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The Incidence of Depression and Anxiety Among the Elderly in the Area of Livno, Bosnia and Herzegovina

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ABSTRACT

Introduction: The most common mental disorders in elderly, beside dementia, are depression and anxiety, which are important public health problem, although they are diagnosed and treated in under 20% of the population. Mental health care for elderly is one of the indicators of quality or omissions in the health system of a country. **Aim:** The aim of the study was to examine the incidence of depression and anxiety among the elderly in the Livno area. **Material and Methods:** Across-sectional study was carried out in the Livno area through June 2017 on a sample of 100 respondents (N=100). Inclusion criteria: age over 65 years. Exclusion criteria: persons with malignancy, persons with psychiatric diagnosis or dementia. Research tools used: Questionnaire on sociodemographic status and Hospital Anxiety and Depression Self Evaluation Scale (HAD). **Results:** More than 90% of the respondents of both genders were estimated to be borderline depressed or depressed. There was a higher incidence of depression among male respondents, and anxiety among female respondents. Probably and borderline anxiety is recorded in 84% of respondents, which exceed the results of all available literature data. Religious habits have no influence on the occurrence of depression but there is a connection between prayer and anxiety occurrence. **Conclusion:** This research has established an extremely high incidence of depression and anxiety among the elderly in the Livno area. The results of the available studies indicate significantly lower rates of occurrence than in the tested sample. Socioeconomic status did not prove to be a significant predictor of the occurrence of these disorders.

Keywords: older adults, depression, anxiety.

1. INTRODUCTION

In the world, the proportion of the elderly population is increasing on a daily basis. The reason for this is improvement in living conditions and improvement of the quality of health care that prolongs life expectancy. It is anticipated that, by 2030, the number of elderly in Europe and North America will double, and in Africa, China and India will even quadruple (1). The most common mental disorders in elderly, besides dementia, are depression and anxiety, which are an important public health problem, although they are diagnosed and treated in just under 20% of the population (2). Many authors point out the problem of non-recognized and asymptomatic disorders (3). According to previous studies, the occurrence in the elderly population varies significantly from 3% to 27% (4). Depression is most commonly associated with physical changes and illnesses (5). This mental disorder is currently the fourth biggest public health problem, and by 2030 it is predicted to be the second one (6). Anxiety is related to the emotion of fear, involves feeling of worries and worry (7). The survey conducted in the Republic of Croatia (Zagreb) on a sample of 300 respondents showed that self-assessment of mental health is the most important predictor of life satisfaction. There was a correlation between loneliness and parental status (8). The results of a similar research from Rijeka have also found that life satisfaction in elderly people is assessed as good if they are not alone or are socially active (9).

Beurs et al. found a correlation between depression and anxiety with lower socioeconomic status (10). The results of the studies conducted in nine European regions showed that the age of respondents is increasing as the incidence of possibly depressive ones, and the incidence

of anxiety is decreasing (11). Cappeliez suggests that risk factors for the emergence of depression in the elderly are: female sex, low socioeconomic status, previous depressive episodes, brachiosis (unmarried, widow, divorced) (12). Braam et al., by reviewing 14 cross-section populations in 9 Western European countries, found a stronger correlation between functional disability in the elderly and depression than between chronic illness and depression (13).

The aim of the randomized clinical study conducted in the Netherlands on a sample of 170 subjects with symptoms of depression and anxiety divided into two groups was to demonstrate the effectiveness of preventive programs compared to the usual care in primary health care. It turned out that the group included in the specialized preventive program halved the incidence of the disorder, and the same condition was maintained after 24 months follow-up (14).

Care for the mental health of the elderly is one of the indicators of the quality or omissions of the health system of a country. Mental difficulties and disturbances in society often remain unclear, so with the lack of public health research to identify needs and disorders in the health of the elderly, there are no quality programs with the aim of preserving mental health.

To assess the health of the population, it is not enough to observe only indicators of illness and mortality, but special research should also be carried out, among which the importance of self-perception of individual health is increasingly emphasized (15).

2. AIM

The aim of the study was to examine the occurrence of depression and anxiety among the elderly in Livno area.

3. MATERIAL AND METHODS

Sample

Across-sectional study was carried out in the Livno area through June 2017 on a sample of 100 respondents (N=100). All respondents were orally informed of the research goals and could refuse to participate or voluntarily accept it. Inclusion criteria was: age over 65 years. Exclusion criteria: persons with malignancy, persons with psychiatric diagnosis or dementia.

Research instruments

As the research instruments used were: Questionnaire on the sociodemographic status that was devised for this study and the HAD scale.

Sociodemographic indicators - questions related to gender, age, level of education, place of residence, family status, marital status, children, social status and religious habits.

• HAD scale (Hospital Anxiety and Depression Scale) is a self-assessment scale used as a screening method to detect symptoms and assess the degree of depression and anxiety in medical institutions, primary practice and the general population. It contains 14 questions, of which 7 are related to depression and 7 to anxiety. Questions are related to how respondents felt last week and responses are scored at four levels from 0 to 3 (0 = not at all, 3 = all the time) so the results may vary from 0 to 21 for depression and also for anxiety. Respondents with score 0-7 are not depressed/anxious, 8/10 indicate a borderline state, and

11-21 represent presence of depression or anxiety (16, 17).

Statistical analysis

For the data processing and analysis were used for SPSS for Windows (version 23, IBM, USA) and Microsoft Excel 2010. The data obtained was processed using descriptive statistics. Categorical variables are represented by absolute and relative frequencies, and quantitative by measured of dispersion, arithmetic mean and standard deviation. The data distribution was tested by the Kolmogorov-Smirnov test. The obtained frequencies are compared with the Chi-square test. The level of significance is set at $p<0.05$.

4. RESULTS

Sociodemographic characteristics of the sample

None of the respondents were excluded from the study, all respondents duly completed survey questionnaires. There were more female respondents (62%) than male (38%) without significant statistical difference (p>0.05). Respondents were divided into two age groups: from 65 to

Sociodemographic status	65 -75 years N (%)	75 years and more N (%)	Chi-square	p
Gender			100.00	.453
Male	22(36.7)	16(40)		
Female	38(63.3)	24(60)		
Education level			300.00	.440
Elementary school	25(41.7)	16(40)		
Secondary school	16(26.7)	2(5)		
College or Faculty	8(13.3)	4(10)		
None of the above	11(18.3)	18(45)		
Place of residence			100.00	.453
Village	47(78.3)	35(87.5)		
City	13(21.7)	5(12.5)		
Living with:			200.00	.447
Alone	15(25)	9(22.5)		
Spouse	28(46.7)	9(22.5)		
Spouse and children	7(11.7)	4(10)		
Children	10(16.7)	18(45)		
Marital status			200.00	.447
Married	37(61.7)	14(35)		
Divorced	1(1.7)	-(-)		
Widower	22(36.7)	26(65)		
Single	-(-)	-(-)		
Children			-	-
Yes	60(100)	40(100)		
No	-(-)	-(-)		
Social status			300.00	.440
BH retirement	36(60)	20(50)		
Foreign retirement	20(33.3)	17(42.5)		
Protege of a welfare center	-(-)	-(-)		
No income, no support	-(-)	-(-)		
No income, with family support	1(1.7)	3(7.5)		
Religious habits			210.00	.429
Every day I pray	31(51.7)	25(62.5)		
I pray sometimes	22(36.7)	10(25)		
I pray rarely	4(6.7)	5(12.5)		
I never pray	3(5)	-(-)		

Table 1.Results of the responses from questionnaire on sociodemographic status

75 (60%) and 75 years, and more (40%). In both age groups, female sex is more represented. In the 65-75 age group, the female sex ratio was 63.3% (N=38), and male sex was 36.7% (N=22), while in the age group 75 and older the female gender consisted 60% (n=24), and male sex 40% (n=16) of the group. There was no statistically significant difference in age group variables among the respondents (p>0.05). Table 1 presents the results of the analysis of the respondents' answers to the questionnaire on sociodemographic status. There were no significant differences between the age groups. Most respondents are from rural areas (village), and significant percentage of respondents live alone. As for marital status, all respondents lived or lived in marriage, only one respondent stated that she was divorced, while all respondents had children. Most of the respondents live from their own income, and only a small number is supported by the help of children. None of the respondents is a social welfare beneficiary. Religious habits practice more than half of the respondents.

The incidence of depression and anxiety

None of the respondents is excluded from the data analysis. The distribution of responses in assessing depression is normal as well as anxiety. The average estimate of depression is 10.26±2.25, and an anxiety estimate of 9.57±2.66. The average estimate of anxiety in male sex is 8.82±2.63 and in female sex 10±2.6. Both sexes are equally depressed. The average grade in male sex in assessing depression is 10.37±2.19 and in female sex 10.19±2.29. Depression was expressed in 63% of male respondents and 46.8% of female respondents while the border line depression had 43.5% of female respondents and 29% of male respondents. Depression was not recorded in 9.7% of female respondents and 8% of male respondents. Anxiety was expressed in 42% of female respondents and 31.5% of male respondents. The borderline anxiety had 42% female and 29% male respondents. Anxiety was not found in 16% of female and 39.5% of male respondents.

Correlation of sociodemographic status and incidence of depression and anxiety

In order to determine the effect of sociodemographic status on the level of depression and anxiety of the elderly, comparative frequencies of sociodemographic status and estimates of depression and anxiety were correlated. The variable related to the question "Do you have children?" was not analyzed because all respondents stated that they had children. There was no difference in the degree of depression among the respondents living in the rural areas where 52.4% of the respondents were depressed and 37.8% of the respondents were borderline depressed, and the respondents living in the urban area where 55% of respondents were depressed and 39% of respondents at the borderline of depression. Anxious was 38% of the respondents living in the rural areas and 39% of the respondents living in the urban. Out of the total number of respondents, 67% from the urban areas are the beneficiary of the BH pension and 34% of the respondents from the urban areas are the beneficiaries of the foreign pension, while 53.7% of the respondents living in the rural areas are the beneficiaries of the BH pension, 37.8% of the foreign pension and 8% of the respondents have family support. In the case of foreign pen-

sioners, the degree of depression is 54% and the degree of anxiety is 32.5%, while among BH pensioners the degree of depression is 51.8% and the degree of anxiety is 37.5%. The social status and place of residence are not related to the degree of depression and anxiety. Depression is expressed in 31% of respondents who are married and 46% of widows, and anxiety is expressed in 39% of respondents who are married and 37.5% of widows. Respondents who have pray on a daily basis have a degree of depression of 48.2% and 37.5% of anxiety, respondents who sometimes pray have a degree of depression of 59.4% and anxiety rate of 47%, and respondents who seldomly pray have a degree of depression of 55.6% and degree of anxiety 11%. The phenomenon of

Socio-demographic characteristics	Depression		Anxiety	
	Chi-square	p	Chi-square	p
Gender	12.247	.426	13.699	.320
Age	14.697	.258	5.893	.921
Education	39.738	.307	33.276	.599
Place of residence	8.491	.746	13.815	.313
Living with?	31.386	.688	59.842	.008
Marital status	58.090	.000	24.298	.445
Relationship with children	50.946	.358	52.855	.292
Social status	32.809	.621	37.757	.621
Religious habits	34.279	.551	68.262	.001

Table 2. Correlatio of sociodemographic features with the presence of depression and anxiety among the elderly in Livno area

depression is significantly affected by the marital status of the respondents, but not on the occurrence of anxiety, while the occurrence of anxiety significantly affects the religious habits of the respondents but does not affect the appearance of depression. The results of the analysis are shown in Table 2.

5. DISCUSSION

The results of this study indicate high incidence of probable and borderline depression and anxiety in the tested sample. More than 90% of the examined, of both genders, were estimated to be borderline depressed or depressed. There was a higher incidence of depression in male subjects, and the anxiety among female respondents. Probably and borderline anxiety have 84% of female respondents which exceed the results of all available studies.

A review of 34 available articles which study the occurrence of depression in the elderly population around the world has found very large differences from 0.4% to 35% (18). The study conducted in 2005 in the Republic of Croatia on a sample of 1496 respondents attempted to investigate the degree of depression and anxiety. In the total sample, 31% of the elderly were probably depressed and 20% were probably anxious, while at the same time, 23% were borderline depressed or anxious. There is a greater incidence of anxiety in women than in men, which is consistent with the results of this study. The probability of depression was slightly higher in women (32%) than in males (28%), while borderline depression was the same in both sexes (23%) in study from Croatia (19).

Similar research conducted in Greece found a significant-

ly higher incidence of anxiety in women, but also a higher incidence of depression compared to male respondents (20).

Depression and/or anxiety was found in more than 80% of 240 respondent surveyed in nursing homes in Egypt. Significant predictors of the investigated disorders were: older age, female sex, lower social status and reduced functional capacity (21).

Our research showed a greater incidence of depression among male respondents. It would be interesting to explore what makes men of our area less happy and satisfied than men from other countries? Depression is directly linked to the emotion of sadness, sorrow, and hopelessness. Do our respondents live like this everyday, and whether our entire society may live the same? Are the consequences of war events visible only now in full swing? Future research should have prospective focus on all age groups and include more Cantons in the Federation of Bosnia and Herzegovina. Better results would also be obtained by determining the correlation of the investigated disorders with the health status of the respondents.

Meta-analysis of 49 studies in a sample of 15,885 respondents showed no statistically significant increase in depression and anxiety in subjects with degenerative disorders (osteoarthritis) compared to non-osteoarthritis subjects (22).

The disadvantage of this study was also the significantly higher proportion of respondents from the rural than the respondents from the urban areas. Social life, which is probably more relevant in the city, can be a significant predictor of the occurrence of depression and anxiety in the elderly. It is well-known that economically more developed countries have a healthier population and that socioeconomic status affects the health of an individual. In this study, foreign retirees, who are presumed to have no financial difficulties, show the same degree of depression and anxiety as those with a lower BH retirements. The lower incidence of depression was found in respondents living in the marital community. Given that more depressive are male subjects, it is concluded that the mental health of male respondents is positively affected by the marriage. The degree of anxiety is similar to widows and those in the marital community. Because women are more anxious in the investigated sample, we conclude that anxiety is not affected by marital status. Longitudinal research in Ireland on a sample of 4998 respondents who live in marriage or partner community has a higher incidence of depression, anxiety and suicidal thoughts among respondents who are dissatisfied with the relationship with their partner regardless of the gender. Social interactions also affect the lower incidence of depression and anxiety (23). In this research, religious habits do not affect the occurrence of depression, but there is a relation between prayer and anxiety. Less anxious are those who pray daily than those who practice prayers only sometimes.

Mental health of the elderly is an area that needs to be continually explored in order to develop recognition and prevention programs. Most mental disorders are registered through emergency services or psychiatric examinations, which indicates a lack of recognition of these problems in healthcare system.

6. CONCLUSION

This research has determined an extremely high incidence of depression and anxiety in the elderly in the Livno area. The results of all available studies indicate significantly lower rates of occurrence than those in our sample. Religious habits do not affect the occurrence of depression and anxiety in male respondents, while among female respondents reduce the occurrence of anxiety. Socioeconomic status did not prove to be a significant predictor of the occurrence of investigated disorders. Depressiveness is more pronounced in male respondents, and female respondents tend to be more anxious.

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