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IMPACT OF THE COVID-19 PANDEMIC ON NEUROPSYCHOLOGICAL DISEASES

***Abstract.** The COVID 19 pandemic has caused significant harm to the mental health of the population in particular patients affected by the neuropsychological diseases have suffered. This article examines the problems faced by patients suffering from neuropsychological diseases. In addition, author shows how the pandemic has affected clinical psychology. The authors also emphasize the need to take into account and qualitative analysis of the entire completeness of stressful influences in a pandemic situation. The aim of the research is to identify how the COVID-19 pandemic has affected patients with neuropsychological diseases. The analysis used statistical collections, materials of scientific conferences, forums and seminars, periodicals and other materials. The results of the study showed that COVID-19 can cause neurological manifestations, including headache, impaired smell and taste, agitation, delirium, stroke and meningoencephalitis, therefore this disease is more dangerous for people suffering from neuropsychological disorders. The presence of chronic neurological diseases increases the risk of hospitalization due to COVID-19, especially for the elderly.*

***Keywords:** clinical psychology, COVID 19, pandemic, neuropsychological, mental health, stress, anxiety, depression.*

Introduction

On March 1, 2020, WHO announced that the outbreak of the COVID-19 disease caused by the new coronavirus SARS-CoV-2 has become a pandemic, and on March 13, Europe has become its center. According to the head of WHO, Tedros Ghebreyesus, the current pandemic is accompanied by the spread of infodemic, when the growth of false news and rumors is no less harmful than the virus itself. Experts also began to note economic problems in a number of countries, and the rise in unemployment. Like all other significant negative processes on a global scale, the

current pandemic provokes an increase in anxiety, distress and other reactive states in people. This poses new challenges for mental health professionals in psychoprophylaxis and crisis counseling for a wide range of citizens.

During an epidemic caused by a highly virulent and deadly pathogen, it is normal to experience stress and anxiety. Some people with neuropsychological conditions may be more fearful and anxious because of their cognitive and affective characteristics, as well as difficulties in adapting to rapid and radical lifestyle changes. The main causes of distress are:

- fear of getting sick and dying;
- fear of quarantine (absence of important contacts);
- fear of using medical services due to fear of infection;
- fear of losing livelihood;
- demoralization due to the loss of some preferred activities both at work and in free time (including sports / physical activity);
- fear of losing loved ones due to the epidemic and the inability to protect them;
- Feelings of helplessness, boredom, loneliness and depression due to isolation;
- tension and suffering of other family members and caregivers;
- failure to understand the reasons for hygiene restrictions and how to implement them (including Ministry regulations restricting travel and outdoor activities);
- problems with changes in their habits and lifestyle necessary to comply with the rules of hygiene.

Moreover, statistics have shown that people suffering from neuropsychological diseases are infected with coronavirus twice as often as others. In this regard, **the aim of the research** is to identify how the COVID-19 pandemic has affected patients with neuropsychological diseases.

The problem with the research is that the coronavirus pandemic came suddenly and many countries were not prepared. The impact of the virus on people with neuropsychological disease can be particularly serious because not all countries can provide funding for testing and protective equipment. Moreover, the quality of the provision of medical services at home and in nursing homes is not always at the

required level. Thus, people with neuropsychological diseases are especially vulnerable to COVID-19.

The research method consists in a systematic and statistical analysis of the impact of the COVID-19 pandemic on patients with neuropsychological diseases. The analysis used statistical collections, materials of scientific conferences, forums and seminars, periodicals and other materials.

The results of the research showed that COVID-19 can cause neurological manifestations, including headache, impaired smell and taste, agitation, delirium, stroke and meningoencephalitis, therefore this disease is more dangerous for people suffering from neuropsychological disorders. The presence of chronic neurological diseases increases the risk of hospitalization due to COVID-19, especially for the elderly. Stress, social isolation and domestic violence can affect healthy brain development. Social isolation and reduced physical and mental activity increase the risk of cognitive decline and dementia in older adults. Moreover, many organizations that provide care to people with neuropsychological diseases were not prepared for this dramatic change. In addition, many experts note that there is little funding for organizations that provide mental health and rehabilitation services for patients with neuropsychology. During the pandemic, some of these organizations were even converted into a covid's hospital in many countries, which further reduced efficiency.

Results and discussion

While the COVID-19 crisis primarily threatens physical health, it can cause serious mental health problems if not addressed. Even in the best of times, good mental health is essential to the functioning of a society. Mental health needs to be at the forefront of every country's efforts to tackle and recover from the COVID-19 pandemic. The mental health and well-being of entire communities has been severely affected by this crisis, and caring for them is an urgent priority.

Worldwide, more than 50 million people suffer from neuropsychological disorders (including diseases belonging to the dementia group), according to WHO estimates, this number will increase to 131.5 million people by 2050 (Salkova, 2021). These diseases arise in connection with brain lesions and often complicate

the course of other diseases. Experts from Case University of the Western Reserve Region in the United States studied electronic medical records of patients from 360 hospitals and 317 thousand other medical organizations across the country, thus collecting data on 20% of the US population. Of the 61.9 million adults, information about which was included in the study, more than a million had dementia, almost 16 thousand were ill with COVID-19 and 810 faced coronavirus against the background of neuropsychological diseases. Professor Rong Xu also notes that the presence of such a large database of electronic medical records of patients has given our research tremendous opportunities to identify patient vulnerabilities (Salkova, 2021).

Nevertheless, the most dangerous thing is that even healthy patients, when they are sick with COVID-19, face neurological side effects. Most patients experience a range of neurological, cognitive, psychological, and psychiatric symptoms. The condition of patients who already have neurological and psychological disorders worsens much faster.

Analyzing the materials, we can say that many who have conducted clinical studies note that people suffering from neuropsychological disorders get sick more often than others do. Moreover, Mark Ellul notes in his study that a number of neurological manifestations, including loss of smell and taste, confusion, encephalitis, and diseases in which the immune system attacks the body's nerves, are reported (Ellul et al. 2020). In the UK, hospitalizations of Covid-19 patients with neurological and neuropsychiatric features have been carefully analyzed. Varatharaj et al. reported that of 153 cases submitted to the Coronerve registry, 125 had complete data. Of these 125, they identified that 62% had suffered a cerebrovascular event and of these, 74% were ischaemic, 12% haemorrhagic, 1% had vasculitis and the remainder other cerebrovascular events. Of the 125, 31% presented with altered mental status, and of this subgroup, encephalitis was identified in 18%, unspecified encephalopathy in 23% and neuropsychiatric disorder in 59%. Of the 23 cases classified as neuropsychiatric, 43% were described as having psychosis, 26% neurocognitive disorder, and 30% other psychiatric disorders. Finally, 5% of the total were classified as having a peripheral disorder and 2% other neurological disorder (Varatharaj et al., 2020).

The results also suggests that in the current COVID-19 emergency, people with neuropsychological illnesses can become anxious or upset, which can lead to an acute anxiety or panic reaction. In such cases, confusion, severe motor agitation, behavioral disturbances and somatic reactions such as tremors, shortness of breath, palpitations, tachycardia, diarrhea, vomiting, and changes in pressure and, less often, fainting, can be observed. In the course of our research, we have identified a number of recommendations that will help people with neuropsychological disorders if they are in this condition:

- speak in a quiet, calm voice;
- do not be too mobile during a conversation with a person and position yourself so that both have the opportunity to leave the room;
- make sure that your facial expressions and gestures correspond to the soothing content of your words;
- try to maintain eye contact with the interlocutor during a conversation;
- Remind the person that you are here to help him and that he is safe (if true);
- If someone seems disoriented or alienated, help him / her return to the here and now by verbally instructing (or physically supporting) him / her.

Adapt your conversation to the level or mode of communication of the caregivers based on professional judgment and personal experience. Also patients with neuropsychological disorders have faced some barriers. Patients and their caregivers face barriers to accessing health care and information to reduce personal and social risks during the COVID-19 epidemic. Discussing risks is important for promoting health and preventing the spread of infection, as well as reducing stress in the population, but information is often not adequately processed and transferred to people with cognitive and communication impairments. Many health centers are inaccessible to people with physical or mental disabilities. There is also a lack of protocols for caring for people with disabilities in a preventive quarantine and with a confirmed infection. Lack of instructions on how to deal with the shortage of medical personnel, rehabilitation centers or residential buildings. Behavioral factors, as well as prejudice, stigma and discrimination against people with neuropsychological disorders, including the belief that they cannot contribute to the

fight against the pandemic or make their own decisions. These problems can add additional stress to individuals with neuropsychological disorders and their caregivers during a pandemic.

In such patients, mental disorders are associated with up to four times higher rates and earlier onset of illness than the general population, even under normal environmental conditions. These patients have at least one mental disorder in their lifetime in 25-44% of cases, 21% have two mental disorders and 8% have three disorders (Wilson, 2020). Unrecognized psychiatric comorbidity is also very high, with prevalence rates exceeding 50% even in institutional settings with psychological support. Anxiety and affective disorders are the most common. The prevalence of psychopathology increases in people with dementia if they are additionally diagnosed with a psychosomatic disorder. In these cases, the likelihood of developing an additional mental disorder is up to five times higher. The distress associated with the COVID-19 pandemic and the hygiene practices that must be followed to contain it can exacerbate this vulnerability (Douglas, 2020).

Moreover, it is important to consider the risks associated with isolation. To counter the spread and impact of the COVID-19 pandemic, many countries have mandated that all citizens stay at home as long as possible and maintain a physical distance of at least one meter. Numerous studies have shown that prolonged isolation is a risk factor for the loss of everyday practical skills and the development of physical and mental illnesses and disorders, in particular depression, anxiety and suicidal thoughts. Even if it does not lead to serious health problems, isolation is still often associated with negative emotions such as sadness, intolerance, irritability or anger, as well as behavioral disorders such as increased stereotyping, aggression or negativism. Certain behaviors can exacerbate the aforementioned isolation risks (table 1)

In consideration, that it is highly likely that people with neuropsychological disorders will have to be in constant contact with other people during a state of emergency it should be remembered that they need to spend some time alone with themselves and provide them with such an opportunity for privacy.

Table 1

Risks associated with isolation and countermeasures

Risks	Counteracting risks
<ul style="list-style-type: none"> - the inability to communicate with other people using the available technologies; - revision of the rhythm of life and household chores that could remain unchanged until isolation; - a lot of time spent at the computer, watching TV or video games; - refusal from short trips outside the house, which are still possible; - sleep longer than expected or at unusual times; - overeating or malnutrition. 	<ul style="list-style-type: none"> - try to maintain the usual physiological rhythms (do not go to bed too late, get up at the same time every morning, have breakfast, lunch and dinner at your usual time); - Expose yourself to sunlight (for example, go out into the garden, balcony or open a window), especially after waking up or in the early hours of the day; - continue to follow your rules of hygiene and personal care (washing, shaving, combing, dressing, etc.); - exercise at home; videos with step-by-step demonstrations of exercises and repeated instructions can help to do the exercises correctly; - keep in touch with rehabilitation specialists via phone or computer - Use social media sparingly, such as Facebook or Instagram, to keep in touch with communities; - organize professional activities, leisure and sports activities at home in the same mode in which they were carried out before the introduction of quarantine; - in cases where a person with autism cannot cope with the inability to leave the house, walking close to home, while avoiding approaching other people, or driving a car (for many people with autism, being in a moving car has a relaxing effect)

Some authors also note that people with preexisting neurological disorders worsened after they got Covid-19 (Louapre et al., 2020). In particular, deterioration in health is observed in patients with diseases of multiple sclerosis, Alzheimer's, Parkinson's disease and vascular dystonia. However, having had a coronavirus with a neuropsychological disorder, those people who have not previously had a problem with this may also face. Therefore, many doctors are suggesting that post-Covid-19 patients are likely to require neuropsychological assessment and rehabilitation. Rehabilitation is critical and this can pose a major challenge to existing rehabilitation structures, as the flow of patients has already increased significantly, especially in developed countries. For example, in many EU countries, patients with Covid-19 require community-based rehabilitation services. Most likely, services will be provided to those in critical condition (Phillips et al., 202).

Conclusion

In summary, COVID-19 can cause neurological manifestations, including headache, impaired smell and taste, agitation, delirium, stroke, and

meningoencephalitis. The presence of chronic neurological diseases increases the risk of hospitalization due to COVID-19, especially for the elderly. Stress, social isolation and domestic violence can affect healthy brain development in children and adolescents. Social isolation and reduced physical and mental activity increase the risk of cognitive decline and dementia in older adults. Many countries have faced the problem that organizations offering protection and psychosocial support to specific populations with neuropsychiatric diseases are unable to meet the increasing demand, while restrictions on movement and fear of infection are hampering service delivery. Likewise, psychological services for people with dementia have been severely affected and many are unable to provide adequate telecommuting care. People with neuropsychiatric disorders regularly face serious and systematic violations of their rights, are even more susceptible to these additional stressors and lack access to services. In order to meet current and future mental health needs and prevent future mental health deterioration, it is essential to maintain and strengthen mental health services and programs. Tackling the pandemic offers an opportunity to scale up and improve the cost-effectiveness of various mental health interventions.

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