



Letter to the Editor



Addressing the mental health of children in quarantine with COVID-19 during the Omicron variant era

Dear editor,

In the Omicron era, the series of strict quarantine policies were implemented to protect the safety of population and society stability in China. In past 2 years, accumulating evidence demonstrated the correlation of the mental health state alterations in COVID-19 patients, including the raised incidence of mood disorders (Taquet et al., 2021). Infection with COVID-19 might accelerate the adverse neurological outcomes. And a wide range of brain changes were also reported in patients with pediatric mental illness. For example, the reduced volume of basal ganglia and hippocampus were found in pediatric unipolar disorder, while the reduced corpus callosum volume and increased white matter hyperintensities were observed in pediatric bipolar disorder (Serafini et al., 2014). In the early 2022, the lock-down to “flatten the curve” policy of many cities of China triggered the concerns on the mental health of child patients in the public.

Both biological and psycho-social factors impact on the mental health of the infected individuals. A 6-month retrospective cohort study showed the substantial neurological and psychiatric morbidity in 236,379 survivors with COVID-19 across all ages (Taquet et al., 2021). Due to SARS-CoV-2 crossing the blood-brain barrier, the physio-pathological mechanisms involved the direct invasion of the coronavirus to central neural system (CNS), the immunity inflammatory reaction and the hyperactivity of HPA. On one hand, children had an underdeveloped immune system and their immunisation services may be affected during the COVID-19 pandemic, so that child might be more susceptible to the omicron virus and are more likely to develop mental state changes following infection (Chun et al., 2022). On the other hand, children are of lower mental resilience to social stress. And the anxiety from society and family members or caregivers can influence child. It also has been found that some COVID-19 response policies such as isolation or the quarantine during multiple lock-down induced the higher levels of depression and anxiety in the people who were already at risk for fragile mental health (Fancourt et al., 2021). The impact of school closure on academic performance and the absence of peer companionship will also affect children's emotional regulation. Notably, maternal deprivation was always a crucial risk factor associated with neural development of juvenile mammals, which has been recognized as one origin for multiple psychiatric diseases (Johnson et al., 2021). Besides above, the poor feeding or nutrition condition (e.g., off breast milk feeding), the strange medical environment or isolated room, insufficient emotional communication and medical management such injection or medication could induce significant mental distress of the child. Such conditions may induce acute psychological traumas and also produce lasting stress disorders (e.g., self-injury, depression, anxiety) into adolescent period. In summary, infection with COVID – 19 would raise the risk of mental illness in children.

We suggest that more attentions are warranted for mental well-being among child patients with COVID-19 during quarantine. First, services and supports from experienced psychiatric doctors should be accessible easily, which however more focused on the adults including aged population. A screening approach to mental health awareness may help to identify child with significant distress and bodily symptoms. Second, increased psychological cares, scientific dissemination and pocket booklets on mental well-being are helpful to improve the psychological resilience during treatment and quarantine period. The humanized environmental facilities including playing place are necessary for the special individuals. When possible, it is also necessary to facilitate the tele-communication system to maintain social bonding and social activities for the children. Third, it is crucial to carry out follow-up survey and evaluation for child patients recovered from COVID-19, who may have the higher risk for post-traumatic stress disorder. Early diagnosis and prevention for stress related mental symptoms would reduce the exacerbation into psychiatric disorders.

In short, after more than two years of COVID-19 pandemic, the researchers and health care workers around the world had consensus on the importance of mental health for quarantined patients, which however less attentions have been paid to children's mental health. In this correspondence, we mainly focus on the children and adolescents who are more susceptible for the virus to be suffered from mental illness due to the biological and psycho-social factors. It is necessary to research the children's mental health. In addition, extraordinary efforts should be made and mental well-being strategies should be developed and implemented, urgently, both at hospital and the community to support children's mental health.

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Author contributions

FY, CN and SH wrote and revised the manuscript. All authors contributed to the final drafting and approved the final version of the manuscript.

Conflicts of interest

All authors declare that there are no conflicts of interest.

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