

Mitigate the effects of home confinement on children during the COVID-19 outbreak

In response to the coronavirus disease 2019 (COVID-19) outbreak, the Chinese Government has ordered a nationwide school closure as an emergency measure to prevent spreading of the infection. Public activities are discouraged. The Ministry of Education estimates that more than 220 million children and adolescents are confined to their homes; this includes 180 million primary and secondary students and 47 million preschool children).¹ Thanks to the strong administrative system in China, the emergency home schooling plan has been rigorously implemented.² Massive efforts are being made by schools and teachers at all levels to create online courses and deliver them through TV broadcasts and the internet in record time. The new virtual semester has just started in many parts of the country, and various courses are offered online in a well organised manner. These actions are helping to alleviate many parents' concerns about their children's educational attainment by ensuring that school learning is largely uninterrupted.

Although these measures and efforts are highly commendable and necessary, there are reasons to be concerned because prolonged school closure and home confinement during a disease outbreak might have negative effects on children's physical and mental health.^{3,4} Evidence suggests that when children are out of school (eg, weekends and summer holidays), they are physically less active, have much longer screen time, irregular sleep patterns, and less favourable diets, resulting in weight gain and a loss of cardiorespiratory fitness.^{3,5} Such negative effects on health are likely to be much worse when children are confined to their homes without outdoor activities and

interaction with same aged friends during the outbreak.

Perhaps a more important but easily neglected issue is the psychological impact on children and adolescents. Stressors such as prolonged duration, fears of infection, frustration and boredom, inadequate information, lack of in-person contact with classmates, friends, and teachers, lack of personal space at home, and family financial loss can have even more problematic and enduring effects on children and adolescents.⁴ For example, Sprang and Silman⁶ showed that the mean posttraumatic stress scores were four times higher in children who had been quarantined than in those who were not quarantined. Furthermore, the interaction between lifestyle changes and psychosocial stress caused by home confinement could further aggravate the detrimental effects on child physical and mental health, which could cause a vicious circle. To mitigate the consequences of home confinement, the government, non-governmental organisations (NGOs), the community, school, and parents need to be aware of the downside of the situation and do more to effectively address these issues immediately. Experiences learned from previous outbreaks can be valuable for designing a new programme to tackle these issues in China.⁷

The Chinese Government needs to raise the awareness of potential physical and mental health impacts of home confinement during this unusual period. The government should also provide guidelines and principles in effective online learning and ensure that the contents of the courses meet the educational requirements. Yet it is also important not to overburden the students. The government might mobilise existing resources, perhaps involving NGOs, and create a platform for gathering the best online education courses about healthy lifestyle and psychosocial support programmes available for schools to choose from. For example, in addition

to innovative courses for a better learning experience, promotional videos can be useful to motivate children to have a healthy lifestyle at home by increasing physical activities, having a balanced diet, regular sleep pattern, and good personal hygiene.⁸ To make these educational materials truly effective, they must be age-appropriate and attractive. They require professional expertise and real resources to create.

Communities can serve as valuable resources in managing difficulties of family matters. For instance, parents' committees can work together to bridge the needs of students with school requirements and to advocate for children's rights to a healthy lifestyle. Psychologists can provide online services to cope with mental health issues caused by domestic conflicts, tension with parents, and anxiety from becoming infected.⁷ Social workers can play an active role in helping parents cope with family issues arising from the situation, when needed. Such a social safety net could be particularly useful for disadvantaged or single-parent families,⁹ but action is needed to make it accessible to them.

Schools have a critical role, not only in delivering educational materials to children, but in offering an opportunity for students to interact with teachers and obtain psychological counselling. Schools can actively promote a health-conscious schedule, good personal hygiene, encourage



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A Chinese child studies from home during the COVID-19 outbreak

physical activities, appropriate diet, and good sleep habits, and integrate such health promotion materials into the school curriculum.³

In the event of home confinement, parents are often the closest and best resource for children to seek help from. Close and open communication with children is the key to identifying any physical and psychological issues and to comforting children in prolonged isolation.^{10,11} Parents are often important role models in healthy behaviour for children. Good parenting skills become particularly crucial when children are confined at home. Besides monitoring child performance and behaviour, parents also need to respect their identity and needs, and they need to help children develop self-discipline skills. Children are constantly exposed to epidemic-related news, so having direct conversations with children about these issues could alleviate their anxiety and avoid panic.^{10,11} Home confinement could offer a good opportunity to enhance the interaction between parents and children, involve children in family activities, and improve their self-sufficiency skills. With the right parenting approaches, family bonds can be strengthened, and child psychological needs met.¹²

Since the COVID-19 epidemic is no longer confined to China,¹³ school closure and home confinement-related issues also become relevant in other affected countries. As children are vulnerable to environmental risks and their physical health, mental health, and productivity in adult life is deeply rooted in early years,¹⁴ close attention and great efforts are required to address these emergency issues effectively and avoid any long-term consequences in children. Any sustainable programme must involve local professionals to culturally adapt the interventions to the administrative system and to the regional and community environment, and it must develop contextually relevant material for children and adolescents.⁷

Finally, children have little voices to advocate for their needs. The latest Commission¹⁴ on the future of the world's children urges a holistic strategy in preparing for the uncertainty that all children are facing. It is the responsibility and keen interests of all stakeholders, from governments to parents, to ensure that the physical and mental impacts of the COVID-19 epidemic on children and adolescents are kept minimal. Immediate actions are warranted.

We declare no competing interests.

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