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Current Issues Paper:

Global Health Crisis of Childhood Malnutrition in Developing Countries

FMSC 110S: Families and Global Health

I pledge, on my honor, that I have neither given, nor received, any unauthorized assistance on this assignment. _____

Introduction

According to the *Progress for Children* report, about 146 million children under the age of five suffer from malnutrition, lacking the adequate amount of protein, iron, and other nutrients needed for a child's growth. This staggering number has been at a stable range for the past couple of decades. Yet no action has been taken to reduce the intensity of this global health burden. I am shocked that even "mild and moderate undernutrition [in children] can significantly increase the risk of illness and death..." (Jacobsen, 2013, p. 259). According to the UN's Standing Committee on Nutrition, malnutrition is the largest single contributor to disease in the world. However, I do not understand why this global epidemic continues to impact our global population. Providing a child with a small amount of nutrients in the early years of life can make a huge difference in their future. A considerable amount of children are poorly nourished and dying as a consequence of malnutrition. So why hasn't this global health issue received more attention? In my opinion, every child should be given the opportunity to live a healthy lifestyle, no matter his or her personal background.

Luckily, the amount of children affected by undernutrition has been steadily decreasing. However, this health crisis remains pervasive. As a result, reducing child malnutrition to minimal levels continues to be a huge challenge, especially in developing countries. Numerous non-profit organizations and world leaders attempt to create local, sustainable solutions that improve the nutrition of young children and provide economic opportunity (Abott Fund, 2014). Because of malnutrition, children suffer from stunted growth, poor school performance, and higher risk to infectious diseases. Sadly, these consequences ultimately lead to numerous, yet preventable deaths. This paper addresses

the numerous avenues that malnutrition takes to deteriorate the human body. In particular, I am interested in the effects of malnutrition on young children in developing countries and interventions that can help decrease the persistence of this widespread condition.

Review of Literature

Determinants of Child Malnutrition

After extensive research about this global health issue, I realized that the underlying causes are not blatantly obvious. In a study, researchers used a logistic regression model to analyze the risk factors of child malnutrition in Bangladesh, a developing country where childhood malnutrition is a growing problem (Faruque et al., 2008). In fact, two-thirds of childhood deaths occurred due to malnutrition in Bangladesh. According to the POM (Proportional Odds Model), researchers found that young children with mothers that have no educational background are more likely to have the worse nutrition status. On the other hand, mothers who practice appropriate feeding practice and postnatal care put their children at a lower risk of becoming malnourished. Ultimately, the significant determinant of undernutrition is a child's upbringing. If the mother is undernourished, has little education, practices poor feeding practices, and receives no postnatal care, then her children will be at an extremely high risk of becoming malnourished (Faruque et al., 2008).

According to the cross-country analysis, *Explaining Child Malnutrition in Developing Countries*, there are three levels of determinants of child malnutrition: immediate, underlying, and basic. The immediate determinants are dietary intake and health status. Deficiencies of iron, vitamin A, and zinc are ranked among the World

Health Organization's top ten leading causes of death through disease in developing countries. Prevalent among millions of people, the lack of iron severely impacts productivity and impedes cognitive development. Also, vitamin A deficiencies weaken the immune system and prevent physical growth of a large proportion of young children in poor countries, increasing their vulnerability to disease. Finally, a zinc deficiency contributes to growth failure, child blindness, and a weakened immunity in young children, which is also linked to susceptibility to disease (World Food Programme, n.d.). These basic factors of malnutrition are influenced by three underlying determinants, which are food security, child care, and health environment quality. Usually, food security does not exist in low-income countries because of chronic poverty and lack of access to safe, nutrient-rich food (Jacobsen, 2013, p. 260). As a result, most low-income families suffer from micronutrient deficiencies, which means children are not consuming an adequate amount of vitamin and minerals needed for growth and development. The other underlying determinants stem from the caregivers' lack of commitment to the child's health status or little knowledge about nutrition. Finally, the report also examines the two basic determinants that are manipulated depending on the influence of the underlying determinants, which are economic resource availabilities and the political environment. Usually, in developing countries, the population is larger than the food supply, which increases the overall price of goods (Haddad, Smith, 2000). This effect makes purchasing healthy, nutrient-rich foods more difficult for low-income households.

Although these determinants play a key role in the prevalence of malnutrition, the mother's role is found to have the strongest impact on child malnutrition. After conducting a study in various regions of Kenya on gender bias, researchers found that

there was significant gender gap between men and women. Men were mainly controlling the house ownership, while the mothers were constrained by social norms. The collected data analyzed the relationship between the household ownership and the health status of the household members. Results showed that male members of the household had more access to education, income, and land compared to the females. Yet the mothers' education, household income, and nutrient intake are the most important factors that contribute to the nutritional status of their children (Marinda, 2006). Across the developing world, women have played prominent roles in maintaining household food security and caring for their children on a daily basis. Given the key roles of postnatal care, support, and protection, the mother's decisionmaking power is crucial to children's nutrition. Sometimes, the mother's power to take care of her child is neglected, resulting in children with no postnatal care and the lack of a nutritious diet. The first two years of life are a critical "window of opportunity", a period of time when it is possible to prevent irreversible damage that follows childhood malnutrition (World Food Programme, n.d.). Ultimately, many of the social determinants that contribute to childhood malnutrition can lead to extreme consequences.

Effects of Childhood Malnutrition

Infectious Diseases

According to the World Health Organization World Health Report, there is evidence of short-term and long-term consequences of malnourishment, including increased risk of morbidity and mortality from infectious diseases, impaired cognitive development, and reduced productive capacity in adulthood. Unfortunately, the burden of ill-health associated with the infectious diseases is especially high in developing

countries. In a study conducted by the World Health Organization, researchers explored MEDLINE for suitable review articles and reports of community-based and hospital-based studies to examine the relations between malnutrition and child mortality from infectious diseases. After analyzing the articles, the strongest and most consistent relation between malnutrition and an increased risk of death was observed for diarrhea and acute respiratory infection. However, there is a less consistent associated observed between malnutrition and death from measles. Conclusively, the risk of malnutrition-related mortality seems to vary for differing diseases (Rice, Sacco, Hyder, Black, 2000, p.1207).

Ensuring that children receive an adequate amount of micronutrients, especially vitamin A, iron, and zinc, either in their diet or through supplementation can significantly decrease their risk of acquiring an infectious disease from malnourishment (Jacobson, 2013, p. 97). These micronutrient deficiencies can induce immunodeficiency in children, increasing their susceptibility to infections. A child with a lower immunity puts the young person at risk to numerous infectious diseases, such as malaria, meningitis, acute respiratory infections, diarrhea, HIV/AIDS, and pneumonia. Ultimately, the presence of malnutrition can lead to a vicious cycle of repeated infections, reduced immunity, and a deteriorating nutritional status. After performing a study on the underlying cause of child deaths worldwide, researchers recognized the “synergistic relation between malnutrition and infection” (Rice, Sacco, Hyder, Black, 2000, p.1208). Not only will children suffer from infectious diseases, but they may experience stunting and wasting.

Stunting and Wasting

It is important to provide the child with the proper nutritious diet within the first one thousand days of a child's life, in order to avoid stunted growth. Stunting means that the child is extremely short for their age, which is an indicator of the long-term cumulative effects of nutrition deficiency. Stunted growth is irreversible and associated with impaired cognitive and physical ability, as well as reduced school performance (UNICEF, n.d.). Even though one in four children under the age of 5 years old worldwide had stunted growth, the graph below shows that the overall trends are positive. Between 2000 and 2013, stunting declined from one-third to one-quarter of children under five worldwide. This is an amazing achievement, but we still have to make long strides until

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(UNICEF, WHO, & World Bank Joint Child Malnutrition Estimates, 2013)

we prevent the shocking prevalence of malnutrition. Opposite of stunting, wasting is when a child has a low weight for their height, which is an indicator of an acute shortage of food. Fortunately, wasting is reversible with re-feeding. (World Health Organization & Fenn, n.d.). Stemming from stunting and wasting, some children have clinical forms of severe acute malnutrition (SAM), such as kwashiorkor and marasmus. Children with kwashiorkor may maintain a moderate weight and have a swollen belly. “Their nutrient-deficient bodies are retaining fluids, causing excess body weight” (Jacobsen, 2013, p. 259). Marasmus is a condition associated with severe weight loss and weakness, leaving children to appear extremely emaciated. Both conditions are associated with an electrolyte imbalance and dehydration, which increases a child’s susceptibility to infection and permanent disability. According to the World Health Organization Global Database on Child Growth, the data exposes the number of preschool-age children suffering from undernutrition in underprivileged populations. The magnitude of undernutrition continues to hamper the physical growth and mental development of more than a third of the world’s children. The various, long-term consequences affect the child’s life transitioning into adulthood. Allowing underprivileged environments to affect children’s development will lead to an enormous waste of future human potential.

Broken Future

For the surviving children, malnutrition has lifelong repercussions, severely reducing a child’s ability to learn and grow to his or her full potential. The lethal cycle of malnutrition and infectious disease is difficult to break, affecting the malnourished child in adulthood. Undernourished adults tend to be less educated, less economically productive, and more likely to have low-birth weight babies (Jacobsen, 2013, p.260).

Unfortunately, the decreased productivity of the undernourished adults will have a negative effect on their families and the national economic performance, “earning at least 20% less on average than those who [are properly nourished]” (Global Alliance for Improved Nutrition, n.d.). Governments will be unsuccessful in their efforts to accelerate economic development in any significant long-term sense until optimal child growth and development are ensured for the majority. Simply providing children with the proper nutrients to survive and thrive can help them recognize their potential. For the reasons listed above, the nutritional status of children should be the primary indicator of socioeconomic development. In order to improve the health and nutritional status of children struggling against malnutrition in developing countries, policy action must be taken immediately.

Prevention Methods

It has been proven by various experiments that knowledge about health care access will positively affect child nutrition status. For example, using a sample of 1, 359 Nigerian households, the 2003 Demographic and Health Surveys investigated the contribution of maternal information and access to community health services toward the reduction of child malnutrition. The researchers found that these initiatives would significantly benefit a child’s nutritional status (Agee, 2010). If the entire globe increased investments in women’s education, then this would increase their chances of entering the workforce and enable them to earn higher incomes. Higher incomes would contribute to improved child-care practices and improved nutrient intake by children (Marinda, 2006). By taking these preventative measures, mothers can help their children achieve a healthy lifestyle. Overall, extensive interventions are needed to educate families and execute

proper feeding practices. To achieve the hunger-and- malnutrition-related Millennium Development Goals, poverty must be addressed. Lack of wealth is clearly associated with the insecure supply of food and nutrition. However, it is easier to provide people with knowledge, rather than solve the issue of poverty. While there are significant nutrition gains overall from enhanced family wealth, children in less wealthy families derive greater nutrition gains from more educated mothers (Agee, 2010).

Ultimately, nutrition education should be made an integral part of primary and secondary education. When educated about health services, malnutrition is treatable with low-cost intervention, sometimes even preventable. However, even though education is important in preventing malnutrition, the distribution of supplementary foods and cash transfer could possibly help reduce malnutrition. Recently, an intervention study was conducted to help prevent moderate acute malnutrition (MAM) and severe acute malnutrition (SAM) in young children in 48 villages in Niger. In the study, researchers targeted households including at least one child and used three different methods, only cash transfer, only supplementary food, and the combination of supplementary food and cash transfer. After collecting the data, the results showed that the combination of both preventative methods had a better preventative effect on MAM and SAM than strategies relying on cash transfer or supplementary food alone. The distribution of nutritious supplementary foods to young children in conjunction with household support should remain a pillar of emergency nutritional interventions. As prevention of malnutrition is crucial in countries facing recurrent nutritional crises and where financial resources are limited, the study results suggest that blanket distribution of nutritious supplementary foods to children under 2 years of age, associated with targeted cash transfer to the most

vulnerable households, could be a cost-effective strategy in the short term (Landgendorf, et al., 2014). This conclusion exposes the success of strategic interventions. Introducing effective initiatives and educating the public about health care can help prevent the pervasiveness of malnutrition worldwide.

Discussion

We need to take urgent action to ensure that every child has the adequate amount of food to survive and thrive. Worldwide, there is a failure to give children support and ultimately condemning an increasing amount of childhood deaths every year. Malnutrition is one of the top causes of preventable child deaths every year. This shocking fact should persuade us to tackle this silent, devastating crisis. In class, we learned that there were about 8 million child deaths worldwide in 2010, caused by preventable determinants, such as infectious diseases and poor feeding practices. However, we skimmed over the topic of undernutrition. The focus was on lactating mothers and poor breastfeeding habits as the prominent cause of undernutrition in neonates. By researching this topic more extensively, I now understand the persistence of this condition. Malnutrition can lead to numerous diseases, impair development, and prevent growth. Many of the studies mentioned expose the causes of malnutrition, while other researchers have implemented different prevention methods to help reduce the amount of worldwide deaths from malnourishment. To improve global child health, several multinational initiatives must be taken to prevent this exacerbating condition. World leaders and organizations must commit more time and dedication to funding for malnourished children. There must be strategic, yet achievable goals set to battle malnutrition.

Across the globe, many social awareness campaigns have been launched in hope of achieving optimum results. The Global Alliance for Improved Nutrition (GAIN) is an alliance driven by the vision of a world without malnutrition. GAIN's programs primarily target women and children, with a focus on the critical one thousand day window of opportunity. One of the key areas that they focus on is improving nutrition for entire populations with large-scale food fortification. With GAIN support, more nutritious foods and condiments such as wheat flour, maize meal, salt and vegetable oil are now available in over 28 countries. So far, GAIN's large-scale food fortification projects currently reach 667 million individuals (Global Alliance for Improved Nutrition, n.d.).

As well as the Global Alliance for Improved Nutrition, a similar organization is implementing early intervention to prevent malnutrition named ChildFund. To combat the problem of childhood malnutrition and developmental disorders later in life, ChildFund launched the Integral Nutrition Program in the poverty-stricken regions in Mexico. This initiative helps children under 5 years old by providing regular checkups and educational programs to new mothers, designed to help them monitor their children's growth. While there is much to be done in Mexico, the success of our Integral Nutrition Program has resulted in a substantial reduction in child malnutrition in the areas in which we work. Since the launch of the initiative, malnutrition rates have dropped from 45 percent to 20 percent. Ultimately, ChildFund's mission is to educate mothers and provide children with the food they need to grow into healthy, happy adults (ChildFund, n.d.). If no measures are taken immediately, this epidemic will cast a long shadow on the future of developing countries. Young children should never have to struggle to survive because

of a malnourished diet. My ultimate goal is that all children have access to a nutritious diet to unlock a plethora of potential and endless opportunities in their future.

Conclusion

Tackling child malnutrition requires protecting, promoting, and supporting optimal infant and young child feeding practices. Since malnutrition has numerous causes, only some intervention can be effective. Many actions are needed to contribute to major reductions of malnutrition in developing countries, including micronutrient interventions, sanitation, education about nutrition, and special attention to vulnerable populations. Ultimately, every child deserves the best start in life. A good start in life will pay off, both in terms of human capital and economic development. Interventions that improve the physical growth and mental development of children will help prevent consequences in the future. In the 21st century, it is unfathomable that any human being on the planet should go hungry. By a collective global effort, we can fund programs that focus on finding solutions to end childhood malnutrition worldwide.