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Psychiatric Manifestations of COVID-19 and Their Social Significance

Authors' Contribution:

Study Design A
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Alterations in complex behavioral patterns during the extended period of the COVID-19 pandemic are predicted to promote a variety of psychiatric disease symptoms due to enforced social isolation and self-quarantine. Accordingly, multifaceted mental health problems will continue to increase, thereby creating a challenge for society and the health care system in general. Recent studies show that COVID-19 can directly or indirectly influence the central nervous system, potentially causing neurological pathologies such as Alzheimer disease and Parkinson disease. Thus, chronic COVID-19-related disease processes have the potential to cause serious mental illnesses, including depression, anxiety, and sleep disorders. Importantly, mental health problems can foster systemic changes in functionally-linked neuroendocrine conditions that heighten a person's susceptibility to COVID-19 infection. These altered defense mechanisms may include compromised "self-control" and "self-care", as well as a "lack of insight" into the danger posed by the virus. These consequences may have serious social impacts on the future of COVID-19 survivors. Compounding the functionally related issues of altered mental health parameters and viral susceptibility are the potential effects of compromised immunity on the establishment of functional herd immunity. Within this context, mental health takes on added importance, particularly in terms of the need to increase support for mental health research and community-based initiatives. Thus, COVID-19 infections continue to reveal mental health targets, a process we must now be prepared to deal with.

MeSH Keywords: **Anxiety • COVID-19 • Depression • Psychiatry • Psychology • Social Responsibility**

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It is well established that SARS-CoV-2 can infect and pathologically affect the human central nervous system, making it a prime target tissue [1–3]. In a recent review, we noted the involvement of ACE2 and nicotinic receptors as targets of viral-induced interaction, which can include encephalitis [1]. The neurologic associations of COVID-19 also provide the potential basis for long-term neurological sequelae [1]. Predictably, the neurological component also occurs with SARS-CoV-1 [4,5]. Therefore, it is surmised that the virus may play a role in Alzheimer disease and Parkinson disease [6]. In this regard, and at this stage of our understanding of COVID-19, it is unknown whether SARS-CoV-2 causes neurodegenerative diseases or accelerates their premature occurrence [1].

Moreover, recent data demonstrate SARS-CoV-2 affects long-term cognitive function, which may be anticipated given its presence in the brain and subsequent neurological dysfunction. Reports indicate that the virus can induce psychosis [7,8], mania [9], delirium [10], depression and anxiety [11], as well as confusion [12,13]. These reports are sensitive to the fact that the emergence of these mental health disorders could be associated with COVID-19, suggesting a possible correlation between such disorders and SARS-CoV-2. In particular, investigators are asking if these individuals are more susceptible to infection by the virus [14–17]. In our opinion, and that of the investigators cited here, the answer would appear to indicate that there is, indeed, a correlation, discernable even at this early stage of COVID-19 research. In part, mental health problems may foster conditions that heighten a person's susceptibility to the virus, such as compromised “self-control” and “self-care”, as well as a “lack of insight” into the danger posed by the virus; “they may be incapable of practicing infection

control, therefore being vulnerable to the COVID-19 and its complications” [16,18] (and noted by [15]). Significantly, neurological disorders can be associated with proinflammatory phenomena as their underlying cause. As such, we surmise that this fact alone can increase an individuals' susceptibility to viral infection, which now may be exacerbated by compromised mental health [19,20].

Conclusions

Compounding the relational issue of mental health and virus susceptibility is the unintentional exposure of others by a carrier who may be burdened with mental health disorders. In this context, mental health takes on added importance, particularly in terms of the need to increase support for mental health research and community-based initiatives. As it stands now, mental health issues are stigmatized and lack sufficient attention and investment. The fact that mental health is an area that largely exists ‘under the radar’ may only worsen virus transmission and spread [13,21–24]. Furthermore, increased mental health challenges have arisen due to the COVID-19 pandemic and mitigation activities such as physical distancing and stay-at-home orders. Therefore, there is an urgent need for increased support for mental health centers and community outreach, as well as enhanced awareness of these issues [25–27]. It goes without saying that now, more than ever, greater investment is needed to strengthen mental health services.

Conflict of interests

None.

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