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Research Article

# FACTORS AFFEKTING THE DEVELOPMENT OF COGNITIVE FYNCTION IN PERSONS WHO SURVIVED COVID-19

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## ABSTRACT

The COVID-19 pandemic has shown that this is a disease that affects almost all organs and systems. At the same time, the problem of damage to the nervous system that leads to serious consequences in the form of various vascular inflammation and degenerative pathologies (stroke, encephalitis, polyneuropathy) of the brain and peripheral nerves are increasing. The question of the origin of cognitive impairment at a young age in people who did not have any problems with intellectual functions before COVID-19 is more complicated. This issue is closely related to the issue of the pathogenesis of damage to the nervous system in COVID-19. At the same time, the cognitive function of a person also closely depends on the emotional state, educational qualification, gender and age. These factors are not well covered in the literature. With this in mind, we conducted this study.

## KEYWORDS

Cognitive impairment, anxiety-depressive devices, COVID-19, MMSE, MoCa.

## INTRODUCTION

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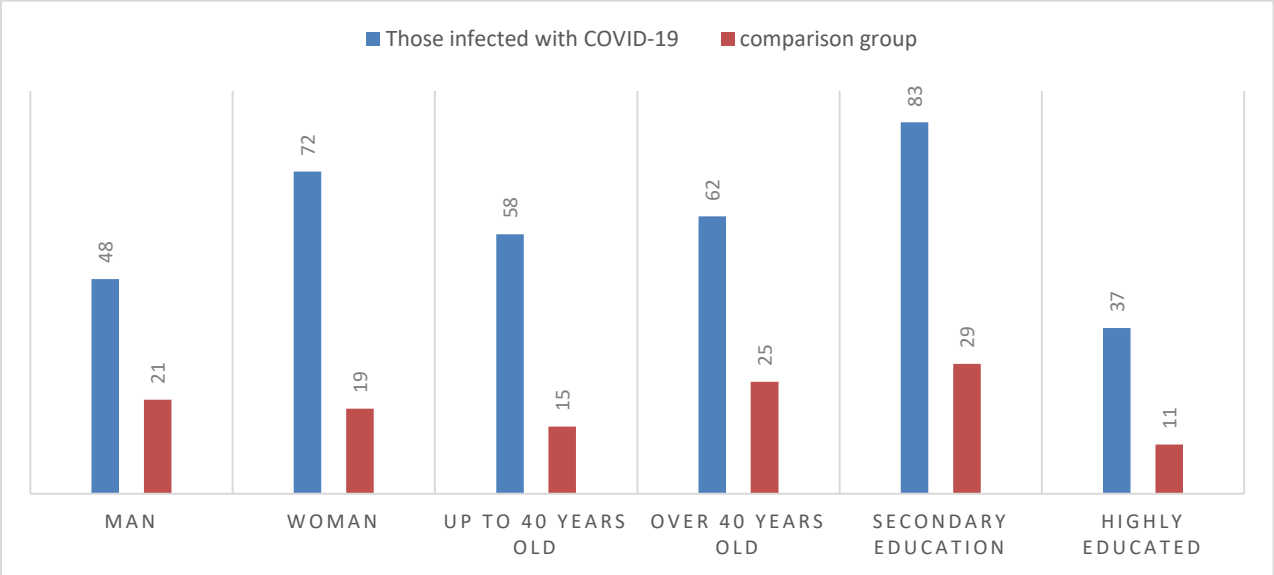
Material and methods of investigation: The material for the study was 120 patients from COVID-19 and 40 people of the same age as the control group. The group of patients infected with COVID-19 is those who have been discharged from the hospital after the main clinical symptoms of the disease and a negative PCR test. the distribution of sex, age and education levels of patients is presented in the table.

All patients underwent a clinical and neurological examination, a detailed history was taken. MMSE test (Mini-Mental State Examination) and Montreal Cognitive Assessment MoCA




(Montreal Cognitive Assessment) were used to assess the level of cognitive impairment. The studies were conducted in a private room in a confidential and quiet environment. The MMSE test was evaluated according to the following criteria: a total score of 30. Evaluation criteria: 27–25 - moderate cognitive impairment, 24 or less - severe cognitive impairment. The Montreal Cognitive Scale (MoCA) is widely used as a screening tool for cognitive impairment, the questionnaire is a one-page test with 30 items that takes an average of 10 minutes to complete.

To assess anxiety, we use Yu.L. Khanina (1976). An important advantage of this scale is the ability to distinguish two types of anxiety - anxiety as a personality trait (constitutional, personal anxiety) and anxiety as a temporary clinical condition (reactive anxiety). Interpretation of results: the final score is up to 30 points. - low anxiety; 31-45 - moderate anxiety; 46 and more - high anxiety.

Results and Discussion: Clinical and neurological examination revealed significant differences between healthy and post-COVID-19 patient groups.

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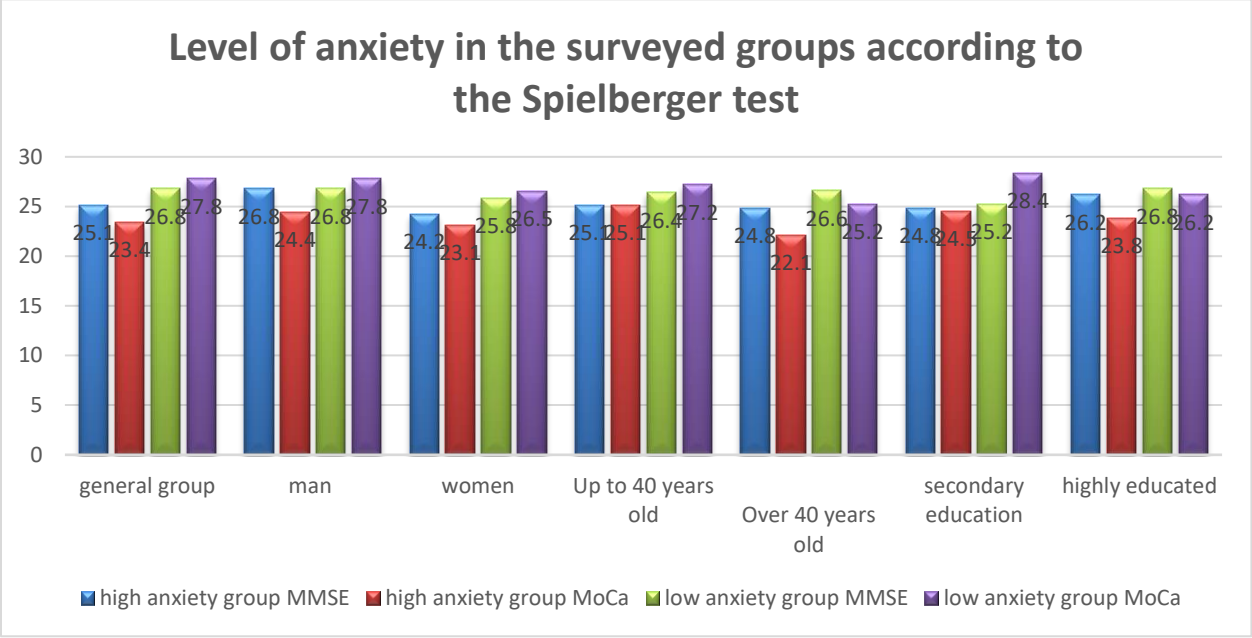
Among the complaints of patients in the main group, psychoemotional disorders prevailed, 116 patients (97%) had symptoms of asthenia in the form of weakness and reduced work capacity, 110 patients (92%) had fatigue, 95 patients complained of headaches (79%), dizziness - 80 patients ( 67%), nocturnal sleep disorder in 96 patients (80%), tinnitus in 72 patients, excessive irritability and nervousness in behavior in 60% of patients 78 (65%), isolation - 24 patients who passed through COVID-19 (20%).

It should be noted that all patients of the main group complained of memory loss. Analysis of focal neurological symptoms showed that: 54 (45%) of the examined patients had central paresis of the VII pair of cranial nerves, central paresis of the XII pair of cranial nerves, respectively, in 30 (25%).

Reflexes of oral automatism occurred in 12 (10%) patients, respectively, anisoreflexia in 68 (57%) patients, instability in the Romberg position in 54 (45%) patients, and intention during finger-nose examination in 34 patients.

Subjective and objective neurological disorders were minimally expressed in the control group. Considering the increased anxiety effect after suffering from COVID-19, we first analyzed the structure of anxiety disorders in the examined groups (Figure 2).



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The data presented in the figure show that both reactive and personal anxiety are significantly prevalent in people with COVID-19. At the same time, significant differences were found in men only in RT, and in women in both indicators of anxiety.

Analysis by age revealed a significant prevalence of anxiety in the older subgroup. Reliably, compared to the control group, anxiety was more prevalent in the subgroup of highly educated individuals. Comparisons between identified subgroups showed that RT and LT were significantly superior in women in the main and control groups.

A significant increase in the level of LT was found in the subgroup of older patients compared to younger patients. The RT rate was significantly higher in the group of patients in the older age subgroup.

To study the relationship between cognitive impairment and anxiety, we divided the patients with Covid into two groups: high anxiety and low anxiety.

The results showed that cognitive impairment was significantly more pronounced in high anxiety patients compared to low anxiety patients. Women in the MMSE and MOCA high anxiety group had more clear cognitive impairment than men.

In addition, cognitive impairment in the subgroup of patients with high anxiety over the age of 40 was significantly greater than in younger patients with low anxiety.

At the same time, it should be noted that the level of cognitive impairment in patients with different levels of education was almost the same, and the main differences were only related to the level of anxiety.

Conclusion: Thus, the study of cognitive status and psycho-emotional status using clinical scales showed that cognitive deficits are characteristic of patients who have passed through COVID-19, are not related to the level of education, and worsen cognitive dysfunction in existing patients. cognitive disorders, disorders that require mandatory correction in the early stages of recovery.

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