



Immunity-Boosting Foods during COVID 19 in India - Commoditization of Science

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Editorial

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Editorial

It's been six months since the World Health Organization has declared COVID 19 pandemic. COVID 19 is defining the global health crisis of our time and one of the major threats posed to the world since World War II. Worldwide, scientists are racing for a safe vaccine or medicine. Amidst this uncertainty, 'immunity' boosting' is a trending topic in India and other parts of the world. The concept of immunity-boosting is scientifically misled and commoditized during the pandemic by enmeshing public fear to contract the virus. By definition, immunity-boosting is a long term procedure that cannot be achieved overnight by eating a single food or supplements. Strong immunity is an outcome of a holistic lifestyle that consists of healthy eating, physical activity, sound mental health and adequate sleep.

Unfortunately, during COVID 19 many single foods, food products, a combination of traditional medicines are commoditized and sold at large scale in the Indian market with an unscientific false hope that taking such product would prevent SARs-COV-2 infection. There is no current evidence that any product or practice will contribute to enhanced immunity instantly. However, this lack of evidence has not stopped the celebrities, natural food manufacturers, plant-based nutrition companies and other commercial entities from propagating notions of boosting immunity, and messaging of this nature is readily found connected to online portrayals of COVID-19 in the popular press.

In the last few months, the demand for immunity boosting products such as various ayurvedic formulas has increased up to manifold. Based on traditional knowledge, herbs are known to possess immune-modulatory properties, which mean they produce both specific and non-specific immune responses. The demand has increased for products having cinnamon, ginger, black pepper, ashwagandha, giloy, mulethi, tulsi, green tea, or a mixture of all [1].

Famous wellness guru from India produced an immunity booster kit and claimed that it has successfully treated COVID 19 patients aged 15-65 years in a clinical trial. However, the claim was withdrawn amid huge controversy and the kit has been renamed as an immunity booster and not a modality of treatment. A high court in India fined the company 10 Lakh INR for "exploiting the fear and panic among the general public by projecting a cure for the coronavirus." This doesn't affect the institution as they claimed that the kit received massive response and over 10 lakhs kits were sold per day, each priced at INR 545 [1].

Immunity has become the new playground for pharmaceuticals companies and nutrition supplement production houses. There is a huge demand for chyawanprash and honey among the Indian population during the current pandemic. Chyawanprash is an ayurvedic health supplement which is made up of a super-concentrated blend of nutrient-rich herbs and minerals [2]. All chyawanprash contains more than 50% sugar to enhance the palatability by reducing the bitterness of the other ingredients [3]. This product is usually taken minimum once a day. According to the existing nutritional knowledge, taking chyawanprash regularly could be extremely harmful to people living with diabetes [4]. Honey is a type of high fructose syrup that possesses a very high glycaemic index and glycaemic load, equally harmful for the people with insulin resistance [5]. In this context, it's very important to specify dosage after adjusting total carbohydrate intake in people living with diabetes. However, most of the time, the consumption of these products are random and not advised by a licensed medical practitioner.

Plant protein powders and whey protein brands have also boomed in Indian markets as immunity boosters without assessing the health risks of high protein intake. Whey proteins hold some potential in developing immunity

as they contain all the essential amino acids. A study by James, et al. [6] suggested a modest impact of whey protein supplementation on the cytokine response in atopic asthma. On contrary, another study by Forbes S & Bell G [7] have concluded that whey protein isolate supplementation while endurance training did not differentially change cycling performance or the immune response at rest or after exercise. There is dearth of literature on positive immune system outcome in general population who are not indulged into extensive physical activities. There are enough scientific evidence that stated that excessive intake of whey protein without proper utilization results in severe kidney injuries, nausea, cramps, stomach pains, etc. Vasconcelos Q, et al. [8], Delimaris I [9] on the other hand, the intake was not paired with a suitable workout plan to utilize concentrated proteins due to nationwide lockdown.

Camel milk and camel milk powder became popular supplements to enhance immunity in parts of India. The companies redesigned the camel milk powders with different flavours to add variety. In an article Rasheed Z [10] explains various benefits of camel milk. He documented that, camel milk contains a high proportion of anti-bacterial and antiviral substances. Camel milk ingredients such as lactoferrin, immunoglobulins, lysozyme, B Vitamins, Vitamin C, minerals, and iron have been studied for their medicinal properties in patients with different disorders ranging from diabetes to cancer. He has also stated that camel milk is much more nutritious than milk from a cow, buffalo, sheep, etc. However, the question remains as to whether camel milk or powder could boost immunity alone and possess the potential in preventing COVID 19 or any other infectious diseases.

Other than these, health bars, mixes and even branded health salt were also flying off the market as immunity-boosting products. An infodemic spread faster in social media – Whats App, Facebook, Twitter, and Instagram than the pandemic itself [11].

The COVID 19 pandemic brought severe challenges for the doctors and nutritionists to counter misinformation flooded in the social media regarding immunity-boosting foods along with other myths. A combination of a balanced diet, physical activity and sound mental health is the gold standard to ensure long term immunity. A mix of fear, uncertainty, desperation and lack of awareness encouraged the Indians to consume any available random immunity booster without assessing the science behind the same by seeking advice from experts. In this regard, responsible behaviour from the manufacturing companies and effective

law regulations from the Govt. was expected to prevent commoditization of science with scant evidence.

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