

Proteinews

(COVID Special Edition 3)

Brought to you by:



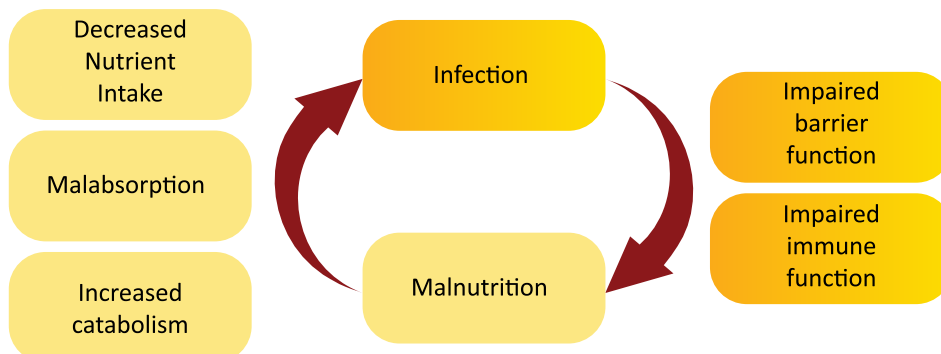
COVID-19 and KIDS...The unseen damage

- » Experts warn that the third wave, expected to hit India later this year, will affect children the most.¹
- » Malnutrition could exacerbate the effects of COVID-19 in children.²
- » Deteriorating quality of diets, interruptions in nutrition and other essential services and socioeconomic shocks due to the pandemic are further incrementing the numbers of malnourished children.²



Malnourishment and Infection...The bad-connect

Figure 1 Interactions between malnutrition, infection and intestinal dysfunction³



- » Infection can negatively influence the nutritional status.
- » This leads to a reduction in the body's ability to fight infection.
- » Accordingly, infection can cause malnutrition and malnutrition may increase the chances of infection.³

Malnourished children are at a significantly higher risk of more severe disease, increased frequency of infections and encounter significantly more acute and long-term morbidity and mortality post infection. ⁴

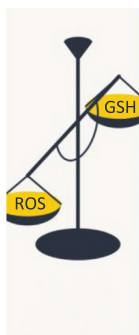
Proteins and Immunity....The Health-Boost

Amino acids support immune cell function by multiple mechanisms as they⁵

- » Are fundamental building blocks supporting life
- » Are instrumental for protein synthesis
- » Also contribute to ATP generation, nucleotide synthesis and redox balance to support cellular and organismal function.



Redox Balance



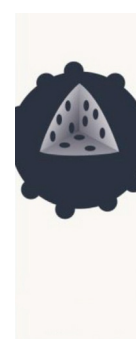
Energy metabolism

Epigenetic modification



Protein synthesis

Nucleotide synthesis

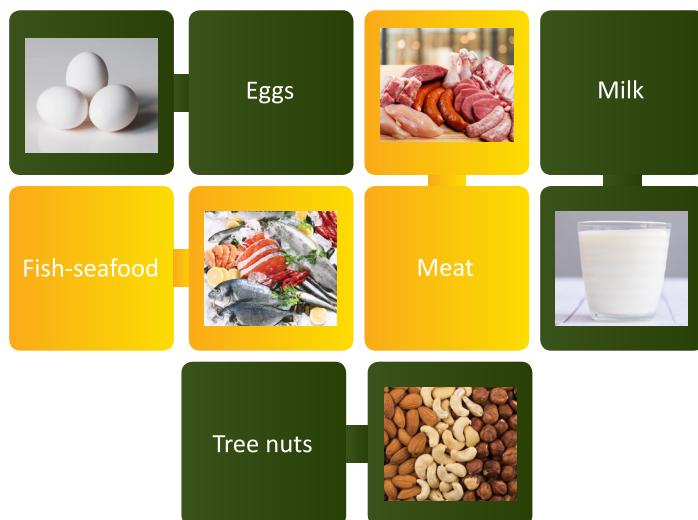


Lysosomal storage



PRO-teiN-ACE ...Ace the COVID-19 Recovery

- » A well balanced and healthy diet is critical for optimum antibody production and minimization of oxidative stress and inflammatory status for promoting an appropriate immune response.⁶
- » Low protein levels can increase the risk of infections due to low antibody production. Thus, consumption of proteins along with some lipids, antioxidants, and micronutrients provides significant benefit in COVID-19 recovery.⁶

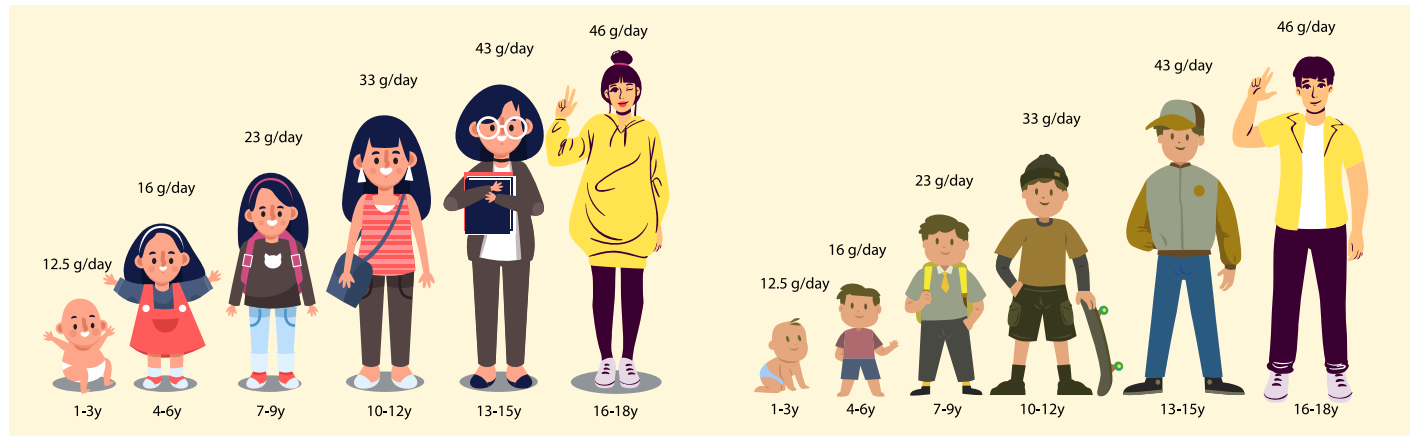


Protein sources with positive effects on COVID-19 recovery rates⁶

Daily Protein Recommendations for children & adolescents in India

Proteins are important nutrients needed to protect against muscle loss while fighting COVID 19. They are even more critical in case of bedridden or inactive patients.⁸

Source: ICMR-NIN (2020)⁷



Pro-tipper: Meeting the Nutritional Needs during COVID-19⁸

Nutritional Requirements during COVID-19

- » Fluid: about 3 liters of fluid per day
- » Calories: 2000 - 2500 calories per day
- » Protein: 75 - 100 grams per day
- » Drink Fluids Every Hour

Eat a High Calorie, High Protein Diet

- » Eat 6 times a day, every 2-3 hours even if you are not hungry.
- » Try to eat 75-100 grams of protein per day.
- » Good protein sources are: peanut or nut butters, milk, eggs, yogurt, cheese, meat/fish/poultry, protein shakes.
- » Due to decreased appetite, eat nutrient dense foods.
- » Drink fruit juice, milk, or other calorie-containing beverages.
- » Try using nutritional supplements between meals to increase your nutritional intake.
- » Eat small amounts frequently.

References: 1. Covid The Third Wave. Sharma A, Verma SK et al., IJIRT, 2021; 8(1): 198-200.; 2. Fore HH, Dongyu Q, Beasley DM, Ghebreyesus TA. Child malnutrition and COVID-19: the time to act is now. Lancet. 2020 Aug 22;396(10250):517-518.; 3. Farhadi S, Ovchinnikov RS. The relationship between nutrition and infectious diseases: A review. Biomed Biotechnol Res J 2018;2:168-72; 4. Walson JL, Berkley JA. The impact of malnutrition on childhood infections. Curr Opin Infect Dis. 2018;31(3):231-236.; 5. Kelly B, Pearce EL. Amino Acids Support Immunity. Cell Metab. 2020 Aug 4;32(2):154-175.; 6. Cobre AF, Surek M, Vilhena RO, Böger B, Fachi MM, Momade DR, Tonin FS, Sarti FM, Pontarolo R. Influence of foods and nutrients on COVID-19 recovery: A multivariate analysis of data from 170 countries using a generalized linear model. Clin Nutr. 2021 Mar 22:S0261-5614(21)00157-6.; 7. Summary of recommendations – ICMR-NIN, 2020 RDA and EAR- a short report. Available at: https://www.nin.res.in/nutrition2020/RDA_short_report.pdf 8. Nutrition and hydration: Quick facts for COVID-19 patients. Available at: https://www.nutritioncare.org/uploadedFiles/Documents/Guidelines_and_Clinical_Resources/COVID19/COVID19%20Patient_Nutrition%20Quick%20Facts.pdf