ORIGINAL ARTICLE

Depressive symptoms in patients with acute coronary syndrome

Sintomas depressivos em pacientes com síndrome coronariana aguda

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ABSTRACT

Objective: To trace an epidemiological profile, to verify presence of depressive symptoms in patients with previous diagnosis of acute coronary syndrome and to identify factors that contribute to maintenance of depressive symptoms in the sample. **Methods:** A cross-section study carried out at the Cardiology Outpatients Clinics of Universidade Federal de São Paulo. An instrument prepared by the authors was used, which was based on similar studies with patient identification data, questions related to the psychological follow-up, relationship with family members and friends, in addition to use of the Beck Depression Inventory. **Results:** A total of 200 patients were interviewed, 127 (63.5%) were male. The mean age was 60.19 years with a standard deviation of 9.38, minimum age of 36 years and maximum of 81 years; 164 (82%) denied any follow-up with a psychologist or psychiatrist in the phase after acute coronary syndrome diagnosis and treatment. In the utilization of Beck Depression Inventory, 67 (33.5%) presented scores between 0 and 4, indicating mild depressive symptoms; 72 (36%) had scores between 5 and 9, indicating mild to moderate depressive symptoms, and 61 (30.5%) presented scores greater than 9, which point out moderate to severe depressive symptoms. **Conclusion:** The evaluation and multiprofessional follow-up can help patients cope with the illness in addition to providing greater compliance to drug therapy and beginning changes in life habits.

Keywords: Depression; Acute coronary syndrome; Myocardial infarction; Life style

RESUMO

Objetivo: Traçar o perfil epidemiológico da amostra, verificar a presença de sintomas de depressão em pacientes com diagnóstico prévio de síndrome coronariana aguda e identificar os fatores contribuintes para a manutenção dos sintomas de depressão na amostra estudada. **Métodos:** Estudo transversal realizado no Ambulatório de Cardiologia da Universidade Federal de São Paulo. Foi aplicado um instrumento elaborado pelos autores, baseado em estudos semelhantes, com dados de identificação dos pacientes, questões relacionadas ao acompanhamento psicológico, relacionamento com familiares e amigos, além da aplicação do Inventário de Depressão de Beck. **Resultados:** A amostra constou de 200 pacientes, sendo 127 (63,5%) do sexo masculino. A média de idade foi de 60,19 anos com um desvio padrão de 9,38, com idade mínima de 36 e máxima de 81 anos; 164 (82%) negaram ter feito qualquer acompanhamento com psicólogo ou psiquiatra na fase após o diagnóstico e tratamento da síndrome coronariana aguda. Na aplicação do Inventário de Depressão de Beck, 67 (33,5%) apresentaram escores entre 0 e 4, indicando sintomas leves de depressão; 72 (36%) apresentaram escores entre 5 e 9, indicando sintomas leves a moderados; e 61 (30,5%) apresentaram escores maiores que 9, indicando sintomas moderados a graves. **Conclusão:** Avaliação e acompanhamento multiprofissional podem ajudar o paciente no enfrentamento da doença além de proporcionar maior adesão à terapia farmacológica e início das mudanças de hábitos de vida.

Descritores: Depressão; Síndrome coronariana aguda; Infarto do miocárdio; Estilo de vida

INTRODUCTION

Symptoms of depression may occur in up to 45% of inpatients, with major depression occurring in 16 to 31% of cases. Changes in life style and occurrence of negative events representing a rupture of the usual behavior that affect the individual's wellbeing have been cited as risk factors for the development of depressive disorders, which present as reaction to stress[1-5].

Study carried out at Ambulatório de Cardiologia da Universidade Federal de São Paulo – UNIFESP, São Paulo (SP), Brasil.

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Some factors, such as disease severity, types of treatment and prognosis frequently have a significant impact in the patient's mood. The emergence of depressive symptoms during hospitalization might be the expression of an acute reaction to stress related to the event. Other studies also aimed to demonstrate the relations between increased mortality in ACS and depression[6-11].

Individuals without acute coronary syndrome (ACS) and with a diagnosis of depressive disorder showed a higher likelihood of developing ACS than those who were not depressed. And individuals diagnosed as ACS associated with depressive disorder had a higher risk of death due to cardiovascular causes. This occurs because depression worsens compliance to treatment and changes in life habits, making it difficult to quit smoking, adopt a healthy diet, start and maintain physical exercises and the regular use of recommended drugs. Two systematic review studies with meta-analysis demonstrated that the patients with coronary disease associated with depressive symptoms had a 2.24- and 2.59-fold higher chance of dying when compared to patients without depressive symptoms, respectively[9-14].

OBJECTIVE

To establish the sample's epidemiological profile, checking the presence of depressive symptoms in patients with a previous diagnosis of ACS and identifying the factors that contribute to maintaining the signs and symptoms of depression after diagnosis of ACS.

METHODS

A cross-section study carried out at the Cardiology Outpatient Clinic at Universidade Federal de São Paulo (UNIFESP). The study comprised data collection of patients diagnosed with ACS by means of an interview and filling out an instrument elaborated by the authors based on similar studies containing the following pieces of information: identification, income, level of schooling, main diagnosis, associated diseases, psychological evaluation and follow-up, family support and leisure from the patient's point of view.

The Beck Depression Inventory (BDI) was applied in its Portuguese version to screen depression[15,16]. The BDI is composed of closed questions with four options of answers for each question; each answer has a score between 0 and 3, indicating severity of symptoms. This instrument was chosen for being validated for self-application and due to its sensitivity of 82% and specificity of 79% for diagnosis of major depression in patients who had a myocardial infarction[17]. As a suggestion of the author of the questionnaire, the cognitive-affective subscale was used, including only the first 13 items for patients with physical illnesses. Scores of 0 to 4 represent mild symptoms of depression; scores of 5 to 9 represent mild to moderate symptoms and the suggested cutoff point is 10/11 for moderate to severe symptoms[18,19]. In the current study, this scale was not used to diagnose depression, but only indicated those who presented signs and symptoms of the disease.

The inclusion criteria were age above 18 years, diagnosis of myocardial infarction with or without ST segment elevation, preserved capacity of comprehension/cognition and absence of a diagnosis of depression prior to the occurrence of ACS. The exclusion criteria included refusal to participate in the study, acute myocardial infarction (AMI) due to the use of illegal drugs, impaired capacity of comprehension/cognition and diagnosis of depression prior to the occurrence of ACS.

Selection was carried out by evaluating the patients' medical charts based on the study inclusion and exclusion criteria. Visits to the Cardiology Outpatient Clinic at UNIFESP are scheduled up to 3 months in advance and the medical charts of all patients that will be seen are taken by an administrative employee from the Medical and Statistical Archives Department of the Hospital São Paulo to the Cardiology Outpatient Clinic on the day of visit.

Convenience sampling was chosen. The interviews were not scheduled and the approach to the patient to participate in the study was made before or after the medical visit at the outpatient clinic. Once the participation was consented, the patient was interviewed by one of the authors. When the interview was finished, the patient was instructed in regard to filling out the BDI (self-applied).

A total of 200 patients were interviewed from July to November 2005, with the Spearman test being used for statistical analysis and correlation of variables (correlation coefficient = r), the significance level of 5% (alpha = 0.050) and the confidence interval (CI) of 95% were adopted. The program used to obtain the results was the Statistical Package for Social Sciences version 13.0.

Data collection was initiated after authorization by the physician in charge of the Cardiology Outpatient Clinic and approval by the Institutional Review Board at the UNIFESP under protocol number 0626/05. This study was developed according to the principles of the Declaration of Helsinki[20].

The current study was developed with the authors' own resources.

RESULTS

Table 1 shows the data related to the basic characteristics of the sample studied, such as sex, age group, marital

Table 1. Basic characteristics of the sample (n=200)

Characteristics	%	Absolute number	Mean± SD	Median (min-max)
Males/females	63.5/36.5	127/73		
Age (years)			60.2 ± 9.4	60 (36-81)
40 to 60	50.5	101		
≥ 61	49.5	99		
Marital status				
Married	71	142		
Widow	14.5	29		
Divorced	8.5	17		
Single	6	12		
Working status				
Retired	36.5	73		
Employed	45	90		
Unemployed	2.5	5		
Housewife	16	32		
Monthly income (minimum wages)				
Less than 2	14.5	29		
2 to 3	50.0	100		
3 to 4	21.0	42		
> 4	14.5	29		
Schooling level				
Illiterate	1.5	3		
Incomplete junior school	45.0	90		
Complete junior school	24.0	48		
Incomplete high school	6.5	13		
Complete junior school	15.5	31		
Incomplete further education	2.0	4		
Complete further education	5.0	10		
Graduate courses	0.5	1		
Knowledge about the disease	81/19	162/38		
Total	100	200		

SD: standard deviation.

status, monthly income, level of schooling and knowledge about the disease. Occupations appear in a very heterogeneous fashion and, for easier understanding, they were distributed in four categories: retired, worker, homemaker and unemployed.

The variables "monthly income" and "level of schooling" showed a directly proportional relation ($r = 0.236$; $p = 0.001$).

In evaluating level of schooling, 45% (n = 90) reported incomplete junior school and 24% (n = 48) complete junior school; in the correlation among variables, it was possible to observe that the lower the level of schooling, the lesser knowledge about the disease (ACS) ($r = 0.278$; $p = < 0.001$), and 81% (n = 162) of patients reported they did not know anything about the disease.

Table 2 shows the data related to the main diagnosis and co-morbidities according to patient medical charts.

The time since diagnosis of ACS varied between a minimum of 6 months, 9% (n = 18) up to more than 7 years,

Table 2. Main diagnosis and co-morbidities (n = 200)

Main diagnosis	%	Absolute number
Unstable angina	5	10
AMI	23.5	47
AMI with ST elevation	4	8
AMI with no ST elevation	35	70
Coronary insufficiency	23.5	47
ACS	9	18
Total	100	200
Co-morbidities	**%**	**Absolute number**
Hypertension	87	174
Dyslipidemia	81	162
Diabetes	38	76
Former smoker	38	76
Smoker	28	56
Cardiac diseases (ischemic/arrhythmias)	28.5	57
Stroke	5.5	11
Other diseases	13	26

AMI: acute myocardial infarction; ACS: acute coronary syndrome.

10.5% (n = 21), with a predominance of 40% (n = 80) of the sample in the period between 2 to 3 years.

In items related specifically to evaluation and psychological follow-up, 82% (n = 164) did not report any follow-up with a psychologist or psychiatrist at any time of the disease, either during hospitalization or after hospital discharge. These data were confronted with the records in medical charts and it was possible to observe the agreement between them and the patient's report (Table 3).

Table 3. Characteristics related to psychological counseling and emotional support (n = 200)

Characteristics	%	Absolute numbers
Psychological counseling	Yes/No	Yes/No
	18 / 82	36 / 164
Total	100	200
Family support		
Frequently	50	100
Always	26.5	53
Occasionally	17.5	35
Never	6	12
Total	100	200
Social life (multiple answers)		
Does not leave home for leisure	56	118
Visiting relatives	33	69
Decreased number of visits by relatives and friends	11	23
Total	100	210
What has changed in your life after ACS? (multiple answers)		
Reduced daily activities	25.3	63
Nothing changed	16.1	40
Does not feel confident	14.4	36
Change in dietary habits	8.4	21
Stopped working	7.2	18
Everything changed in a negative manner	5.2	13
Feel fear or anguish	7.2	18
More concerned about health	2.4	6
Quitted smoking	3.3	8
Feel malaise and tiredness	2.4	6
Feel alone	1.6	4
Started taking care of health	3.3	8
Became more dependent on other people	1.2	3
Feel calmer	0.8	2
More willingness to do things	0.8	2
Feel happier	0.4	1
Total	100	249

ACS: acute coronary syndrome.

In questions related to patient social life and to changes occurred after the disease, more than one answer per patient was allowed (Table 3).

There was an inversely proportional relation showing that the less family support and lower level of schooling, the higher the social isolation, respectively (r = - 0.170; p = 0.016 and r = - 0.163; p = 0.021).

In the analyses of responses about changes that occurred after the ACS, it was possible to observe that 80% (n = 167) of patients expressed phrases with negative features and 20% (n = 42) stated phrases with positive features. In the comparison between variables, the expression of negative phrases was directly related to lack of psychological follow-up (r = 0.144; p = 0.042).

In the utilization of BDI, 33.5% (n = 67) presented scores between 0 to 4 indicating mild depressive symptoms; 36% (n = 72) had scores between 5 to 9 indicating mild to moderate depressive symptoms, and 30.5% (n = 61) had scores 10 or higher, indicating moderate to severe depressive symptoms. There were no significant correlations between the BDI results and the other study variables.

DISCUSSION

According to the results of BDI utilization, there was some level of depression in the sample in the present study that is corroborated by a large number of negative aspects related to the occurrence of ACS cited by the patients. It was also possible to observe that, regardless of the time after disease, depressive symptoms can persist for years, since this study collected data from patients whose diagnosis varied between 6 months up to more than 7 years, with probable impairment in quality of life during this period.

The level of schooling was probably the most outstanding variable in the sample interviewed, since most patients had incomplete junior school and complete junior school, and because it established significant relations with lower monthly income, less knowledge about the disease and higher social isolation. The relations established between these psychosocial factors create an unfavorable social context thus hindering disease coping.

This unfavorable social context associated to the lack of psychological follow-up, customized therapy, programs of primary and secondary prevention, and rehabilitation centers were strong determinants for the treatment failure. The level of schooling is an important psychosocial factor that negatively or positively interferes in the individual's actions and, in addition to conferring or not possibilities of better socioeconomic status, it facilitates access to disease knowledge and comprehension, thus allowing more freedom of choice about changes to be incorporated to their lives, attributing them with responsible awareness about actions and consequences of these actions in regard to disease and treatment; in the case of ACS, it attributes more control over the risk factors, thus avoiding new ischemic events[21].

No statistically significant relation was established between the variables studied and the presence of depressive symptoms in the sample; however, it was possible to observe correlations between the negative aspects and social isolation which cause loss to treatment adherence and to adopting a new lifestyle[21-27].

The family must be involved at this time of recovery, but family members should not be encouraged about excessive and unnecessary care so that the patient does not feel unable to return to daily life activities. All changes in habits can be stimulated by the family group, such as smoking cessation, changes in food habits and practice of physical exercises, and must be accompanied by a certified professional[28-31].

The results of this current study are corroborated by other studies of the same theme and they have a high impact in clinical practice, by demonstrating that although depression was considered a risk factor for a second ischemic event for worsening treatment compliance and the changes in life habits, this fact has probably been neglected.

This is a multifactorial problem and involves public politics on health and education. The strategies developed must be based on the population socioeconomic and cultural context in an attempt to modify the reality and reach the changes necessary for health maintenance.

CONCLUSION

The study sample profile showed a group of male adults, married, with mean age of 60 years, employed, with low level of schooling and low monthly income.

All patients in the sample presented some level of depressive symptoms with a prevalence of mild to moderate symptoms evidenced by the utilization of BDI.

Patient reports or the test of correlation between the variables showed the main factors that probably contributed to maintaining the signs and symptoms of depression in the sample were: low level of schooling, no knowledge about the disease (ACS), lack of family support, social isolation, absence of evaluation and follow-up by a psychologist or psychiatrist and the high frequency of negative aspects with evident loss in quality of life.

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