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We declare no competing interests.

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Pathways to depressive and anxiety disorders during and after the COVID-19 pandemic



The Global Burden of Disease (GBD) data for 2020 from 204 countries indicates that the COVID-19 pandemic and associated lockdowns increased the prevalence of anxiety and depressive disorders worldwide.¹ Two key factors behind these increases were identified: infection rate and immobility.¹ Here we present a conceptual model that provides insight into the processes that underlie how these factors operate and can help to predict the long-term effects of the factors. The effect of infection rate and immobility on depressive and anxiety disorders is shown in the figure. (In the GBD study,¹ infection rate was used as a proxy factor for the psychological effects [eg, fear of infection] of the pandemic and the physiological effects [eg, nervous system impairment²] of COVID-19.) The findings of the GBD study suggest that lockdowns, by decreasing the number of infections, can indirectly help to reduce the prevalence of anxiety disorders and depressive disorders (figure).

However, any positive short-term effects of lockdowns on mental health (eg, due to safety behaviours, such as avoiding social contact and feeling less anxiety as a result) are likely to become counterproductive in the longer term (eg, social anxiety). Lockdowns decrease mobility, leading to a reduction in physical activity, social isolation, disruption of school and work-related activities, reduced peer interaction and learning, and

restricted access to (mental) health care.¹ The immobility resulting from the lockdowns was associated with an increased prevalence of depressive and anxiety disorders in the GBD study (figure).¹ Therefore, lockdowns seem to have both advantageous and disadvantageous effects: by lowering infection rates, they might reduce the prevalence of depressive and anxiety disorders, but lockdowns are also likely to increase the prevalence of these disorders owing to the resulting immobility (figure). Future research on interventions to mitigate the adverse effects of lockdowns or other types of emergency policy on mental health could examine which elements of immobility are particularly harmful, and how to alleviate them.

Because depressive and anxiety disorders undermine general health, they can amplify the effects of SARS-CoV-2 infection.^{3,4} Infection severity and mortality rates are likely to be higher in people with depression and anxiety as a result of compromised immune system functioning in these disorders,^{3,4} leading to a reinforcing feedback loop between the increased infection rates and the disorders (figure). Similarly, because depressive disorders and some anxiety disorders impair daily functioning, people with these disorders might have greater immobility than the general population—for instance, due to low energy, social withdrawal, or fear

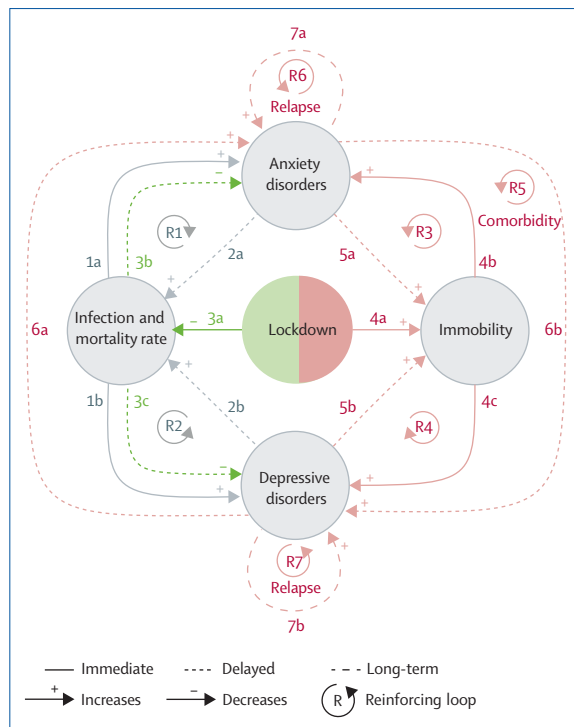


Figure: A conceptual model of the effects of the COVID-19 pandemic and lockdowns on depressive and anxiety disorders
 The effects of the COVID-19 pandemic (grey) include a higher prevalence of depressive and anxiety disorders (1a,b). These disorders can also lead to more severe SARS-CoV-2 infections and increased mortality (2a,b). The beneficial effects of lockdowns (green) include fewer infections and reduced mortality, leading to fewer depressive and anxiety disorders (3a-c). Harmful effects of lockdowns (red) include immobility, leading to more depressive and anxiety disorders (4a-c), which then, in turn, increase immobility (5a,b). These disorders are also highly comorbid (6a,b) and are likely to relapse (7a,b).

of leaving their houses. This can result in reinforcing feedback loops between increased immobility and the disorders (figure), which are likely to remain after the lockdowns are lifted and the pandemic is over.

Depressive and anxiety disorders are also highly comorbid.⁵ These disorders can form another feedback loop in which they can trigger and reinforce each other (figure). Such a loop is highly likely to operate during and after the lockdowns and the pandemic.

Finally, depressive and anxiety disorders are highly recurrent:⁶ individuals with major depressive disorder are estimated to have seven episodes throughout their lives.⁷ Both depressive and anxiety disorders can be risk factors for a subsequent episode, creating their own individual reinforcing feedback loops (figure) that can operate over months or years, leading to more mental health problems even after the lockdowns and the pandemic are long gone.

After the COVID-19 pandemic is over, affected individuals will most likely not return to their normal (mental) lives.⁸ As we aim to show with our conceptual model, common mental disorders can take a long time to subside because their strong self-reinforcing mechanisms can keep individuals trapped in complex, reinforcing negative cycles long after the triggering cause has disappeared.⁹ Moreover, because a previous episode is among the largest risk factors for depression⁹ and anxiety disorders,¹⁰ millions of individuals who have had these conditions during the pandemic will have them again—and multiple times—during their lives. COVID-19 will therefore have changed the mental health landscape of the coming decades.

Insights from research such as the GBD study outline environmental pathways that lead to depressive and anxiety disorders and help to identify reinforcing loops that keep individuals vulnerable during societally challenging times. With this emerging knowledge, we can identify new target points for interventions and inform policymakers of the risk factors. This will, in turn, enable us to prevent and treat mental health problems more effectively during any future pandemics or other societal crises involving immobility and heightened concern for one’s safety, such as war.

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The Ukrainian paediatric mental health system: challenges and opportunities from the Russo–Ukrainian war



On Feb 24, 2022, Russian military troops invaded Ukraine. As the war continues, millions of Ukrainian children and their families are desperate for safety and shelter. The adverse long-term consequences of war-related psychological trauma are well known,¹ but little attention is paid to the mental health challenges during the active phases of wars.

Children and adolescents with pre-existing psychiatric and neurodevelopmental disorders are among the most vulnerable populations. The war in Ukraine began at the end of a surge in quarantine restrictions related to COVID-19. The transition of children's education to distance learning resulted in social isolation and the loss of routines and peer support. Child victims of domestic abuse were trapped indoors with their perpetrators.² Studies of the COVID-19 pandemic have shown that children with pre-existing psychiatric disorders presented with increased impairment and decreased resilience, resulting from both pandemic-related stress or trauma and decreased access to psychiatric care.³ The Russo–Ukrainian war has compounded this trauma and led to a further loss of support from families, schools, neighbourhoods, and mental health services. In particular, these losses have been experienced acutely by young people with pre-existing mental disorders.

In Ukraine, psychosocial interventions for mental health are not widely available. Instead, psychiatry uses a primarily biomedical, medication-focused approach.⁴ The war-related panic buying of medications, destruction of pharmaceutical storage facilities and hospitals, and blockade of humanitarian aid all resulted in a sudden and severe depletion of psychiatric medications. We observed that the ensuing medication shortages exacerbated the severity of symptoms in children with pre-existing neurodevelopmental disorders, ADHD, and mood and

anxiety disorders. We recommend that identifying and meeting the needs (including medication needs) of young people with pre-existing psychiatric or neurodevelopmental disorders should be a priority in the efforts to provide child mental health services during the active phases of war.

Ukraine has a highly centralised system of paediatric mental health care that relies on hospital inpatient units and specialised neuropsychiatric clinics, primarily located in major cities.⁵ During the first 2 months of the Russo–Ukrainian war, most of the children exposed to military actions did not or could not seek psychological or psychiatric care, partially because war-related disruption of public transport and of family and community networks due to displacement and shelling made it difficult to access mental health services. Children with severe physical and psychological trauma were brought to general hospitals that had an extreme shortage of mental health specialists among their staff, even before the war. As an essential step towards increasing the accessibility of paediatric mental health care, we recommend prioritising support for the future transition from centralised inpatient and tertiary care to community-based outpatient care.

The military actions of 2014 in eastern Ukraine increased the prevalence of psychiatric disorders among Ukrainians displaced internally;⁶ however, many parents did not seek psychiatric or psychological help for their children, possibly because they were discouraged by the stigma associated with mental health treatment. When they did seek such help, parents tended to access paediatricians and paediatric neurologists. Although Ukraine was among one of the first countries to implement WHO's Mental Health Gap Action Programme intervention guide, the country focused on education of adult mental health-care

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