found between the following: (a) job, residence, type of cardiac disease, hospital accommodation, and QoL; (b) presence of comorbidity and ICD-10 diagnoses; and (c) marital state, type of cardiac disease, presence of comorbidity, and increased suicidal probability.

Keywords:
Adjustment, anxiety, depression

Egypt J Psychiatr 36:139–143

1110-1105

Review of literature

Depression and anxiety are associated with adverse cardiovascular outcomes in patients with recent acute cardiac events [1]. Links between the heart and emotion have been postulated for centuries. However, data supporting this connection have only become available recently. A growing body of evidence now suggests that negative affective states, including anxiety, lead to an increased risk for cardiovascular disease [2–6] and that the presence of negative affective states is associated with poor long-term prognosis [7–10]. Serious cardiac events are traumatic and life threatening. Some patients develop intrusive thoughts, memories, or nightmares about their cardiac event; they avoid situations that remind them of the event, and have disturbed sleep (e.g. irritability, insomnia) [11]. Certain patients with cardiac disease may be at particularly high risk for the development of post traumatic stress disorder (PTSD). For example, a recent study [12] found the prevalence of PTSD in cardiac arrest survivors to be 27% after more than 2 years following the incident, a significantly higher rate than would be expected given that the lifetime prevalence of PTSD is 7.8% [13]. In another study involving pediatric patients aged 5–12 years who underwent cardiac surgery [14] 12% met the criteria for PTSD and 23% had increases in PTSD symptomatology 4–8 weeks after surgery.

The third category of individuals that appears to be at risk for the development of PTSD or panic disorder comprises patients with automatic implantable cardioverter defibrillators, in whom unexpected firing of the defibrillator has been reported to lead to the full spectrum of PTSD symptoms [15,16] or panic disorder [17].

In addition to panic disorder associated with automatic implantable cardioverter defibrillators, some patients develop repeated, unexpected panic attacks after experiencing a myocardial infarction [18]. These panic attacks are frequently triggered by palpitations or other physical symptoms that the patient experienced during the original heart attack. As with idiopathic panic disorder, patients frequently develop agoraphobia and avoidance of activities that they associate with cardiac symptoms (e.g. exercise). As exercise is a fundamental part of cardiac rehabilitation, the development of panic disorder can impede progress toward recovery, in addition to reducing the quality of life (QoL). Treatment of postmyocardial infarction panic should

include psychoeducation, cognitive behavioral therapy (CBT), and, in some cases, treatment with an selective serotonine reuptake inhibitors (SSRI).

Aim of the study

The study aims to detect psychiatric morbidity and QoL in cardiac patients.

Background

Cardiac patients have increased rates of psychiatric morbidity and unsatisfactory QoL.

Study design

This is an observational, analytical, cross-sectional field study.

Participants and methods

Thirty patients were recruited from the cardiac clinics, wards, and critical care units of three hospitals (10 from Ain Shams University Hospital, 10 from Kasr Al Ainy University Hospital, and 10 from Misr University Hospital). Patients were assessed using the ICD-10 criteria, the Egyptian version of the Suicide Probability Scale, and the Arabic version of the World Health Organization Quality of Life Questionnaire.

Results

Descriptive

Figure 1 shows the distribution of ICD-10 diagnosis among the cardiac patients: 37% (n = 11) of the patients were suffering from a depression disorder and 27% (n = 8) were suffering from generalized anxiety disorder or adjustment disorder.

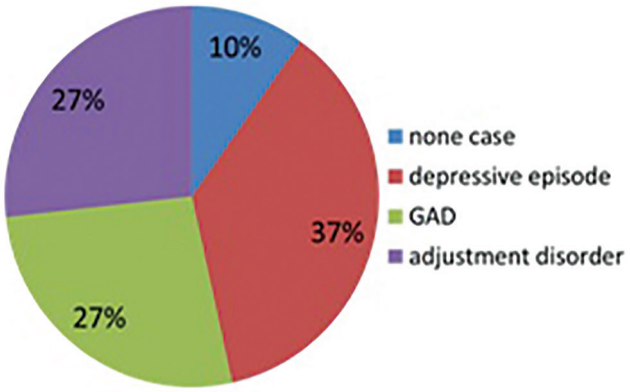
Figure 2 shows the distribution of the overall domain results of the QoL 100 questionnaire among cardiac patients: 77% (n = 23) of the cardiac patients described their overall QoL to be poor.

Figure 3 shows the results of suicidal probability among cardiac patients: 30% (n = 9) of the cardiac patients expressed mild suicidal probability and none of the patients who participated in the study showed high suicidal probability.

Comparative analysis

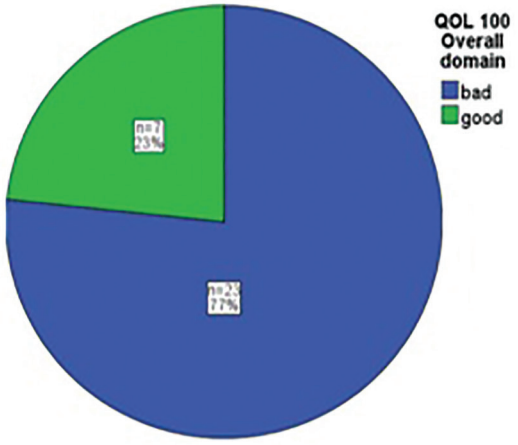
A comparison of patient sociodemographic data with the results of the questionnaires used revealed the following:

Figure 1



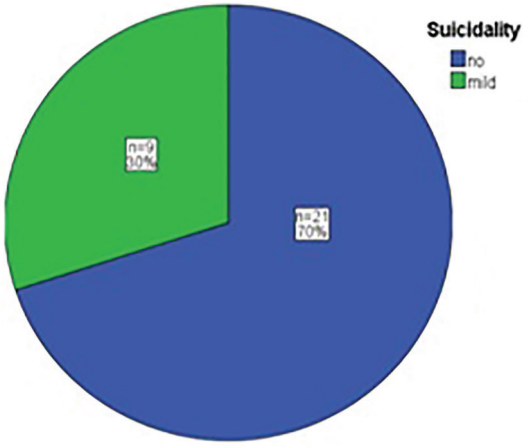
Cardiac patients have increased rates of psychiatric morbidity.

Figure 2



Cardiac patients have increased rates of unsatisfactory QoL.

Figure 3



Cardiac patients have increased suicide probability.

There was a significant relationship ($P < 0.05$) between marital status and suicidal probability: 100% (n = 2) of cardiac patients who were single at the time of the

study showed mild suicidal probability, whereas only 33.3% (n = 7) of the cardiac patients who were married showed mild suicidal probability (Table 1).

There was a significant relationship between the occupation of cardiac patients and the results of the psychological domain of the QoL 100 questionnaire: all cardiac patients who were unemployed, who were working as skilled workers (n = 4), and those in professional jobs (n = 3) had poor scores on the psychological domain, whereas 60% (n = 6) of the employed cardiac patients and 36% (n = 4) of the cardiac patients working in unskilled jobs had poor scores on the psychological domain (Table 2).

There was a significant relationship between the residence of cardiac patients and the results of the psychological domain of the QoL 100 questionnaire: 72% (n = 18) of the cardiac patients who were living in urban areas showed poor results in the psychological domain, compared with only 20% (n = 1) of the cardiac patients living in rural areas (Table 3).

There was a significant relationship between the residence of the cardiac patient and the results of the overall QoL of the QoL 100 questionnaire: 84% (n = 21) of the cardiac patients living in urban areas showed poor results as regards the overall QoL domain, compared with 40% (n = 5) of the cardiac patients living in urban areas (Table 4).

As regards the effect of the medical condition of the cardiac patient on the parameters of the study we found the following.

All cardiac patients suffering from infective endocarditis (n = 3) and the only patient suffering from heart failure showed mild suicidal probability, whereas 33.3% (n = 3) of the cardiac patients suffering from ischemic heart disease (IHD) had mild suicidal probability. The least suicidal probability in the sample was among patients with rheumatic heart diseases (11.1%, n = 1) (Table 5).

There was a significant relationship between comorbidity and the results of suicidal probability: 47% (n = 8) of the cardiac patients suffering from comorbid medical conditions showed mild probability for suicide, in contrast to only 7.6% (n = 1) of cardiac patients not suffering from comorbid conditions (Table 6).

Comorbidity was also significantly associated with the ICD-10 diagnosis.

There was significant relationship between the presence of comorbid medical conditions and presence of ICD-10 diagnosis among cardiac patient who shared in the study, where 52.9% (n = 9) of the cardiac patients with a positive history of comorbid medical conditions were suffering from depression, 29% (n = 5) were suffering

Table 1 Associating QoL and occupation

P = 0.05 (Monte Carlo)	Occupation					Total
	Unemployed	Worker	Skilled worker	Employed	Professional	
QoL 100 psychological domain						
Bad	2	4	4	6	3	19
Good	0	7	0	4	0	11
Total	2	11	4	10	3	30

QoL, quality of life.

Table 2 Associating marital state and suicidality

P = 0.02 (χ^2-test)	Marital status		Total
	Single	Married	
Suicidality			
No	0	21	21
Mild	2	7	9
Total	2	28	30

Table 3 Associating psychological QoL and residence

P = 0.02 (χ^2-test)	Residence		Total
	Rural	Urban	
QoL 100 psychological domain			
Bad	1	18	19
Good	4	7	11
Total	5	25	30

QoL, quality of life.

Table 4 Associating overall QoL and residence

P = 0.03 (χ^2-test)	Residence		Total
	Rural	Urban	
QoL 100 overall domain			
Bad	2	21	23
Good	3	4	7
Total	5	25	30

QoL, quality of life.

Table 5 Associating type of cardiac disease and suicidality

P = 0.008 (χ^2-test)	Type of cardiac disease				Total
	IHD	RHD	Infective endocarditis	Heart failure	
Suicidal probability					
No	12	8	0	0	20
Mild	3	1	3	1	8
Total	15	9	3	1	28

RHD, rheumatic heart disease.

Table 6 Associating comorbidity and suicidality

P = 0.02 (χ^2-test)	Other medical conditions		Total
	No comorbidity	Positive for comorbidity	
Suicidal probability			
No	12	9	21
Mild	1	8	9
Total	13	17	30

from adjustment disorder, and 17.6% (n = 3) were suffering from generalized anxiety disorder (GAD). None of them were ICD-10 diagnosis free (Table 7).

There was a significant relationship between the type of cardiac disease and the physical QoL 100 questionnaire result: all cardiac patients suffering from rheumatic heart disease, infective endocarditis, and heart failure (n = 9, 3, and 1, respectively) showed poor physical QoL in the QoL 100 questionnaire, whereas only 33.3% (n = 15) of cardiac patients suffering from ischemic heart disease showed poor physical QoL (Table 8).

There was a significant relationship between patient accommodation in the hospital (according to illness severity) and the results of the environmental domain in the QoL 100 questionnaire: 70% (n = 7) of cardiac patients who were attending the outpatient clinic had a poor environmental QoL, compared with 40% (n = 4) of cardiac patients in the ward and 30% (n = 3) of cardiac patient being treated in the ICU (Table 9).

Discussion

Major diseases such as cardiovascular diseases, especially myocardial infarction, cause many disabilities in patients, reducing their QoL [19,20]. There exists many ways to promote QoL in patients. Interventions in life and habits may create constant changes in QoL. Another study [21] showed that there exists a significant relationship between QoL and participation in rehabilitation programs. Meyer and Laederach-Hofmann [22] suggested that in patients with stable chronic heart failure significant improvements in both generic and disease-specific QoL related to improved exercise tolerance can be achieved within 12 weeks of comprehensive rehabilitation.

Moreover, progress in physical and mental dimensions is seen in myocardial infarction patients after rehabilitation [21].

Table 7 Associating comorbidity and ICD-10 diagnoses

P = 0.04 (χ^2-test)	Other medical conditions		Total
	No	Positive	
ICD-10 diagnosis			
Nothing	3	0	3
Depressive episode	2	9	11
GAD	5	3	8
Adjustment	3	5	8
Total	13	17	30

Table 8 Associating type of cardiac disease and physical QoL

P = 0.03 (Monte Carlo)	Type of cardiac disease				Total
	IHD	RH	IEC	HF	
QoL 100 physical domain					
Bad	10	9	3	1	23
Good	5	0	0	0	5
Total	15	9	3	1	28

QoL, quality of life; RH, rheumatic heart; IEC, infective endocarditis; HF, heart failure.

Table 9 Associating hospital accommodations and environmental QoL

P = 0.05 (Monte Carlo)	Hospital accommodation			Total
	CCU	Ward	OPC	
QoL 100 environmental domain				
Bad	3	4	7	14
Good	7	6	3	16
Total	10	10	10	30

QoL, quality of life; CCU, coronary care unit; OPD, outpatient clinic.

Conclusion

There is increased psychiatric morbidity and suicidality and decreased quality of life among cardiac patients.

Recommendations

Psychiatric screening and care should be routinely offered to cardiac patients.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

Huffman JC, Mastromauro CA, Beach SR, Celano CM, DuBois CM, Healy BC, *et al.* (2014). Collaborative care for depression and anxiety disorders in patients with recent cardiac events: the Management of Sadness and Anxiety in Cardiology (MOSAIC) randomized clinical trial. JAMA Intern Med 174:927–935.

Kubzansky LD, Kawachi I (2000). Going to the heart of the matter: do negative emotions cause coronary heart disease? J Psychosom Res 48:323–337.

Eng PM, Fitzmaurice G, Kubzansky LD, Rimm EB, Kawachi I (2003). Anger expression and risk of stroke and coronary heart disease among male health professionals. Psychosom Med 65:100–110.

Rozanski A, Blumenthal JA, Kaplan J (1999). Impact of psychological factors on the pathogenesis of cardiovascular disease and implications for therapy. Circulation 99:2192–2217.

Kawachi I, Sparrow D, Vokonas PS, Weiss ST (1994). Symptoms of anxiety and risk of coronary heart disease. The Normative Aging Study. Circulation 90:2225–2229.

Kawachi I, Colditz GA, Ascherio A, Rimm EB, Giovannucci E, Stampfer MJ, Willett WC Prospective study of phobic anxiety and risk of coronary heart disease in men. Circulation 1994; 89:1992–1997.

Carney RM, Freedland KE, Jaffe AS, Frasure-Smith N, Lespérance F, Sheps DS, *et al.* (2004). Depression as a risk factor for post-MI mortality. J Am Coll Cardiol 44:472-472.

Van Melle JP, de Jonge P, Spijkerman TA, Tijssen JG, Ormel J, van Veldhuisen DJ, *et al.* (2004). Prognostic association of depression following myocardial infarction with mortality and cardiovascular events: a meta-analysis. Psychosom Med 66:814–822.

Strik JJ, Denollet J, Lousberg R, Honig A (2003). Comparing symptoms of depression and anxiety as predictors of cardiac events and increased health care consumption after myocardial infarction. J Am Coll Cardiol 42:1801–1807.

Grace SL, Abbey SE, Irvine J, Shnek ZM, Stewart DE (2004). Prospective examination of anxiety persistence and its relationship to cardiac symptoms and recurrent cardiac events. Psychother Psychosom 73:344–352.

Mayou R, Williamson B, Foster A (1976). Attitudes and advice after myocardial infarction. Br Med J 1:1577–1579.

Gamper G, Willeit M, Sterz F, Herkner H, Zoufaly A, Hornik K, *et al.* (2004). Life after death: posttraumatic stress disorder in survivors of cardiac arrest — prevalence, associated factors, and the influence of sedation and analgesia. Crit Care Med 32:378–383.

Kessler RC, Sonnega A, Bromet E, Hughes M, Nelson CB (1995). Posttraumatic stress disorder in the National Comorbidity Survey. Arch Gen Psychiatry 52:1048–1060.

Connolly D, McClowry S, Hayman L, Mahony L, Artman M (2004). Posttraumatic stress disorder in children after cardiac surgery. J Pediatr 144:480–484.

Hamner M, Hunt N, Gee J, Garrell R, Monroe R (1999). PTSD and automatic implantable cardioverter defibrillators. Psychosomatics 40:82–85.

Neel M (2000). Posttraumatic stress symptomatology in patients with automatic implantable cardioverter defibrillators: nature and intervention. Int J Emerg Ment Health 2:259–263.

Godemann F, Butter C, Lampe F, Linden M, Schlegl M, Schultheiss HP, Behrens S (2004). Panic disorders and agoraphobia: side effects of treatment with an implantable cardioverter/defibrillator. Clin Cardiol 27:321–326.

Bovasso G, Eaton W (1999). Types of panic attacks and their association with psychiatric disorder and physical illness. Compr Psychiatry 40:469–477.

Mazeika PK (2000). Quality of life 4 years after myocardial infarction: short form 36 scores compared with a normal population. Heart 83:104–105.

Suzuki S, Takaki H, Yasumura Y, Sakuragi S, Takagi S, Tsutsumi Y, *et al.* (2005). Assessment of quality of life with 5 different scales in patients participating in comprehensive cardiac rehabilitation after acute myocardial infarction. Circ J 69:1527–1534.

Dugmore LD, Tipson RJ, Phillips MH, Flint EJ, Stentiford NH, Bone MF, Littler WA (1999). Changes in cardiorespiratory fitness, psychological wellbeing, quality of life, and vocational status following a 12 month cardiac exercise rehabilitation programme. Heart 81:359–366.

Meyer K (2003), Laederach-Hofmann K. Effects of a comprehensive rehabilitation program on quality of life in patients with chronic heart failure. Prog Cardiovasc Nurs 18:169–176.