

**Student Corner****SARS-CoV-2 & Children's Mental Health- Assessing Psychiatric Concerns and Potential Solutions: A Narrative Review****Mir Ibrahim Sajid, Javeria Tariq, Ayesha Akbar Waheed, Dur-e-Najaf***Medical College, Aga Khan University, Karachi***Abstract**

**Objective:** This review aims to critically evaluate the currently available literature concerning the impact SARS-CoV-2 has had on pediatric mental health.

**Methods:** An extensive literature review was conducted on four major databases, PubMed, CINAHL, Science Direct and Wiley Online Library; and a pre-print server, medRxiv using keywords of COVID-19 and derivatives, Children and Mental Health,

**Results:** We highlighted that stress, anxiety, depression, boredom and the fear of getting infected were the main psychiatric disorders found during the SARS-CoV-2 period. These may have resulted from the lack of socialization and isolation from friends, with institutional closure causing more than 890 million students in 114 countries to stay home. Children who are separated from their parents are more likely to experience acute stress disorder and post-traumatic stress disorder, either because they have the infection themselves or because their caregiver has contracted the virus. In order to ensure quality family time, possible ways to overcome these issues include: physical activity, virtual communication, and fostering a safe home atmosphere.

**Conclusion:** It is suggested that mental health problems have a well-correlated connection to suicide, which is the third largest cause of death among children aged 15-19 years worldwide. Clinicians and child support agencies must step up to ensure the optimal health of children, both physically and psychologically, with certain psychological issues looming, as the pandemic lasts.

**Keywords:** SARS-CoV-2, COVID-19, pediatrics, mental health, affective disorders.

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**Introduction**

The novel coronavirus (n-CoV) emerged in Wuhan City, China, as a local outbreak and presented as a viral pneumonia of unknown etiology. When a reverse transcriptase polymerase chain reaction (RT-PCR) test was used for the nasopharyngeal samples, it became clear that this was a mutated variant of the infamous Coronavirus family.<sup>1</sup> What started as a Wuhan endemic disease, soon spread to other parts of the world and was declared as 'pandemic' by the World Health Organization on 12th March

2020. To date, 3<sup>rd</sup> November 2020,<sup>2</sup> this virus infected more than 47 million people with >1,200,000 deaths (mortality rate: 4.36%).

Lockdown measures have been implemented across the globe in an effort to minimize the spread of infectious disease. The closing of the school and other educational institutions was part of that measure. According to a United Nations Educational, Science and Cultural Organization (UNESCO) report, 890 million students in 114 countries are affected by these policies, representing 86% of the world's student

countries are affected by these policies, representing 86% of the world's student population.<sup>3</sup> Even though the closure of institutes in an attempt to curb a health crisis is not a new policy, however, the global exponential increase in the viral spread and disruptions of travel in terms of preventing students from reuniting with their family in such times,<sup>4</sup> can and has caused significant psychological distress.<sup>5</sup>

### **Highlighting Problems**

Anxiety, accompanied by depression and post traumatic stress disorder, was the most prevalent mental health trend noticed. These disorders could have developed as a result of exposure and comprehension of conflicting knowledge and indicators of the actions of adults around them, such as social distancing, compulsory hand sanitization and the use of masks. Dalton and colleagues think that hiding information from children might make them believe that tough times such as sickness and loss are a punishment for their bad actions, contributing to unusual behavior such as rage and sadness.<sup>6</sup> Green and colleagues believe that in certain family settings, prolonged lockdown can lead to an atmosphere that leaves children vulnerable to abuse and neglect.<sup>7</sup> This builds up on the narrative of increased domestic violence during the lockdown phase of SARS-CoV-2.<sup>8</sup>

The loss of parental employment may have a significant effect on children's growth and development, directly affecting their mental health. Low and middle-income countries (LMIC) such as Pakistan have a large majority of the population who are either daily wagers or dependent on their weekly incomes to feed their families. Three million workers are projected to lose jobs (one million in industry; two million in the service sector) and poverty headcount to increase from 24.3% to 33.5%<sup>9</sup> pushing families towards starvation, rendering children more vulnerable to an already prevailing malnutrition and mental health deterioration.<sup>10</sup>

Around the same time, there is a lack of 'safeguarding' from outside sources, such as teachers, health professionals and social workers that can detect trends of violence, which contributes to increased police participation in domestic abuse investigations and calls to child support agencies.<sup>7,11,12</sup>

Researchers believe that otherwise healthy children and those facing depression lack a structured routine because of the suspension of educational activity,<sup>13</sup> and lack of physical activity<sup>14</sup> leading to a sedentary life style. However, certain children are at a higher risk of contracting mental health problem, including under nourished children, those bondage to child labor and homeless. As a result of a complete halt in activities of daily living, postponement of major life events, such as graduation and job allotment, were noted as an additional stressor.<sup>11,12</sup> In addition, children who are isolated from their care givers, either because they have the infection themselves or because their care givers have developed it, are at the highest risk of developing mental health problems, including acute stress disorder, post-traumatic stress disorder (PTSD) and depression. Separation and loss of parents at an early stage of life leads to long-term mental health issues, such as PTSD.<sup>15</sup>

Walter and colleagues believe that a withdrawal of economic and emotional support in difficult times have precipitated existing mental health issues and given rise to new- such as PTSD.<sup>16</sup> Wang G and colleagues exhibited that mean post traumatic stress scores appeared to be 4 times higher in quarantined children when compared to non-quarantined ones.<sup>17</sup>

### **Delving Into Solutions**

Most of the writers believed that frank, open ended dialog about adult circumstances would make it easier for children to open up and handle stress and anxiety better. This communication should take into account an evaluation of the child's level of comprehension ensuring that children are not frustrated by their fears. To facilitate effective communication, adults must first share their emotions, which will allow children the allowed closure for what they observe and open up about their feelings.<sup>6</sup>

Perhaps China's approach to addressing this issue may serve as a role model for other nations to follow and enforce. Nurses and other child care services have been made available 24/7 to children in isolation. They have been equipped with electronic devices to virtually communicate with parents and participate in online education. Volunteers who served as caregivers for children

who had recovered from the coronavirus but yet could not be together with their parents were inducted. Pediatric health professionals received comprehensive training to recognize children's mental health issues at an early stage and to refer to children and adolescent psychiatrists at an early stage.<sup>15</sup> The required amount of technical exposure would be an interesting scale to manage. Although some scientists agree that using video conferencing to connect children with their peers and family, conducting online schooling, and conducting virtual internships to facilitate efficient use of time is the way forward.<sup>13,15,17-19</sup> Others agree that the time spent on the Internet should be limited. Shahidi and colleagues<sup>14</sup> conclude that on-screen time should be limited to promoting physical activity, which would avoid obesity, minimize chronic disease and boost mood.

It is important to ensure that the time children spend at home during locks does not adversely affect their mental health. Among the factors that need to be taken into account, the inappropriate usage of the Internet cannot be overlooked. Deslandes and colleague<sup>20</sup> have pointed out how overuse of the Internet during home isolation can make a person vulnerable to self-harm. This observation comes in the midst of the fear of the 'unseen virus' and the readily accessible anxiety of illnesses and death tolls in their populations. Hence, organizations such as WHO and UNICEF,<sup>21,22</sup> recommends that information on the pandemic must be monitored by parents, without concealing the truth, but ensuring that it is conveyed in a medium that can be readily understood by children of various age groups. This will allow them to affirm their emotions and express their feelings about the current circumstances.

## Way Forward

Green and colleagues agree that this global event could be a precipitating force for change. A top-to-bottom approach at national and government level is required to address these hazards related to children's mental health, particularly following the imminent threat of a pandemic. Improved access to children's mental health services and post pandemic monitoring should be implemented by all governments. Development of creative ways to substitute for social support groups and counselling, such as shifting them online and monitoring high risk groups should be

the key.<sup>11</sup>

As little is known about the actual effects of this viral pandemic on pediatric mental health, further research is required to build the expertise needed to solve this problem and provide a decision making database. Research on the efficacy of child care programs and initiatives to address pediatric mental wellbeing needs to be performed in order to assess the effectiveness of these agencies and to better prepare them for future public health crises.<sup>23</sup> There should be an initiation of 'community-based' programs and protocols to address the need for reduction in stress and anxiety in children.<sup>12</sup>

## Conclusion

Mental health conditions are suggested to have a well-correlated connection to suicide, the world's third leading cause of death among children 15-19 years of age. With such psychiatric issues arising, physicians and child care agencies must step up to ensure the optimal wellbeing of children, physical and mental health while the pandemic is underway and beyond.

## Disclosures

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