

# Socio-demographic Characteristics of Hospitalized Patients with Depressive disorder

Biljana Iliev<sup>1\*</sup> Irina Pavlovska<sup>2\*</sup>

1.Clinical hospital, 2000 Stip, Republic of North Macedonia

2.Institute of Epidemiology and Biostatistics with Medical informatics, Medical Faculty, “Ss Cyril and Methodius” University, 1000 Skopje, Republic of North Macedonia

## Abstract

Depression is a common and debilitating disease that affects people from adolescence to old age and has a pronounced negative impact on the mental and physical health, as well as on the social and financial well-being of the individual and society. Depression is often undiagnosed, inadequately treated and associated with a negative outcome. Knowledge of the epidemiological characteristics of depression is of great importance for planning the appropriate treatment of depression, its timely detection and treatment in order to reduce the far-reaching consequences on an individual and social level.

Epidemiological data on depression are missing in our country.

The study examines the hospital prevalence of depression in the three psychiatric hospitals in Macedonia, socio-demographic characteristics in terms of gender specifics of patients. Data are collected from the history of hospitalized depression in the three hospitals in the period 2014-2017 with a diagnosis of depression (F32.0 - F32.3) excluding those with bipolar disorder, schizophrenia and senility.

The results indicate a lack of diagnosis, a late start of treatment that predominantly comes down to long-term hospital treatment without pre- and post-hospital follow-up of patients with depression. Such findings underscore the need to address the stigma of depression and to develop a comprehensive system for early diagnosis, treatment and monitoring of the disorder, especially in terms of gender specificity.

**Keywords:** Depression, Socio-demographic characteristics – gender specifics, Co morbidity, Treatment

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## Introduction

Depression is a common and debilitating disease that affects people from adolescence to old age and has a pronounced negative impact on the mental and physical health, as well as on the social and financial well – being of the individual and society.

Data on the prevalence of depression based on community epidemiological studies using the same diagnostic assesment were conducted in the 1980s with the establishment of an international collaboration to analyze data in a standarized way with the participation of ten North American countries, Europe, Asia and New Zeland. The prevalence rate of depression ranges from 1,5 per 100 adults in Taiwan to 19,0 per 100 in Lebanon. In the United States, the National Institute of Mental Health in a 1980s study reported a general life expectancy of depression of 5,2 per 100 and one – year prevalence of 3,0 per 100 (Kessler 1994; Weissman 1996). In a 2014 study, Pederson and colleagues found a life expectancy of depression of about 5 to 17 percent (average 12%). A general life expectancy of depression of 5.2 per 100 and a one-year prevalence.

The first episode of depression can occur at any age from chillhood to old age, with an acute or slow onset, and duration varies from a few weeks to several months. Depression, however most often begins at young age ( Thapat 2012 ) and often recurs ( Limosin 2004, Yiend 2009, Katon 2001). The age of onset of depression is quite consistent in research, between 25 and 30 years, but in the last half centry depression has been occurring at a younger age (Kessler 2003). The results of research on the increase in the incidence of depression with aging are contradictory. Some report a slight increase, especially in men, while others report a decrease, especially in women (Kanowski 1994). This suggests that age-related changes in the incidence of depression occur more due to specific hormonal and social changes occurring in our lives than due to gradual biological changes from aging. Despite the variation in rates, the most sustainable finding in international studies is the higher incidence of depression in women. It is interesting that before puberty there are no gender differences in the rate of depression, and with puberty in fact early adolescence, the incidence in women doubles and that ratio is maintained until the age of 50 (Kessler 1993, Burt 2002, Pedersen 2014). Gender differences in the rate of depression are consistent in different environments which supports the idea that they are the result of biological factors, including hormonal changes, but these differences may also be influenced by psychosocial factors (Gater 1998). Of the socio-demographic characteristics specific to depression, one of the most commonly examined is the marital status of patients. Studies show that depression is more common in divorced, separated, or widowed. Undoubtedly, the higher incidence of depression in urban versus rural areas (Coryell 1992, Weissman 2004).

There are unequal findings regarding social status and the occurrence of depression.

In some studies, the incidence of depression is higher in poor people and decreases with increasing income (Blazer 1994). The rate of depression in England decreases before the economic recession and increases after the recession, in line with rising unemployment (Kendrik 2015). However, most studies do not find a link between socioeconomic status and the occurrence of depression. Although these findings are not conclusive, they suggest that socioeconomic status is a strong risk factor for depression (McKeever 2017).

Kessler points out that people with depression have significant functional impairment in the home, work, and social functioning (Kessler 2003). This influence reflects on the individual, but also on society as a whole in terms of the disability it brings with it. In 2001, neuropsychiatric conditions accounted for almost 30% of the total disability worldwide, of which 11% were attributed to depression (Greden 2001). The consequences of depression for overall disability tend to increase. In 1990 year, depression accounted for 3.7% of the total disability, and in 2000 year for 4.4%. (Ustun 2004). Of particular concern is the prediction that such data are not considered to reflect the real threat that depression poses to society as a whole (Wittchen 2011). This year, according to the World Health Organization, depression is expected to come in second place, right after ischemic heart disease in terms of the disability it causes (Murray 1997).

### **Purpose**

The aim of the research is to present the socio-demographic characteristics of hospitalized patients with depressive disorder.

### **Material and Methods**

The research is a cross-sectional analytical study implemented in the three special psychiatric hospitals in the Republic of Northern Macedonia - "Psychiatric Hospital Skopje - Skopje", "Psychiatric Hospital - Negorci" and "Psychiatric Hospital - Demir Hisar" in a period 2013 - 2017 . The study included all patients who meet the ICD 10 diagnostic criteria for F32.0, F32.1, F32.2, and F32.3.

Hospitalized patients with depression in bipolar affective disorder, schizophrenia, and senility were excluded from the study. For the purposes of the research, the electronic database of the "Electronic Health Administration" was used, as well as the available medical documentation in the three special psychiatric hospitals.

Data collection was done according to a previously designed non-standardized questionnaire (compilation of questions used in similar studies) with 6 closed-ended questions.

### **Statistical analysis**

The data obtained during the research were statistically processed using SPSS software package, version 22.0 for Windows (SPSS, Chicago, IL, USA). The analysis of the series with the attribute traits is done by determining the coefficient of relations, proportions and rates, and they are presented as absolute and relative numbers. Numerical series are analyzed using the measures of central tendency (average, median, minimum values, maximum values, interactive ranks), as well as measures of dispersion (standard deviation). Nonparametric tests for two independent samples (MannWhitneyUest) were used to test the significance of the difference between certain numerical parameters with incorrect frequency distribution. Risk factors are quantified using Odd ratio (OR) and confidence intervals (CI). The difference between the proportions was tested with the Percentage Difference test. The hospital incidence of depressive disorders is calculated according to the number of hospitalized cases with depressive disorders per 1000 hospitalized for the respective year and hospital. Prevalence period is calculated according to the total number of hospitalized with depressive disorders per 1000 hospitalized for the respective period and hospital. A significance level of  $p < 0.05$  and  $0.01$  was used to determine the statistical significance.

### **Results**

In the three specialized psychiatric hospitals in the Republic of North Macedonia (Skopje, Negorci and Demir Hisar) in the five – year period (2013-2017) were registered a total of 167 hospitalized patients with depressive disorders. The distribution according to the psychiatric hospital where they are treated indicates that 28 (16,77%) were treated in Skopje, 63 (37,72 %) in Negorci and 76 (45,77 %) in Demir Hisar. For the five – year period, most of the hospitalizations of patients with depressive disorders were realized in 2016 for Skopje – 11 (39,29 %) and Negorci – 29 (46, 03 %), and Demir Hisar in 2014–21 (27,63 %) (Figure 1). The lowest number of hospitalizations with depressive disorders in the three hospitals was achieved in 2017 for a consequent 4 (14,29 %) vs. 3 (4,76 %) vs 8 (10,53 %).

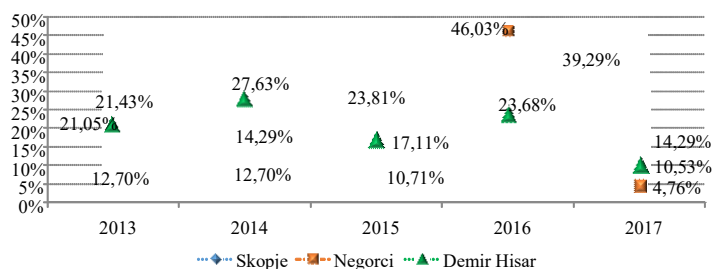


Figure 1. Distribution of Hospitalized Patients with Depressive Disorders according to Psychiatric Hospitals and Years (2013-2017)

At the Skopje Psychiatric Hospital, the incidence of depressive disorders per 1000 hospitalized was generally the lowest for each of the years examined (2013 – 2017). In this hospital, the incidence of depressive disorders per 1000 hospitalized was the highest in 2016 – 10,08 / 1000, and the lowest in 2017 – 3, 69/ 1000. The hospital in Negorci, compared to the hospitals in Skopje and Demir Hisar, has the highest incidence of depressive disorder per 1000 hospitalized in 2015 – 46, 01 / 1000 and in 2016 – 72, 32 / 1000. The hospital in Demir Hisar, compared to the other two specialized hospitals, has the highest incidence of depressive disorders in 2014 and 2016 for consistently 41,67 / 1000 v.s. 39,47 /1000 hospitalized (Figure 2).

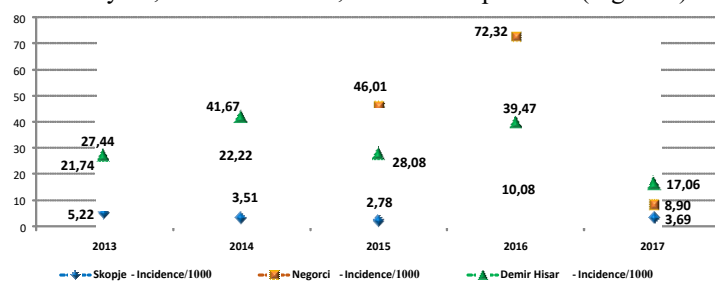


Figure 2. Incidence of Depressive Disorders per 1000 hospitalized according to Psychiatric Hospitals and Years (2013-2017)

The prevalence period of depressive disorders per 1000 hospitalized for the period 2013 – 2017 indicates that it is the highest in Negorci and is 152,95/ 1000 followed by Demir Hisar – 133,32/1000, and Skopje with 25,01/ 1000 hospitalized (Figure 3).

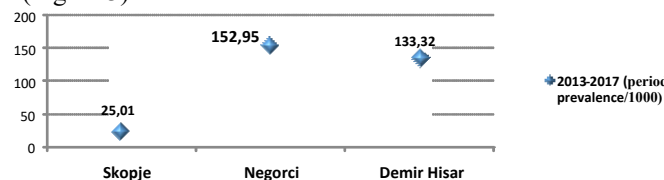


Figure 3. Prevalence period of Depressive Disorders per 1000 hospitalized according to Psychiatric Hospitals and Years (2013-2017)

The gender analysis indicates that, out of the total number of hospitalized patients with depressive disorders, for the five – year examination period, 87 (52,10 %) were men and 80 (47,90 %) were women with a gender ratio of 1.09:1 (Table 1). The percentage gender difference in the whole sample is not statistically significant (Difference test: Difference 4.2% [(- 6.46 – 14.73) CI 95%]; Chi – square = 0.587; df = 1 ; p = 0.443) .

The mean age of patients in the whole sample was 50,59±11,83 years with a min/max age of 19/82 years and 50% of those under 52 years of age for Median (IQR) = 52 (44 – 59). The average age of male respondents was 51,87±10,58 years with a min/max age of 25/74 years and 50% under the age of 54 for Median (IQR) = 54 (45 – 59). The average of female respondents was 49,21±12,97 years with min/max age of 19/82 years and 50% of them under 50.5 years for Median (IQR) = 50.5 (43 – 59). No significant gender difference was found for age (Mann – Whitney U Test: Z = -1.2526; p= 0.2104) (Table 1).

Most of the patients in the whole sample have primary education – 75 (44.91%) followed by secondary education – 59 (35.38%), without education – 26 (15.59%), and high education – 7 (4.19%), with a statistically significant difference between the groups (Chi – square = 68.473\*\*, df = 3, p< 0.01). The analysis does not indicate a significant gender difference between patients with depressive disorders in terms of their level of

education (Fisher Freeman Halton exact = 0.124,  $p=0.4596$ ) (Table 1).

Significantly higher percentage of patients are unemployed ( Chi – square test = 26.880 \*\*,  $df = 1$ ,  $p < 0.01$ ), with no significant gender differences ( Chi – square test = 0.051,  $p = 0.509$ ).

The majority of patients in the sample 102 (61.08%) are from urban and 65 (38.92%) from rural areas. A significant percentage difference is observed in favor of urban patients (Difference test: Difference 22.16% [(11.46-32.15) CI 95%]; Chi – square = 16.35\*\*,  $df = 1$ ;  $p = 0.0001$ ) without statistically significant gender difference (Chi – square test = 0.028,  $p = 0.718$ ) (Table 1).

The distribution by marital status of the entire sample indicates that the majority of patients 103 (61.68%) are married, while the smallest part 14 (8.38%) are divorced, with a statistically significant difference between the groups (Chi – square = 121.790\*\*,  $df = 3$ ,  $p < 0.01$ ). The results show a significant gender difference between the groups in terms of marital status in addition to a significantly higher number of widows among female respondents.

(Pearson Chi – square test = 9.8021\*;  $df = 3$ ;  $p = 0.203$ ).

Parameter	Gender		Total
	men	women	
<b>Age</b>			
age (years)	51,87±10,58	49,21±12,97	50,98±11,83
<b>Education</b>			
Without education	17 (19,54%)	9 (11,25%)	26 (15,57%)
Basic	39 (44,83%)	36 (45%)	75 (44,91%)
Intermediate	28 (32,18%)	31 (38,75%)	59 (35,33%)
High	3 (3,45%)	4 (5%)	7 (4,19%)
<b>Employment</b>			
Employed	37 (42,52%)	32 (40,00%)	69 (41,32%)
Unemployed	50 (57,48%)	48 (60,00%)	98 (58,68%)
<b>Marital status</b>			
Single	19 (21,83%)	7 (8,75%)	26 (15,57%)
Married	53 (60,92%)	50 (62,50%)	103 (61,68%)
Divorced	8 (9,20%)	6 (7,50%)	14 (8,38%)
Widow	7 (8,05%)	17 (21,25%)	24 (14,37%)
<b>Place of residence</b>			
Village	35 (42,52%)	30 (37,50%)	65 (38,92%)
City	52 (57,48%)	50 (62,50%)	102 (61,08%)

Table 1. Analysis by socio – demographic characteristics with gender specifics (2013 – 2017)

## Discussion

Out of the total number of hospitalized patients with depressive disorders in the three specialized psychiatric hospitals in North Macedonia, for the five year examination period, 87 (52.10%) are men and 80 (47.90%) are women with a gender ratio of 1.09:1 in favor of men. This gender ratio contradicts the findings of numerous global epidemiological studies that point to a twice as high incidence of depression in women ( Kessler 1993, Pedersen 2014). It is to be expected that such findings are in the context of the pronounced underdiagnosis of depression in women in our environment, especially in women. Subdiagnosis of depression is a global problem, and its roots are its lack of knowledge, non – standard forms of manifestation ( with predominant somatic symptomatology) and especially the stigma that depression carries with it (Zung 1993, Simon 1999, Kirmayer 1993). The stigmatization of mental illnesses, including depression, is strongly expressed in our environment, more pronounced in the female population, and is an obstacle in the timely request for help in the occurrence of depression and receiving appropriate treatment. In some countries less than 30% and in some regions less than 10% of cases are treated (Marcus 2012). Resolving the stigma surrounding mental health can reduce resistance to seeking help early in the onset of depression and may improve the inadequate degree of diagnosis and treatment of people with depressive symptoms (Bagayogo 2013).

The mean age of patients in the whole sample was 50,98±11,83 years with an average age of first manifestation of 30,25±12,3 years, indicate the onset of depression between the ages of 25 and 30 (Weissman 1996). On the other hand, the average age over 50 again refers to the late start of treatment of depression in our environment due to the untimely request for help (impact of the stigma) and its untimely diagnosis, so the treatment actually starts even with manifestation of acute forms of depression that occur at a more advanced age and requiring necessary hospitalization.

The results for the education of hospitalized patients with depression in the three psychiatric hospitals indicate a statistically significant higher incidence of low education level, as well as unemployment. The above

indicates the low socio-economic status of our respondents. Regarding the relationship between social status and the occurrence of depression, although there are conflicting findings, more research confirms a higher incidence of depression in poorer people (Blazer 1994, Kendrick 2015).

The finding in this study of a significant percentage difference in favor of patients from urban versus rural patients is consistent with numerous epidemiological studies worldwide. The essence of this socio-demographic feature of the higher incidence of depression in urban areas is considered to be the absence of close interpersonal relationships that are much more pronounced in rural areas (Coryell 1992, Weissman 1996).

Distribution by marital status indicated that the majority of patients (61.68%) were married, while the smallest proportion (8.38%) were divorced. The gender difference is significant with a significantly larger number of unmarried male patients on one side and with a significantly larger number of widows on the other.

These results support the difficulties in realizing a close emotional relationship and getting married in depressed patients more pronounced in the male population, in pronounced reactions to the loss of loved one with depression, more pronounced in the female population.

Patients in our environment present for treatment only in depression with severe symptoms that require long hospital treatment.

### Conclusion

The gender ratio of hospitalized patients with depression (1.09:1) in favor of men) in this study, which deviates significantly from research in a world where the incidence of depression is twice as high in women, can be interpreted with the pronounced stigma that depression brings it primarily to the female population which prevents them from calling and asking for help.

Significantly higher prevalence of low education and unemployment indicates low socioeconomic status and significantly higher prevalence of depression in urban areas in the absence of close interpersonal relationships in patients with depression.

According to the marital status the gender difference is significant with a significantly higher number of unmarried male patients on the side and a larger number of widows on the other, which is in addition to the difficulties in realizing a close emotional relationship and getting married in depressed patients predominantly in the male population, that is to pronounced reactions to the loss of loved one more pronounced in the female population.

Male respondents with depression are significantly more likely to receive support from the primary family compared to women, which is in line with the traditionally greater commitment of women in the overall care of the family and its members in health and disease in our environment.

The first onset of depression at 30.25 years as opposed to the average age of respondents in the whole group (50.59 years) again indicates the latest treatment for depression.

Improving the understanding of depression in our environment would help in the necessary efforts to reduce the stigma surrounding mental health that contributes to the problems we face in treating depression especially the late arrival of patients for treatment as well as developing a comprehensive early diagnosis system, treatment and monitoring of this disorder.

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