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PSYCHOSOCIAL CONSEQUENCES OF THE COVID-19 PANDEMIC IN THE CONTEXT OF PSYCHIATRIC CARE

Iwona CZERSKA

Wroclaw University of Economics and Business, Wroclaw; iwona.czerska@ue.wroc.pl, ORCID: 0000-0002-9680-6695

Purpose: The study aimed to review the current literature on the psychosocial consequences of the COVID-19 pandemic in psychiatric care.

Design/methodology/approach: Based on the available literature, the author discussed and grouped the stressors related to the coronavirus pandemic. Next, the author drew attention to the harmful effects of pandemic stressors on psychosocial consequences. The author based his considerations on the latest world literature on the subject – only from the pandemic period, i.e., 2020-2022. For this purpose, the author studied mainly scientific articles and electronic sources. The author used the following professional scientific databases: Taylor & Francis online, PubMed, and Google Scholar to collect scientific literature.

Findings: The SARS-CoV-2 virus has changed the image of everyday functioning in society, which has had an impact on mental health. The coronavirus pandemic contributed to psychosocial disorders that significantly reduced the quality of life. There has been a significant increase in depression, drug-induced disorders, and post-traumatic stress disorders. In the literature analysis, the author also indicated a rise in loneliness among seniors, increased domestic violence, and an increased risk of suicidal behavior.

Social implications: The pandemic has shown investment in health means an investment in the economy, security, and the world's future. An efficient and safe health system is a raison d'etat, but it is also a colossal civilization challenge. The author noted the great importance of psychiatric care in alleviating stressors related to the COVID-19 pandemic. The author also pointed to the urgent need to subsidize psychiatry in Poland and increase human resources in this area.

Originality/value: The author addressed the article to scientists, health care researchers, and managers/directors managing medical entities to make them aware that the coronavirus pandemic has serious health consequences, primarily in the mental sphere, posing a challenge health care systems around the world. The article's value highlights the invaluable and underestimated role of psychiatry in dealing with individual, institutional and social difficulties related to COVID-19 and future emerging infectious diseases. According to the author, the post-pandemic situation in psychiatry should consider the stressors identified during the pandemic and its psychosocial consequences. In this way, doctors can accurately diagnose a patient and propose an effective treatment path, treating the patient comprehensively and holistically.

Keywords: SARS-CoV-2, COVID-19 pandemic, COVID-19-related stressors, psychosocial consequences of a pandemic, psychiatric care.

Category of the paper: General review.

1. Introduction

In December 2019, epidemiologists identified unknown origin pneumonia in Wuhan, Hubei Province, China. After careful examination, a new virus was isolated, named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Due to the global spread of the new virus, the World Health Organization declared a pandemic on March 12, 2020 (Ciotti et al., 2020). In Poland, the first case of COVID-19 infection occurred on March 4, 2020. Since then, the coronavirus has spread gradually in the country (Sozański et al., 2021).

The COVID-19 pandemic, one of the world's most devastating health events due to the rapid global spread of the coronavirus, has a wide-ranging impact on mental health, especially in people with pre-existing mental disorders (Campion et al., 2020). The pandemic has had many dire negative consequences on mental health. Among them, it is possible to indicate, among other things, an increase in the rates of suicidal ideation, increased mental suffering, depression, anxiety, and abuse of psychoactive substances (Kumar, Nayar, 2021; Sinyor et al., 2021). The World Health Organization (2020a, 2020b) indicates the psychological and psychosocial consequences of the pandemic: increased loneliness, insomnia, alcohol abuse, drug use, self-harm, and suicidal behavior. There is also an increase in domestic violence cases (Abramson, 2020; Chandra, 2020; Graham-Harrison et al., 2020). The coronavirus pandemic has caused enormous difficulties due to the disease itself and public fear, prolonged isolation, physical distance, disruptions in education, and school closings. In addition, there were economic problems and increased violence on the partner's part (Sinyor et al., 2021).

Lockdown was supposed to quarantine people suffering from COVID-19 and minimize contact with people infected with the coronavirus. Social distance has become the main rule – people had to stay at home and have as little social contact as possible outside the home. The exceptions to this rule were the necessary purchases and daily exercise. Many workers had to stay and work from home (Østertun Geirdal et al., 2021). Isolation, quarantine, and the subsequent economic crisis can significantly affect mental health. Most studies to date show an increase in loneliness during a pandemic. Of course, it is possible to maintain social relationships through technology-based solutions. Still, there is a risk of excluding older people who are the least inclined to use technology and the most vulnerable to loneliness. In addition, remote social contacts cannot fully compensate for the loss of physical contact (Dahlberg, 2021). The results of previous studies have shown that exposure to COVID-19 had a direct impact on stress and an indirect effect on anxiety and depression through the use of media (traditional and social) and interpersonal communication (First et al., 2021).

Psychiatric care should be crucial because of the above psychosocial consequences caused by the COVID-19 pandemic. According to Professor Janusz Heitzman, a psychiatrist, and vicepresident of the Polish Psychiatric Association, COVID-19 has exacerbated mental diseases. One can speak of a humanitarian crisis in psychiatric care (Lurka, 2020). Although it recommends conducting online visits to psychiatric care during an epidemic crisis (Krzystanek et al., 2020), however, in the long run, this does not solve the long-term effects of the pandemic.

Stress resulting from social limitations, trauma related to developing COVID-19, and the increasing number of reports on the neurotrophic effect of SARS-CoV-2 increase the risk of depression, anxiety, and other mental disorders. Thus, during a pandemic, the demand for the availability of psychiatric care increases (Sokół-Szawłowska, 2021).

The current epidemic situation in the world poses enormous challenges for decision-makers, both in the global health care system and the economy (Zalsman et al., 2020).

The article aims to present the issues available in the literature on the psychosocial consequences of the COVID-19 pandemic. The author raised the importance of psychiatric care in alleviating stressors related to the coronavirus pandemic. The author studied scientific articles and electronic sources from 2020 to 2022.

2. Methodology

The author based the study on the literature analysis concerning the mental health and psychosocial consequences of the COVID-19 pandemic regarding psychiatric care in Poland and the world. The bibliography includes 50 works: scientific articles, a monograph chapter and a report (42), and electronic sources (8) from the current pandemic, i.e., 2020-2022. During desk research analysis, the author has used the following professional scientific databases (brackets show the number of cited publications in a given database): Taylor & Francis online (12), PubMed (17), and Google Scholar (13). The author used these scientific databases due to the possibility of accessing them through entry from the Wroclaw University of Economics and Business position. Second, these databases made it possible to collect the literature for this article.

3. COVID-19-related stressors

The coronavirus pandemic has profoundly impacted all aspects of the functioning of societies around the world, including mental health. The COVID-19 pandemic and its consequences show three distinctive features of traumatic events: unpredictability, uncontrollable, and a threat of death or severe injury (Denckla et al., 2020). The stressors associated with COVID-19 can be related to the disease: physical risk of getting sick, loss of a loved one, and risk of infecting others. Second, there are work-related stressors among health professionals. Finally, stressors may arise from measures taken to limit virus transmission: home/job loss, social isolation, and domestic violence (Olff et al., 2021). Table 1 presents stressors related to the coronavirus pandemic broken down into different groups: the COVID-19 disease itself, the transmission of the virus, the various constraints caused by the pandemic, the performed work, and information on COVID-19 from the media.

Tab	le 1.

Pandemic-related stressors

Pandemic-related stressors		
group of stressors	stressors	
COVID-19 disease itself	Severe illness Physical risk of getting sick Risk of infecting others Fear of hospitalization Fear of a positive test result Uncertainty about disease progression Fear of the unpredictable course of the disease Fear of death as a result of illness Witnessing death Loss of a loved one Intrusive thoughts	
The transmission of the virus	Fear of infecting family members Parental psychological distress Frequency of exposure to individuals infected with the virus Fear of contact with potentially contaminated objects or surfaces Stigmatizing, discriminating against being a person suffering from coronavirus and suffering from mental disorders at the same time Extreme exposure to COVID-19 details Fear of being vaccinated against COVID-19 Patients' decision problems in the context of conspiracy theories undermining the validity of vaccinations Giving up or trying to defer taking the COVID-19 vaccine Inadequate PPE (personal protective equipment) Ineffective preventive behavior Insecurity Food insecurity	

Cont. table 1.

The various constraints caused by the pandemic	Social isolation Diminished personal freedoms Physical distancing Home confinement Increase in hygiene and isolation behavior Quarantine Loss of sense of control Disorganization of previous activities/no clearly defined day structure Inability to achieve the current goals Less interest in online therapy among children with mental disorders and children with intellectual disabilities Loneliness Increasing the need for contact with other people Feeling bored Family conflicts Domestic violence Partner's intimate violence The need for remote learning Blurring the boundaries between education and family life Psychophysical overload with daily duties The presence of other household members makes it difficult or impossible to carry out educational tasks Feeling of mental "suffocation" in the face of the inability to isolate yourself from the rest of the people Lack of access to testing for COVID-19 patients Economic hardships Home loss Worrying "in advance" - stores may run out of food Shortages of available resources (foods, paper products, personal protective equipment) Inability to plan economic and personal decisions
The performed work	Partial closure and inactivity of welfare organizations Increased workloads Organizational difficulties in health care Overload of the healthcare system Making difficult medical decisions Difficulties in treating and helping people with COVID-19 Work in uncomfortable coveralls and personal protective equipment Being a caregiver The daily interaction of medical professionals with the death and suffering of patients Exposure to moral anxiety among health professionals who engage in activities and make choices that are inconsistent with their morals, ethics, or values Burnout of professional groups directly involved in the fight against the pandemic The need to work remotely Working from home with kids The presence of other household members makes it difficult or impossible to carry out professional tasks Smooth boundaries between work and family life Restriction/suspension of professional activity A sense of economic threat A sense of existential threat Fear of bankruptcy Job loss Loss of benefits and health insurance Loss of meaning/purpose provided by sustained employment Increased risk of stigmatization, prejudice, and discrimination against people who lost their jobs and received government aid as a result of the pandemic

Cont. table 1.

Information on COVID-19 from the media	Inconsistency in communications and directives on public health measures Regular media reports of the pandemic and the uncertainty surrounding its outcome Compulsive checking in the media and confirming the possible dangers of a pandemic Media messages reinforcing the negative aspects related to the pandemic situation Emphasizing statistics on morbidity and mortality from COVID-19 Inconsistent and irrational ministerial statements regarding: a. compliance/non-compliance with recommendations related to social distancing b. limiting activities of industries that had little impact on the increase in infections c. restrictions for institutions/sectors that are the source of high virus transmission Unpredictability regarding the degree and duration of the restrictions imposed in some countries Potentially fake news/reports/misinformation about the COVID-19 pandemic Doubts about the efficiency of the health care system
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Source: own study based on: Boden et al., 2021; Buecker, Horstmann, 2021; Dąbkowska, 2021; Devoto et al., 2022; Dymecka, 2021; Gilleen et al., 2021; Gryksa, Neumann, 2022; Heitzman, 2020; Jamaluddin et al., 2022; Księska-Koszałka, 2021; Lotzin, 2021; Low, Mounts, 2022; Ma et al., 2020; Michalska, 2020; Olff et al., 2021; Shalev, Shapiro, 2020; Tucker, Czapla, 2021; Veer et al., 2021; Vintila et al., 2022; Xiong et al., 2020.

The study results by Kira et al. (2021) and Wirkner et al. (2022) indicate that COVID-19 is a new type of traumatic stress with severe mental health implications. This stress is not necessarily related to the actual COVID-19 infection. Still, it is more related to the perceived/real threat of an uncontrolled virus and the direct and indirect economic and social consequences of actions taken by various actors to deal with them. World epidemiological data show that about 30% of people experience mental disorders during the coronavirus pandemic, and over 50% of respondents complain of psychological distress. These results indicate a necessity to take preventive and remedial actions in their implementation (Księska-Koszałka, 2021).

4. Psychosocial consequences of the COVID-19 pandemic

The psychosocial effects of the COVID-19 pandemic are both individual symptoms and their syndromes. The literature can mention the following psychosocial symptoms or disorders resulting from the harmful effects of the pandemic stressors listed in Table 1. These negative consequences are present in Table 2.

Table 2.

Psychosocial consequences of the COVID-19 pandemic

Psychosocial effects/disorders
Prolonged anxiety reaction
Anxiety disorders
Anger
Distress
Irritability
Impulsiveness
Sadness
Inability to express joy/satisfaction
Failure to express positive feelings
States of nervous tension
Inability to break away from the constant experience of trauma
Post-traumatic stress disorder
Disorganizing disorder of mood regulation (severe and recurrent outbursts of verbal and behavioral anger, and
in between chronically irritable moods that last most of the day almost daily)
Depressed mood states
Complicated grief due to the suddenness and unexpectedness of the death
Complicated grief due to difficulties communicating before death
Complicated grief due to limitations to social support and mourning rituals
Somatization
Frustration
Increasing mental fatigue
An increase in the number of suicides
Depressive disorders
Intensification of domestic violence / interpersonal conflicts in families
Sleep disturbance
Nightmares
No feeling of rest after sleep
Prolonged persistence of fear
Psychotic disorders
Higher risk of self-destructive behavior and suicide
Loss of interest and the ability to experience pleasure as revealed by subjective complaints
Burnout
Family financial crisis
Parental burnout is a sense of exhaustion, inadequacy, and emotional distance as a parent
Engaging in transactional sexual behavior
Risk of unplanned, early pregnancy / spontaneous parenthood
Psychomotor slowing down
Slowness or agitation
The feeling of lack of energy
The sense of lack of self-worth
The dominant build-up of the surface of unreality
Uncertainty about your own identity
A feeling of bewilderment
Significant changes in appetite and body weight - over 5% per month
Reduction of intellectual abilities
Marginalization of selected groups of children
Forced begging
Widening the social gap in the context of the lack or limited access to remote learning equipment, making it
even more difficult for children from low socioeconomic status families to have equal access to education
Dropping out of education
Taking risky behavior by children and adolescents
Loss of tenderness and parental care
The use of children for a variety of household work
Easier to hide physical, psychological, and sexual violence against children in the family
Less supervision of children online by parents/guardians
Increased exposure of children to experience online violence

Symptoms of impai related to excessive) A feeling of slowing Difficulty remembe Insomnia or excess Trouble with memory Chronic fatigue Increased loneliness Feeling of helplessness Panic states Avoiding people and places that bring to mind the past trauma Recurring thoughts of death beyond the fear of death Recurrent suicidal thoughts without a specific plan States of despair Feeling of hopelessness Self-blame and lowered self-esteem Excessive vigilance A persistent sense of harm and suffering Motor restlessness Limiting attention to one problem - epidemics Unprovoked irritability and outbursts of anger (verbal aggression and aggressive behavior towards other people or objects) Aggressive reaction to neutral stimuli Increased reactivity to external stimuli Inappropriate and unintentional activity Symptoms of avoidance as an attempt to release the traumatic burden - escape from recurring feelings, thoughts, and memories about the pandemic and its consequences, as well as people and situations evoking distressing thoughts, feelings, and memories Serious and embarrassing difficulty in coming to terms with the loss of the existing lifestyle, values, and goods Recurring reflection on epidemic threats in the form of intrusive personal and electronic memories Recurring harassing dreams with epidemic-related content Repeated dissociative reactions related to the feeling of unreality of the threat that completely changed the current status of a given person, the rhythm of his daily functioning, and plans for the future Intrusive tracking of media information about the epidemic Obsessive (often inappropriate and ineffective) use of treatments Thorough hand washing Avoiding the crowds Delayed return to normal An increase in help-seeking behavior

Source: own study based on: Boden et al., 2021; Dąbkowska, 2021; de Sousa Moreira et al., 2020; Devoto et al., 2022; Dymecka, 2021; Heitzman, 2020; Jamaluddin et al., 2022; Koole, Rothermund, 2022; Ksieska-Koszałka, 2021; Kunzler et al., 2021; Michalska, 2020; Serafini et al., 2020; Veer et al., 2021.

The psychosocial consequences of a pandemic listed in Table 2 vary in importance, especially in psychiatric care. First, the above reactions/behaviors were related to a massive quarantine imposed to mitigate the spread of COVID-19. Second, such reactions are generalized fear and pervasive community anxiety usually associated with outbreaks and increase as new cases escalate and inadequate, fear-inducing information provided by the media (Serafini et al., 2020).

The author didn't group behaviors/disorders/effects that are the aftermath of the ongoing coronavirus pandemic - as was the case with pandemic stressors. First, it wasn't easy to distinguish and name particular groups unequivocally. Second, some factors would probably fit different groups at once, and it would be difficult for them to select the correct ones from the proposed groups. Finally, the author noted some of these effects are duplicated with the stressors in Table 1 - hence the additional difficulty in classifying them.

5. Psychiatric care in Poland and the world – current state

The picture of psychiatric care in Poland is as follows: many needs, little money, and staff shortages. Spending on psychiatry is only 3.04% of the National Health Fund on healthcare services, which is significantly low compared to Western countries, which amounts to 6-8%. The COVID-19 pandemic greatly affected the mental health of Poles, which manifests in an increase in the incidence of mental illness and exacerbation of the disease among people already suffering from illness. All this influences the scale of needs in psychiatric care in an unimaginable way (Kaczmarczyk, 2020).

The COVID-19 outbreak has exposed potential gaps in psychiatric care. Due to the vast and significant impact of the coronavirus pandemic on the mental health of the population, the task of psychiatrists during an epidemic is, firstly, to adapt and supplement the form of information transmission to the potential perception of recipients. As part of developing this message, specialists in social communication, social psychology, economics, pedagogy, and others are also necessary. Their position guarantees a reliable and knowledge-based transmission in managing the strategy of dealing with the effects of an epidemic (Heitzman, 2020).

Global research indicates a higher incidence of adverse psychiatric outcomes symptoms than in the pre-coronavirus pandemic. Signs of these adverse psychiatric outcomes could be seen more frequently at the outset of the epidemic when people were at risk of forced quarantine, unexpected unemployment, and the uncertainty surrounding the spread of the virus. The duration of psychosocial symptoms is a significant factor in assessing the psychosocial effects of the coronavirus outbreak. Hence, further post-pandemic research appears necessary to determine the long-term psychosocial consequences of the COVID-19 pandemic (Xiong et al., 2020).

Overall, the psychosocial consequences of SARS-CoV-2 virus infection cause an unprecedented increase in the incidence of mental disorders, particularly anxiety disorders, which may accelerate the development of several other comorbid mental illnesses such as mood disorders (depression, bipolar disorder), schizophrenia, substance abuse (Jansen van Vuren et al., 2021). According to psychiatrists, there will be lasting changes in the practice of psychiatry in terms of how it can implement and what they learn from treating disorders in this difficult pandemic time (Freeman, 2020). It points to the lack of adequate training in internal medicine among psychiatrists in some countries to effectively treat patients with mental disorders and coexisting SARS-CoV-2 infection (Szcześniak, 2021). In addition, the current treatment options and the psychosocial stress associated with the COVID-19 pandemic can lead to a wave of neuropsychiatric sequelae. Hence it is crucial to pay more attention to the possible neuropsychiatric consequences of SARS-CoV-2 viral infection, which may be helpful in early identification and better treatment (Dinakaran, 2020). Therefore, psychiatric care worldwide, especially in Poland, requires additional investment so that psychiatry has the financial and human resources in the long-term fight against the effects of the COVID-19 pandemic.

6. Conclusions

In this paper, the author drew attention to the consequences of the COVID-19 pandemic in mental disorders of a population nature. They can cause significant economic losses. The mental health effects of COVID-19 are enormous. First, there was a substantial increase in depression, drug disorders, and post-traumatic stress disorders; second, the rise in loneliness among seniors, increasing domestic violence, and the risk of suicidal behavior. The coronavirus pandemic contributed to psychosocial conditions that significantly reduced the quality of life. The SARS-CoV-2 virus has changed the image of everyday functioning in the family, school, and work, which impacts mental health.

The COVID-19 pandemic has changed people's lives worldwide. It has affected individuals and society, including citizens' physical and mental health. The result of the pandemic situation is a broad spectrum of symptoms and problems of a psychosocial nature. Actions aimed at counteracting the pandemic changed everyday functioning and created a complex system of stressors negatively affecting the population's mental health in the context of potential coronavirus infections.

The coronavirus pandemic poses a severe challenge to healthcare systems around the world. Psychiatry can play an essential role in dealing with the individual, institutional and social difficulties of COVID-19 and future emerging infectious diseases. The post-pandemic situation in psychiatry should take into account the stressors identified during the pandemic, as well as its psychosocial consequences. Only in this way medical professionals, including psychiatrists, can accurately diagnose the patient and propose an effective treatment path by treating the patient comprehensively. At the same time, one cannot forget about the increase in funding and medical staff, which are still areas that still require improvement from a global perspective.

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References

- Abramson, A. (2020). *How COVID-19 may increase domestic violence and child abuse*. Retrieved from https://www.apa.org/topics/covid-19/domestic-violence-child-abuse, 06.01.2022.
- Boden, M., Zimmerman, L., Azevedo, K.J., Ruzek, J.I., Gala, S., Abdel Magid, H.S., Cohen, N., Walser, R., Mahtani, N.D., Hoggatt, K.J., McLean, C.P. (2021). Addressing the mental health impact of COVID-19 through population health. *Clinical Psychology Review*, *Vol. 85, No. 102006*, doi: 10.1016/j.cpr.2021.102006.
- Buecker, S., Horstmann, K.T. (2021). Loneliness and social isolation during the COVID-19 pandemic. *European Psychologist, Vol. 26*, pp. 272-284, doi: 10.1027/1016-9040/a000453.
- 4. Campion, J., Javed, A., Sartorius, N., Marmot, M. (2020). Addressing the public mental health challenge of COVID-19. *The Lancet. Psychiatry, Vol. 7, No. 8,* pp. 657-659, doi: 10.1016/S2215-0366(20)30240-6.
- Chandra, J. (2020). Covid-19 lockdown | Rise in domestic violence, police apathy: NCW. Retrieved from https://www.thehindu.com/news/national/covid-19-lockdown-spike-indomestic-violence-says-ncw/article31238659.ece, 06.01.2022.
- Ciotti, M., Ciccozzi, M., Terrinoni, A., Jiang, W-C., Wang, C-B., Bernardini, S. (2020). The COVID-19 pandemic. *Critical Reviews in Clinical Laboratory Sciences, Vol.* 57, *No.* 6, pp. 365-388, doi: 10.1080/10408363.2020.1783198.
- Dahlberg, L. (2021). Loneliness during the COVID-19 pandemic. *Aging & Mental Health, Vol. 25, No. 7*, pp. 1161-1164, doi: 10.1080/13607863.2021.1875195.
- Dąbkowska, M. (2021). Psychosocial consequences of the coronavirus pandemic (COVID-19) among children and adolescents – a review of selected studies. *Disability*. *Discourses of special education, Vol. 39*, pp. 150-160.
- 9. Denckla, C.A., Gelaye, B., Orlinsky, L., Koenen, K.C. (2020). REACH for mental health in the COVID19 pandemic: an urgent call for public health action. *European Journal of Psychotraumatology, Vol. 11, No. 1*, doi: 10.1080/20008198.2020.1762995.

- De Sousa Moreira, J.L., Barbosa, S.M.B., Vieira, J.G., Chaves, N.C.B., Felix, E.B.G., Feitosa, P.W.G., da Cruz, I.S., da Silva, C.G.L., Neto, M.L.R. (2020). The psychiatric and neuropsychiatric repercussions associated with severe infections of COVID-19 and other coronaviruses. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, *Vol. 106, No. 110159*, doi: 10.1016/j.pnpbp.2020.110159.
- 11. Devoto, A., Himelein-Wachowiak, M., Liu, T., Curtis, B. (2022). Women's substance use and mental health during the COVID-19 pandemic. *Women's Health Issues*, doi: 10.1016/j.whi.2022.01.004.
- Dinakaran, D., Manjunatha, N., Kumar, C.N., Suresh, B.M. (2020). Neuropsychiatric aspects of COVID-19 pandemic: A selective review. *Asian Journal of Psychiatry, Vol. 53, No. 102188*, doi: 10.1016/j.ajp.2020.102188.
- Duszyński, J., Afelt, A., Ochab-Marcinek, A., Owczuk, R., Pyrć, K., Rosińska, M., Rychard, A., Smiatacz, T. (2020). *Understanding COVID-19*. Development of the COVID-19 team at the President of the Polish Academy of Sciences. Warsaw: The Polish Academy of Sciences.
- 14. Dymecka, J. (2021). Psychosocial effects of the COVID-19 pandemic. *Neuropsychiatry and Neuropsychology, Vol. 16, No. 1-2*, pp. 1-10, doi: 10.5114/nan.2021.108030.
- First, J.M., Shin, H., Ranjit, Y.S., Houston, J.B. (2021). COVID-19 stress and depression: Examining social media, traditional media, and interpersonal communication. *Journal of Loss and Trauma, Vol. 26, No. 2*, pp. 101-115, doi: 10.1080/15325024.2020.1835386.
- Freeman, M.P. (2020). COVID-19 from a psychiatry perspective: Meeting the challenges. *The Journal of Clinical Psychiatry, Vol. 81, No. 2,* 20ed13358, doi: 10.4088/ JCP.20ed13358.
- Gilleen, J., Santaolalla, A., Valdearenas, L., Salice, C., Fusté, M. (2021). Impact of the COVID-19 pandemic on the mental health and well-being of UK healthcare workers. *BJPsych Open, Vol. 7, No. 3,* e88, doi: 10.1192/bjo.2021.42.
- Graham-Harrison, E., Giuffrida, A., Smith, H., Ford, L. (2020). Lockdowns around the world bring rise in domestic violence. Retrieved from https://www.theguardian.com/ society/2020/mar/28/lockdowns-world-rise-domestic-violence, 06.01.2022.
- Gryksa, K., Neumann, I.D. (2022). Consequences of pandemic-associated social restrictions: Role of social support and the oxytocin system. *Psychoneuroendocrinology*, *Vol. 135, No. 105601*, doi: 10.1016/j.psyneuen.2021.105601.
- 20. Heitzman, J. (2020). Impact of COVID-19 pandemic on mental health. *Psychiatria Polska, Vol. 54, No. 2*, pp. 187-198, doi: 10.12740/PP/120373.
- Jamaluddin, F., Dawood, S.R.S., Ramli, M.W., Som, S.H.M. (2022). Bouncing back from the pandemic? A psychosocial analysis of older adults in urban areas of Malaysia. *Cogent Arts & Humanities, Vol. 9, No. 1,* 1996045, doi: 10.1080/23311983.2021.1996045.

- Jansen van Vuren, E., Steyn, S.F., Brink, C.B., Möller, M., Viljoen, F.P., Harvey, B.H. (2021). The neuropsychiatric manifestations of COVID-19: Interactions with psychiatric illness and pharmacological treatment. *Biomedicine & Pharmacotherapy, Vol. 135, No. 111200*, doi: 10.1016/j.biopha.2020.111200.
- 23. Kaczmarczyk, E. (2020). *The analysis of the state of psychiatric care in Poland shows how bad it is. How might this change after a pandemic?* Retrieved from https://www.hellozdrowie.pl/analiza-stanu-opieki-psychiatrycznej-w-polsce-pokazuje-jak-bardzo-jest-zle-jak-moze-to-sie-zmienic-po-pandemii/, 07.01.2022.
- 24. Kira, I.A., Shuwiekh, H.A.M., Ashby, J.S., Elwakeel, S.A., Alhuwailah, A., Sous, M.S.M.F., Baali, S.B.A., Azdaou, C., Oliemat, E.M., Jamil, H.J. (2021). The impact of COVID-19 traumatic stressors on mental health: Is COVID-19 a new trauma type. *International Journal of Mental Health and Addiction*, pp. 1-20, doi: 10.1007/s11469-021-00577-0.
- 25. Koole, S.L., Rothermund, K. (2022). Coping with COVID-19: Insights from cognition and emotion research. *Cognition and Emotion, Vol. 36, No. 1*, pp. 1-8, doi: 10.1080/02699931.2022.2027702.
- Krzystanek, M., Matuszczyk, M., Krupka-Matuszczyk, I., Koźmin-Burzyńska, A., Segiet, S., Przybyło, J. (2020). Tele-visit (e-visit) during the epidemic crisis – recommendations for conducting online visits in psychiatric care. *Psychiatria, Vol. 17, No. 2*, pp. 61-65, doi: 10.5603/PSYCH.2020.0011.
- 27. Księska-Koszałka, J. (2021). Psychological consequences of pandemic COVID-19. In: W. Nowak, K. Szalonka (Eds.), *Health and lifestyle. Economic, social, and health effects of the pandemic* (pp. 47-57). Wrocław: E-Wydawnictwo. Prawnicza i Ekonomiczna Biblioteka Cyfrowa. Wydział Prawa, Administracji i Ekonomii Uniwersytetu Wrocławskiego.
- 28. Kumar, A., Nayar, K.R. (2021). COVID 19 and its mental health consequences. *Journal of Mental Health, Vol. 30, No. 1*, pp. 1-2, doi: 10.1080/09638237.2020.1757052.
- 29. Kunzler, A.M., Röthke, N., Günthner, L., Stoffers-Winterling, J., Tüscher, O., Coenen, M., Rehfuess, E., Schwarzer, G., Binder, H., Schmucker, C., Meerpohl, J.J., Lieb, K. (2021). Mental burden and its risk and protective factors during the early phase of the SARS-CoV-2 pandemic: systematic review and meta-analyses. *Globalization and Health, Vol. 17, No. 34*, doi: 10.1186/s12992-021-00670-y.
- Lotzin, A., Krause, L., Acquarini, E., Ajdukovic, D., Ardino, V., Arnberg, F., Böttche, M., Bragesjö, M., Dragan, M., Figueiredo-Braga, M., Gelezelyte, O., Grajewski, P., Anastassiou-Hadjicharalambous, X., Javakhishvili, J.D., Kazlauskas, E., Lenferink, L., Lioupi, C., Lueger-Schuster, B., Tsiskarishvili, L., Mooren, T., Sales, L., Stevanovic, A., Zrnic, I., Schäfer, I., ADJUST Study Consortium. (2021). Risk and protective factors, stressors, and symptoms of adjustment disorder during the COVID-19 pandemic –

First results of the ESTSS COVID-19 pan-European ADJUST study. *European Journal of Psychotraumatology, Vol. 12, No. 1*, doi: 10.1080/20008198.2021.1964197.

- 31. Low, N., Mounts, N.S. (2022). Economic stress, parenting, and adolescents' adjustment during the COVID-19 pandemic. *Family Relations, Vol. 71, No. 1*, pp. 90-107, doi: 10.1111/fare.12623.
- 32. Lurka, K. (2020). *COVID-19 has exacerbated mental illness and lost heart patients*. Retrieved from https://www.termedia.pl/koronawirus/COVID-19-wyostrzyl-choroby-psychiczne-i-zagubil-pacjentow-kardiologicznych,40599.html, 06.01.2022.
- 33. Ma, F., Hashmi, A., Liu, C.Y. (2020). COVID-19-related stressors and the role of cognitive assessment. *Neurological Sciences and Neurosurgery, Vol. 2, No. 1: 115*, doi: 10.47275/2692-093X-115.
- 34. Michalska, M. (2020). Psychological effects of functioning in the realities of the COVID-19 pandemic. Retrieved from http://ppp1.edu.gdynia.pl/wp-content/uploads/2020/04/ skutki-psychologiczne-funkcjonowania-w-realiach-pandemii-COVID19.pdf?fbclid= IwAR10imLVt7e8VUIVEJQbbVb2DoTpjE3ft4oIIJ5ksaApZQpV-YuxgCrmxS4, 11.02.2022.
- 35. Olff, M., Primasari, I., Qing, Y., Coimbra, B.M., Hovnanyan, A., Grace, E., Williamson, R.E., Hoeboer, C.M., the GPS-CCC Consortium (2021). Mental health responses to COVID-19 around the world. *European Journal of Psychotraumatology, Vol. 12, No. 1*, doi: 10.1080/20008198.2021.1929754.
- 36. Østertun, G.A., Ruffolo, M., Leung, J., Thygesen, H., Price, D., Bonsaksen, T., Schoultz, M. (2021). Mental health, quality of life, well-being, loneliness, and use of social media in a time of social distancing during the COVID-19 outbreak. A cross-country comparative study. *Journal of Mental Health, Vol. 30, No. 2*, pp. 148-155, doi: 10.1080/09638237.2021.1875413.
- 37. Serafini, G., Parmigiani, B., Amerio, A., Aguglia, A., Sher, L., Amore, M. (2020). The psychological impact of COVID-19 on the mental health in the general population. *QJM, Vol. 113, No. 8*, pp. 531-537, doi: 10.1093/qjmed/hcaa201.
- Shalev, D., Shapiro, P.A. (2020). Epidemic psychiatry: The opportunities and challenges of COVID-19. *General Hospital Psychiatry, Vol.* 64, pp. 68-71, doi: 10.1016/ j.genhosppsych.2020.03.009.
- 39. Sinyor, M., Knipe, D., Borges, G., Ueda, M., Pirkis, J., Phillips, M.R., Gunnell, D., the International COVID-19 Suicide Prevention Research Collaboration (2021). Suicide risk and prevention during the COVID-19 pandemic: One year on. *Archives of Suicide Research*. doi: 10.1080/13811118.2021.1955784.
- 40. Sokół-Szawłowska, M. (2021). Advances in telepsychiatry related to the COVID-19 pandemic state. *Psychiatria, Vol. 18, No. 3*, pp. 206-211, doi: 10.5603/PSYCH.a2021.0018.

- Sozański, B., Ćwirlej-Sozańska, A., Wiśniowska-Szurlej, A., Jurek, K., Górniak, P., Górski, K., Englert-Bator, A., Perenc, L. (2021). Psychological responses and associated factors during the initial stage of the coronavirus disease (COVID-19) epidemic among the adult population in Poland A cross-sectional study. *BMC Public Health, Vol. 21, No. 1929*, doi: 10.1186/s12889-021-11962-8.
- 42. Szcześniak, D., Gładka, A., Misiak, B., Cyran, A., Rymaszewska, J. (2021). The SARS-CoV-2 and mental health: From biological mechanisms to social consequences. *Progress in Neuro-Psychopharmacology and Biological Psychiatry, Vol. 104, No. 110046*, doi: 10.1016/j.pnpbp.2020.110046.
- 43. Tucker, P., Czapla, C.S. (2021). Post-COVID stress disorder: another emerging consequence of the global pandemic. *Psychiatric Times, Vol. 38, No. 1*, pp. 9-11.
- Veer, I.M., Riepenhausen, A., Zerban, M., Wackerhagen, C., Puhlmann, L.M.C., Engen, H., Köber, G., Bögemann, S.A., Weermeijer, J., Uściłko, A., Mor, N., Marciniak, M.A., Askelund, A.D., Al-Kamel, A., Ayash, S., Barsuola, G., Bartkute-Norkuniene, V., Battaglia, S., Bobko, Y., Bölte, S., Cardone, P., Chvojková, E., Damnjanović, K., De Calheiros Velozo, J., de Thurah, L., Deza-Araujo, Y.I., Dimitrov, A., Farkas, K., Feller, C., Gazea, M., Gilan, D., Gnjidić, V., Hajduk, M., Hiekkaranta, A.P., Hofgaard, L.S., Ilen, L., Kasanova, Z., Khanpour, M., Lau, B.H.P., Lenferink, D.B., Lindhardt, T.B., Magas, D.A., Mituniewicz, J., Moreno-López, L., Muzychka, S., Ntafouli, M., O'Leary, A., Paparella, I., Põldver, N., Rintala, A., Robak, N., Rosická, A.M., Røysamb, E., Sadeghi, S., Schneider, M., Siugzdaite, R., Stantić, M., Teixeira, A., Todorovic, A., Wan, W.W.N., van Dick, R., Lieb, K., Kleim, B., Hermans, E.J., Kobylińska, D., Hendler, T., Binder, H., Myin-Germeys, I., van Leeuwen, J.M.C., Tüscher, O., Yuen, K.S.L., Walter, H., Kalisch, R. (2021). Psychosocial factors associated with mental resilience in the Corona lockdown. *Translational Psychiatry, Vol. 11, No. 1: 67*, doi: 10.1038/s41398-020-01150-4.
- 45. Vintila, M., Tudorel, O.I., Stefanut, A., Ivanoff, A., Bucur, V. (2022). Emotional distress and coping strategies in COVID-19 anxiety. *Current Psychology*, doi: 10.1007/s12144-021-02690-8.
- 46. Wirkner, J., Christiansen, H., Knaevelsrud, C., Lüken, U., Wurm, S., Schneider, S., Brakemeier, E.-L. (2022). Mental health in times of the COVID-19 pandemic. *European Psychologist, Vol. 26, No. 4*, pp. 310-322, doi: 0.1027/1016-9040/a000465.
- 47. World Health Organization (2020a). *Mental health and COVID-19*. Retrieved from http://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/novel-coronavirus-2019-ncov-technical-guidance/coronavirus-disease-covid-19-outbreak-technical-guidance-europe/mental-health-and-covid-19, 06.01.2022.
- 48. World Health Organization (2020b). *Mental health and psychosocial considerations during the COVID-19 outbreak*. Retrieved from https://www.who.int/docs/default-source/ coronaviruse/mental-health-considerations.pdf, 06.01.2022.

- 49. Xiong, J., Lipsitz, O., Nasri, F., Lui, L.M.W., Gill, H., Phan, L., Chen-Li, D., Iacobucci, M., Ho, R., Majeed, A., McIntyre, R.S. (2020). Impact of COVID-19 pandemic on mental health in the general population: A systematic review. *Journal of Affective Disorders, Vol. 277, No. 1*, pp. 55-64, doi: 10.1016/j.jad.2020.08.001.
- 50. Zalsman, G., Stanley, B., Szanto, K., Clarke, D.E., Carli, V., Mehlum, L. (2020). Suicide in the time of COVID-19: Review and recommendations. *Archives of Suicide Research, Vol. 24, No. 4*, pp. 477-482, doi: 10.1080/13811118.2020.1830242.