

## A call to action to address COVID-19–induced global food insecurity to prevent hunger, malnutrition, and eating pathology

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*The coronavirus 2019 disease (COVID-19) pandemic has led to food shortages, increased food prices, and loss of income. As a result, global food insecurity alerts have been issued. The pandemic threatens millions of children and adolescents and their families currently living with or at risk for development of food insecurity. The lack of consistent access to nutritious food sources is associated with chronic physical and mental health problems and death. Studies on food insecurity and eating pathology have heightened our concern about the impact the added effect of the pandemic may have on eating behaviors of children and adolescents. Here, we want to draw attention to the need for making food security and healthy eating attitudes and behaviors a global priority during the COVID-19 pandemic to guarantee the current and future health and well-being of our children and adolescents.*

Coronavirus disease 2019 (COVID-19) was declared a pandemic by the World Health Organization in March 2020 and has become an unprecedented public health crisis that has led to economic and social crises. Unemployment, under-employment, and working poverty are predicted for millions of people worldwide due to the pandemic. COVID-19–related global lockdowns have obstructed all stages of the food supply chain from farm to fork, including processing and production, shipping and distribution, and consumption.<sup>1</sup> An increase in food prices (eg, wheat, rice) has occurred and additional increases are anticipated.<sup>1</sup> As a result of food shortages, increased food prices, and/or loss of income due to increased unemployment rates, global food-insecurity alerts have been issued.

Food insecurity is defined as consistent worry or concern about access to adequate amounts of affordable and nutritious foods at all times.<sup>2</sup> The United Nations World Food Program has estimated that 265 million people could face acute food insecurity by the end of 2020, thus almost doubling the number of people under severe threat of food insecurity around the world.<sup>3</sup> Ongoing science-based solutions will help inform policy makers (eg, governments, global organizations) and key stakeholders (eg, clinicians, researchers, community organizations) to establish a needed global response to address the impact of the COVID-19 pandemic on food insecurity and the implications for eating pathology that may develop as a result of prolonged hunger and malnutrition.

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*Key words:* adolescents, children, COVID-19, eating pathology, food insecurity, nutrition.

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Two recent national surveys from the United States showed that the COVID-19 pandemic has led to far higher rates of food insecurity in households with children than in previous years.<sup>4</sup> The COVID-19 Impact Survey showed that 34.5% of households with a child  $\leq 18$  years old and 34.4% of households with children  $\leq 12$  years old were food insecure by end of April 2020, compared with 14.7% and 15.1% in 2018, respectively.<sup>4</sup> Furthermore, the Survey of Mothers with Young Children reported household food insecurity among 40.9% of mothers with children  $\leq 12$  years old since the outbreak of the pandemic. The same survey showed that 17.4% of mothers with children  $\leq 12$  years old reported that “the children in my household were not eating enough because we just couldn’t afford enough food,” compared with 3.1% in 2018.<sup>4</sup>

Among children and adolescents, exposure to food insecurity is associated with dietary inadequacies, impaired growth and development, low educational achievement, cognitive deficits, chronic physical and mental health problems, and death.<sup>5</sup> Food insecurity has cognitive and behavioral implications for parents and caregivers (eg, skipping meals due to financial constraints, hoarding food, pressuring or overfeeding children when food is available because of worry about running out of food) and negatively affects child well-being through family conflict. A recent study has shown that relative change in food insecurity (rather than absolute severity) influenced restrictive feeding practices for newborns through mothers’ own restrictive eating patterns.<sup>6</sup> Restrictive child-feeding practices are consistently linked to pediatric obesity risk, thus contributing to the epidemic of childhood obesity. With regard to nutritional habits, food insecurity is linked to the preference of processed foods over foods of high nutritional value (eg, fruits, vegetables), and also to obesity, and both links may be mediated by an increase in the relative reinforcing value of ultraprocessed, high-energy-density foods. In line with this finding, food insecurity has been associated with greater reinforcing value of snack foods during pregnancy.<sup>7</sup>

Importantly, eating pathology encompassing food restriction and bingeing and purging may be facilitated by nutritional habits early in life. There is evidence for the association between periods of compromised nutrition during critical periods of early childhood development and eating pathology.<sup>8</sup> Food insecurity has also been associated with predisposing or exacerbating eating pathology in children and adolescents.<sup>9</sup> Finally, food insecurity is associated with eating disorders such as excessive night-time eating, food hiding and secretive eating, bulimia nervosa, and binge eating disorder.<sup>10</sup> Stress, bouts of starvation, and food cravings during times of financial hardship are thought to promote

binge-eating episodes. All aspects of these eating pathologies have been associated with health consequences in growing and developing children. Hence, the COVID-19 pandemic has raised concern about the significant impact the added effect of the COVID-19-induced food insecurity may have on eating pathology. Greater attention needs to be given to the association between eating pathology and food insecurity, especially in children and adolescents.

Although these are uncertain times, there are things we need to consider to protect food security for children and adolescents now and in the immediate future. To address the issue of food insecurity, we need to redress the economic crisis that has exacerbated income and job inequality. Basic income protection during times of crisis ensures the security of all and lessens the risk of eating pathology and developmental concerns as a result of food insecurity. Food security is a determinant of dignity, justice, life, and sustainable development.

Specific actions taken depend, of course, on the local context and must consider several factors, including climate, geography, socioeconomic systems, health care systems, educational systems, and political structures. Regardless, coordinated preparedness is the single most important action that can be taken at the local, community, government, and global levels. Being prepared in the face of a pandemic like the COVID-19 requires that countries plan, organize, invest time and resources, and coordinate and communicate with local municipalities and the public. Furthermore, ensuring that food is available and accessible (eg, food security programs) to those who need it, securing essential food stocks, and communicating with and educating the public about personal public health measures (ie, handwashing, mask-wearing, physical distancing in the case of COVID-19) are of the utmost importance. Consideration of evidence-based policies that include prevention strategies and coordinated responses will build trust in our citizens, increase economic stability, decrease food insecurity, and, ultimately, ensure the health of children and adolescents and their families.

Given that food insecurity in the context of COVID-19 is a very real entity, greater focus, awareness, and understanding of the impact of food insecurity on eating pathology in children and adolescents are warranted. Partnerships with researchers, clinicians, policy stakeholders, governments, and community and global organizations will guide needed research in this area. We must ensure that food security and healthy eating attitudes and behaviors are a global priority so we can guarantee the current and future health and well-being of our children and adolescents.

*Author contributions.* G.P. conceptualized the paper and wrote the first draft. G.P., G.D., and D.K. edited and revised the manuscript and approved the final version.

*Funding.* None.

*Declaration of interest:* None.

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