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The impact of the COVID-19 pandemic on the development of anxiety disorders - a literature review

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Abstract

Introduction: The COVID-19 is a disease caused by the SARS-CoV-2 virus. A number of psychological symptoms have been identified in people living during the COVID-19 pandemic. Most of them are associated with widely understood anxiety disorders, which have always been a significant problem for mental health.

Materials and methods: The available literature was reviewed on the Pubmed platform and from other sources. The analysis included original studies, reviews, meta-analyzes and internet sources. The aim of the study was to review the literature on the relationship between the COVID-19 pandemic and the occurrence and severity of symptoms of anxiety disorders.

Results: The studies conducted so far show that the COVID-19 pandemic has had a significant impact on the mental state of people around the world, especially in the area of anxiety disorders. Many studies indicate an increase in the prevalence of symptoms of generalized anxiety disorder. Research also indicates a greater incidence of post-traumatic stress disorder and panic disorder in society. Symptoms of somatization were also quite often observed in patients. However, the state of published studies indicates that the pandemic did not significantly affect the severity of symptoms associated with social phobia. In the context of phobic disorders, a new type has been formulated: COVID-19-related phobia.

Conclusions: The conducted literature review shows that the current COVID-19 pandemic is associated with an increase in the prevalence of symptoms of anxiety disorders in the general population. The multifaceted nature of the issue of anxiety disorders in the COVID-19 pandemic clearly indicates the need to continue research in this area.

Keywords: pandemic, COVID-19, anxiety disorders, phobia, anxiety

Streszczenie

Wstęp: COVID-19 to choroba wywołana wirusem SARS-CoV-2. Zidentyfikowano szereg objawów psychologicznych występujących u ludzi żyjących w czasach pandemii COVID-19. Większość z nich wiąże się z szeroko rozumianymi zaburzeniami lękowymi, które od zawsze stanowiły istotny problem dla zdrowia psychicznego.

Materiał i metoda: Dokonano przeglądu dostępnego piśmiennictwa na platformie Pubmed oraz z innych źródeł. Analiza obejmowała badania oryginalne, prace przeglądowe, metaanalizy oraz źródła internetowe. Celem pracy było dokonanie przeglądu literatury na temat związków pandemii COVID-19 z występowaniem i nasileniem objawów zaburzeń lękowych.

Dyskusja: Z przeprowadzonych dotychczas badań wynika, że pandemia COVID-19 istotnie wpłynęła na stan psychiczny ludzi na całym świecie, zwłaszcza w obszarze zaburzeń lękowych. Wiele badań wskazuje na wzrost rozpowszechnienia objawów

zaburzenia lęku uogólnionego. Badania również wskazują na większą zapadalność społeczeństwa na zespół stresu pourazowego oraz zaburzenia lęku napadowego. Nie rzadko też u pacjentów obserwowano symptomy somatyzacji. Stan opublikowanych badań wskazuje jednak, że pandemia nie wpłynęła w wysokim stopniu na nasilenie objawów związanych z fobią społeczną. W kontekście zaburzeń fobicznych sformułowano nowy ich typ: fobię związaną z COVID-19.

Wnioski: Przeprowadzony przegląd literatury ukazuje, że aktualna pandemia COVID-19 ma związek z wystąpieniem w ogólnej populacji zwiększenia rozpowszechnienia objawów zaburzeń lękowych. Wieloaspektowość problematyki zaburzeń lękowych w pandemii COVID-19 wyraźnie wskazuje na konieczność kontynuowania badań w tym zakresie.

Słowa kluczowe: pandemia, COVID-19, zaburzenia lękowe, fobia, lęk

Introduction

The COVID-19 is a disease caused by the SARS-CoV-2 virus that can lead to severe acute respiratory distress syndrome, including death. This can cause fear in people, fear for their own and others' lives, similar to previous epidemics, e.g. SARS virus in 2003 or Ebola virus in 2014, In 2020, the National Health Commission of China issued an order to introduce psychological crisis interventions to reduce the psychosocial effects of a pandemic [1].

A number of symptoms have been identified in people experiencing the COVID-19 pandemic: symptoms of anxiety, depression, insomnia, compulsive behavior, avoidance.

According to the conducted research, the occurrence of drug symptoms in the respondents in a pandemic was influenced not only by the fear of the disease itself, but also by the introduced quarantines, curfews, penalties, distrust of officials and politicians, conspiracy theories, media full of "pandemic" content [2] .

The aim of the study was to review the literature on the relationship between the COVID-19 pandemic and the occurrence and severity of symptoms of anxiety disorders.

Classification of anxiety disorders and disorders causing anxiety reactions

According to the International Statistical Classification of Diseases and Health Problems (ICD 10) used so far in Europe, anxiety disorders include: phobias in the form of: agoraphobia, social phobia and specific (isolated) phobias; and other anxiety disorders: in the form of panic attacks, generalized anxiety disorders, depressive disorders and mixed drug disorders. J.W. Aleksandrowicz points out that the concept of "anxiety disorders" is a cognitive construct, and the huge variety of these disorders sometimes eludes unambiguous classifications. In the literature, this section of anxiety disorders also includes obsessive-compulsive disorders and reactions to severe stress [3].

The new revision of the ICD-11 classification, as well as the currently functioning American DSM-5 classification of disorders related to anxiety and fear, distinguish the following subgroups: generalized anxiety disorders (GAD), panic disorder, agoraphobia, specific forms of phobias, social phobia (SAD), separation anxiety, selective mutism [4,5].

"Uncertainty intolerance" is considered to be the primary related factor with the occurrence of the so-called anxiety basic, but also the symptoms of obsessive-compulsive disorders (OCD), until recently also included in the group of anxiety disorders (DSM-IV). The ongoing discussions about the very nature of obsessions - whether they are a symptom, consequence or cause of anxiety disorders - have resulted in changes and the current DSM-V classification classifies OCD into a separate category [6,7].

Phobic disorders in the COVID-19 pandemic

The prognosis of the course of the disorder in patients diagnosed with social phobia during the pandemic significantly worsened. In experimental studies of students by Arad et al. (2021) in the academic year 2019-2020, the level of social anxiety in the respondents remained at a high and unchanged level. They also found that the severity of social anxiety among students was lower before the pandemic period. A study by Saint and Moscovitch (2021) found that wearing masks by people diagnosed with social anxiety can make respondents worry that they will not be well understood. According to the researchers, the impact of wearing masks on the incidence and severity of social anxiety will probably be clear and clinically significant [8,9].

In the studies by Chmielowiec et al. (2021), conducted during the pandemic, it was shown that female students more often experience symptoms of social anxiety during the period of education. Social anxiety behaviors were much less common in the surveyed men in the studied group of students. The situations most triggering anxiety were: entering a room where other people are already present (51% - men only 33%), writing credits (85%), giving papers (76%), being in the center of attention (56% - men only 35%) [10].

The results of a Chinese national study showed that psychological distance mediated the relationship between the severity of the COVID-19 pandemic and social anxiety.

The restrictions, causing the need to maintain social distance, influenced the development of the harmful effect of the severity of the COVID-19 pandemic on social anxiety [11].

The pandemic period was associated with the occurrence of a phobic disorder known as "coronaphobia". Zorlu et al. (2021) conducted a cross-sectional study of people aged 18-76 years using the new COVID-19 phobia scale (C19P-S). Among the 20 questions asked on the scale, the response to the statement "I am very afraid that someone in my family may catch the coronavirus" was the highest (3.71 points), while the response to the statement "The fear of coronavirus worries me the most" was the second - the result was 3.44, and the response to the statement "I am seriously concerned about the coronavirus" was the third with a score of 3.36 [12].

Studies have also shown that the COVID-19-related phobia is common among children, adolescents, adults, the elderly, people with pre-existing mental disorders, and first-line medical workers diagnosed with COVID-19 [13].

The COVID-19 phobia has also been shown to influence the decision to immunize. In a cross-sectional study by Nazli et al. (2021), the results showed that people with a low level of COVID-19-related phobia showed less determination in the context of willingness to get vaccinated ($p < 0.05$) [14].

A 2021 study by Thompson et al. of 240 American adults found that symptoms of social anxiety increased significantly during the COVID-19 pandemic. Experiencing loneliness also increased [15]. The "social distancing" recommendations limit group interpersonal interactions. Due to the change in social norms related to interpersonal contacts during the pandemic, it has been shown that adolescents suffering from social anxiety may be more sensitive to social behavior of other people and criticism of people. On the other hand, it is concluded that some young people may experience a short-term reduction in the symptoms of a phobia by removing the triggering stimuli. Researchers recommend that currently teletherapy should be conducted for patients with social phobia [16].

The anxiety symptom complex associated with the pandemic, is started to be classified as a type of specific phobia (formerly known as simple phobia) by scientists. Empirical results have shown that all four factors of the COVID-19 phobia scale (i.e. psychological, social, economic and psychosomatic) also have a significant impact on career anxiety. This means that due to the COVID-19 outbreak, a particular type of phobia has developed in people's way of thinking that is completely new [17].

Generalized anxiety disorder in the COVID-19 pandemic

Santomauro et al. analyzed the prevalence of anxiety and depression disorders in 204 countries and areas in 2020 in connection with the experience of the COVID-19 pandemic by the inhabitants of these areas. It has been shown that the daily increase in SARS-CoV-2 virus infections and the decrease in the ability to move by people were significantly associated with the increase in the incidence of major depressive disorders and generalized anxiety disorders. The meta-regression index of the influence of the COVID-19 on the development of anxiety disorders was: 0.4 (0.3 to 0.5). Before the pandemic, the DALY rate for generalized anxiety disorder was: 454.8 DALY per 100,000 population. In the pandemic, this indicator increased: DALY 570.9 per 100,000 population (of which almost three times more in the group of women) [18].

These dependencies are also confirmed by the studies of the Polish population that Dragan et al. conducted at the beginning of the pandemic. Most of the respondents (75.8%, n = 1,320) indicated that the current COVID-19 epidemic was a stressful event for them. In respondents using the GAD-7 generalized anxiety scale, 44% received more than 10 points, n = 765 [19].

Baurele et al. (2020), in a study of the German population, found that symptoms were significantly increased in terms of generalized anxiety (44.9%), while depressive symptoms were less severe (14.3%). Confidence in government actions with regard to COVID-19 and the subjective level of information regarding COVID-19 were negatively associated with experiencing symptoms of generalized anxiety disorder [20].

Polish research, conducted in relation to the symptoms of anxiety and depression, found out that the respondents from the general population showed the highest intensity of symptoms of depression and generalized anxiety in May and December, and the lowest in July 2020. During the spring lockdown (the beginning of May 2020), the highest level of symptoms of depression and generalized anxiety was manifested by people aged 18-24, while in December the highest level of depression symptoms was reported by people aged 35-44. Symptoms of depression and generalized anxiety were most strongly associated with difficulties experienced at home (difficult relationships with relatives, a sense of lack of privacy, fatigue with excessive duties) as well as anxiety and uncertainty related to the spread of the epidemic [21].

The December 2020 study on a group of 688 people indicated that 57% of the respondents were at risk of clinical worsening of the symptoms of generalized anxiety disorder, including 31% of women and 26% of men. A comparison of the results of studies from the first and second waves of the pandemic in Poland shows an increase in the severity of symptoms of generalized anxiety disorder in the surveyed people from the general

population [22].

Based on the meta-analysis conducted by Salati et al. (2020), it was found that the incidence of generalized anxiety disorder in 63,439 subjects was 31.9% (more than the occurrence of stress). The highest rates were recorded in Asia and they amounted to 32.9%, compared to Europe, down to 23.8% [23].

Boiko et al. (2022) demonstrated for the first time significant associations between sleep problems in a pandemic and an increase in anxiety states. The most frequent symptoms were low and moderate levels of anxiety (χ^2 = 12, 72, p = 0.002) [24].

In a study by Meo et al. from 2021, severe exacerbation of symptoms of generalized anxiety disorder was observed in 137 (11.41%) employees of the so-called first-line health care compared with 44 (9.20%) workers who had less contact with the infected. The results show that 25.9% of health care workers experienced moderate to severe anxiety, assessed using the GAD-7 scale [25].

The research by Schwed et al. (2021) confirms the clear correlations between fear associated with COVID-19 and generalized anxiety [26].

A study carried out in the general population of people living in India showed that 84% of participants had moderate to high levels of perceived stress, and 88% had moderate to high levels of generalized anxiety symptoms (tested on the GAD-7 scale). Women, similarly to the unemployed, reported significantly higher perceptions of stress and anxiety [27].

Panda et al. (2021) analyzed the relationship between the COVID-19 pandemic and the occurrence of anxiety symptoms in children and adolescents. It was found that in 34.5% of the examined children there were anxiety symptoms. Moreover, as many as 52.3% of caregivers of children developed the anxiety while being in isolation with children [28].

Panic disorders in the COVID-19 pandemic

Given the link between "normal" fear responses and the respiratory abnormalities in panic disorder, researchers indicate that the current COVID-19 pandemic may lead to an increase in the number of people experiencing symptoms of panic disorder, especially the respiratory subtype. For example, COVID-19 patients who struggle with breathlessness and the fear of suffocation may be at particular risk of developing panic attacks. In people who did not suffer from COVID-19, excessive vigilance towards respiratory symptoms and fear of suffocation may also be associated with the onset or worsening of panic symptoms [29].

In a survey by Islam et al. (2020) it was determined that panic and anxiety were observed in 79.6% and 37.3% of respondents, respectively. Panic attacks were also higher in married people in comparison to single people (89.2% vs. 78.0%). Respondents aged 21–30 were 0.52 times less prone to panic than respondents aged over 30 [30].

A panic disorders has been studied in 11 countries during the COVID-19 pandemic. The mean incidence of panic disorder for all countries is 13.7%, respectively. The number of new cases that were related to the pandemic and met the panic disorder criteria was 3%. Indian subjects reported the highest incidence of PTSD (40.8%) and panic disorder (18.8%). The highest incidence of anxiety (35.2%) was found in Belgian respondents. The most important predictor of panic disorder was stress experienced during the epidemic. The fear of infection is also an important factor in the progression of panic disorder. The highest subcategory "extreme fear level" increases the risk of developing the disorder up to 19 times. Increasing fear by one unit increases the risk of panic disorder 1.11 times. It has been found that people who survived major life events during the pandemic have a 1.33 times greater risk of developing panic anxiety during the pandemic. Each additional day of living in the pandemic increases the risk 1.01 times, while each additional life-limiting measure in a country that affects citizens personally increases the likelihood of panic disorder by 1.02 times (95% CI: 1.01–1.03) [31].

It is also interesting that Perna et al. (2020) found that people prone to panic attacks may be more prone to respiratory discomfort when wearing respiratory protective devices, which reduces their tolerance to these devices [32].

In the studies of Koreans and immigrants from this country, it was found that the severity of panic symptoms was greater in the Korean group. It showed a statistically significant positive correlation with the items of the confidence scale. In the descriptive analysis, both immigrants and Koreans scored higher on the questionnaire that read: "I developed a new routine or participated in minimal social activities due to fear of contracting COVID19". Both groups of subjects, however, reported that they rarely experienced increased heart rate, sweating, or difficulty breathing due to the spread of the virus. In comparative analyzes, Koreans more often felt temporary terror, fear, worry, loss of control, fear of death and presented somatic symptoms [33].

Post-traumatic stress disorder in the COVID-19 pandemic

Healthcare workers are a social group at risk of developing post-traumatic stress disorder (PTSD). Li et al. (2020) found that the surveyed nurses who worked in direct contact with the disease were less susceptible to the development of PTSD, compared to the so-called

second line nurses. Conversely, Kang et al. (2020), in a large study of 994 health professionals in Wuhan, found that the level of exposure of infected people, including colleagues, relatives, or friends, is a risk factor for mental health disorders, including PTSD. Li et al. claim that the results of their research may be due to the fact that nurses working directly with infectious patients chose to work with the infected voluntarily and were properly prepared psychologically and substantively. Moreover, the symptoms of post-traumatic stress disorder were more common in women, nurses and Primary Health Care workers with shorter work experience [34].

A study by Liu et al. (2020) of young adults in the USA showed that respondents reported a high level of PTSD symptoms (31.8%, the result in the study using the PCL-C scale ≥ 45). High levels of loneliness, high levels of anxiety related to COVID-19, and low stress tolerance were significantly associated with clinical levels of depression, anxiety, and PTSD symptoms. People with family support less frequently obtained results which constituted the so-called cut-off point for clinical depression and PTSD (OR = 0.46 and 0.44, respectively). With regard to gender, men who identified themselves as transgender more often reported high levels of PTSD [35].

The above exponents seem to be also confirmed by the Polish research by Rybarczyk and Koweszko (2021). The results of the research show that in both waves of the pandemic, a positive correlation was found between the feeling of loneliness and the risk of suicide, as well as the general level and symptoms of PTSD: intrusion and agitation. The study showed that in comparison with the first wave of the pandemic, in the second wave the respondents showed a greater intensity of the overall level of PTSD, intrusion and agitation. Both in the first and in the second wave of the COVID-19 pandemic, a positive correlation was found between the feeling of loneliness and the risk of suicide, as well as the general level and symptoms of PTSD [36].

Significant differences in the prevalence of PTSD have been found between different countries. These data are provided by a study by Benatov et al. from 2022. The highest risk index of PTSD and depression was in Germany. Israeli participants reported the lowest rates of coronavirus-related PTSD. Other positive predictors of PTSD associated with coronavirus were younger age (between 20 and 29 years of age), being single and having children [37].

Schou et al. (2021) showed that the incidence of PTSD in patient groups ranged between 6.5% and 42.8%. Among the potential risk factors, many elements were highlighted. One study found no difference between admission to the intensive care unit (ICU) or non-admission to the ICU, while both Halpin et al. 2021 and Horn et al. 2020 showed that PTSD was most pronounced after ICU admission. Another study found that hospitalization reduced the risk of PTSD. The research is therefore very diverse. Most studies indicate that prior psychiatric history or past traumatic events increased the risk of PTSD, and Matalon et al. (2021) found that depressive and anxiety symptoms during an acute COVID-19 transition were predictors for PTSD [38].

In the context of adolescents, in a study by Murat et al. (2021), young adults more often reported moderate to severe PTSD symptoms (45% vs. 33%). Adults, who reported symptoms of trauma but also indicated a conflict in their households, have had less PTSD symptoms since the COVID-19 pandemic. White people with a higher social status, older people with chronic medical conditions, and women with higher perceived stress were more likely to report moderate to severe PTSD symptoms. Teenagers with higher household income showed fewer symptoms of PTSD in the last 12 months [39].

In another meta-analysis by Nagarajan et al. (2022), 13 studies on PTSD during the COVID-19 pandemic were considered. The total frequency of PTSD symptoms was estimated at 16% [40].

Salehi et al. (2021) found a 29% incidence of PTSD-related symptoms among coronavirus survivors. In the general population, one study conducted during the COVID-19 epidemic of 2,484 university students found that being an only child, short sleep times, living in the worst-affected areas, and senior year students were significantly more at risk of developing PTSD. Quarantine and previous mental disorders were also other reported risk factors for PTSD among medical workers [41].

Obsessive-compulsive disorder in the COVID-19 pandemic

Jelinek et al. (2021) examined 394 patients using the OCI-R scale diagnosed with obsessive compulsive disorder (OCD). OCD severity was moderate to severe at baseline. Most of the participants (71.8%) reported an increase in the severity of OCD symptoms. Positive correlations occurred between the total OCI-R score and the change in overall OCD severity from low to medium ($r = 0.268$, $p < 0.001$), obsessions ($r = 0.270$, $p < 0.001$), compulsions ($r = 0.304$, $p < 0.001$) and avoidance ($r = 0.208$, $p < 0.001$). Participants reported that the increase in these symptoms was primarily related to reduced mobility and interpersonal conflicts. The statements "Coronavirus has also increased some of my other fears" (48.32%) and "Other people realize how dangerous viruses and germs are" (36.95%) received the highest support among the overall sample. Importantly, patients whose clinical picture was dominated by the symptoms of "obsessive washing / washing" more often than those without these

symptoms agreed with the following statements: "Other people now realize how dangerous viruses and germs are", "Coronavirus is the result of carelessness by people about hygiene" and "I believe the coronavirus cannot be contained". Dysfunctional beliefs about hygiene were associated with an increase in OCD symptoms [42].

Guzick et al. (2021) noted that in studies with online participants who identified with OCD symptoms, the emergence of new topics of COVID-focused obsessions and compulsions was 35% in the adolescent sample and 58% in the adult sample, for the total estimate of 55%. Non-clinical studies also found that increased severity of obsessive-compulsive symptoms was associated with more intrusive thoughts and repetitive behaviors focused on COVID-19. It was also found that the severity of OCD during the pandemic is directly correlated with suicidal ideation, poor coping, sleep disorders, avoidance, and anxiety [43]. In another study by Wheaton et al. (2021), the majority (76.2%) of respondents reported that their OCD symptoms had worsened since the outbreak of the COVID pandemic [44].

Based on a literature review, Grant et al. (2021) concluded that patients with symptoms of pollution anxiety disorder and compulsive washing were particularly prone to exacerbation of these symptoms during a pandemic. A significant proportion of people with OCD, but not all, have experienced / reported a worsening of symptoms during the pandemic, especially during initial restrictions (around 20–64%). Symptoms of OCD in samples of the general population were associated with the compulsive characteristics of these people and the stress associated with the pandemic [45].

An analysis of the studies by Zaccari et al. (2021) showed that COVID-19 had an effect on OCD in both adults and young people and appeared to exacerbate symptoms, especially subtypes associated with fear of contamination and over-care hygiene. Eight adult studies showed an increase in the severity of obsessive-compulsive symptoms; two studies highlighted the minimal effect of COVID-19 in OCD patients, and one study showed little clinical improvement. Two out of three studies in children and adolescents found OCD worsened and worsened even with ongoing treatment during the pandemic. Much of the literature focuses on the general symptoms of OCD without analyzing the differences between each subtype. In children, an increase in the severity of symptoms related to obsession with contamination and compulsion to wash was also found [46].

Researchers Cunning and Hodes (2022) noticed that specific symptoms related to OCD worsened. Tanir et al. (2020) observed that obsession with contamination and compulsion to clean / wash were the most common symptoms of OCD both before and during the pandemic. It was also noted that during the pandemic there was a significant increase in the incidence of obsession with waste, with 40/61 (65.6%) of participants being obsessed with waste before the pandemic and 48/61 (78.6%) of participants having this obsession during the course of the pandemic. pandemic. The research by Nissen et al. (2020) is also interesting. They found that there is a significant positive correlation between the overall results of OCD severity and the occurrence of symptoms of aggression and sexual obsessions in OCD during the COVID-19 pandemic (2.62, 95% CI (0.43-4.82), p = 0, 02) [47].

Italian studies by Benatti et al. (2021) also support the impact of the pandemic on the worsening of OCD symptoms. Patients showing a clinical worsening of OCD accounted for more than a third of the sample and reported a significant emergence of new types of obsessions and compulsions along with a significant exacerbation of past ones. Moreover, they were more likely to have suicidal thoughts (9.1%), more frequently checked the internet to ensure self-confidence (52.3%), experienced sleep disturbances (52.3%), avoidance behaviors and difficulties at work (sequentially 65.9% and 36.4%). A significantly increased need for family support was also observed. The most common topics of compulsions were washing and tidying up. Patients aged 30–65 years showed a higher percentage of difficulties at work (due to exacerbation of OCD symptoms) compared to the age groups 16–30 and> 65 years (89.3% vs. 10.7% vs. 0%) [48].

In a Polish study, Surzkiewicz et al. (2021) indicated that the surveyed patients aged 18-80 years reported obsession over COVID-19 and obsessive thoughts about the pandemic. It was noted that mental resilience was negatively and weakly associated with anxiety, obsessive thoughts and perceived stress [49].

Summary

The conducted literature review shows that the current COVID-19 pandemic is associated with an increase in the prevalence of symptoms of anxiety disorders in the general population.

Many studies on generalized anxiety disorder (some of them using the GAD-7 scale) have shown an increase in the prevalence of symptoms of this disorder in the general population.

PTSD and OCD studies have shown that the content of obsessions and compulsions in patients diagnosed with OCD during the COVID -19 pandemic was related to the subject of obsessive fear of infection and excessive care for hygiene, with somatic symptoms of coronavirus infection, and more specifically respiratory symptoms.

The pandemic is associated with high social isolation, however, the state of published studies indicates that

the pandemic did not significantly affect the severity of symptoms in patients with social phobia. Perhaps, this is due to the fact that the pandemic and related restrictions have prevented patients diagnosed with social anxiety from being frequently exposed to social exposure. On the other hand, it can be assumed that, in the long term, isolation will have an impact on the severity of symptoms in people diagnosed with social phobia. Therefore, it is worth paying more research attention to this type of anxiety disorders.

A COVID-19-related phobia has been identified in the field of phobic disorders. It is a new concept in psychiatry, invented by scientists, and is likely to be classified as a type of specific phobia. It is possible that this phobia will become a new clinical entity.

The multifaceted nature of the issue of anxiety disorders in the COVID-19 pandemic clearly indicates the need to continue research in this area.

Conflict of interest

The authors have declared no conflict of interest.

References:

1. Dong L, Bouey J. Public Mental Health Crisis during COVID-19 Pandemic, China. Emerg Infect Dis. 2020;26(7):1616-1618.
2. Farmer B: The COVID-19 mental health crisis: expect depression, anxiety and stress disorder, researchers warn. [https://www.telegraph.co.uk/global-health/science-and-disease/covid-19-mental-health-crisis-expect-depression-anxiety-stress/, 2022.]
3. Zaburzenia lękowe związane ze stresem i pod postacią somatyczną. In: Górna K, Jaracz K, Rybakowski J (ed). Pielęgniarstwo psychiatryczne. Wyd. Lek. PZWL: Warszawa; 2016. p.309-317.
4. Krawczyk P, Święcicki Ł. ICD-11 vs. ICD-10 – przegląd aktualizacji i nowości wprowadzonych w najnowszej wersji Międzynarodowej Klasyfikacji Chorób WHO. Psychiatr. Pol. 2020;54(1):7-20.
5. Zaburzenia lękowe. In: Gałecki P, Pilecki M, Rymaszewska J, Szulc A, Sidorowicz S, Wciórka J (ed). Kryteria diagnostyczne zaburzeń psychicznych DSM-5®/ American Psychiatric Association. Edra Urban & Partner: Wrocław; 2019. p. 231-285.
6. Citkowska-Kisielewska A, Rutkowski K, Sobański JA, Dembińska E, Mielimąka M. Objawy lękowe w zaburzeniu obsesyjno-kompulsyjnym i w zaburzeniu lękowym uogólnionym. Psychiatr. Pol. 2019; 53(4): 845–864.
7. Krzyszkowiak W, Kuleta-Krzyszkowiak M, Krzanowska E. Leczenie zaburzeń obsesyjno-kompulsyjnych (OCD) i zaburzeń powiązanych (OCRD). Psychiatr. Pol. 2019; 53(4): 825–843.
8. Arad G, Shamai-Leshem D, Bar-Haim Y. Social Distancing During A COVID-19 Lockdown Contributes to The Maintenance of Social Anxiety: A Natural Experiment. Cognit Ther Res. 2021;45(4):708-714.
9. Saint SA, Moscovitch DA. Effects of mask-wearing on social anxiety: an exploratory review. Anxiety Stress Coping. 2021;34(5):487-502.
10. Chmielowiec K, Koch M, Reformat A, et al. Porównanie profilu lęku z uwzględnieniem płci u studentów Uniwersytetu Zielonogórskiego. In: Czerw AI, Dykowska G (ed). Wybrane Zagadnienia Z Bezpieczeństwa Pacjenta. Część 5. Bezpieczeństwo Pacjenta. Bezpieczeństwo Pacjenta a EBM. T. 1. Wybrane zagadnienia z bezpieczeństwa pacjenta. Część 5. Bezpieczeństwo pacjenta. Bezpieczeństwo pacjenta a EBM. T. 1. Warszawski Uniwersytet Medyczny: Warszawa; 2021. p. 69-80.
11. Zheng L, Miao M, Lim J, Li M, Nie S, Zhang X. Is Lockdown Bad for Social Anxiety in COVID-19 Regions?: A National Study in The SOR Perspective. Int J Environ Res Public Health. 2020;17(12):4561.
12. Zorlu M, Kiskac N, Kiskac M. Phobia of COVID-19 on people who aged 18 and older. Rev Assoc Med Bras (1992). 2021;67(10):1461-1465.
13. Lindinger-Sternart S, Kaur V, Widyaningsih Y, Patel AK. COVID-19 phobia across the world: Impact of resilience on COVID-19 phobia in different nations [published online ahead of print, 2021 Feb 2]. Couns Psychother Res. 2021;10.1002/capr.12387.
14. Nazlı ŞB, Yığman F, Sevindik M, Deniz Özturan D. Psychological factors affecting COVID-19 vaccine hesitancy. Ir J Med Sci. 2022;191(1):71-80.
15. Thompson C, Mancebo MC, Moitra E. Changes in social anxiety symptoms and loneliness after increased isolation during the COVID-19 pandemic. Psychiatry Res. 2021;298:113834.
16. Khan AN, Bilek E, Tomlinson RC, Becker-Haimes EM. Treating Social Anxiety in an Era of Social Distancing: Adapting Exposure Therapy for Youth During COVID-19. Cogn Behav Pract. 2021;28(4):669-678.
17. Mahmud MS, Rahman MM, Masud-Ul-Hasan M, Islam MA. Does 'COVID-19 phobia' stimulate career anxiety?: Experience from a developing country. Heliyon. 2021;7(3):e06346.
18. COVID-19 Mental Disorders Collaborators. Global prevalence and burden of depressive and anxiety disorders in 204 countries and territories in 2020 due to the COVID-19 pandemic. Lancet. 2021;398(10312):1700-1712.
19. Dragan M, Grajewski P, Shevlin M. Adjustment disorder, traumatic stress, depression and anxiety in Poland during an early phase of the COVID-19 pandemic. Eur J Psychotraumatol. 2021;12(1):1860356.
20. Bäuerle A, Teufel M, Musche V, et al. Increased generalized anxiety, depression and distress during the COVID-19 pandemic: a cross-sectional study in Germany. J Public Health (Oxf). 2020;42(4):672-678.
21. Gambin M, Sękowski M, Woźniak-Prus M, et al. Objawy depresji i lęku wśród Polaków w trakcie epidemii COVID-19. Raport z badań podłużnych. [http://psych.uw.edu.pl/wp-content/uploads/sites/98/2021/01/Raport_objawy_depresji_leku_IV_fale.pdf, 2022.]
22. Sideris E. Człowiek w sytuacji zagrożenia COVID-19. Bezpieczeństwo. Teoria i praktyka. 2021;2(43):35-50.
23. Salari N, Hosseinian-Far A, Jalali R, et al. Prevalence of stress, anxiety, depression among the general population during the COVID-19 pandemic: a systematic review and meta-analysis. Global Health. 2020;16(1):57.
24. Boiko DI, Skrypnikov AM, Shkodina AD, Hasan MM, Ashraf GM, Rahman MH. Circadian rhythm disorder and anxiety as mental health complications in post-COVID-19 [published online ahead of print, 2022 Jan 5]. Environ Sci Pollut Res Int. 2022;1-8.
25. Meo SA, Alkhalifah JM, Alshammari NF, Alnufaie WS. Comparison of Generalized Anxiety and Sleep Disturbance among Frontline and Second-Line Healthcare Workers during the COVID-19 Pandemic. Int J Environ Res Public Health. 2021;18(11):5727.
26. Schweda A, Weismüller B, Bäuerle A, et al. Phenotyping mental health: Age, community size, and depression differently modulate COVID-19-related fear and generalized anxiety. Compr Psychiatry. 2021;104:152218.

27. Wakode N, Wakode S, Santoshi J. Perceived stress and generalized anxiety in the Indian population due to lockdown during the COVID-19 pandemic: a cross-sectional study. F1000Res. 2020;9:1233.
28. Panda PK, Gupta J, Chowdhury SR, et al. Psychological and Behavioral Impact of Lockdown and Quarantine Measures for COVID-19 Pandemic on Children, Adolescents and Caregivers: A Systematic Review and Meta-Analysis. J Trop Pediatr. 2021;67(1):fmaa122.
29. Javelot H, Weiner L, Hingray C, Freire RC, Nardi AE. COVID-19 and its psychological consequences: Beware of the respiratory subtype of panic disorder. Respir Physiol Neurobiol. 2020;282:103530.
30. Islam MS, Ferdous MZ, Potenza MN. Panic and generalized anxiety during the COVID-19 pandemic among Bangladeshi people: An online pilot survey early in the outbreak. J Affect Disord. 2020;276:30-37.
31. Georgieva I, Lepping P, Bozev V, et al. Prevalence, New Incidence, Course, and Risk Factors of PTSD, Depression, Anxiety, and Panic Disorder during the Covid-19 Pandemic in 11 Countries. Healthcare (Basel). 2021;9(6):664.
32. Perna G, Cuniberti F, Daccò S, Nobile M, Caldirola D. Impact of respiratory protective devices on respiration: Implications for panic vulnerability during the COVID-19 pandemic. J Affect Disord. 2020;277:772-778.
33. Yoon MS, Feyissa IF, Suk SW. Panic and Trust during COVID-19: A Cross-Sectional Study on Immigrants in South Korea. Healthcare (Basel). 2021;9(2):199.
34. Carmassi C, Foghi C, Dell'Oste V, et al. PTSD symptoms in healthcare workers facing the three coronavirus outbreaks: What can we expect after the COVID-19 pandemic. Psychiatry Res. 2020;292:113312.
35. Liu CH, Zhang E, Wong GTF, Hyun S, Hahm HC. Factors associated with depression, anxiety, and PTSD symptomatology during the COVID-19 pandemic: Clinical implications for U.S. young adult mental health. Psychiatry Res. 2020;290:113172.
36. Rybarczyk I, Koweszko T. Zespół stresu pourazowego, ryzyko samobójcze, poczucie samotności oraz satysfakcja z życia u osób w ogólnej populacji w dobie pandemii Covid-19. Psychiatria. 2021; 0.5603/PSYCH.a2021.0044.
37. Benatov J, Ochnik D, Rogowska AM, Arzenšek A, Mars Bitenc U. Prevalence and Sociodemographic Predictors of Mental Health in a Representative Sample of Young Adults from Germany, Israel, Poland, and Slovenia: A Longitudinal Study during the COVID-19 Pandemic. Int J Environ Res Public Health. 2022;19(3):1334.
38. Schou TM, Joca S, Wegener G, Bay-Richter C. Psychiatric and neuropsychiatric sequelae of COVID-19 - A systematic review. Brain Behav Immun. 2021;97:328-348.
39. Murata S, Rezeppa T, Thoma B, et al. The psychiatric sequelae of the COVID-19 pandemic in adolescents, adults, and health care workers. Depress Anxiety. 2021;38(2):233-246.
40. Nagarajan R, Krishnamoorthy Y, Basavarachar V, Dakshinamoorthy R. Prevalence of post-traumatic stress disorder among survivors of severe COVID-19 infections: A systematic review and meta-analysis. J Affect Disord. 2022;299:52-59.
41. Salehi M, Amanat M, Mohammadi M, et al. The prevalence of post-traumatic stress disorder related symptoms in Coronavirus outbreaks: A systematic-review and meta-analysis. J Affect Disord. 2021;282:527-538.
42. Jelinek L, Moritz S, Miegel F, Voderholzer U. Obsessive-compulsive disorder during COVID-19: Turning a problem into an opportunity?. J Anxiety Disord. 2021;77:102329.
43. Guzick AG, Candelari A, Wiese AD, Schneider SC, Goodman WK, Storch EA. Obsessive-Compulsive Disorder During the COVID-19 Pandemic: a Systematic Review. Curr Psychiatry Rep. 2021;23(11):71.
44. Wheaton MG, Ward HE, Silber A, McIngvale E, Björgvinsson T. How is the COVID-19 pandemic affecting individuals with obsessive-compulsive disorder (OCD) symptoms?. J Anxiety Disord. 2021;81:102410.
45. Grant JE, Drummond L, Nicholson TR, et al. Obsessive-compulsive symptoms and the Covid-19 pandemic: A rapid scoping review. Neurosci Biobehav Rev. 2022;132:1086-1098.
46. Zaccari V, D'Arienzo MC, Caiazzo T, Magno A, Amico G, Mancini F. Narrative Review of COVID-19 Impact on Obsessive-Compulsive Disorder in Child, Adolescent and Adult Clinical Populations. Front Psychiatry. 2021;12:673161.
47. Cunning C, Hodes M. The COVID-19 pandemic and obsessive-compulsive disorder in young people: Systematic review. Clin Child Psychol Psychiatry. 2022;27(1):18-34.
48. Benatti B, Albert U, Maina G, et al. What Happened to Patients With Obsessive Compulsive Disorder During the COVID-19 Pandemic? A Multicentre Report From Tertiary Clinics in Northern Italy. Front Psychiatry. 2020;11:720.
49. Surzykiewicz J, Konaszewski K, Skalski S, Dobrakowski PP, Muszyńska J. Resilience and Mental Health in the Polish Population during the COVID-19 Lockdown: A Mediation Analysis. J Clin Med. 2021;10(21):4974.

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