

Shreyan Sai Kancharla  
Enloe High School  
Raleigh, NC, USA  
India, Malnutrition

## **Malnutrition in India**

### ***Introduction***

India is a major leader in the production of agricultural resources such as milk, rice, vegetables, and wheat. According to the Food and Agriculture Organization of the United Nations, the country produced approximately 275 million tons of food grain from 2017-2018. India accounts for 10.9% of the world's fruit production and 8.6% of the world's vegetable production. It is also one of the most populated countries in the world, with over 1.3 billion people. Out of the 1.3 billion people, 189.2 million are malnourished, of which 3.3 million are children (*The Hindu*, 2021). This means that a significant portion of the population — especially children — consume diets with nonoptimal calories, insufficient vitamins, and inadequate minerals needed for healthy development. These children are raised in environments that bear the burden of bad hygiene, poverty, and a lack of education – more specifically, a lack of education regarding a healthy diet.

### ***Average Family and Diet***

The average size of each family in India consists of four or five members per household (*ArcGIS*, 2021). Many Indian families living in rural areas reside in single-family houses. Families living in urban areas usually reside in apartments. Families can get food from grocery stores, open-air markets, and small local shops. In urban areas, local shops are very common and close to residential areas. The typical diet consists of fruits, vegetables, legumes, whole grains, nuts, seafood, and poultry (*Sharma et. al*, 2020). Rice is one of the more prevalent grains found in the Indian diet. A factor of the Indian diet that can be associated with malnutrition is dessert. Many desserts are widely popular and culturally significant in India. However, they contain large amounts of sugars and saturated fats, which can lead to obesity.

### ***Income and its Impacts on Education and Healthcare***

In a developing country such as India, there are various types of jobs available. One of the fastest-growing industries in India is Information Technology. There are also jobs in healthcare, marketing, farming, and many more industries. The average Indian salary is equivalent to about \$428.49 per month (Soucy, 2022). Working families with steady incomes are more likely to have educated children than poor families. While public education is free and mandatory for children between the ages of 4-16, there is still a large number of children who do not get educated (Trines, 2018). On top of this, public (government-run) schooling tends to provide much lower quality education than private schooling, which is less affordable. Similarly, the quality of public healthcare is not as good as private healthcare due to a lack of physicians and state funding. According to the Commonwealth Fund, “healthcare in India has been chronically underfunded” (*Tikannen et. al*, 2020). While those who earn enough to pay for these private services receive good education and healthcare, those who cannot afford private services are forced to deal with the shortcomings of public institutions.

### ***The Indian Government and its Programs Against Malnutrition***

India's government is a parliamentary democracy, which means that they have a president and a prime minister, who are the Head of State and Chief Executive of the country's executive branch respectively (Pariona, 2017). The government is split into three different branches: the legislative, executive, and judicial branches. The government has allocated around \$1.46 million from 2020 to 2021 for the mid-day

meal scheme, which provides meals to underprivileged students across India (Mukherjee, 2021). Initiated in 2001, this program feeds over 100 million students every day (*The Times of India*, 2016). Studies have shown that this program improves students' linear growth, increases attendance, reverses, and prevents malnutrition (*Outlook Web Bureau*, 2021). This shows that providing meals in school can help solve malnutrition. It can also increase the number of children getting an education by providing an incentive to go to school. While the government shows good results with this program, it faces multiple barriers. One of these barriers is the inconsistency of implementation of the mid-day meal scheme among states. For example, some states in India, such as Tamil Nadu, Gujarat, and Rajasthan, provide mid-day meals to between 4-5 million children (*The Times of India*, 2016). On the other hand, states such as Sikkim, Chandigarh, and Lakshadweep only provide mid-day meals to less than 100 thousand children (*The Times of India*, 2016). The Integrated Child Development Services (ICDS) scheme is another prominent government program that supports proper nutrition. They provide nutritional meals to young children under 6 years old and nursing mothers. They also provide growth monitoring promotion, which is meant to track the growth of the children and assess if they are healthy or suffer from malnutrition. These services, however, are not very effective due to a lack of weighing machines and improper weight recording (Sachdev & Dasgupta, 2011). Due to a large number of people in the country, the required funding to make these programs more successful is insufficient. The federal government needs support from state and local governments. Politicians should address malnutrition directly in their agendas. They can also encourage the government to bring its departments together. For example, the agriculture department and the finance department could work together for a more systematic and integrated approach to tackling malnutrition. The citizens of India can interact with the local government by demanding increased funding for these programs. By addressing the problem on a local level, the government can increase the availability of resources for each region, and in turn, the entire country.

### ***NGOs and How They Can Play a Larger Role in Combating Malnutrition***

Currently, in India, many non-government organizations (NGOs) also provide mid-day meals for children in schools. An international NGO that supports proper nutrition in India is UNICEF, which primarily supports children. They support the government's efforts as well as feeding schemes for mothers and adolescents (UNICEF, n.d). The Akshaya Patra Foundation, an NGO based in Bangalore, provides meals to over 1 million school children (Gupta, 2015). These children receive many benefits from such organizations. For example, a student in a rural area was left malnourished and anemic due to poverty. However, after receiving nutritious meals from her NGO-run school, she regained strength and was found no longer to be anemic (Sachdeva, 2019). The NGOs in India that combat malnutrition are very important in solving issues like these. The people of India should take the initiative to volunteer with these organizations. They should also try to donate what they can to the NGOs so that the NGOs can provide more meals. These meals should contain a proper amount of calories and the essential vitamins needed by the children. Furthermore, meals should also be distributed among families in rural areas who suffer heavily due to poverty and cannot afford proper food. These meals should be presented in the form of meal kits, which can contain different nutritious crops/ingredients instead of ready-made meals. With this approach, the cost of creating these meal kits gets reduced. Some examples of ingredients that can be added to the meal kits are millet and sorghum. The conditions in India are suitable to grow these crops, and they contain high amounts of protein and iron, which can directly reverse anemia (Florida, 2019). Availability of these supplies for mothers and children can help to reduce the number of children that are adversely affected by malnutrition, which includes the twenty million children who are currently wasted (having a low weight for their height) in India (UNICEF, 2018).

### ***Effects of Malnutrition on the Indian Economy***

One of the largest causes of malnutrition is poverty. In India, over 134 million people earn under two dollars a day (Mahapatra, 2021). Aside from not being able to purchase a sufficient quantity of food with

this money, the poor would not be able to afford food that is high in nutrients with limited financial resources. They would instead be consuming cheaper food, which tends to not have the proper nutrients needed. 85% of Indian children between the ages of 7 and 12 do not get sufficient amounts of vitamin A, folic acid, and iron. (*Save the Children*, 2017). Lack of vitamin A can cause serious vision problems and a lower immune response. A lack of iron and folic acid can cause anemia. Anemia is described as an insufficient amount of functional red blood cells (Brennan, 2021). As a result of these diseases, children are unable to develop and grow up to contribute to the country's economy.

India loses 0.8% to 2.5% of its Gross Domestic Product (GDP) as a result of malnutrition (Saha & Singh, 2021). This is a significant percentage of losses that are directly linked to one cause. Investing money into combating the nation's malnutrition could yield economic benefits for the country. For every \$1 spent on combating malnutrition in India, \$34.1 - \$38.6 could potentially be generated in public economic returns (Saha & Singh, 2021). These economic consequences can be seen in the connection between malnutrition and academic performance. Not having the right nutrients can cause young children to have impaired brain development, hindered physical development, and marred cognitive abilities (Jitendra, 2013). According to the report *Food for thought: Tackling child malnutrition to unlock potential and boost prosperity*, these children typically earn 20% less as adults than the adults who were not malnourished as children. "By extrapolating a 20% reduction in earnings to a global level," the global economy could lose "as much as \$125 billion when today's children reach working age in 2030" (Crosby et. al, 2013).

### ***How Nutritional Education Can Reduce Malnutrition***

In addition to children, nursing mothers are another subset of the population that are affected by malnutrition. If these mothers do not get sufficient nutrition, they cannot provide adequate nutrition for their children. This causes a seemingly never-ending cycle of poverty and unhealthy children. One way to combat this is by providing more education to children and nursing mothers regarding the quantity and types of food that are required to support a healthy diet. Nursing mothers in rural areas of India are not well informed in the realm of nutrition and diet. According to the National Family Health Survey, rural mothers did not know that the way to treat a child with diarrhea is to increase their fluid intake and continue a steady diet. Instead, 40% of these mothers reduced the amount of fluid given to the child (*Save the Children*, 2017). Workers in nutritional education could go to these rural areas in India and teach the mothers and children about basic dietary information such as caloric requirements, vitamins, and the types of foods that children need to eat. The government and NGOs can also work together to provide mothers with incentives for bringing their children to health check-ups. This is a system that is proven to be effective in other countries such as Peru. In Peru, the *Juntos* program provides cash to impoverished mothers if they bring their children for health-related check-ups (*World Bank Group*, 2018). Malnutrition must be prevented early – preferably before the child is two years old (Aijaz, 2017). Therefore, a strong focus on nursing mothers is important in dietetic education. Nutrition should also be emphasized in the school systems by having the government direct a portion of their education budget towards nutritional education. There are around only 190 institutes in India which offer at least one course regarding nutrition (Young, 2021). Considering how large the population of the country is, this is a very small number of institutions that teach about diet. Having courses regarding nutrition is important for the youth to know how to feed themselves and also how to feed their children in the future.

Another reason that nutritional education is important in the school system is that the education can target the wealthy class. Surprisingly, malnutrition is also found amongst the rich and not just the poor. The form of malnutrition that is commonly found in the wealthy class is obesity. 33% of men and 36% percent of women in the most wealthy class were found to have obesity (*The University of Sydney*, 2020).

The wealthy class is also highly likely to receive a private education. By including nutritional education in private schooling, these people can learn about healthy diets and the country's obesity rate can subsequently decline.

### ***Conclusion***

India is a heavily populated country that suffers greatly due to malnutrition. With over thirty-three million children considered malnourished and over seventeen million of them categorized with severe acute malnutrition, the country needs to find better ways to develop a solution for this dilemma (*The Hindu*, 2021). Opposing malnutrition not only saves the lives of many children but also can provide a potential increase in the country's GDP. The government's mid-day meal scheme and ICDS scheme help combat malnutrition but need to be more consistent and funded across all states. Many NGOs are doing a good job of providing good meals to children in need, but to make providing meals more efficient, the meals should be provided in a larger range of schools where they can reach more people and also through meal kits that can be distributed in poverty-stricken regions. Dietetic education should also become more emphasized in the private school system to reduce the amount of obesity. Balanced meals along with increased nutritional education being given to the people who suffer from malnutrition and poverty is a noteworthy way of ensuring that India does not have to bear the large burden of malnutrition and unhealthy children in the future.

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