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Gender Differences in Depressive Symptoms Among Inpatients

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ABSTRACT:

Gender differences in depressive symptoms among inpatients

Objective: The aim of this research was to determine whether statistically significant differences exist in the clinical presentation (symptoms) of depressive disorders in men and women and, if so, what are they reflected in.

Material and Method: The study included 150 patients between the ages of 18 and 65 who have been hospitalized due to a major depressive disorder according to the diagnostic criteria of DSM-IV classification, at the Psychiatric Clinic in Novi Sad, Serbia. Patients with comorbid physical or other mental disorders were not included. Within the research process, during the first day of hospitalization, the Hamilton Depression Rating Scale with 21 items was administered, while 12 other symptoms of depression (specific quality of the depression, pessimism, stability of depression to environmental influences, ideas of impoverishment, worthlessness, blaming of others, social isolation, anhedonia, monoideism, self-pity, dependence on others, and manipulativeness) were assessed using the BPRS, MADRS, SADS, SADD and AMPDP scales by the examining psychiatrist. A t-test for significance of differences in the age structure of men and women was performed in the statistical analysis, which indicated that this is a homogeneous group, while the structure of gender differences in the clinical picture of depression was examined by discriminant analysis, in which gender was an independent variable, while the examined depressive symptoms were the dependent variables.

Results: The results showed a statistically significant structure of gender differences in the clinical picture of depression, which is reflected in the existence of two types of depression, hypothetically called: existential depression characteristic to men and anxious-somatic depression characteristic to women.

Conclusion: The determined existence of gender differences in depressive symptoms and the clinical presentation of depression in this and other studies, as well as the data on double the prevalence of depression in women and the gender differences in the responses to antidepressant medications, are the facts that point out the need for a gender-specific approach to the evaluation and treatment of depression.

Keywords: Gender differences, depression, clinical presentation

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INTRODUCTION

Depressive disorders are very widespread in all types of environments. They are of great social and medical significance due to their high prevalence, as well as the expressed subjective suffering, behavioral disorders, professional and social disability, and reduced quality of life that they cause[1].

A great number of epidemiological studies have confirmed a twice as high prevalence of depressive disorders in women in relation to men[1]. However,

certain authors suggest that such a ratio could be influenced by a lack of recognition of the disorders in depressive men, because of their frequent tendency towards aggressive behavior and the abuse of alcohol and other psychoactive substances[2,3].

The twice as high prevalence of depression in women is a generally accepted fact today, but it seems interesting that the results of some studies suggest that such a prevalence is "in effect" only during the fertile (childbearing) years of a woman, and that before puberty and in old age the incidence of disorders is equal in both genders[4-7]. This fact implies the influence of cyclical changes in the hormonal status of women[5]. In support of this is the known fact that women exhibit specific mood disorders associated with the reproductive function: pre-menstrual dysphoric disorder (PMDD), depression in pregnancy, postpartum mood disorder (PPMD) and perimenopausal depressive disorder.

The gender differences were also observed in the response to antidepressant pharmacotherapy in the sense that premenopausal women seem to have a weaker response and lower tolerance to tricyclic AD (TCAs), while they show a better response to SSRIs[3,8,9].

In light of these findings, the logical assumption was that if there are certain gender differences in the incidence and therapeutic response to antidepressant medication, one can also expect differences in the intensity of the symptoms and the clinical presentation of depression among men and women. One of the more significant studies reported that women exhibit a greater number of depressive symptoms than men, a higher incidence of atypical depressions (complaints of hypersomnia and increased appetite, a gain in body weight), as well as a higher prevalence of insomnia, fatigue and psychomotor retardation[7,10]. Previous studies agree that women more often exhibit somatic symptoms of depression and anxiety, while much more common in men are symptomatic alcoholism, aggressiveness, and irritability[3,11]. In the literature that is available to us, we have not found any data on depressive symptoms whose frequency or combination may be potentially characteristic to depression in men.

The aim of this study was to determine whether there are statistically significant differences in the clinical expression (symptoms) of depression between men and women, and if so, what are they reflected in.

METHODS

The sample consisted from 150 patients of both genders, between 18 and 65 years of age, who have been hospitalized due to depressive disorders at the Psychiatric Clinic in Novi Sad, Serbia. Among the participants were 68 men and 82 women.

The criteria for inclusion in the study were: 1. Fulfilled criteria of major depressive disorder according to DSM-IV classification, and 2. The absence of manic or hypomanic episodes prior to hospitalization. The study did not include patients with comorbid and other mental disorders and/or physical illnesses.

Variables

The independent variable is the gender of the participants.

The dependent variables represent the 21 symptoms of the Hamilton Depression Rating Scale (HDRS)[12]. Also, 12 symptoms of depression that are not covered by the HDRS scale, and which have been evaluated by the another scales. BPRS[13], MADRS[14], SADS[15], SADD[16] and AMDP[17] scales. This scales were used, to specify symptoms of depression which were not covered by the HDRS scale:

BPRS:	1. specific quality of depression
MADRS:	2. pessimism
SADS:	3. stability of depression to environmental influences
SADD:	4. ides of impoverishment
	5. insufficiency, worthlessness
	6. blaming of others
AMDP:	7. social isolation
	8. anhedonia
	9. monoideism

10. self-pity
11. dependence on others
12. manipulativeness

The Hamilton Depression Rating Scale with 21 items was applied in the study. The remaining 12 symptomatic features of depression were assessed by the criteria of the BPRS, MADRS, SADS, SADD, and AMPD scales. This was conducted on the first day of hospitalization by the examining psychiatrist.

The Hamilton Depression Rating Scale (HDRS): The Hamilton Depression Rating Scale[12] was developed in the year 1960. The scale was developed because of the need for standardizing the phenomenology of the depressive syndrome and assessing the degree of prevalence of depressive disorders. Since it was first introduced into psychiatric practice, the Hamilton Depression Rating Scale has been applied very broadly and has become an indispensable tool in clinical trials, as well as in routine practice. It has become the standard for valuation of other scales when it comes to measuring depression. The Hamilton Rating Scale does not provide a diagnosis of depression. It is used on patients who have already been diagnosed and whose intensity of symptoms needs to be quantified. It belongs to the group of individual scales, and it is filled out by the examiner. The basic characteristics of the scale are:

a) it is not too long
b) it covers the symptoms that are the most significant for assessing depression
c) it is reliable when used by two examiners.

The total score on the Hamilton scale (21 items) determines the severity of the depression in the following manner:

1. Higher than 24; represents a severe depression and is found in hospitalized patients,
2. 17-24; moderate depression, patients treated outside of hospital conditions,
3. Less than 8; depression is not present

The Brief Psychiatric Rating Scale (BPRS): The Brief Psychiatric Rating Scale (BPRS)[13] falls into the category of general psychiatric scales and is used to identify and detect dominant psychopathological phenomena. The scale has 19 items with seven response options, with a degree of severity of symptoms between 0 and 6.

The scale is discriminative for disorders in the areas of affect, thought, motor and behavioral manifestations, anxiety and orientation. BPRS is used to monitor identified psychiatric disorders and the scale is not quantified as a whole, but instead the scores are distinguished according to the syndromes. Depressive disorder, score I, is assessed according to questions 1, 2, 5, and 9.

Montgomery-Asberg Depression Rating Scale (MADRS): The Montgomery-Asberg depression rating scale[14] was developed and derived from the questions involving the depressive syndrome from the comprehensive psychopathological rating scale (CPRS).

Self-Assessing Depression Scale (SADS)[15]: This scale of 1-6 assesses the level of severity of the exhibited symptoms.

The World Health Organization Standardized Assessment of Depressive Disorders (SADD)[16]: The first part of the scale provides information about the patient. The patient's data includes his or her name, age, gender, marrital, work and employment, religious and socio-economic status. The second part of the scale consists of a list of symptoms that can be assessed in a clinical interview.

Manual for the Assessment and Documentation in Psychopathology (AMDP): The AMPD manual[17] represents a comprehensive psychopathological inventory consisting of 100 items. The assessments range from 0 to 3: the range varies from the absence of symptoms to a very pronounced presence of symptoms.

HDRS[18], BPRS[19], MADRS[20], SADS[21], SADD[22], and AMDP[23] are used in clinical practice at Clinic of Psychiatry in Novi Sad, reliability and validity of the above-mentioned scales are provided only in psychiatry and psychology practice in Serbia.

Statistical Data Analysis

The t-test was used to examine the significance of differences in relation to the age structure of men and women. The structure of gender differences in the clinical picture of depression was assessed by discriminant analysis. The discriminant analysis was used to isolate the orthogonal factors in the area of applied variables with the goal of determining the grouping of difference in this area among the participants. This provided us with discriminative components (variables) of which there are g-1 (where g equals the number of groups), and which separate the groups in the area of variables to the maximum extent. The significance of discriminant functions was evaluated by calculating the Wilks lambda and using the Bartlett Chi-square test, while a calculation of the canonical correlation coefficients provides us with the maximum correlation between the discriminant variable and the linear function of the binary variable system, which were defined by the participants' belonging to the appropriate groups. The discriminant analysis was used in an attempt to find the discriminant factor that, to the greatest extent possible, separates men and women in the symptomatic expression of depression. In statistical analysis a p value of less than 0.05 was accepted as statistically significant.

RESULTS

There was no statistically significant age difference between men and women (t=0.33,df=148, p=0.74).

Discriminant analysis was performed in order to determine the structure of differences between male and female participants, i.e., to determine the correlation between the variables of gender and the symptoms of depression. The obtained discriminant factor is statistically significant for discrimination of the participants according to gender. The canonical correlation coefficient is 0.62, at a level of significance of p<0.001. Discriminant analysis showed that there are differences in the structure, i.e., manner of manifesting depression (Tables 1 and 2).

The correlations of the variables with the discriminant function (factor) are relatively low, where only two variables are in correlations only slightly higher 0.30. Eight variables have a correlation with the discriminant function greater than 0:20. Seven variables have a negative correlation with the discriminant function, and they are, according to the highest correlations, symptoms of social isolation (-0.34) and ideas of impoverishment (-0.33), which are followed by lower correlation variables that include symptoms of anhedonia, pessimism, paranoia, hypochondriasis, and loss of insight. The negative pole of the factor describes a depressive picture characterized by the experience of social isolation and impoverishment, as well as defensive denial of depression which is projected onto hypochondriac symptomatology, which we could hypothetically call existential depression. The variable of anxiety is in a positive correlation with the factor and equals 0.20. The positive pole of the factor contains anxiety (0.20) and symptoms of somatic depression which in this study achieved correlations slightly lower than 0.20 (loss of appetite 0.16, general physical symptoms 0.14), which we could mark as anxious-somatic depression.

The centroids of the groups, i.e., the average values of the groups on the discriminant factor (at hospitalization was for male group 0.869, and for female group 0.720) indicate that the symptoms described at the negative pole of this dimension (existential depression) are more pronounced in depressed males, while the symptoms described at the positive pole (anxious-somatic depression) are more pronounced in depressed females.

Table 1: Results of discriminant canonical analysis on the first day of hospitalization

Function	Characteristic value	Canonical correlation	Wilks' Lambda	Chi-square	df	p – level of significance
1	0.63	0.62	0.61	64.60	33	p<0.001*

*p value <0.001 is signifficant

Table 2: Structure matrix of the discriminant function

Taking into account the correlations that are above 0.20, the factor structure matrix shows that significant correlations with the discriminant factor are achieved by the following variables (symptoms):

a. Structure matrix of the discriminant function (first day) men and women on first day of hospitalization.

b. Significance of differences of the average scores for

Symptoms	Correlation with the discriminant function	Men AS	Women AS	t	p
Social isolation	- 0.34*	3.22	2.72	3.31	<0.001
Ideas of impoverishment	- 0.33*	0.68	0.23	3.04	<0.001
Anhedonia	- 0.25*	2.07	1.74	2.42	<0.02
Pessimism	- 0.23*	1.81	1.61	2.28	<0.02
Paranoia	- 0.22*	0.32	0.13	2.07	<0.04
Loss of insight	- 0.20*	0.81	0.59	1.95	<0.05
Hypochondriasis	- 0.20*	1.54	1.15	1.91	<0.06
Feelings of guilt	- 0.17	0.71	0.48	1.58	<0.12
Opsessive-compulsive	-0.16	0.26	0.12	1.51	<0.13
Loss of libido	- 0.14	1.47	1.28	1.39	<0.17
Depressive mood	-0.12	2.65	2.51	1.13	<0.26
Special quality of depression	-0.11	1.60	1.51	1.05	<0.29
Work and activity	-0.07	2.79	2.72	0.65	<0.51
Physical anxiety	-0.06	1.87	1.77	0.54	<0.59
Monoideism	-0.06	1.74	1.68	0.58	<0.56
Worthlessness	-0.06	1.35	1.28	0.54	<0.59
Late insomnia	-0.05	1.72	1.67	0.51	<0.61
Loss of body weight	-0.03	1.22	1.18	0.32	<0.75
Anxiety	0.20*	2.21	2.46	-1.93	<0.05
Loss of appetite	0.16	1.43	1.59	-1.51	<0.13
Gen. physical symptoms	0.14	1.75	1.84	-1.33	<0.19
Self-pity	0.13	0.49	0.59	-1.22	<0.22
Manipulativeness	0.13	0.35	0.45	-1.22	<0.22
Dependence on others	0.12	0.62	0.71	-1.15	<0.25
Difficulty falling asleep	0.12	1.57	1.70	-1.15	<0.25
Blaming of others	0.10	0.34	0.43	-0.94	<0.35
Agitation	0.08	0.62	0.74	-0.82	<0.41
Depersonalization	0.08	0.03	0.06	-0.80	<0.43
Retardation	0.06	1.29	1.40	-0.61	<0.54
Difficulty waking up	0.06	1.57	1.63	-0.60	<0.55
Suicide	0.05	1.57	1.66	-0.44	<0.66
Stability of depression to influences	0.02	1.54	1.56	-0.19	<0.85

AS-average scores for men
AS -average scores for woman

DISCUSSION

The results of this study showed that there are statistically significant differences in the structure of the clinical picture of depression between male and female participants. Discriminant analysis revealed that on one pole of the factor that separates men and women when it comes to expressing depression is the so-called existential depression that is more characteristic to men, while the other pole contains the so-called anxious-somatic depression more characteristic to women.

In the male participants, much more pronounced are symptoms of social isolation and ideas of impoverishment which group symptoms (with lower correlation links) of anhedonia, pessimism, paranoia, hypochondriasis, and loss of insight. Some other studies confirmed similar results[3,4,24].This gender-typical subtype of depression, hypothetically called existential depression, suggests that depression in men is

manifested primarily through areas that are of special significance or importance to them: professional activity and their financial situation.

Before they turn to a psychiatrist for help, usually, men had a feeling that "something was wrong" with them. They describe the symptoms of their depression without understanding that they are in fact depressed. They complain of fatigue, irritability, loss of interest in work, sleep problems, all of which together affect their professional activity. These problems begin to significantly distort their image of a "real man" who must be refrained, have a successful career, financial security, which are all obligations that a depressed man is no longer able to fulfill[19-21]. This is the reason why they resort to various "strategies" for which they believe will help them in overcoming their problem. They become even more committed to work[27-30], consume alcohol more than usual, or become active in sports[4,29]. However, once these "strategies" have been exhausted, i.e., once they realize that they are not providing the results they expected – overcoming the harrowing experience of depression, men begin to retreat from social life. One study conducted among college students[10] states that when depressed female students seek help from their colleagues, they regularly encounter caring and almost parental reactions. However, when depressed male students do the same they regularly face social isolation, while in some cases they face complete rejection and lack of understanding[30].

Withdrawal from social life is the last strategy men use in an attempt to avoid the "label" of a mental disorder, which could adversely affect their job or business, potential promotion, as well as general status in society. They become engulfed with ideas of losing their job[28], sudden impoverishment, as well as inability to provide their family with the security that they had been previously providing. The social isolation becomes increasingly deeper, while it even includes members of their immediate families for whom they believe will not understand or support them. Linked to this is also the more pronounced paranoia found in men than in women on the first day of hospitalization, which does not necessarily have to possess a psychotic quality. Namely, depressed patients are often under the impression that people in their environment are talking about them, which is usually true because of the visible changes in their behavior.

The inability to overcome the problem with their "own forces" eventually produces a pessimistic view of their life and the belief that nothing can be changed. A depressed man can no longer be authentically happy about anything, he loses interest for the people in his nearest surroundings, while for everything that is happening he usually blames and scolds himself.

The "last exit" from these painful feelings is often found in hypochondriasis[7,8,30-32], and this is the most common way that men finally end up coming to a psychiatrist. In the context of male depression, hypochondria can be interpreted as a defense mechanism against intrapsychic disintegration and even psychotic disintegration, but also as a defense against the harrowing experience of depression. Hypochondriac preoccupation and dealing with side problems can partly explain the lack of insight into the psychiatric nature of this illness, which was in this study more often exhibited by men than women.

A highly pronounced obsessive-compulsive symptomatology (does not discriminate groups in this study) leads to the assumption that, essentially, many depressed men would fall into the group of obsessive-compulsive personalities, which is also suggested by Overbek et al[11].

Previous studies have confirmed the existence of gender differences in the clinical presentation of depression, but our findings on the "male clinical picture of depression", due to the differences in design and methodology of other studies, are hardly comparable to them. Therefore, the discussion gave much more space to existential depression in men than anxious-somatic depression in women (which has also been determined in previous studies).

Silva[24] as well as many other authors have found that typical for depressive men are irritability, aggressiveness, acting-out behavior and the abuse

of alcohol. Therefore, in question are behaviors and symptoms that are not included in the current classifications of depressive disorders, and this may result in a lack of recognition of depression in men. This is why it is desirable for further studies to deal more with the gender differences in depressive symptoms.

The results of this study showed that the symptom of anxiety, accompanied by the symptoms of loss of appetite and general somatic symptoms, was more pronounced in female patients, thus characteristic to women would be anxious-somatic depression. Discriminant analysis on the first day of hospitalization to a certain extent confirmed the findings of other studies which report that within their picture of depression, women more frequently exhibited symptoms of anxiety than men did, which corroborated the hypothesis of a very high correlation of anxiety and depression in women[5,6,25-28]. Patients with overlapping symptoms of depression and anxiety showed a pronounced heterogeneity in their clinical presentation, but the prevalence of the symptoms is subsyndromal in relation to the dominant disorder, in this case depression.

As part of this disorder, to a certain extent present are also somatic symptoms that have no organic basis (loss of appetite, general physical symptoms). In his research, Silverstein showed that women exhibited a much more intensive type of depression that was dominated by somatic symptoms[26]. He found this type of depression in women who also have a high presence of anxiety disorder. Silverstein believed that the characteristic symptoms for this "type" of depression, which were in our study slightly but significantly more common in women, were: problems with appetite, disturbed sleep, becoming easily fatigued, followed by agitation as a symptom of anxiety.

Although the correlation with the discriminant function is too low to be considered significant for interpretation, in the context of the research that has been conducted on the subject, we believe that attention should also be paid to the obtained correlation of the symptom of monoideism.

The symptoms of monoideism or ruminations, according to research[4,7,27], would be more typical for women and perhaps the most responsible for the development of depression in women. According to this theory, it would be less prevalent in men due to a completely different cognitive style developed through a different form of upbringing. On the first day of hospitalization, it has been noted that the presence of this symptom was not significant to that extent, as shown by other research, as well as that rumination are more commonly found in men.

The results from the first day of hospitalization showed that women "grouped" symptoms that are characteristic to histrionic personality structures such as: self-pity, dependence on others, excessive demands on others and manipulativeness. In a study on this subject (Goodvin and Gotlib 2004) reported the similar findings.

Limitations of the study

Although the validity and reliability of scales which were used in this investigation in Serbian language are not present, authors cite them to justify using them in present study. Scales used in our investigation – HDRS, BPRS, MADRS, SADS, SADD and AMDP[31-36]. are widely used in lot of similar investigations, and had high level of reliability and validity. Limitations of this study reflect in facts that a sample is rather in this moment is small, so in future, a larger sample of patient should be considered as well as longitudinal research.

CONCLUSION

The established existence of gender differences in depressive symptoms and the clinical presentation of depressive disorders in this and other studies, as well as data on the twice as high prevalence of depression in women and the gender differences in responses to antidepressant pharmacotherapy, represent the facts that indicate to the need for a gender-specific approach to the evaluation and medicamentose treatment of depressive disorders.

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