

## Editorial

# The impact of the COVID-19 pandemic on children and young people

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In March 2020, the World Health Organization declared the spread of COVID-19 as a global pandemic, and youth worldwide were suddenly confronted with unprecedented consequences. The first line of concern was related to the direct effect of SARS-CoV-2 viral infection. While severe physical health symptomatology including death following infection was found to be less common in children than in adults,<sup>1</sup> long-COVID has been identified in the pediatric population with the most prevalent manifestations involving mood symptoms, sleep difficulties, and fatigue.<sup>2</sup> Secondly, the measures against COVID-19 carried their own set of risks. Many governments imposed national lockdowns, schools closed, remote learning started operating and social distancing measures prevented families from visiting public places or meeting people from other households. Isolation, disruption of everyday routines, and a sharp and dramatic decrease in physical activity and social interaction levels became the new reality experienced by children and adolescents of all age groups.<sup>3</sup> Cross-sectional community studies on children and adolescents conducted early in the course of the pandemic indicated elevated levels of loneliness, anxiety, and behavioral problems in youth samples, even during the initial phases of the outbreak.<sup>4</sup> Systematic reviews of mainly cross-sectional studies that followed indicated a significant rise in clinically significant anxiety and depression symptoms among children and adolescents compared to pre-pandemic levels<sup>5</sup> and high prevalence estimates for depression, anxiety, posttraumatic stress symptomatology, and sleep disorders.<sup>6</sup> A recent systematic review that included data from 55,000 children and adolescents from many countries of the world (mean age 11.3 years) reported that anxiety (range = 1.8–49.5%), depression (range = 2.2–63.8%), irritability (range = 16.7–73.2%) and anger (range = 30.0–51.3%) were frequently reported by children and adolescents during the pandemic.<sup>7</sup>

However, the experience of the pandemic was not homogenous among all youth. Possible risk factors included the presence of mental health problems before the pandemic, excessive exposure to media, and high COVID-19 caseload in the community, while the presence of any kind of family routines and good parent-child communication were identified as protective factors.<sup>7</sup> Females and older adolescents were also reported to be at greater risk for adverse mental health outcomes. In most countries, the spread of the infection, on one hand, and the enforcement of lockdowns and other containment measures, on the other, have put health care under tremendous pressure, leaving families with children with mental health disorders with minimal or inadequate support. Nevertheless, differences were also observed within the group of children with psychiatric or developmental disorders diagnosed before the pandemic. Numerous studies that have investigated the impact of the COVID-19 pandemic and related containment measures on children and adolescents with autism spectrum disorders reported a significant increase in parental stress, as well as high levels of anxiety, irritability, hyperactivity, stereotypical behavior, and other behavioral problems among children and adolescents.<sup>8</sup> Further studies that investigated the issue of neurodevelopmental disorders showed that the COVID-19 pandemic has disproportionately and adversely affected children with attention-deficit/hyperactivity disorder (ADHD) with a recent meta-analysis pointing to a global increase in ADHD symptoms.<sup>9</sup> Finally, early concerns about a possible significant increase in suicidality among youth during the pandemic were followed by contradicting findings from relevant studies. On the whole, though, it is suggested that during the pandemic, as previously, higher rates of suicidal ideation than of suicidal behaviors and suicide events were reported among children and adolescents.<sup>10</sup>

Similar patterns of mental health difficulties to those described above have also been identified in youth in Greece. During the early stages of the pandemic, one-third (35.1%) of the parents reported that their child's psychological health was considerably affected,<sup>11</sup> while a study of final-year high-school students found that the rates of severe depression and anxiety increased significantly during the lockdown.<sup>12</sup> Among children and adolescents with pre-existing mental health problems from different parts of the country, no change was found in mood state scores pre- and post-pandemic onset, while several of their daily behaviors worsened during the lockdown, such as reduced sleep or time spent outdoors.<sup>13</sup>

Such research findings related to the effects of the COVID-19 pandemic and its containment measures should guide the follow-up of children and young people affected by it and inform the design of effective health strategies and policies in the post-pandemic era with the aim to prevent and mitigate further mental health crises.

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