RUNNING HEAD: MALNUTRITION IN INDIA

Case Study

NIZ

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Case Study

# Introduction

Malnutrition refers to a state of nutrition wherein an excess, imbalance, or deficiency exists in terms of proteins, energy, or other nutrients, which adversely affect the human function, form, composition, or shape, and leads to poor clinical outcomes. Although the term malnutrition also includes obesity, however, in general contexts, it usually refers to under-nutrition. Malnutrition or under-nutrition affects nearly all functions and systems of the body and increases an individual’s vulnerability to disease, infections, illnesses, which in turn lead to increased complications and high mortality rates (BAPEN, 2018). India is a prominent country in South Asia which is home to the world’s second largest population; yet since its Independence and the time period before that, India has remained an underdeveloped country with high rates of hunger and poverty. High poverty levels in India are closely associated with a lack of access to adequate food, nutrition, and health care, which has contributed to large scale under-nutrition and its associated complications. The paper will provide an analysis and discussion of the scale, consequence and cause of the malnutrition problem in India along with an analysis of a successful program that aimed to address the nutrition problem in the region.

# Major Nutrition Issues in the Population

 In terms of malnutrition, India ranks top among nations where children suffer from malnutrition. It was ranked at 103 out of a total of 119 countries in the Global Hunger Index report 2018, which reported child wasting at severe levels. Consequently, India is home to the highest number of underweight children with levels nearly twice those of Sub-Saharan Africa which leads to severe consequences in terms of mortality, mobility, economic growth, and productivity (GNR, 2018). The Global Nutrition Report GNR (2018) found that by the end of the year 2018, nearly 46.6 million children in India suffered from stunted growth, primarily due to malnutrition, which dwarfs countries like Nigeria which has about 13.9 million children currently suffering from stunted growth.

 In terms of the number of emaciated or ‘wasted’ children, the GNR (2018) reported figures up to 25.5 million children, while other figures collected by the WHO (2010) also showed that nearly 16% pregnant women and 62% children of pre-school age had Vitamin A deficiency. Anemia rates among these two population groups were reported at 50% and 74%, respectively, while over 13 million children suffered from iodine deficiency disorders (WHO, 2010). Conversely, overweight women make up 22% of the population which indicates that the malnutrition problem in India is two-fold (GNR, 2018). Although some progress has been observed in terms of reducing infant stunting as a result of various intervention programs, progress is still off-target in terms of improved outcomes and an overall decline in malnutrition.

# Consequences of the Nutrition Problem

Malnutrition significantly affects the mortality rate of infants and children while also leading to increased susceptibility towards illnesses, and a reduced ability to learn. A key stage of undernourishment in India is from the time of pregnancy up until the first 2 years of an infant’s life. During this phase, a lack of adequate interventions can damage brain development and lead to irreversible health, social and economic consequences (World Bank, 2013). In both rural and urban areas in India, children who suffer from malnutrition are highly likely to suffer from wasting and stunted growth. In addition, they are significantly more likely to suffer from common childhood illnesses and infections such as pneumonia, malaria, diarrhea, or measles, compared to well-nourished children (Hulshof, 2016). Nevertheless, in rural areas, the effects of malnourishment is more visible with nearly 20% of children wasted, 43% underweight, and nearly 48% under-5 children stunted. Compared to the overall figures, about 1 in 4 Indian children are born with low birth weights, while infant mortality as a result of malnourishment, iron deficiency, and low birthright is currently reported to be 309,300 babies dying on the day of birth, while another 876,200 babies dying within their first month (Narayan, et al., 2018). Other consequences of widespread malnutrition in India includes a high likelihood for infants to suffer from impaired cognitive development. As a result, it serves as a key barrier to human development due to its impact on productivity, education, and health, and further deters the country from achieving sustained economic growth.

# Causes of Malnutrition

A range of causes of high malnutrition has been identified in various reports. A conceptual framework has been developed by UNICEF to define the various types of causes and identify the multi-factor causality of malnutrition. Three broad factors that have been identified in the framework include: food, care, and health. These causes are further divided into levels, like immediate, underlying, and basic (UNICEF, 2013). The immediate cause of malnutrition in India, according to the UNICEF framework includes inappropriate caring and feeding practices in the case of infants, while the underlying causes are identified to be poor hygiene in population dense regions. In turn, this leads to frequent infections that take a further toll on the infants’ bodies. Moreover, nearly 75% of expecting mothers are anemic and in many cases are adolescents themselves, and thus give birth to malnourished babies with various deficiencies to create a generational cycle of malnutrition (World Bank, 2013).

 Additionally, socio-economic status and income is a known basic cause of child malnutrition. A lack of income reduces access to protein and nutrition rich diets, and unsurprisingly, correlates with sub-optimal growth. In addition, household ethnicity, mother’s characteristics, and location are also included as basic factors (Kanjilal, et al., 2010). It also explains higher malnutrition prevalence in rural areas where basic factors such as low-income combine with underlying causes such as high rates of anemia in women and men to create adverse outcomes. Low socio-economic income is also tied to geographical location and thus regions like Jharkhand, Madhya Pradesh, and Bihar report higher rates of malnutrition (Patil & Shinde, 2014).

# Inter-connected Factors Impacting on the Nutrition Situation

In addition to the immediate, underlying, and basic causes of malnutrition in India, there are various interconnected factors that compound those influences. Closely connected to geographical location and socio-economic status are caste and religion which affect the Indian people’s nutritional status. The geographical location also comes into play in terms of education, as mothers in rural regions are less likely to be educated, whereas empowered and literature mothers are known to have well-nourished children. Studies from Bangladesh provide evidence to that effect that in circumstances where women have more control over their earning and are more involved in decisions within the household, their children report more healthy outcomes in terms of nutrition compared to the former (World Bank, 2013). Similarly, another linked factor is the woman’s experience of domestic violence and abuse, which is known to correlate with her nutritional status and ability to give birth to healthier offspring (M. Yount, et al., 2011). In addition, cultural and religious beliefs in India are restrictive of meat consumptions, thus, a large portion of the population is vegetarian, which leads to inadequate consumption of protein.

# Priorities for Action

 In India, despite strong legislative policies, program commitments, and initiatives, India’s nutritional status is still significantly lower than countries of comparable economy. One of the most important phases for nutritional intervention include the first 2 years of an infant’s life, the pregnancy phase and the adolescence time period in the case of girls (Hulshof, 2016). To attain a well-nourished, healthy, and a productive population, it is essential to improve their nutritional status during this time period by improving access to diverse and nutritious food, a hygienic and sanitary environment, clean water, and adequate pre-natal and post-natal services alongside appropriate child feeding and breastfeeding interventions (World Bank, 2013). In India, there is a substantial dearth of knowledge among young mothers about their child’s nutritional requirements, and there is substantial evidence to suggest that this contributes to reduced breastfeeding in the first 6 months of an infant which, in turn, leads to undernutrition among them (Narayan, et al., 2018). This is further supported from data obtained from India's ‘National Family Health Survey' which found that education directly correlated with reduced malnutrition, and correlated with better birth weight among newborns and infants (Hulshof, 2016). Similarly, intervention programs should also focus on providing physical and financial autonomy to women, which was also found to correlate with reduced stunting in children (Hulshof, 2016).

# Successful Nutrition Program in the Population

 On basis of the premise that malnutrition is primarily caused by inadequate access to food, India launched a major initiative in 1975 known as the ‘Integrated Child Development Services’ program (ICDS). It was a comprehensive program which involved a range of sub-programs under the Indian government’s ‘Ministry of Child and Women Development’, and is funded partly by UNICEF and by the Indian central government. Since then, the program has rapidly expanded throughout India targeting mostly children between the age of three and six; however, by this time, malnutrition has already begun affecting the child. The ICDS program underwent several restructuring attempts to create multi-sectoral initiatives to counter this growing problem. The new initiatives involved providing nursing mothers, pregnant women, and children under 3 with supplementary food, and to launch programs that seek to improve caring and feeding practices among mothers, alongside immunization promotion. Additionally, children were provided with pre-school education, thus attempting to cover the three essential areas, food, child care, and health, as defined by the UNICEF conceptual framework for enhancing nutritional outcomes (World Bank, 2013). Although the ICDS program put significant stress on nutrition education, especially to lactating and pregnant women, there is still a substantial number of the population who did not receive complete health and nutrition education from local health workers (Narayan, et al., 2018).

# Program Level According to UNICEF Framework

As part of the ICDS, the Indian government heeded advice from International bodies and invested a heavy amount of fund in such initiatives to counter the problem. The ICDS program attempted to approach malnutrition at each level of the UNICEF framework by identifying and targeting immediate, underlying, and basic contributors to malnutrition. Among these interventions, services under the ICDS which involved the use of government-run daycare centres helped were particularly successful in immunization tracking, referrals, and health check-ups, nutritional supplementation and support, and providing pre-school education, thereby addressing some of the underlying contributors. The program met with mixed success but there was a visible improvement in certain health outcomes, despite the fact that there is still a considerable need for outreach into rural areas. Other initiatives to address the basic contributors included maternal supplementation programs to improve the nutritional status of both the child and mother, while educating women and families on the nutritional requirements of iron, zinc, iodine, vitamin A, and calcium was targeted to address some basic contributors (Bengre, 2015). Yet the success of the program was marred by logistic issues and inadequate infrastructure which led to poor implementation in several areas, which indicated the need for developing grass-root level facilities based on accurate needs assessments to revamp these programs in rural areas (Sahoo, et al., 2016).

# Key Components of the Successful Program

 Some of the restructured ICDS programs which led to the implementation of multi-phased initiatives to support poorer states and low capacity areas, were financed by the World Bank as part of the ISSNIP project, in order to focus on areas where malnutrition was in high prevalence. The project supported the existing ICDS program to promote better child and infant feeding practices, promoted healthy pregnancy and aimed to improve personal hygiene. Additionally, the project facilitated community involvement and mobilization to support these efforts (World Bank, 2012). Some of the major components of the program included systems and institutional strengthening for the ICDS by providing strategic improvements to enhance the overall ICDS program’s effectiveness. Another component involved behaviour change communication and community mobilization to enhance the supply-demand interface of the ICDS particularly at the point of delivery of services. The third component involved supporting the government's efforts to expand nutrition response to complement existing efforts and address the various determinants of undernutrition. Another component involved evaluation and monitoring efforts to support project management at the state and central level (World Bank, 2012). In this regard, the community-based programs showed promise and nearly 70% of the surveyed children in a study demonstrated improvement in weight (Gautam & Mishra, 2018).

# Link with Other Programs in the Population

 The government of India launched a new program called the PMMVY program as a sub-initiative of the ICDS aiming to improve the nutritional status of pregnant mothers. The program involved transferring cash to lactating and pregnant women aged 19 and above to support their first live birth. The program aimed to compensate women during wage-loss period to support childcare and childbirth by providing them with compensation and a maternity benefit totalling $87 for the purpose (Narayan, et al., 2018). Another linked program was launched by the Indian government under the ‘National Food Security Act’ (2013) to subsidize food grains by providing beneficiaries with 5KG cereals per person at subsidized rates. The public distribution system covered 50% of the urban and 75% of the rural population. A recent initiative launched by the Indian government in 2017 is the POSHAN program which aims to reduce underweight and stunting among children, alongside the prevalence of anemia in adolescent girls

 (Gautam & Mishra, 2018).

# Recommendations for Improvement

 One of the improvements needed in the ICDS program is to target younger infants between 0 to 3 years of age especially in regions and states where malnutrition prevalence is considerably higher. Interventions must be targeted towards maternal nutrition and infant feeding during lactation and pregnancy, which will also help reduce the gap between the program’s implementation and policy intentions. In addition, educational interventions needed to be targeted to lactating and pregnant mothers, teachers at primary schools, mothers of young children, as well as health workers to sensitize them to the importance of healthy nutrition for children (Narayan, et al., 2018). Additionally, newer models to address logistic issues, alongside systemic and structural problems must be explored on a priority basis in order to devise effective and sustainable approaches.

 Moreover, the programs must target behaviour change and use community-based approaches for that purpose in order to accelerate efforts to reduce undernutrition prevalence and to halt undesirable practices. In this regard, a bottom-up approach can be adopted to target behaviour change through the transference of positive behaviours to inform nutritional programs. An educated 20% at the bottom can be motivated to encourage the remaining 80% to effect a change in group behaviour. The effort’s success depends on the ability to achieve community engagement and mobilization which is especially centred around positive role models to encourage change (Gautam & Mishra, 2018). In addition, nutritional interventions should be implemented under a continuum of care, while increasing reliance on community-health approaches to create an effective delivery system with high coverage (Hulshof, 2016). Besides that, an independent evaluation and monitoring setup is needed to ensure strong supervision alongside knowledge management to create evidence-based policies, programs, structuring, and budgetary action. Additionally, a focus on women’s empowerment and education will help them make informed choices about their children’s nutrition and health requirements and contribute to the overall program’s success.

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