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Childhood Malnutrition in India

India is home to the greatest population of severely malnourished children in the world. Four hundred million children suffer daily, which is a greater problem than in Sub-Saharan Africa. Childhood malnutrition is a massive crisis caused by a combination of factors including inadequate or inappropriate food intake, childhood diseases, harmful childcare practices, and improper care during illness: all contributing to poor health and millions of deaths annually. It affects growth potential and the risk of mortality and morbidity in later years of life. Substantial improvements have been made in health and well being since India's independence in 1947 but still more than half of all children under the age of four are malnourished, 30 percent of newborns are significantly underweight, and 60 percent of women are anemic. The early years of life are the most crucial because it is when the body develops the most mentally and physically and is most vulnerable to disease and illness. The children of India are malnourished because of factors attributed to overpopulation, poverty, destruction of the environment, lack of education, gender inequality, and inaccessible medical care. Poverty is a major cause of malnourishment because it limits the amount of food available to children causing wasting and a lack of vitamins, minerals and nutritional value leading to stunting and low weight. Overpopulation is a serious problem linked to competition for food, shelter and medical care and leads to malnutrition amongst children, especially in rural areas where access to medical care and food is limited. The population of India has increased from a billion people by 16 million annually escalating the severity of malnourishment and poverty. The environment is affected by pollution of the air, water and land causing problems with food growth, sanitation and illnesses spread through the air and water. A deficiency in the amount of food leaves millions starving, many of whom are children, unable to change their situation. Lack of education is a serious predicament resulting in malnourishment because many are illiterate and unknowledgeable about nutrition, family planning, breast-feeding and parenting. Gender inequality places women, the primary care givers of their children, at a lower social status than men and causes them to suffer more because they are last to eat and considered less important continuing the cycle of poverty and malnourishment. Availability of medical care and immunizations are limited to children diminishing their health. All these factors contribute to the devastating amount of malnourished children in India and assistance from the government and international organizations is crucial if this dilemma is to be improved. This paper will focus on the extent of childhood malnourishment in India and what can be done to create sustainable solutions.

The malnourished of India are located in urban, but more so in rural, areas where income and food variety is lower. According to the National Family Health Survey of India, 55% of children living in rural areas suffer from malnutrition compared to 45% of children in urban areas. The situation is particularly grave in states like Bihar, Uttar Pradesh, Madhya Pradesh and Rajasthan. 29% of the Indian population is below the poverty line, 70% of which live in rural areas. Nearly 30% of newborns have low birth weights and it is proven that females with little to no education more commonly raise malnourished children. Large families with more than three children have greater malnourishment than smaller families due to competition for food and medical care. Those who have childcare practices, such as delayed complementary feeding, are also at risk of malnutrition. Obesity is not very common but does exist in India. It is said the 2% of the population is overweight, which is low compared to staggering numbers of more than 50% in North America. Obesity is less common due to the fact that the population is generally too poor to afford enough food to over indulge and that a majority of the nation is vegetarian and does not eat a lot of meat and fast food which contains high amounts of fat, sugar, and salt. Children are active walking everywhere and completing chores by hand due to lack of vehicles and technology and work at

young ages to bring in an income to help support the family. In other nations such as America, children have easy access to transportation, computers and televisions and therefore exercise less.

A typical family in India consists of three children and two parents and often elder relatives live in the home. The age demographics show that 32.2% of the population is under 14 years of age, 63% are between 15 and 64 years of age, and 4.8% of the population is older than 65 years of age. As for gender, there are 1.05 males born to every female. From birth to 15 years of age there are 1.06 males to every female and from 15 to 64 years of age, there are 1.07 males to every female. The population above 65 consists of 1.003 males to every female. India is one of the poorest nations in the world with a Gross National Income per capita of US\$460 and 40% of Indians live off just one dollar a day, hardly enough to even cover the basic necessities of life. The unemployment rate is 4.400% and out of the labor force, 60% work in agriculture, 23% in services and 17% in industry. Traditionally men have been the primary breadwinners responsible for financially supporting their families, although many women, especially in rural areas contribute to the family's income. Women are largely responsible for maintaining the household and caring for the children and elderly relatives, even if they have careers. Education is mandatory for the first five years but many children do not have access to schools or the schools are too unsanitary to attend. The illiteracy rate is 31.6% of males and 54.6% of females. Adults have an average of 5.1 years of schooling and the net primary school enrollment rate is 91% of males and 76% of females. A large percentage of the population lives in rural communities with 70% of the population living in more than 550 000 villages and 30% in over 200 towns and cities. The Indian diet consists of curries and bean dishes mostly and a large amount of cereals such as grain, wheat, rice, millet and corn. Yoghurt, pickles and chutneys are common accompaniments. Dairy products such as ghee, butter, yogurt, *chena* and *paneer* cheeses are also eaten. Indian eating patterns are affected by religion. For example, Muslims are forbidden to eat pork, Hindus do not eat beef and some no meat at all, and Jains are strict vegetarians. In addition, Indians follow strict diets for mourning and pregnancy and there is also a selected system of fasting related to religious practices.

The present status of malnutrition amongst children in India is that a devastating half of all newborns are born malnourished and 30% are born underweight making them more vulnerable to further malnutrition and disease. The infant mortality rate is 90 per 1000 and malnourishment is a factor that attributes to almost half of all childhood deaths. Underweight children is the greatest problem found with 54% of the population under four years old followed by stunted growth in 52% of the population and 17% who are wasted. Anemia affects 74% of children under the age of three and more than 90 % of adolescent girls and 50% of women. There are 1 497 000 118 people living in India, one third of which are malnourished. The poor are spending 80% of their income on food and there is barely enough to feed the whole family, males usually being favored to girls but statistics show that males and females are both equally malnourished.

Families are attaining a low percentage of the necessary amount of food, income, and nutrition. Astonishingly, more than 40% of the population is living off one dollar a day and 25% of the population cannot afford sufficient food for their families. 350-400 million in India are living below the poverty line and 75% of them are lining in rural areas. According to the Indian Council of Media Research, there is a great lack of nutrition with many leaving out the most crucial nutrients from their diet. Compared with the recommendations of the World Health Organization, only 44.4 grams of protein out of the 60 grams necessary is reached daily on average by Indians. 20.2 grams of iron out of the 28 grams needed daily are consumed. 30mg of the 40mg necessary of Vitamin C and 184 mg of the 600mg recommended of Vitamin A are consumed daily. 8mg of the 16mg recommended of Niacin are consumed and 0.63mg of Riboflavin are in daily diets out of the healthy 1.4mg ideal. A mere 1814 Kcal per day are achieved on average with many falling far shorter from the 2425Kcal norm.

The environment in India is continually being degraded; especially in large cities with high pollution. At least one in three people living in Delhi suffer from breathing ailments and a majority of them are from lower classes who work and commute on the streets exposing themselves the most to the elements. Leaded gas is still being used and the lead in the air leads to about one in six who suffer from mental retardation. Another severe problem is water borne pollutants that cause gastro-epidemics and because the poor cannot afford bottled water, they are most at risk. Biodiversity is diminished because farmers grow crops that will bring in the most money and do not think about growing the most nutritious food. Because families are solving their hunger by filling up on cereals and empty carbohydrates, they are still severely malnourished, as they don't consume the needed vitamins and nutrients. Many Indians do not know the nutritional value of fruits and vegetables and do not eat them. Therefore, there is not a demand for farmers to grow them. The importance of nutritional food needs to be made public to parents so they can nurture and feed their children appropriately.

Women and those living in poverty, especially in developing countries, are at high risk of malnutrition. Those who live in rural environments have less access to markets in town where there are a variety of foods and nutrients. They also have less access to health care with transportation being limited as well as public aid. 400 million people are living below the poverty line and 75% of them live in rural areas. Women are at a lower social level than men and therefore are at a greater risk because they are not valued equally. Women must wait for their family to finish meals before they can eat and are not at the same priority level as males when it comes to healthcare and nutrition. Women especially need a nutritious diet because they lose iron during menstruation and support their children during pregnancy and since they lack education and authority, their children suffer because they cannot properly care for them. It is proven that females with less education are more susceptible to raising malnourished children as well as larger families who have competition for food and a greater cost for living. Developing countries have fewer funds to provide nutritional and health awareness as well as providing aid to so many in dire need of financial assistance. Developing countries generally have intense overpopulation and greater problems of poverty causing them to be more susceptible to malnourishment in the population, especially in children. The lack of government aid results in a shortage of education and medical care as well.

The trends of child malnourishment in India show that the situation is improving. According to the Food and Agricultural Organization of the United Nations, in the last 20 years there has been an improvement in the nutritional status of children in India resulting from changes in food intake, socio-economic factors, increased availability of portable water, lower morbidity and improvements of health facilities. The prevalence of underweight children under the age of five was reduced from 63% in the 1975-1979 period to 53% today. The under five-mortality rate declined from 282% in 1962 to 115% in 1994 indicating a development of health and nutritional status as well as socio-economic development. Life expectancy rose from 50 years of age in 1970 to 63 years of age on average today in India. Birthrates have significantly decreased from 6 to 3 children per family on average in India from 1970 to today. However, several infectious diseases continue to remain the main cause of death of children under five years old such as intestinal and respiratory infections, malaria, and malnutrition being a contributing factor. In the last 20 years, there have not been significant changes in patterns of dietary intake because cereals still remain the staple food in India providing a majority of the energy intake. Consumption of sugar, fats and oils as well as green leafy vegetables have slightly increased since the seventies while that of pulses, roots and tubers has fallen. Diets in India remain deficient in micronutrients such as Vitamin A, iodine and iron. Nutrition of children in India should increase as the population growth rates are slowly declining and food demand for cereals decline as well. Malnutrition amongst children is evaluated by stunted growth (measured by height for age), low-weight (measured by weight for age), and wasting (measured by weight for height). A child is considered to be 5 years old or younger. Nutrition is based on the Body Mass Index where under 18.5 is considered chronically energy deficient and over 30 is obese. The poverty line in India is defined in nutritional terms and those who fall under it cannot meet the recommended daily intake of 2,100 kcal in rural and 2,400 kcal in urban areas.

Improving the situation of childhood malnutrition in India hinges on increasing the amount of food, nutrition and income. If children consumed more iron, they would suffer from less anemia, which delays psychomotor development and impairs cognitive development lowering IQ by 9 points. Mothers need iodine during pregnancy because lack of this nutrient causes babies to be born with mental retardation. The deficiency of Vitamin A leads to severe visual blindness and that would be reduced if nutrition in children were higher. If a balanced and healthy diet was provided for Indian children, they would develop normal motor, sensory, cognitive, social and emotional skills. If children were well nourished, it would cost the government less money to provide healthcare for so many who are ill and individuals would be in a healthy enough state to learn and work, raising the income available for their families. There would be a greater amount of food if eating habits were improved because people would realize the importance of fruits, vegetables and meats and eat a wider variety of foods rather than a few staples of cereals and grains in a majority of Indians diets today. By reducing the amount of lead in the air and subsequent pollution causing so many to become ill, the environment would be safer and children would suffer less from these linked illnesses. By cleaning up the water, people would be safe to drink the water from taps and water borne illnesses would be reduced helping to preserve the environment. Biodiversity would rise if children were well nourished because a greater variety of foods would be grown. Families' income would improve because children would be in a healthy condition to learn and function and be able to work for the family bringing in money to support nutrition and other basic commodities.

There are economic issues related to malnutrition as well. Because of the large population of poor living in India, many rely on the government for financial aid and billions of dollars are spent in an attempt to help so many struggling families. The World Food Prize estimates that about US\$10 billion a year is spent on improving malnourishment in India. Malnourishment amongst children results in a loss of productivity, illness, and death and is seriously retarding improvements in human development. Malnutrition reduces the returns on investments in education and acts as a major barrier to social and economic progress as well as it blights the lives of individuals and families.

I believe that the government of India needs to make a political commitment to the problem of malnutrition and tackle it with greater vigor and more rapid improvements. The government, along with international organizations, needs to target the poorest of the population who are living below the poverty line, especially in rural areas, to achieve a major impact. Effective implementation and coverage is necessary if the programs are to be a success because without the maximum efforts, money will be wasted and less people will be helped. A larger percent of the GDP needs to be spent on directed nutritional programs with greater quality and impact, which will help improve health services, education for females and antipoverty measures simultaneously. Programs in India such as the Public Distribution Systems receive only 0.5% of GDP and they have been unsuccessful because they are not reaching those who are the poorest in the rural areas. Sri Lanka successfully dealt with malnutrition in 1980 by spending 1% of GNP on direct nutritional programs, which shows that if the government makes malnutrition a priority and spends adequate money on it, then greater accomplishments can be achieved towards solving malnutrition amongst children in India. The government needs to focus on malnutrition and come up with a comprehensive policy and implementation structure to make sure their efforts are carried out in the best and most effective way. Decentralization of program implementation is necessary for this to happen and local governments need to be involved. Offering work for food may also be a good idea in helping families to receive the appropriate nutrition and secure foods. Programs should aim to improve the situation of child malnutrition today in India by educating families about foods and their nutritional value, safe feeding practices, household food security, preventable and curative health services, and consequences of malnutrition. Family planning needs to be available to help decrease the rapid population growth in order to help reduce the amount of poverty and competition for food. Programs should combat malnutrition by offering information verbally, through the media, and hands on education for those who

are illiterate. The government needs to take a stand on pollution and insure that food security is attained and that water is safe for all to drink so that disease and illness brought on by pollutants are decreased. Money should be spent on agricultural research so that maximum yields of food production and quality can be conquered. Promotion of female equality is important along with the importance of education for everybody if the cycle of poverty and malnourishment is to be improved.

In conclusion, child malnourishment in India can be improved dramatically with the active participation and prioritization of this issue by the government and international organizations. By targeting those who are living below the poverty line and suffer the most from malnutrition in urban and rural areas, success will be the greatest. Education about nutrition, household food security, health services and proper childcare is essential for the general population to improve the state of children's nutrition today. The government needs to spend more money on quality nutritional programs in order to improve the state of malnutrition and therefore health services, education for females and poverty. I believe that spreading the word about overpopulation and its effects on the planet is important to help decrease malnutrition and environmental distress, which will become disastrous with the continuation of the population growth for future generations. The environment needs to be saved and pollution needs to be minimized because illness and disease are brought on by lead in the air and poor sanitation of the water. The earth should be a priority along with a focus on food production and availability to the population along with health care. Malnutrition is affected by female inequality because women, being the primary care givers, are uneducated and at a lower social status so equal rights and education should be promoted so that the literacy rate increases and parents are more knowledgeable about child rearing and nutrition. Those living in rural areas need help receiving adequate food, income and health services due to lack of transportation and availability to such diversity and opportunity. The proper immunizations against disease and illness should be offered to all children and an increase in health care will help decrease child malnourishment. Poverty is a major problem causing families to have insufficient funds for buying enough food but there are many who suffer from the silent hunger of malnutrition because they have enough cereals to fill up on but lack the proper nutrients and minerals to lead an active and healthy life. Child malnourishment is one of the greatest problems in the world, especially in India, and it is important to improve the situation because the first years of life are crucial in the development mentally and physically and children continue to suffer from life long health issues such as blindness, poor bone structure, and a lower capacity to learn along with many more consequences. Trends show that the situation of childhood malnutrition has improved over recent years, but a serious and dedicated effort needs to be put forth today to more rapidly improve the health of children in India in a sustainable way.

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