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## **Editorial: Post-COVID-19 Nutritional Concerns or Challenges among Young Children**

**Umme Rumana\***

*Department of Medicine, MBBS & MS, New York Institute of Technology, College of Medicine Old Westbury, New York, USA. Email Id: [umme.rumana.mbbs@gmail.com](mailto:umme.rumana.mbbs@gmail.com)*

### **COVID-19 and malnutrition**

Before the Corona virus disease 2019 (COVID-19) outbreak and its unprecedented impact, the State of the World's Children 2019, UNICEF, reported that 69% of the total death in childhood (<5 years) was caused by malnutrition. India is home to nearly half of the world's "wasted" (low weight for height ratio) children.

COVID-19 among children has been found to be associated with several gastrointestinal symptoms, including diarrhoea, vomiting, abdominal cramps, loss or change in sense of smell or taste, loss of appetite or poor appetite and/or poor feeding. The loss of appetite and poor feeding can, in turn, affect the nutritional status of children and can lead to long-term consequences.

On the other hand, malnourished children have an impaired immune system and are, thereby, more susceptible to infectious diseases such as COVID-19. Of note, micronutrient deficiencies also contribute to increased vulnerability. This is because micronutrient deficiencies are associated with specific immune impairments that influence the innate and adaptive immune systems. For instance, zinc deficiency is associated with diminished phagocyte and lymphocyte activity, and vitamin A deficiency results in the impaired development of neutrophils, macrophages and natural killer cells. Malnutrition tends to aggravate the risk to infections and vice versa.

According to the latest article published in *The Lancet*, “The COVID-19 pandemic is expected to increase the risk of all forms of malnutrition.” The global social and economic crisis due to the COVID-19 pandemic also poses grave risks to the nutritional status and survival of young children (particularly in low- and middle-income countries). Specifically, an expected increase in child malnutrition, including wasting, is a matter of concern, which could occur due to/is associated with the following risk factors:

- Reduced household incomes and limited financial resources.
- Changes in the availability and affordability of nutritious foods (food insecurity) and poor-quality diets.
- Limited care and interruptions to health, nutrition and social protection services.
- Unhealthy household environment.

Undoubtedly, disruptions in the economic, food and health systems triggered by the COVID-19 pandemic are predicted to continue to exacerbate all forms of malnutrition.

## Way Forward

In this context, a few strategies that can help reduce the impact of the current crisis include:

- Maximising maternal, infant and young child nutrition actions
- Protecting the functioning of food supply chains and strengthening food security
- Managing cases of acute malnutrition
- Establishing nutrition surveillance
- Improving access to healthcare and providing educational programmes
- Implementing social protection programmes as well as safe and healthy household/community environments.

Besides, the amount of food given to children post illness should be necessarily increased to help regain weight and facilitate growth. Providing food frequently, including giving an extra meal every day or snacks in order to fulfil a recovering child’s increased hunger, is crucial. Fortification and micronutrient supplementation are also crucial in tackling malnutrition, including the acceleration of programmes that promote these.

## Conclusion

Malnutrition among under-5 children is still a matter of concern and makes children more vulnerable to infections, such as COVID-19. On the other hand, the COVID-19 pandemic is expected to increase the risk of all forms of malnutrition. COVID-19 can not only lead to malnutrition due to its gastrointestinal effects, but also, as a pandemic, trigger disruptions in the economic, food and health systems that continue to exacerbate all forms of malnutrition. It is important to tackle these concerns with strategies such as ensuring food security, establishing nutrition surveillance and providing educational programmes, among others. Moreover, at an individual level, it is crucial to ensure optional nutrition during recovery, i.e., post COVID-19. Fortification and micronutrient supplementation are also crucial in tackling malnutrition.