



Original Contribution

POST-STROKE DEPRESSION AND ANXIETY

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ABSTRACT

The aim of the study was to investigate the clinical features of depression and the relationship between depression and generalized anxiety disorder.

Material and methods: 93 patients with stroke were examined, of whom 59 men (39-83 years) and 34 women (56-87 years), mean age 66.8 years. We used Patient Health Questionnaire (PHQ-9) and GAD-7.

Results: Depressive disorder in the acute phase after stroke was found in approximately 2/3 (64.5%) of patients with stroke, with mild to moderate depressive disorders with low mood, increased mental and somatic anxiety, insomnia, somatic complaints, with extravagant hypochondriac thoughts. In our study we found significant positive correlation between depressive disorders and generalized anxiety disorders – and increase of severity of depressive disorders was followed by increase of severity of generalized anxiety disorders. We found high comorbidity between depression and generalized anxiety disorder.

Key words: post-stroke depression, generalized anxiety disorder.

INTRODUCTION

Depressive disorders are the most common mental problems after a stroke (1). Post-stroke depression is associated with higher mortality, especially among younger patients. It is especially important that patients with post-stroke depression are 3-4 times higher mortality than non-depressive patients (2). Post-stroke depression has an early onset in most cases. In the studies conducted by Andersen et al., and Aben et al., (3, 4) about 50% of cases of post-stroke depression were diagnosed during the first month after stroke. Meta-analysis of prevalence found that one-fourth of survivors of stroke developed post-stroke anxiety (5). The association of anxiety disorders with depression influences many clinical aspects of post-stroke depression including the onset, duration, severity and response of therapy (6). The incidence of early

post-stroke generalized anxiety is 27% and the late 23%. Three-quarters of the anxiety patients had a comorbid major or minor depression. Patients who develop early or late post-venous generalized anxiety are not impaired more socially, cognitively or physically than patients who have not developed anxiety. The presence of anxiety is significantly associated with depression; the onset of depression and the onset of anxiety are almost the same time.

MATERIALS AND METHODS

The contingent of the study was 93 stroke patients, of whom 59 men (39-83 years) and 34 women (56-87 years), middle-aged 66,8 years, treated at a neurological clinic at the University Hospital, Stara Zagora. We used Pfizer Inc's self-evaluation scale for depression - Patient Health Questionnaire (PHQ-9) and for generalized anxiety disorder - GAD-7.

RESULTS

According to our results from the depression test - PHQ-9 33 (35.4%) patients are depressed and 60 (64.5%) have depressive disorder.

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According to de Man-van Ginkel et al. (7) an effective method of detecting post-stroke depression is the sequential administration of

the PHQ-9 and PHQ-2 test. Anhedonia, as decreased interest or pleasure in daily activities, was found in 44 (73.3%) patients with depression. **(Figure 1)**

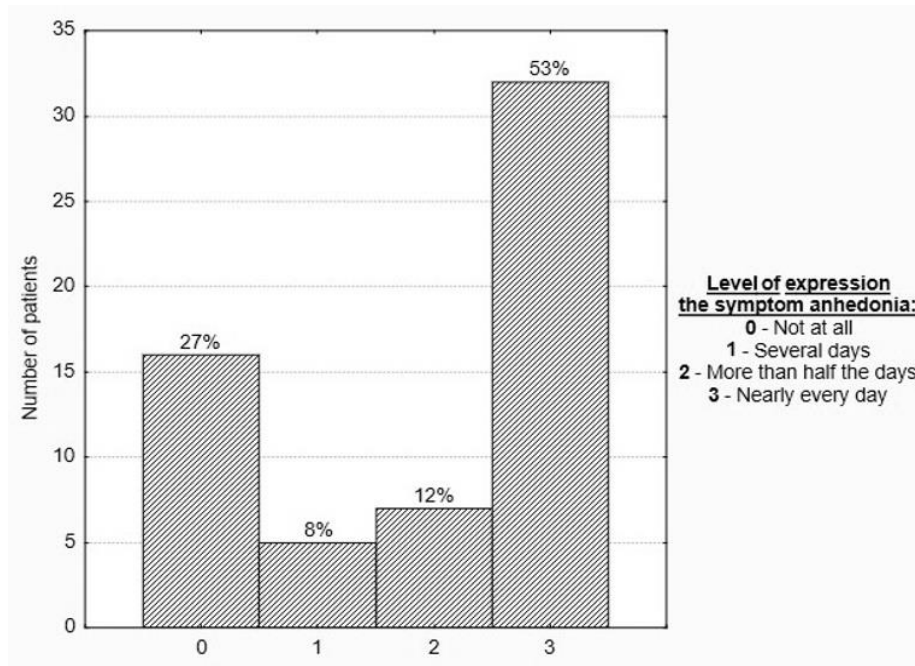


Figure 1. Frequency of manifestation of the symptom of anhedonia

49 (81.6%) patients with post-depressive depression were reported to have mood swings with anxiety, anguish, and hopelessness **(Figure 2)**. Moreover, Gainotti et al., (8) suggests that patients with post-stroke

depression are more likely to develop catastrophic reactions, agitation and day-night mood changes than patients with idiopathic depression, although these findings are not confirmed by other studies.

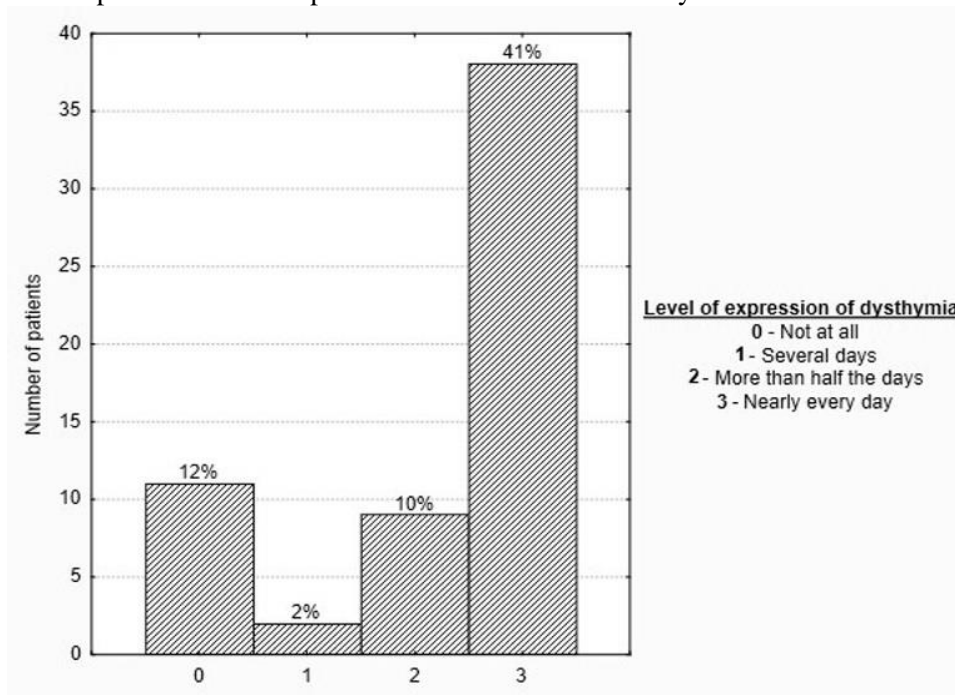


Figure 2. Frequency of manifestation of dysthymia symptom

Sleep problems belong to a large number of those suffering from depression 53 (88.4%), (**Figure 3**). Our results are shared by a study by Fedoro et al., (9) in which vegetative

symptoms involving sleep disorders, libido and energy levels were significantly more common among depressed than among the undepressed patients with stroke.

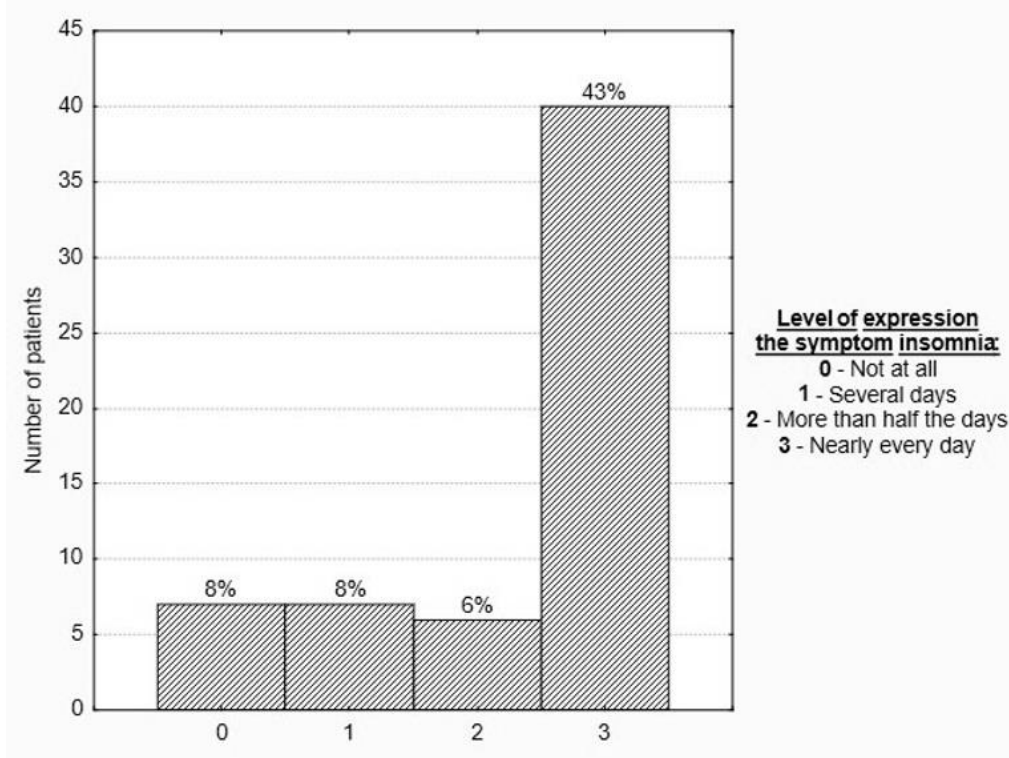


Figure 3. Frequency of manifestation of symptom insomnia

Aesthetic symptoms, expressed in a sense of fatigue or lack of energy, shared almost all

patients with post-depressive disorder - 59 (98.3%), (**Figure 4**).

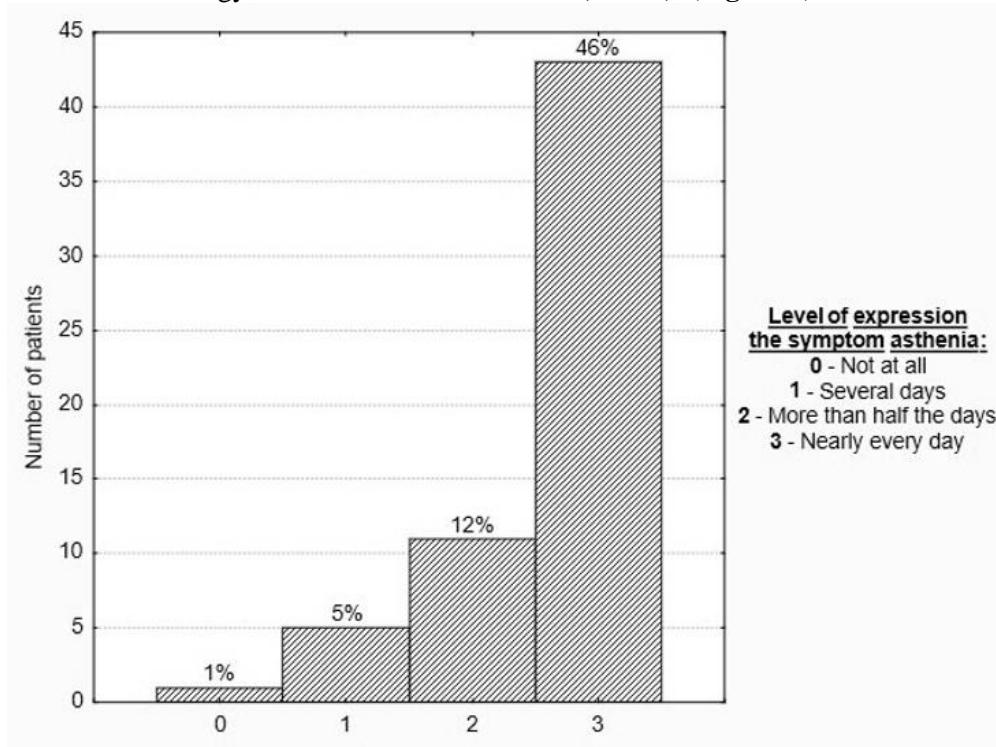


Figure 4. Frequency of manifestation of asthenia symptom

A change in appetite, in the form of increasing or decreasing, was observed in half of the depressed patients 29 (48.3%), (Figure 5).

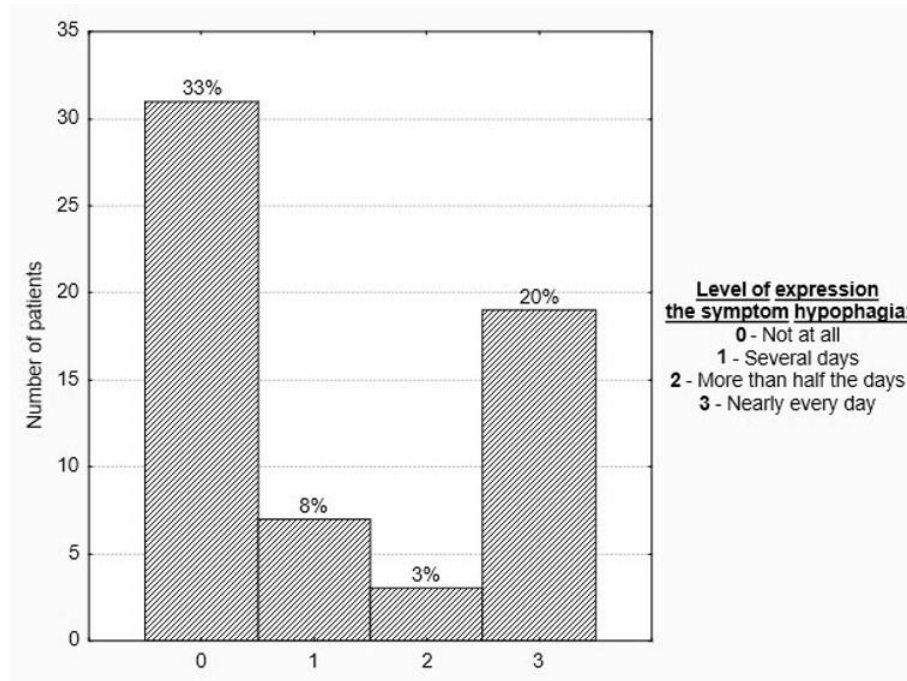


Figure 5. Frequency of manifestation of the symptom change in appetite

Overvalued thoughts about guilt, expressed in bad feeling about the self or feeling of failure are shared by more than half patients with post-stroke depression - 35 (58,3%), (Figure 6).

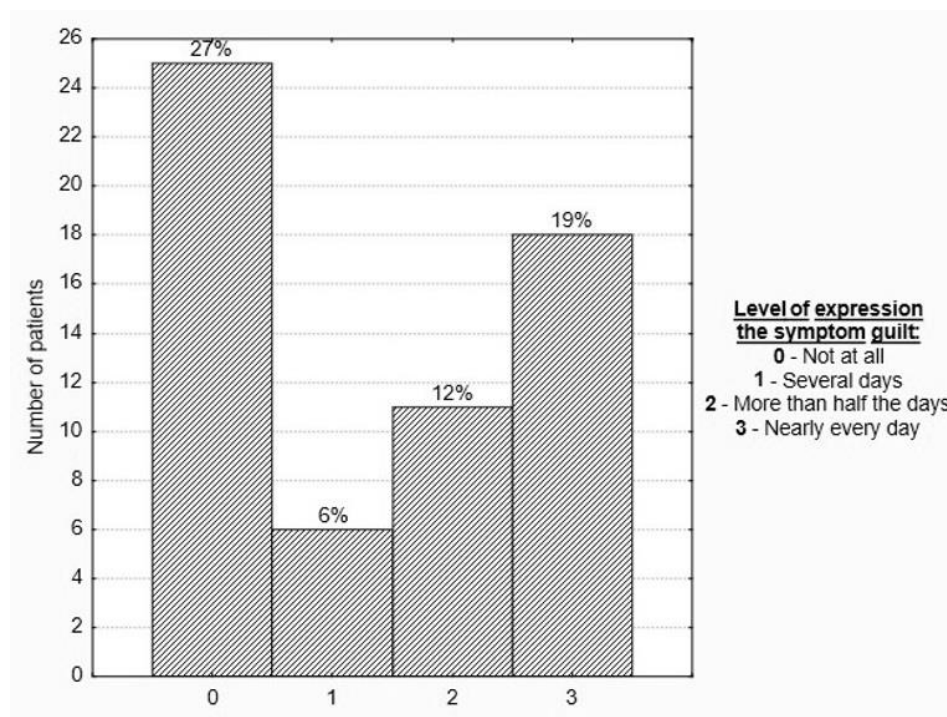


Figure 6. Frequency of manifestation of the guilt symptom

Of the difficulty concentrating on the tasks complained most of the patients with post-depressive disorder 46 (76.7%), (**Figure 7**).

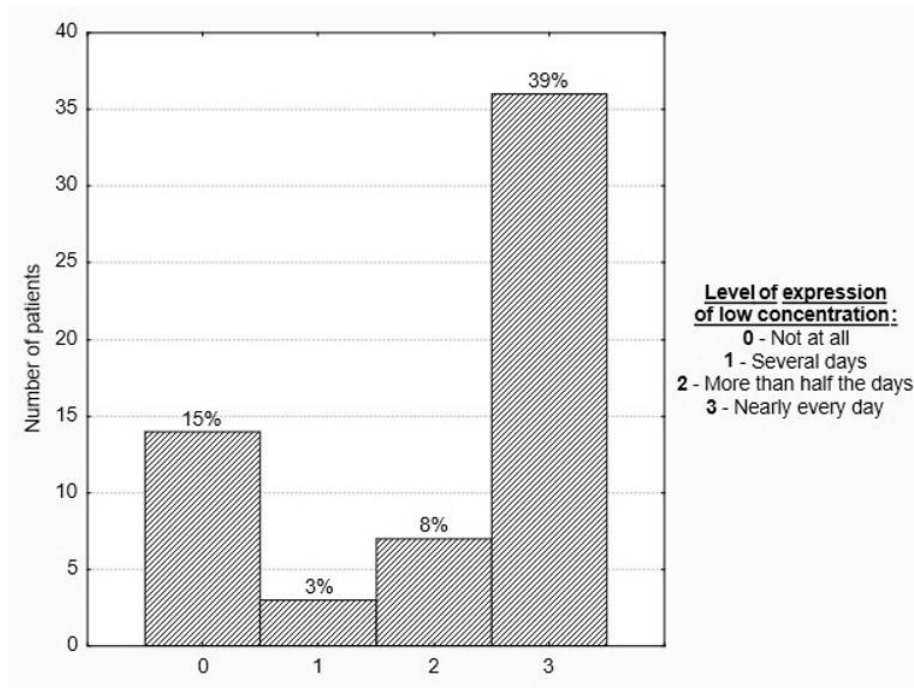


Figure 7. Frequency of manifestation of low concentration

Bradypsychia, characterized by delayed movements or speech, is a less frequently observed symptom in our study - 22 (36.7%), (**Figure 8**). Furthermore, Lipsey et al., (10) found that the presence of psychomotor

retardation in patients with post-stroke depression, some of the differentiating symptoms of idiopathic depressed patients, were complaints of more anhedonia and difficulty concentrating.

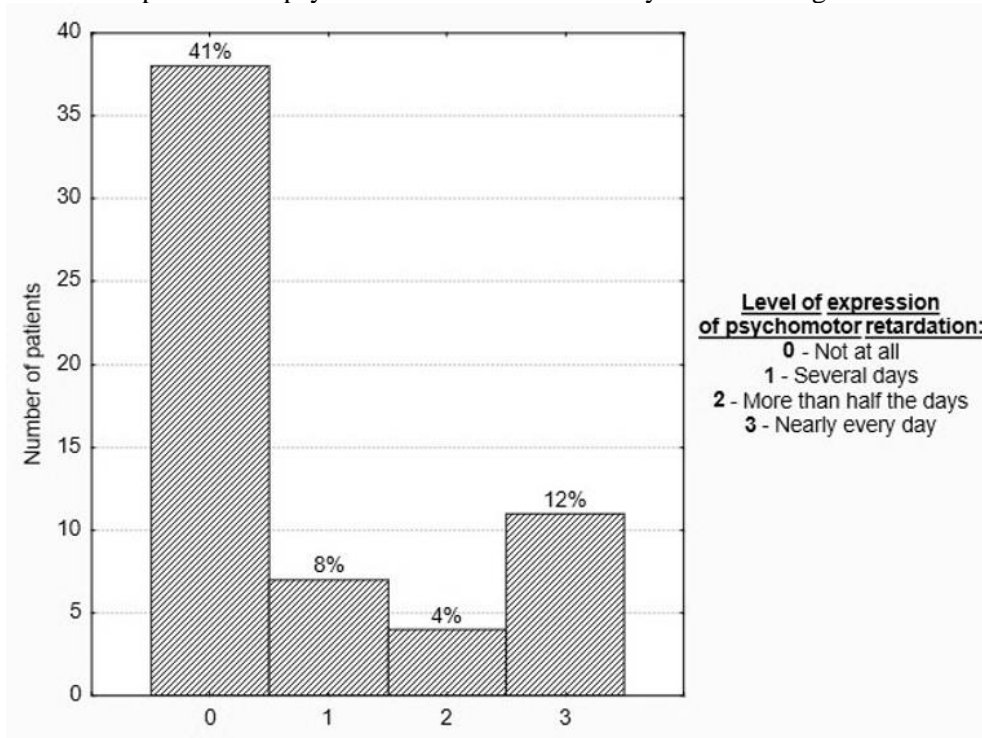


Figure 8. Frequency of manifestation of symptom retardation

The last of the symptoms tested by the PHQ-9 test is the presence of suicidal thoughts, only 7 (11.7%) share suicidal thoughts about suicide (**Figure 9**). Kishi et al., reported that suicidal risk increases with time spent after a stroke (11). According to this study, the presence of apathy is a predictor of suicidal ideation. A large-scale study by Eriksson et al., (12)

reports that patients with low education or income living alone, male, young, severe stroke and post-stroke depression are more susceptible to suicide. Garden et al., (13) assessing suicidal risk after stroke, indicate that suicidal risk factors include depression, severe insomnia, chronic disease and organic brain syndrome.

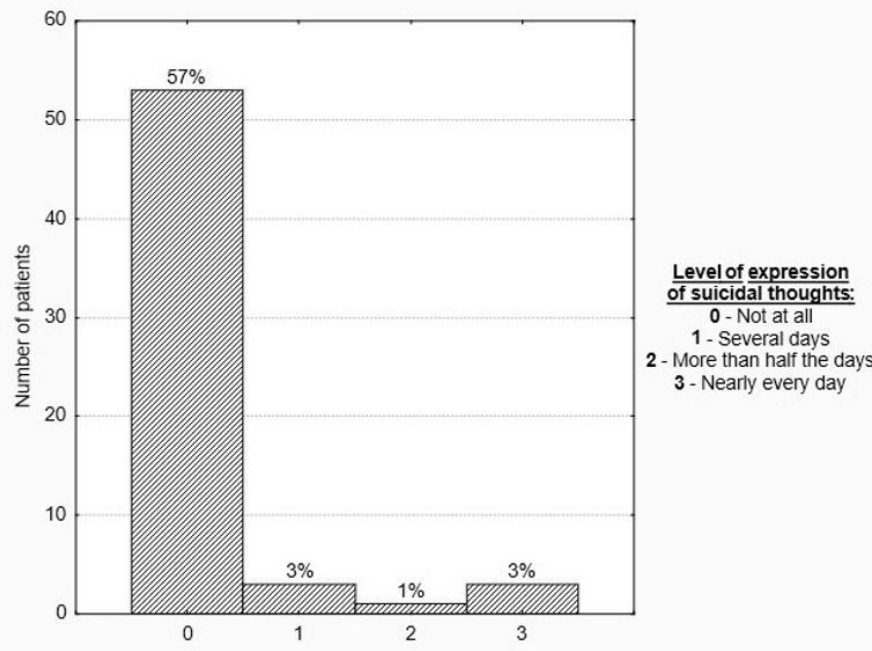


Figure 9. Frequency of manifestation of suicidal thoughts

Using a Factor Analysis, Савина, (14) outlines the limits of post-stroke depressive syndrome that has a mosaic structure and includes the following depressive symptoms: angina (87.3%), anhedonia (55.1%), depressive apathy, (25.4%), hopelessness (25.4%) and dysphoria (50.8%), as well as the presence of vegetative disorders. The syndrome described by her does not fully comply with the criteria of international classifications: it often involves dysphoria, as well as asthenopathic disorders such as weakness and tiredness that add to the organic spectrum disorders.

The socio-cultural traditions of the Bulgarian people also contribute to the fact that patients more often and willingly communicate to the treating physicians' somatic complaints, considering emotional discomfort as a minor and unreasonable discussion. In a study by da Rocha e Silva et al., (15,16) the overall symptom score of patients diagnosed with major depression without clinical comorbidity

was significantly higher than that of patients with post-depressive depression ($p < 0.05$).

Of all 93 patients studied, 70 (75.25%) had GAD, 23 (24.7%) had no symptoms of GAD, 26 (27.95%) were mild, 29 (31.2%) had moderate and 15 (16.1%) severe. There was a statistically significant increase in GAD in patients with severe depression (2.4 ± 0.22 GAD) versus mild (1.45 ± 0.18 GAD), ($p < 0.01$), and in patients without depression (0.45 ± 0.10 degree of GAD), ($p < 0.001$).

Also statistically significant is the difference in the degree of GAD between patients with moderate depression (2.2 ± 0.2 degree of GAD), patients with mean depression (2 ± 0.18 GAD), and patients with mild depression (1.45 ± 0.18 degree of GAD) compared to patients without depression ($p < 0.001$). Of all 10 patients suffering from severe depression, 5 have severe GAD, 4 mean and 1 mild. Of all 33 patients without depressive syndrome, 20 were without GTP, 11 had mild GTP, 2 had

moderate, and none had severe. Increasing the severity of depressive disorder also increases

the severity of generalized anxiety disorder (Figure 10).

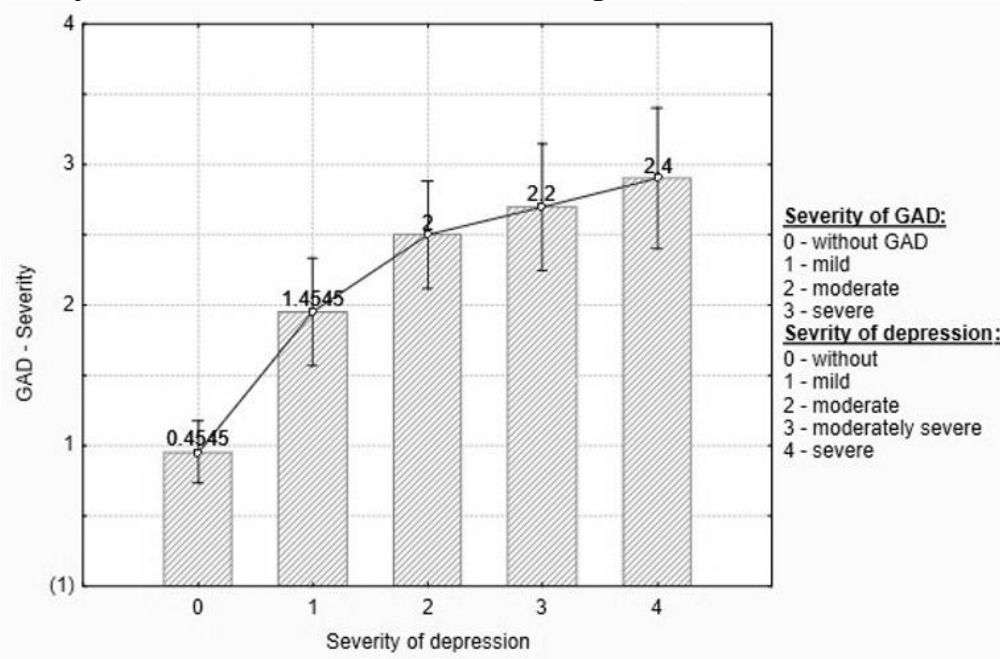


Figure 10. Correlation between the severity of depression and the severity of generalized anxiety disorder

Our results are confirmed by the study by Савина (14,17,18) which identifies the occurrence of post-stroke GTR, the presence of depression in the acute period of stroke, and its tense course is determined by social factors - presence of social connections at the time of the stroke (). According to a study by Burvill et. al. (19) one third of men and half of women with post-traumatic anxiety disorders showed evidence of depression or anxiety disorders during stroke. After a twelve-month study of 49 patients with agoraphobia, 51% recovered and equal proportions from the rest died or still had agoraphobia. The only major difference in outcome between those with single anxiety disorders and those with comorbid depression was the higher mortality rate in the latter.

CONCLUSION

Depressive disorder in the acute phase after stroke was found in approximately 2/3 (64.5%) of patients with stroke, with prevalence of mild to moderate depressive disorder with mood swings, malaise, increased mental and somatic anxiety, insomnia, somatic complaints, with overvalued hypochondriac thoughts. Generalized anxiety disorder after stroke was found in 70 patients (75.25%). There is a statistically significant positive correlation between depressive disorders and generalized anxiety disorders - with increasing severity of

depressive disorder increasing the severity of generalized anxiety disorder.

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