

Mental Health and Adverse Psychosocial Factors in Cardiovascular Patients. An Exploratory and Descriptive Study

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Abstract

Introduction: *There is an increasing interest in integrating mental health services into general health ones for cardiac patients, especially because there has been demonstrated that the evolution of cardiovascular disease could be influenced by issues like depression, anxiety or adverse psychosocial factors.*

Objectives: *This paper aims to analyze the frequency of mental health problems and adverse psychosocial factors in a sample of Romanian cardiovascular patients.*

Methods: *The evaluation methodology consisted in clinical interview, clinical observation and psychometric instruments.*

Results: *The collected data indicate high percentages of depression and anxiety amongst the participants, with 88.2% of the patients showing clinical or subclinical symptoms of anxiety, 62.8% showing clinical or subclinical symptoms of depression, 23.5 % having panic attacks and 80.4% sleep problems. There have been observed higher percentages of anxiety and depression in widowers, patients with low family support, participants who are caregivers for family members with dementia and in patients who had recently lost a loved-one.*

Conclusions: *The results highlight the importance of psychological evaluation and intervention in patients suffering from cardiovascular disease, as they frequently experience mental health problems, especially when adverse psychosocial factors co-occur.*

Keywords: *depression, anxiety, mental health, psychosocial factors, cardiac patients*

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I. Introduction

In a World Health Organization (2005) publication which highlighted the importance of mental health awareness, there has been identified progress in integrating public health and mental health care. However, more efforts are required, as the connection between them continues to be insufficiently addressed, because of the mental health stigma and because of its relatively vague concepts. The link between mental health aspects and cardiovascular diseases has been studied, as Kubzansky et al. (2018) noticed in a recent literature review. Thus, various psychological aspects that promote well-being, such as optimism, have been associated with better health in cardiac patients. Depression is often observed in patients who experience a cardiac event that threatens their life and, as there are usually observed mild or subclinical symptoms of depression in these cases, Lichtman et al. (2008) suggest that a prudent abeyance, observation and short-term support strategies are the most efficient options. This approach could be implemented before starting psychotherapy or medication, in order to observe whether the symptoms worsen or not. Severe cases of depression have been associated with an increased risk of mortality in myocardia infarct patients (Lett et al., 2007), so previous depressive disorders should be identified, as cardiac event may represent a trigger for a new major depressive episode, as noted by Murphy et al. (2008). Suicidal thoughts should be carefully looked for, as previous research found that 18% of cardiac patients who were referred to psychological interventions in a program designed for depression screening, also experienced recent or previous suicidal attempts (Tully, Wittert, Selkow & Baumeister, 2014). The complex relations between the quality of life, depression and cardiovascular disease have been studied in a national Australian study, conducted by O'Neil et al. (2013), which concluded that the influence of depression and cardiovascular disease on the quality of life was rather addictive than synergetic, as the quality of life depreciates as the level of depression in cardiac patients increases. Ruo et al. (2003) also showed that depression has a higher impact than physiological factors on the quality of life of cardiovascular patients.

Anxiety is another mental health problem that can occur in cardiac patients and Ouakinin (2016) explains the process which could increase the risk of cardiovascular disease in patients with anxiety. Thus, regardless of the anxiety disorder they suffer from (generalized anxiety, panic disorder, specific phobias, etc.), people that experience a high level of anxiety have

a tendency to overestimate the danger of a particular threatening situation, as they elaborate a cognitive evaluation of the situation which is associated with a high arousal. This is an adaptive response, because it prepares the organism for the “flight or fight” reaction. However, most of the times, the situation is not as dangerous as it is thought to be, so a high level of arousal becomes maladaptive or even toxic, as Ouakinin (2016) suggests, because it could become a chronic one, leading not only to anxiety disorders, but also to cardiovascular disease, diabetes or inflammatory disease. These disorders may manifest as a result of physiological mechanisms involved in anxiety response, which could increase the vulnerability to develop somatic disorders. This process could be explained by the hyperactivity of automatic responses, that often lead to anxiety symptoms and also to increased levels of perception of body's internal signals, as shown by Garnfinkel, Eccles and Critchley (2015). The authors noted that the ability to feel the body's internal signals has a strong connection to emotions, as physiological changes, such as heart rate, respiratory frequency, the activity of sweat glands, may initiate, accompany or intensify the emotional experience.

The prevalence of anxiety in cardiovascular patients after a stroke is high, a meta-analysis by Rafsten et al. (2018), which analyzed 37 studies, with a total of 13756 patients, indicating a frequency of 29.3% during the first year of recovery. Nevertheless, the frequency of anxiety symptoms decreases with time, as it has been shown to have a value of 37% during the first 2 weeks after the stroke, but decreasing to 24.1% at 3 months after stroke and to 23.8% at 12 months after stroke. Anxiety could easily alter the quality of life of these patients and could be an addictive factor to other pre-existing problems. The treatment adherence is highly important in cardiovascular patients, especially when it comes to severe diagnosis, like heart attack (Farrell et al., 2011) and several psychological problems, such as anxiety, depression or hostility could influence it. Those have been studied and demonstrated to be good predictors of treatment adherence (van der Wal et al., 2006; Wray et al., 2006; Farell et al., 2011).

Psychosocial factors are also important in the mental and somatic health of cardiac patients. The marital status is an important psychosocial factor in cardiovascular disease evolution, Chung et al. (2009) showing that it is an independent predictor of the survival without a second cardiac event. At an individual level, the indicators of positive mental health are the presence of strong social connections, the sense of self and a high self-

esteem, and on a communitarian and organizational level, the most important indicator is a secure and supportive environment (WHO, 2005). Compare et al. (2013) noticed that helping the friends and family of patients while they are waiting for a surgical cardiac intervention is of great importance. Thus, they are able to help the patient cope better with various problems that could be associated with the intervention, such as physical disability, the limitation of personal autonomy, a lack of certitude regarding the future. A psychologist could, therefore, not only counsel the families of cardiac patients so they can better take care of the patients, but also offer support counselling intervention to them. However, in order to perform such interventions, a specialist may need additional information regarding the mental health issues and psychosocial factors affecting the specific population he addresses to. This has been the main motivation in selecting the objectives for our research, besides the fact that it could lead to the articulation of new hypotheses and directions for future research, as we intended a mainly exploratory process.

II. Methodology

Objective

In this research we intended to analyze the frequency of mental health problems in Romanian cardiac patients, as well as the frequency of adverse psychosocial factors affecting this population. Another aim was to identify the tendency of association between the frequency of mental health problems and the frequency of adverse psychosocial factors.

The research questions were:

Question 1: What is the frequency of mental health problems in cardiac patients?

Question 2: What is the frequency of adverse psychosocial factors in cardiac patients?

Question 3: How does the frequency of mental health problems vary with the frequency of adverse psychosocial factors?

Participants

The research group consisted of 51 participants of Romanian nationality, 12 men and 39 women, aged 43-87, with at least one cardiovascular disease, who were sent to a psychologist by their doctor. The cardiovascular diagnoses and their frequency are presented in *Figure 1* (the majority of patients had comorbid disorders). Patients with psychiatric diagnoses and in treatment for depressive or anxiety disorders were also included, but not patients who suffered from

psychotic disorders. In our research group, 15 participants (29.4%) had previously been diagnosed with a disorder by a psychiatrist.

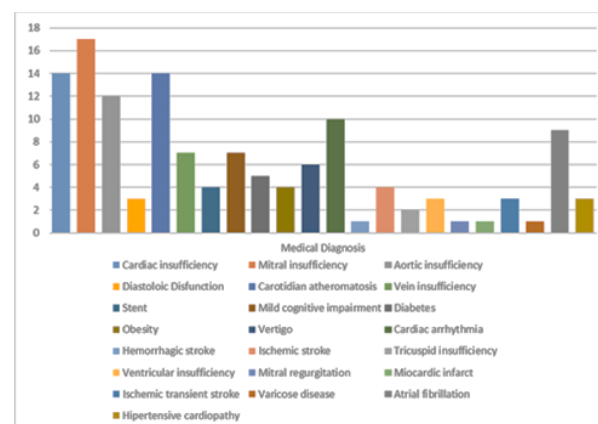


Figure 1: Diagnoses of the participants

Instruments

For the psychological evaluation of the participants, a mixed methodology was used, with both quantitative and qualitative evaluation methods:

- Semi structured clinical interview: in the clinical interview have been used the criteria from DSM 5 (APA, 2016) and ICD 10 (WHO, 2016) for evaluating mental health problems. In the clinical interview we also gathered information regarding marital status, professional status, family support and daily or major stress factors.

- Clinical observation: during the psychological evaluation the clinical observation was used in order to identify various indicators of positive or negative emotional status, such as mimics, gestures, posture, voice, psychomotor activity, speech.

- Psychometric instruments have been used together with the clinical interview to gather additional information regarding patients' depression and anxiety severity – Beck Depression Inventory II (Beck et al., 2012) and Severity Measure for Generalized Anxiety Disorder Adult Measurement instrument (Craske et al., 2013).

Procedure

The cardiovascular patients were referred to a psychologist by their doctor, after a medical exam. Firstly, the informed consent for both clinical evaluation and the use of data under confidentiality terms was obtained from the patients. Then, they were assessed by means of clinical interview and observation, with screening and diagnose purpose and completed the psychometric evaluation instruments, under the

supervision of the clinician, who helped them whenever it was necessary.

The severity of depression was evaluated with a semi structured clinical interview based on DSM (APA, 2016) and ICD 10 (WHO, 2016), clinical observation and BDI-II. By integrating all of these evaluation methods, we included the patients into the following categories: no depression symptoms, subclinical depression, mild depression, moderate depression and severe depression. Similarly, but by using the GAD Severity Measure (Craske et al., 2013), beside clinical observation and clinical interview, the patients were included into the following categories: no anxiety symptoms, subclinical, mild, moderate or severe anxiety. The panic attacks were assessed by DSM 5 criteria (and we had two categories of patients – with panic attacks and without panic attacks) and the sleep problems were assessed by means of clinical interview.

Recent major stress factors were investigated by clinical interview and the following categories were identified: no recent major stress, caregiving for family members with dementia, recent death of the spouse, and recent death of the child. Our analyses did not include daily stress factors, such as occupational stress, relationship problems, and financial stress. The family support was assessed by clinical interview, specifically by questions related to living situation, physical and emotional closeness to the family members, and satisfaction related to family help. Having into consideration these criteria, the patients were included into the following categories: high support, medium support, low support. Also, by using the clinical interview, the categories for the marital status were: married, divorced, widower; as for the professional status, they were: retired, retired but still professionally active, professionally active.

Data analysis

The research design is a cross-sectional, descriptive, one.

Regarding the mental health component, we had the following variables: severity of depression, severity of anxiety, panic attacks, and sleep problems.

Regarding the adverse psychosocial factors, there had been included the following variables: recent major stress, family support, professional status, marital status.

Statistical analysis procedures consisted in descriptive statistics and contingency tables of the clinical evaluation results, realized with the SPSS.

III. Results

In order to address the first and the second research questions, we conducted descriptive statistical analyses procedures. The results are synthetically represented in *Figure 2* and *Figure 3*. There can be noticed that, from a total of 51 patients, 24 (47.1%) reported high family support, 6 (11.8%) reported low family support and 21 (41.2%) reported a medium level of support. As marital status is concerned, 27 (52.9%) persons were married, 3 were divorced (5.9%) and 21 were widowers (41.2%) and as for professional status, 32 patients (62.7%) were retired, 14 (27.5%) were still in activity and 5 patients (9.8%) were retired, but they also still had a professional activity. Regarding recent major stress situations, 38 patients (74.5%) did not report any major stress recently, 4 patients reported the recent death of their spouse (7.8%), 2 patients declared the recent death of a child (3.9%) and 7 patients (13.7%) caregiving for family members with dementia as major stress event.

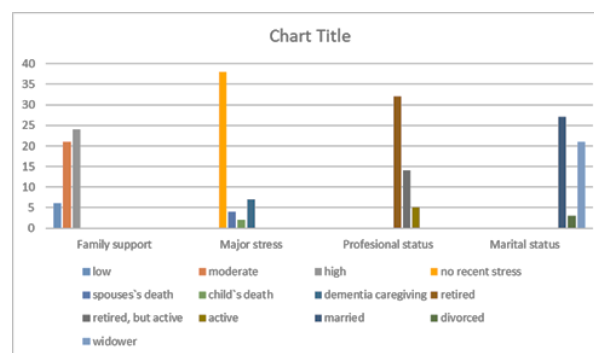


Figure 2: Psychosocial factors

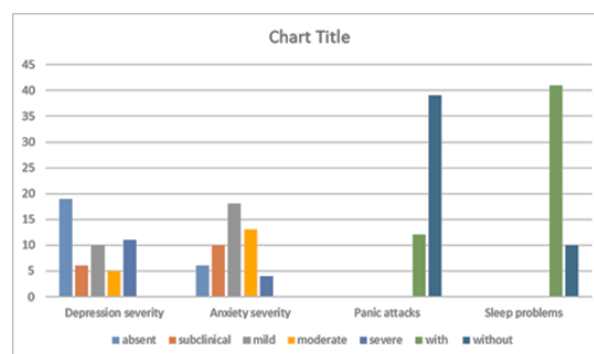


Figure 3: Mental health problems

Regarding mental health problems, out of a total of 51 patients, 12 reported panic attacks (23.5%) and 41 (80.4%) sleep problems. There can also be noticed that 19 patients (37.3%) haven't reported any depressive symptoms, while 6 patients (11.8%) reported subclinical depression, 10 (19.6%) reported mild

depression, 5 (9.8%) reported moderate depression and 11 reported severe symptoms (21.6%). As for anxiety, 6 patients showed no symptoms, 10 (19.6%) had subclinical anxiety, 18 (35.3%), mild anxiety, 13 (25.5%), moderate anxiety and 4 patients reported severe anxiety symptoms (7.8%).

In order to address the third research question, we developed the contingency tables for the research variables with SPSS program. There were two 4x4 tables, two 2x2 tables, six 2x3 tables and six 4x3 tables. Thus, because of the high number of tables resulted, they will not be represented in this paper, but the main relevant results will be reported. In our sample, out of 27 married participants, more than a half (55.6%) did not show any depression symptoms or their depression was subclinical (7.4%), the highest percent of participants who did not show depression being married (78.9%). Regarding moderate depression, 80% of the participants in this category were widowers and 20% divorced. In mild and severe depression, the percentages are relatively balanced. As for anxiety, we noticed that the asymptomatic patients were mostly married (66.7%), as well as the ones who showed subclinical anxiety (80%).

Regarding family support, 83.3% of the patients who did not show any signs of anxiety reported high support, as well as 90% of those who reported subclinical symptoms. 75% of participants suffering from severe anxiety reported medium support and 25% low one, and from those suffering from moderate anxiety, 61.5% reported medium support and 15.4% low one. It was noticed that, for the patients with no depression symptoms, 84.2% reported high family support and for the patients with severe depression, 54.5% had medium support and 27.3% low one. The rest of the depression categories do not show any important variance when family support is taken into consideration.

As recent major stress factors, there were identified: the recent death of a spouse, the recent death of a child and the dementia caregiving. The contingency tables showed, for dementia caregivers, a percent of 51.7 of persons with mild anxiety and a percent of 42.9 of persons with moderate anxiety, no patients with severe, subclinical or absent anxiety falling into this category. There can also be noticed that all patients who had recently lost a child experienced severe depression, while 75% of the patients who recently lost a spouse had severe depression and 25% moderate depression. Patients who are caregivers of family members with dementia presented a wider distribution of depression severity: 14.3% had subclinical depression, 28.6% mild

depression, 14.3% moderate depression and 42.9% severe depression.

IV. Discussions

This study had some exploratory aims regarding several mental health aspects and adverse psychosocial factors in cardiovascular patients. Our results should not be considered as decisive ones, due to the relatively small sample and due to the mainly exploratory objectives, but they are consistent with previous research: they highlight new findings that should be further demonstrated by confirmatory studies and they have practical implications. Thus, in this study, we observed a high frequency of depression and anxiety, as well as panic attacks manifestations in cardiovascular patients, similar to other research (Lichtman et al., 2008, Rafsten et al., 2018). Nevertheless, a relatively high percentage of these patients had subclinical or mild symptoms. Although they were not severe, these problems may interfere with patients' quality of life and may even worsen the somatic affections, as it has been previously shown (Lett et al., 2007, Murphy et al., 2008, Tully et al., 2014, Ouakinin, 2016). Thus, future research should aim to find the most efficient psychological treatments for cardiac patients with subclinical or mild depression or anxiety. We also noticed an extremely high percent of patients reporting sleep problems, irrespective whether they were part of anxiety and depression disorders or not. In this study we did not assess the specific sleep problems or whether they were quantitative or qualitative, but the high percentage obtained should increase interest in further researching this area. The high frequency of mental health issues in our research group could be explained by the fact that these patients were referred to the psychologist by their doctor, who may have been observing them and took this decision because he noticed some psychological problems. However, this should not be a problem, as this screening may indicate exactly the patients who need more psychological support and could be a useful procedure in clinical practice.

Regarding adverse psychosocial factors, our research showed that these are not very frequent in cardiovascular patients, but the fact that they usually appear to be associated with more mental health problems should be noticed, this result being consistent with previous research (WHO, 2005, Compare et al., 2013). Thus, our results showed a low number of patients reporting unsupportive families, with frequent conflicts or neglect, but we observed high frequency of anxiety and depression of high severity especially in

these patients and in those with medium support. These data indicate that the level of family support might have an impact on the anxiety and depression of cardiovascular patients, with the possibility that the lack of it could worsen the symptomatology. This could represent hypotheses for future studies, which could also evaluate the level of support by quantitative instruments.

Furthermore, in this study we observed that there is a relatively low percent of patients who reported a recent major stress, but all of those who have been in this situation reported mental health problems. Dementia caregiving was more frequently reported as a major stress situation, and all the patients from this category reported mild, moderate or severe anxiety and depression, no individual in this category being asymptomatic. Thus, we can suppose, as hypotheses for future research, that dementia caregiving may be a risk factor for anxiety and depression and that it may even maintain and worsen the symptomatology with time. These persons usually report sleep difficulties, not only as an anxiety and depression symptom, but also as a problem related to dementia caregiving, because the family members diagnosed with it often have sleep disturbances and can adopt a dangerous behavior if not supervised. Another particular situation reported as major stress is the death of a loved-one, whether a spouse or a child. Although a few of our participants reported this recent stress factor, they all show moderate and severe depression and anxiety, which suggest that mental health services should be offered to these patients.

In our research group, we also observed a high percentage of retired persons. Once a person retires and does not have any professional activity, he/ she may experience a status loss, as well as many other losses that usually come with age, such as the loss of family members, the loss of their friends, the loss of personal autonomy, etc., which can facilitate anxiety and depression symptoms. Our results did not show higher frequency of mental health problems in a particular professional status category. However, from the clinical interview with our patients, we can note that those who retired, but still got a professional activity, took care of their grandchildren or had other useful activity, reported a high satisfaction related to those activities, which can be a protective factor against mental health problems. These are merely non-systematic observations, but they can be further investigated in future studies. Regarding marital status, our research results showed that the absence of anxiety and depression appear to be related to it, as the majority of the participants in those

categories were married, similar to other research which investigated the mental health and marital status of cardiac patients (Chung et al., 2009).

V. Conclusions

In conclusion, although further research is needed, the present study being an exploratory and descriptive one, we found high percentages of cardiovascular patients suffering from various mental health problems, such as anxiety, depression, panic attacks or sleep problems. It can also be noticed that there were not found high percentages of people with adverse psychosocial factors amongst cardiovascular patients. However, the data indicate that these patients may be precisely those who need psychological support. This conclusion is based upon the high percentages of anxiety and depression symptoms in widowers, in patients with low family support and in patients with recent major stress factors, such as the death of a child, the death of the spouse or dementia caregiving.

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