



## DEPRESSION IN ELDERLY WITH IMPAIRED VISION

*Original scientific paper*

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### ABSTRACT

*The aim of this study was to examine the influence of the degree of visual impairment on the presence of depression in visually impaired persons in the elderly age placed in institutional accommodation. The study included a total of 40 elderly respondents, both genders. The variables were divided into two groups: anamnestic variables and variables of depression testing. The results were processed by descriptive statistics, and analysis of variance. The obtained results showed that the degree of visual impairment has a statistically significant effect on the presence of depression in visually impaired persons in elderly age.*

**Keywords:** depression, visual impairment, elderly age

### INTRODUCTION

Aging is a progressive process of reducing the structure and function of the organism, while age is a period of life associated with chronological age. There are three basic types of aging: biological aging - slowing down and declining functions of the body over time; psychological side - changes in mental functions and personality adaptation to aging; social aging - changes in the relationship between the aging individual and the society in which he/she lives (Brajkovic, 2010). Old age or elderly age marks the last period in a person's life, which is characterized by the deterioration of the human body and abilities (Leutar & Lovrekovic, 2010). It can be assessed according to the chronological age (Havelka & Despot-Lucanin, 2007). Therefore, it is difficult to determine with certainty when the old age begins (Bara & Podgorelec, 2015). Stosljevic and Adamovic (2010) define age as a state that in its totality means the disintegration of a human as a social being due to mental and physical disorders, impairments, disturbances or deficiencies caused by age itself. Depression is one of the mental disorders that were first described in the history of medicine, and

in modern times it is one of the most common mental disorders (Filipic, 2008). In literature, depression is defined as a multi-factorial mental disorder that is manifested by a distorted perception of reality, where positive stimuli from the environment are interpreted negatively, and negative stimuli are exaggerated. First of all, it is important to distinguish depression from physiological sadness and anxiety, which occasionally occur in the life of every person. People in such conditions are capable of normal functioning and can find a source of happiness in their environment. Their daily mood oscillates, and during the day it increases, and decreases as night comes, that is, as fatigue increases. On the other hand, people who suffer from depression are depressed throughout the day and do not see positive things around them. More precisely, they see them but cannot enjoy them, which causes these people to feel guilty, irritated and worthless. Despite all this, their mood does not oscillate and remains constant. Such a mood lasts for days, and after it is present for two weeks, it leads to a diagnosis of depression (Filipovic-Grcic, 2014).

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Depression is a mental disorder characterized by mood swings, lethargy, sadness, lack of joy, emotional emptiness, loss of interest, and a range of physical ailments (Hautzinger, 2009). Depression is characterized by a number of heterogeneous symptoms and the simultaneous appearance of physical and mental symptoms during a depressive episode (Hautzinger, 2009). Visual impairment is among the most common chronic conditions associated with depression in elderly age (Zhang et al., 2013). People with visual impairment spend a lot of time thinking about their state of vision and life situation, which easily leads to depression (Garnefski et al., 2010). This is confirmed by Hayman et al. (2007) stating that symptoms of depression occur most and most intensely in the initial stages after visual impairment, while Horowitz (2003) suggests that the initial state after visual impairment may be a trigger for depression. Persistence of depression in people with visual impairment is correlated with the severity of visual impairment (Noran et al., 2009). Most research suggests an association between depression and visual impairment (Zheng et al., 2017). The prevalence of depression in adults diagnosed with glaucoma, cataracts, senile macular degeneration, and corneal dystrophy is significantly higher than in the general population of the same age, without diagnosed visual impairments (Popescu et al., 2012).

## AIM OF THE RESEARCH

To examine the influence of the degree of visual impairment on the presence of depression in visually impaired elderly persons.

## METHODS

### Sample of respondents

The sample consisted of 40 respondents with visual impairments in the elderly age, both genders, housed in the Public Institution "Dom penzionera" Tuzla and the nursing home "Vita Nostra" Bihac, of which 13 respondents are male and 27 respondents are female.

### Sample variables

The variables used in this study can be divided into two groups: anamnestic variables and variables for depression testing.

### Method of conducting research and measuring instruments

The research was conducted in the Public Institution "Dom penzionera" Tuzla and the nursing home "Vita Nostra" Bihac, after obtaining the consent of the managers of these institutions to conduct the research. Previously, preparations were made, which consisted of detailed explanation to the respondents how to conduct the examination. The method of examination was also explained to the managers and staff.

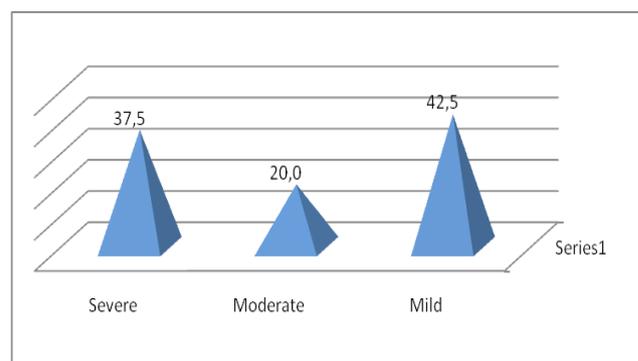
The following data collection instruments were used in the examination of depression in visually impaired persons: anamnestic data, analysis of medical records (visual acuity, age, gender, time of onset of damage, level of education, previous rehabilitation coverage), and the geriatric depression scale (GDS) was used to examine the prevalence of depression (Yesavage et al., 1982), which was conducted individually with each respondent, in accordance with the propositions of the test. The test completion time was about 45 minutes.

## Statistical data processing

Data was processed using the statistical program SPSS 20.0. Statistical significance is taken into account for  $p < .05$ . In the statistical data processing for each variable, the basic statistical parameters were calculated: arithmetic mean, standard deviation, minimum and maximum result. Variance analysis was used to examine differences in individual variables.

## RESULTS

The results of statistical data processing, shown in Graph 1, show that 37.5% of respondents have mild visual impairment, 20% of respondents have moderate visual impairment, and 42.5% of respondents have severe visual impairment.



Graph 1. Degree of visual impairment

Insight into Table 1 shows that the highest arithmetic mean of depression is in respondents with severe visual impairment ( $19.94 \pm 3.61$ ), where the minimum and maximum scores range from 11 to 25. The lowest values of the arithmetic mean are in respondents with mild visual impairment ( $13.80 \pm 5.88$ ), where the minimum and maximum scores range from 5 to 22.

Table 1. Descriptive indicators of depression according to the degree of visual impairment

Degree of visual impairment	M	SD	SE	MIN	MAX
Mild	13.80	5.88	1.51	5.00	22.00
Moderate	16.25	4.06	1.43	10.00	21.00
Severe	19.94	3.61	.87	11.00	25.00

In order to determine significant differences in the degree of visual impairment and the presence of depression in the elderly, the Univariate analysis of variance was applied in this research. Based on the obtained results of Fisher’s test (F) shown in table 2, it can be concluded that at the level of statistical significance of .05 there is a difference in relation to the level of depression and the degree of visual impairment.

Table 2. F-test results in relation to the level of depression

Group	SK	df	PSK	F	p
Between groups	304.75	2	152.37	6.97	.003
Within the groups	808.84	37	21.86		
Total	1113.60	39			

Considering that the results of the Univariate analysis of variance showed that there are statistically significant differences, and to in order to conclude where these differences are most pronounced, the Scheffe-Test was applied and the results are shown in table 3. Based on the obtained results, it can be concluded that at the statistical significance level of 0.01, the level of depression is higher in respondents with severe visual impairment compared to respondents with mild visual impairment.

Table 3. Scheffe-Test results

(I) Degree of visual impairment	(J) Degree of visual impairment	Difference	SE	p
Mild	Moderate	-2.45	2.04	.495
	Severe	-6.14*	1.65	<b>.003</b>
Moderate	Mild	2.45	2.04	.495
	Severe	-3.69	2.00	.197
Severe	Mild	6.14*	1.65	<b>.003</b>
	Moderate	3.69	2.00	.197

## DISCUSSION

The number of people suffering from depressive disorders has been steadily growing since the beginning of the last century in all industrialized countries of the world - 20% of women and 10% of men develop at least one depressive episode during their lifetime (Maj & Sartorius, 1999). Research to date shows that one in five women and one in ten men experience at least one major depressive episode during their lifetime (WHO, 2001). The prevalence of depression in the world is 12-20% in the female population and 5-12% in the male population (Christodoulou, 1999; Sadock B. J. & Sadock, 2003), while in Europe between 3 and 10% of the general population suffers from depression annually (Wittchen & Jacobi, 2005). The fact is that people over the age of 65 are at particular risk of developing severe depression associated with visual impairment.

It is estimated that 29-58% of those suffering from significant visual impairment have major depressive disorder a year later, and generally people with visual impairment are twice as likely to be depressed as people with intact vision (National Eye Institute, 2015). Based on research, studies show that approximately one in three elderly people with visual impairments (ranging from 22 to 42%) experience mild but clinically significant symptoms of depression, which is twice the frequency in the general population (10-15%) (Casten & Rovner, 2008; Tabrett & Latham, 2009). Choi et al. (2018) conducted a study with people over the age of 70 and obtained results that showed that the prevalence of depression was significantly higher in visually impaired people than in people with intact vision, and that the risk of depression in blind people was significantly increased. Research has shown that unilateral blindness can psychologically affect the occurrence of depression. People with visual impairment on one eye due to diagnosed senile macular degeneration are more likely to suffer from depression than those who have lost eyesight on both eyes (Casten & Rovner, 2008; Tabrett & Latham, 2009). Through their studies, the authors point out the relation between depression and visual impairment. The prevalence of depression in adults diagnosed with glaucoma, cataracts, senile macular degeneration, corneal dystrophy is significantly higher than in the general population of the same age, without diagnosed visual impairments (Popescu et al., 2012). Visual impairment in the elderly is often associated with mobility difficulties, physical and social functioning, decreased well-being, and ultimately depression (Griffin-Shirley & Bozeman, 2016). The presence and severity of these difficulties depends on the degree of visual impairment. So, the more severe the visual impairment is, the greater the difficulties in everyday life are - as well as the higher the level of depression. Previous research has shown that loss of visual acuity and depressive symptoms are associated with visual function status in people over 65 (Hidalgo et al., 2009), and that these people are at particular risk for developing severe depression associated with visual impairment. Similar results were obtained by Casten and Rovner (2008), Tabrett and Latham (2009), Noran et al. (2009) and Choi et al. (2018) who state that the incidence of depression is higher in severe visual impairment. Also, Tabrett and Latham (2009) state that in people with retinal disease, the clinical picture associated with depression is more severe. The authors estimate that 29–58% of those suffering from significant visual impairment have major depressive disorder a year later (Discovery Eye Foundation, 2015). Also, Zhang et al. (2013) in their study found a strong association between loss of visual function instead of visual acuity and the presence of depressive symptoms in adults in the United States.

## CONCLUSION

Based on the results of the research, we can see that depression is present in people with visual impairment in the elderly age in institutional accommodation. The obtained results showed that the degree of visual impairment has an impact on the presence of depression in visually impaired persons of the elderly age, and accordingly the level of depression is higher in respondents with severe visual impairment compared to respondents with mild visual impairment.

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