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A Review of Socio-Economic Factors Impacting Child Malnutrition

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ABSTRACT

Child malnutrition can jeopardize the future of children, therefore can impact the welfare of families. Malnourishment is usually measured by using weight, height and age of children. Most studies on malnutrition report that several socio-economic factors impact the child nourishment worldwide. A review of the literature shows that several household-level factors (income, caste, ethnicity, location, living conditions), intra-household factors (Birth order, gender, mother's characteristics, awareness) and other factors (cultural, domestic violence, government policies) impact the child nutrition. Governments, International agencies, and other stakeholders through various initiatives and interventions are focusing to reduce the menace of malnutrition.

Keywords:stunting, wasting, nutrition, women, children.

1. Introduction

All over the globe, the societies consider a person to be poor or deprived if a person is unable to get roughly 2100 Kcal/day. The global food production currently is at 2796 Kcal/person/day (Harrower & Hoddinott, 2002). This simple figure clearly indicates that there is enough food for people, yet malnutrition and hunger are bitter realities of today's world. For any society, welfare of people, rights of humans, security, and religious beliefs are more than enough reasons to act against hunger and malnutrition, but there are also strong economic and financial reasons to eradicate hunger and malnutrition (World Bank, 2006). Hunger and malnutrition are among the most maleficent problems eroding economic productivity (International Food Policy Research Institute (IFPRI), 2016). It is believed that good nutrition not only drives economic progress and human development but also essential for strengthening human capital for future development. The benefits of good nutrition can also cycle across generations, sustaining positive outcomes at all levels of society ranging from the livelihoods of communities to the development goals of nations (United Nations Systems: Standing Committee on Nutrition, 2015). Therefore, Sustainable Development Goals (SDGs) spearheaded by United Nations (UN) strongly recommends investing in health and nutrition. The relationship of nutrition and GDP is also commonly considered to be bi-directional (World Bank, 2006). On the one hand, better nutrition leads to growth in GDP via better physical productivity, better learning, and health. On the other hand, rise in per capita income or GDP also increases nutrition. The studies like (United Nations Systems: Standing Committee on Nutrition, 2015; World Bank, 2006) also support this argument. However, by focusing alone on growth may not lead to good nutrition at fast pace as nutrition increases at slow pace as compared to growth. The findings by (Haddad et al., 2003) suggest that even with twofold increase in GNP per capita in developing nations, child underweight rates have improved only roughly from 32 to 23 percent. The studies brought to the fore that even with sustained 2.5 percent growth in per capita GDP in developing nations, there had been reduction in malnutrition from 1990 to 2015 by roughly 27 percent. The studies further highlighted that even with this growth rate for a long period of time, the countries clearly fall short of the millennium development goals to reduce malnutrition. Therefore, direct investments in nutrition may improve nutrition status much quicker than economic growth in isolation. Recognizing the importance of nutrition, countries all over the globe through various programs and initiatives have invested in nutrition. The theoretical and empirical experience of governments and international development agency recognize that even the theory, notions, and extent, and evidence regarding malnutrition has undergone many changes. To understand the issue of malnutrition, first one should understand the concept of measurement of malnutrition. World Health Organization (WHO) in 2006 suggested the

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measurement of wasting, stunting, being underweight, or obesity. Wasting is defined as the failure to get enough food/nutrition in the immediate past. It can be due to inadequate food or recent illness causing malnutrition in short run. WHO recommended that children whose weight-for-height (WAZ) is below -3 standard deviations (-3 SD) from median of the reference population are severely wasted, and those below -2 standard deviations (-2 SD) are termed as wasted children. Similarly stunted is defined by using height-for-age (HAZ) index and reflects chronic malnutrition i.e., malnutrition over long period of time. The WHO recommended that Children having HAZ Z-scores below -2 standard deviations (-2 SD) from the median of the reference population are termed as stunted for their age, and for children having HAZ Z-score less than -3 of the standard deviation (-3 SD) are termed as severely stunted (World Health Organization, 2019). The children whose Weight-for-age is below -2 standard deviations (-2SD) from the median of the reference population are termed as underweight. The underweight takes into account both the acute and chronic malnutrition. Furthermore, unnecessary fat deposition in the body can cause children to be overweight or obese. According to the World Health Organization (WHO), value of a child's Body Mass Index (BMI) is 25 or more, the child is termed as overweight and if BMI is greater than or equal to 30, the child is termed as obese (World Health Organization, 2019).

2. Material and Methods

The present study is the review of published articles in different databases including Scopus and Web of Science. Google Scholar, INFLIBNET, and JSTOR search engines were utilised to find the papers. The focus was on recent publications and in the study articles from 1990 to 2020 were reviewed. The articles were chosen for the present study based on search of topics like factors impacting malnutrition, trends in malnutrition, child malnutrition and socio-economic factors, reasons behind child malnutrition or obesity.

3. Results:

The discussion is divided into three sections. In the first section, international trends are discussed. In the second section, the national trends in malnutrition are discussed. In the third section, the factors impacting the child malnutrition are deliberated.

3.1 International trends

Nearly half of the 9.7 million deaths among children throughout the world are associated to under nutrition. Malnutrition alone not only kills, but also aggravates the burden of infectious diseases (Bhoite, 2011). This lethal cycle of illness and deteriorating nutritional status can impair cognitive and learning ability. The Global estimates suggest that prevalence of stunting has declined since 2000. From 2000 to 2020, the number of under-five stunted children has declined from 203.6 million to 149.2 million. Nearly 2 out of 5 stunted children lived in South Asia and another 2 out of 5 in sub-Saharan Africa. Europe, Central Asia, and Northern America had low stunting prevalence as compared to other regions (International Food Policy Research Institute (IFPRI), 2016; United Nations Children's Fund (UNICEF) et al., 2022).

In 2020, around 45.4 million under-five children were wasted and more than fifty percent of all children affected by wasting were from South Asia and nearly twenty five percent from sub-Saharan Africa. Furthermore, the number of overweight under-five children has increased from 33.3 million in 2000 to 38.9 million in 2020. The prevalence of overweight children was highest in Middle East, North Africa followed by North America and Eastern Europe (International Food Policy Research Institute (IFPRI), 2016; United Nations Children's Fund (UNICEF) et al., 2022).

3.2 National trends

The child malnutrition information is collected periodically in National Family health Surveys (NFHSs). According to latest NFHS-5 (2019-21) 36 percent of under-five children were stunted, 19 percent were wasted, and 32 percent of under-five children were under-weight. Furthermore, 3 percent of under five children were overweight in India. As compared to previous round (NFHS-4, stunting had declined from 38 percent in 2015-16 to 36 percent in 2019-21 and wasting declined from 21 percent to 19 percent in the same period. It is evident that chronic and acute malnutrition has declined from 2015-16 to 2019-21 in India. But it is considered as still high and moreover, there are large inter-state disparities in child malnutrition (International Institute for Population Sciences & ICF, 2021). States like Meghalaya, Bihar, Uttar Pradesh, Jharkhand have higher proportion of (more than 40 percent) of stunted children. Maharashtra have highest level of wasting and Bihar have highest number of underweight children (International Institute for Population Sciences & ICF, 2021). The report of National Family Health Survey-5 highlights that households with different socio-economic characteristics have different level of stunted, wasted, and under-weight children. The factors impacting the child malnutrition all over the globe and especially in India are presented in the following review.

3.3 Factors impacting child malnutrition

Many socio-economic factors impact the child malnutrition (S. Ghosh, 2020). These factors are divided into three parts: a) household characteristics b) intra-household characteristics c) other factors.

- a) Household characteristics: Among the household characteristics, income is considered as crucial factor to impact the child malnutrition. The empirical evidences all over the globe suggest that poor households eat traditional and non-nutritious food whereas affluent people choose healthy food. The studies show that malnutrition is significantly related with income levels (Alderman et al., 2006; Brekke & Kverndokk, 2009; Chowdhury et al., 2016; Freedman et al., 2006; Goisis et al., 2019; Haddad et al., 2003). The studies also suggest that ethnicity or caste in case of India also impact the child malnutrition, households belonging to vulnerable section of society have higher risk of child malnutrition vis-à-vis other social groups (Chowdhury et al., 2016; S. Ghosh, 2020; Goisis et al., 2019). The studies also found that children living in urban areas are taller than rural counterparts (Bharati et al., 2008; Martin et al., 2004). However, few studies also establish that due to urban lifestyle and food habits, urban children are more obese than rural counterparts (A. Ghosh, 2011). The empirical evidences also suggest that living conditions or household infrastructure like access to safe drinking water, latrine facilities etc. also impact the child malnutrition. Households

with better access or with good living conditions have lower risk of child malnutrition (Bassole et al., 2007; Clasen et al., 2014).

- b) Intra-household characteristics: Among the intra-household characteristics, maternal characteristics like mother's education, awareness, mother's employment status significantly impact the child malnutrition (Martin et al., 2004). Better educated and aware mothers have low risk of child malnutrition in their families (Ajieroh, 2009; Black et al., 2013; Lindelow, 2006; Moestue et al., 2007; Sahn & Stifel, 2002; Waters, 2004). However, few studies also establish that mother's exposure to media, awareness, and specific knowledge regarding child health is more important than the education regarding child malnutrition (Glewwe, 1999; Webb & Block, 2004). Some studies also point that in the presence of other socio-economic variables, the mother's education has no significant impact on the child malnutrition (Madise & Mpoma, 1997). Regarding mother's employment status, it is hypothesised that with job and financial stability or empowerment, the child's health and nutritional status improves. However, empirical evidences all over the globe are not in sync with these expectations. With women's employment, less time is allocated to childcare and breastfeeding. This leads to poor child nutrition (Islam et al., 1994; Jatrana, 2003; Sivakami, 1997). However, studies also suggest that with female employment, family income increases and then households have better resources. This leads to better nutritional status for children (Berman et al., 1997). Apart from maternal characteristics, gender of the child also impacted the child nutritional. Due to biases against women, the girls children have high risk of being malnourished than boys (Arif et al., 2012; Sen & Sengupta, 1983). A study also concluded that these biases against female tend to go down when other socio-economic variables are included in the regression analysis (Bharati et al., 2008). The birth-order also impacted the child malnutrition. It has been argued in the studies that parents with less resources and multiple kids tend to favour older children. The parents think that the older siblings will be able to enter the labour market early (Behrman, 1988; Martin et al., 2004; Najwa Zakaria et al., 2019). Thus children with higher birth order have high risk of child malnutrition (Najwa Zakaria et al., 2019).
- c) Other factors: The empirical findings found that factors such as mother's physical attributes, cultural beliefs, and domestic violence also impact the child's nutrition status (Ackerson & Subramanian, 2008; David et al., 2004; Tharakan & Suchindran, 1999). Apart from these socio-economic factors Government's initiatives or policies attempt to reduce the children's nutrition status. Some governments have focused on protein nutrition or micro-nutrients whereas few countries like India run a comprehensive programs like Integrated Child Development Scheme or POSHAN scheme for children, pregnant or lactating mothers (Bain et al., 2013; Benson, 2008; Goudet et al., 2019; Khan & Raza, 2014; Saxena & Srivastava, 2009).

4. Conclusion

The studies all over the globe suggest that many socio-economic factors impact the nutrition status of children. There is plenty of research available on the issue. The economic status of households is one of the important factors and with improvement in economic status child nutrition status usually improves. However, in some cases wealthy households had obese children. Other household characteristics like living conditions, access to safe drinking water is also important. Regarding location and child nutrition, the evidences illustrate that urban children were at lower risk of malnourishment as compared to rural children. The children with higher birth order also have higher risk of malnutrition. Studies also show that gender biases against females exists in case of malnutrition. The studies also point out that mother's characteristics also impact the child malnutrition. Some studies suggest that women's employment status proves detrimental for child's nutrition and whereas some studies suggest that women's employment improves child nutrition. Studies also suggest that mother's awareness (particularly regarding nutrition) and education can positively impact the nutrition of child. Many other factors like culture, family environment, government policies also impact the nutrition status of children. Moreover, it is evident from all the studies that in every country or state, factors impacting the child malnutrition vary across time and space. Therefore, the studies on child malnutrition should be conducted from time-to time and across states. The recent trends on child malnutrition show that there is long way to completely eradicate the menace of child malnutrition.

REFERENCES

- Ackerson, L. K., & Subramanian, S. V. (2008). Domestic Violence and Chronic Malnutrition among Women and Children in India. *American Journal of Epidemiology*, 167(10), 1188–1196. <https://doi.org/10.1093/aje/kwn049>
- Ajieroh, V. (2009). *A quantitative analysis of determinants of child and maternal malnutrition in Nigeria* (No. 10; NSSP Working Paper).
- Alderman, H., Hoogeveen, H., & Rossi, M. (2006). Reducing child malnutrition in Tanzania. Combined effects of income growth and program interventions. *Economics and Human Biology*, 4(1), 1–23. <https://doi.org/10.1016/j.ehb.2005.07.001>
- Arif, G. M., Nazir, S., Satti, M. N., & Farooq, S. (2012). *Child Malnutrition in Pakistan: Trends and Determinants*.
- Bain, L. E., Awah, P. K., Geraldine, N., Kindong, N. P., Sigal, Y., Bernard, N., & Tanjeko, A. T. (2013). Malnutrition in Sub-Saharan Africa: burden, causes and prospects. *Pan African Medical Journal*, 15. <https://doi.org/10.11604/pamj.2013.15.120.2535>
- Bassole, L., Economic Commission for Africa United Nations, & African Development Bank. (2007, November 15). Child malnutrition in Senegal : does access to public infrastructure really matter? A quantile regression analysis. *African Economic Conference 2007: Opportunities and Challenges of Development for Africa in the Global Arena*.
- Behrman, J. R. (1988). Intra-household Allocation of Nutrients in Rural India: Are Boys Favored? Do Parents Exhibit Inequality Aversion? *Oxford Economic Papers*, 40(1), 32–54. <http://www.jstor.org/stable/2663253>
- Benson, T. (2008). *Improving nutrition as a development priority : Addressing undernutrition within national policy processes in Sub-Saharan Africa*.

International Food Policy Research Institute. <https://doi.org/10.2499/9780896291652RR156>

- Berman, P., Zeitlin, J., Roy, P., & Khumtakar, S. (1997). Does maternal employment augment spending for children's health care? A test from Haryana, India. *Health Transition Review: The Cultural, Social, and Behavioural Determinants of Health*, 7(2), 187–204.
- Bharati, S., Pal, M., & Bharati, P. (2008). Determinants of Nutritional Status of Pre-School Children in India. *Journal of Biosocial Science*, 40(6), 801–814. <https://doi.org/10.1017/S0021932008002812>
- Bhoite, R. (2011). *Growth dynamics of rural school children of Vadodara and impact of deworming alone and deworming along with once weekly iron folic acid supplementation on growth and haemoglobin status of rural school children* [Maharaja Sayajirao University of Baroda]. <https://shodhganga.inflibnet.ac.in/handle/10603/7510>
- Black, R. E., Alderman, H., Bhutta, Z. A., Gillespie, S., Haddad, L., Horton, S., Lartey, A., Mannar, V., Ruel, M., Victora, C. G., Walker, S. P., & Webb, P. (2013). Maternal and child nutrition: building momentum for impact. *The Lancet*, 382(9890), 372–375. [https://doi.org/10.1016/S0140-6736\(13\)60988-5](https://doi.org/10.1016/S0140-6736(13)60988-5)
- Brekke, K. A., & Kverndokk, S. (2009). *Health inequality in Nordic welfare states - more inequality or the wrong measures?* (No. 4; Health Economics Research Programme Working Paper 2009). https://www.frisch.uio.no/publikasjoner/pdf/2009_4.pdf
- Chowdhury, M. R. K., Rahman, M. S., Khan, M. M. H., Mondal, M. N. I., Rahman, M. M., & Billah, B. (2016). Risk Factors for Child Malnutrition in Bangladesh: A Multilevel Analysis of a Nationwide Population-Based Survey. *The Journal of Pediatrics*, 172, 194-201.e1. <https://doi.org/10.1016/j.jpeds.2016.01.023>
- Clasen, T., Boisson, S., Routray, P., Torondel, B., Bell, M., Cumming, O., Ensink, J., Freeman, M., Jenkins, M., Odagiri, M., Ray, S., Sinha, A., Suar, M., & Schmidt, W.-P. (2014). Effectiveness of a rural sanitation programme on diarrhoea, soil-transmitted helminth infection, and child malnutrition in Odisha, India: a cluster-randomised trial. *The Lancet Global Health*, 2(11), 645–653. [https://doi.org/10.1016/S2214-109X\(14\)70307-9](https://doi.org/10.1016/S2214-109X(14)70307-9)
- David, V., Moncada, M., & Ordonez, F. (2004). Private and public determinants of child nutrition in Nicaragua and Western Honduras. *Economics and Human Biology*, 2(3), 457–488. <https://doi.org/10.1016/j.ehb.2004.10.006>
- Freedman, D. S., Khan, L. K., Serdula, M. K., Ogden, C. L., & Dietz, W. H. (2006). Racial and Ethnic Differences in Secular Trends for Childhood BMI, Weight, and Height*. *Obesity*, 14(2), 301–308. <https://doi.org/10.1038/oby.2006.39>
- Ghosh, A. (2011). Rural-urban comparison in prevalence of overweight and obesity among children and adolescents of Asian Indian origin. *Asia-Pacific Journal of Public Health*, 23(6), 928–935. <https://doi.org/10.1177/1010539511428697>
- Ghosh, S. (2020). Factors Responsible for Childhood Malnutrition: A Review of The Literature. *Current Research in Nutrition and Food Science Journal*, 8(2), 360–370. <https://doi.org/10.12944/CRNFSJ.8.2.01>
- Glewwe, P. (1999). Why Does Mother's Schooling Raise Child Health in Developing Countries? Evidence from Morocco. *The Journal of Human Resources*, 34(1), 124–159. <https://doi.org/10.2307/146305>
- Goisais, A., Martinson, M., & Sigle, W. (2019). When richer doesn't mean thinner: Ethnicity, socioeconomic position, and the risk of child obesity in the United Kingdom. *Demographic Research*, 41, 649–678. <https://doi.org/10.4054/demres.2019.41.23>
- Goudet, S. M., Bogin, B. A., Madise, N. J., & Griffiths, P. L. (2019). Nutritional interventions for preventing stunting in children (birth to 59 months) living in urban slums in low- and middle-income countries (LMIC). *Cochrane Database of Systematic Reviews*. <https://doi.org/10.1002/14651858.CD011695.pub2>
- Haddad, L., Alderman, H., Appleton, S., Song, L., & Yohannes, Y. (2003). Reducing Child Malnutrition: How Far Does Income Growth Take Us? *The World Bank Economic Review*, 17(1), 107–131. <http://www.jstor.org/stable/3990047>
- Harrower, S., & Hoddinott, J. (2002). *International Food Policy Research Institute (IFPRI): Vol. null* (null (ed.)).
- International Food Policy Research Institute (IFPRI). (2016). *Global Nutrition Report 2016: From Promise to Impact Ending Malnutrition by 2030*. <https://doi.org/10.2499/9780896295841>
- International Institute for Population Sciences, & ICF. (2021). *National Family Health Survey (NFHS-5), India, 2019-21: Punjab*. <http://rchiips.org/nfhs/NFHS-5Reports/Punjab.pdf>
- Islam, M. A., Rahman, M. M., & Mahalanabis, D. (1994). Maternal and socioeconomic factors and the risk of severe malnutrition in a child: a case-control study. *European Journal of Clinical Nutrition*, 48(6), 416–424.
- Jatrana, S. (2003). *Explaining Gender Disparity in Child Health in Haryana State of India* (No. 16; Asian MetaCentre Research Paper Series). <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.486.7283&rep=rep1&type=pdf>
- Khan, R. E. A., & Raza, M. A. (2014). Nutritional Status of Children in Bangladesh: Measuring Composite Index of Anthropometric Failure (CIAF) and its Determinants. *Pakistan Journal of Commerce and Social Sciences*, 8(1), 11–23.
- Lindelow, M. (2006). Health as a Family Matter: Do Intra-household Education Externalities Matter for Maternal and Child Health? *The Journal of Development Studies*, 44(4), 562–585. <https://doi.org/10.1080/00220380801980905>
- Madise, N. J., & Mpoma, M. (1997). Child Malnutrition and Feeding Practices in Malawi. *Food and Nutrition Bulletin*, 18(2), 1–14. <https://doi.org/10.1177/156482659701800205>
- Martin, R., Rubiana, H. C., Hugh, W., & White. (2004). The determinants of Child Health and Nutrition: A Meta Analysis. In *America*. World Bank. <http://documents.worldbank.org/curated/en/505081468327413982/The-determinants-of-child-health-and-nutrition-a-meta-analysis>
- Moestue, H., Huttly, S., Sarella, L., & Galab, S. (2007). 'The bigger the better' – mothers' social networks and child nutrition in Andhra Pradesh. *Public Health Nutrition*, 10(11), 1274–1282. <https://doi.org/DOI: 10.1017/S1368980007702896>

- Najwa Zakaria, L., Sakdiah Minhat, H., Mohd Zulkefli, N. A., Baharom, A., & Ahmad, N. (2019). Factors Contributing Towards Malnutrition Among Under Five Indigenous Children: A Systematic Review. *Indian Journal of Science and Technology*, 12(7), 1–12. <https://doi.org/10.17485/ijst/2019/v12i7/141509>
- Sahn, D. E., & Stifel, D. C. (2002). Parental Preferences for Nutrition of Boys and Girls: Evidence from Africa. *Journal of Development Studies*, 39(1), 21–45. <https://doi.org/10.1080/00220380412331322651>
- Saxena, N. C., & Srivastava, N. (2009). ICDS in India: Policy, Design and Delivery Issues. *IDS Bulletin*, 40(4), 45–52. <https://doi.org/10.1111/j.1759-5436.2009.00058.x>
- Sen, A., & Sengupta, S. (1983). Malnutrition of Rural Children and the Sex Bias. *Economic and Political Weekly*, 18(19/21), 855–864. <http://www.jstor.org/stable/4372128>
- Sivakami, M. (1997). Female work participation and child health: an investigation in rural Tamil Nadu, India. *Health Transition Review*, 7(1), 21–32. <http://www.jstor.org/stable/40652231>
- Tharakan, C. T., & Suchindran, C. M. (1999). Determinants of child malnutrition—An intervention model for Botswana. *Nutrition Research*, 19(6), 843–860. [https://doi.org/10.1016/S0271-5317\(99\)00045-7](https://doi.org/10.1016/S0271-5317(99)00045-7)
- United Nations Children’s Fund (UNICEF), World Health Organization, & International Bank for Reconstruction and Development/The World Bank. (2022). *Levels and trends in child malnutrition: Key Findings of the 2021 Edition of the Joint Child Malnutrition Estimates*. <https://data.unicef.org/resources/jme-report-2021/>
- United Nations Systems: Standing Committee on Nutrition. (2015). *Delivering on the commitment to eradicate malnutrition in all its forms: The role of the UN system*. <https://scalingupnutrition.org/wp-content/uploads/2015/06/UN-Global-Nutrition-Agenda-2015.pdf>
- Waters, H. (2004). Weight-for-age malnutrition in Indonesian children, 1992-1999. *International Journal of Epidemiology*, 33(3), 589–595. <https://doi.org/10.1093/ije/dyh074>
- Webb, P., & Block, S. (2004). Nutrition Information and Formal Schooling as Inputs to Child Nutrition. *Economic Development and Cultural Change*, 52(4), 801–820. <https://doi.org/10.1086/420901>
- World Bank. (2006). *Repositioning Nutrition as Central to Development: A Strategy for Large Scale Action*. <https://openknowledge.worldbank.org/handle/10986/7409>
- World Health Organization. (2019). *Nutrition Landscape Information System (NLIS) country profile indicators: interpretation guide*. <https://apps.who.int/iris/rest/bitstreams/1278957/retrieve>