

Socio-economic Analysis of Nutritional Status of Children in India

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In recent days, the problem of under nutrition or malnutrition has become a silent emergency. One of the important aspects in health is nutritional status of women and children. Good nutrition and proper diet is very much essential for healthy living condition. It facilitates the healthy living. It contributes for proper physical development and generates energy which will help us to perform protective functions. It is depressing that in India about half of the children are facing the problem of malnutrition. This paper examines the nutritional status of children in India. This paper is based on secondary data.

[Key Words: *Wasted, Stunted (chronically malnourished), underweight, food gap, Protein gap, HUNGaMA (Hunger and Malnutrition),*]

One of the most important queries ever asked by human being in the history of everyday life is ‘how are you’? Is it an instinct enquiry or just the opening remarks of interaction? Is it a natural or sociological question? By this basic question it can be reiterated that every human being is struggling to maintain and sustain able and stable health condition in human history. Therefore people always begin with the *how you are* question, with the feeling that only when health is alright, everything will be on track. However, maintaining stable health is not always depends on individuals. For most of these conditions, human beings themselves are not responsible. Socio-economic and politico-cultural factors occupy major share in the overall success and failure of health. Therefore health has become one of the important indicators of social and human development. One of the important aspects in health is nutritional status of women and children. Good nutrition and proper diet is very much essential for healthy living condition. It facilitates the healthy living in three ways: First, it should contribute for proper physical development. Second,

is it should be energy generating and finally it should perform protective functions. In this regard, different age group people depending upon their age, gender, physical activities and climate require different quantity and qualitative food which meets the proper nutritional requirements.

In recent days, the problem of under nutrition or malnutrition has become a silent emergency. Always the visible conditions and direct effect of nutritional imbalance is revealing health status and the life style. In the same way the hidden factors have influenced such a big health disorder are unrevealed socio-economic and cultural factors. Among them, the man made criteria's like religion, caste and gender play an important role in determining the existing situations. A number of studies have been already conducted on the issues related to under nutrition and malnutrition. Many studies have found that the main cause of malnutrition among children is improper protein consumption, ultimately leading to malnutrition among children below 5 years. Protein energy malnutrition (PEM) is identified as a major health and nutrition problem in India. It occurs particularly in children in the first year of life. It is not only an important cause of childhood morbidity and mortality, but leads also to permanent impairment of physical and possibly, of mental growth of those who survive. (Park K, 2009). Over the years, the concept of "Protein gap" has given place to the concept of "food gap" that is, PEM is primarily due to an inadequate intake of food (food gap) both in quantity and quality, and Infections, notably diarrhoea, respiratory infections, measles and intentional worms which increase requirements for calories, protein and other nutrients, while decreasing their absorption and utilization. (Ibid, 2009)

Socio-Economic Factors of Malnutrition Role of poverty

Poverty is one of the major causes of nutritional problem among children. Poverty acts like vicious circle leading to illiteracy, unhealthy living condition, lack of awareness, ignorance. The socio-economic model hypothesises that poor families do not have the economic, social or community resources needed to be in good health. For instance, poverty affects children's well-being by influencing health and nutrition, the home environment, and neighbourhood conditions. The combined effects of poverty provides the foundation for a cycle of poverty and hopelessness among family members, who in turn engage in risky health behaviour, such as substance abuse, smoking and poor dietary habits, that can result in obesity and nutrition-related chronic disease. (Nnakwe, Nweze Eunice, 2009)

In spite of some improvement in nutritional status, nearly half the children are suffering from malnutrition. This means that about half of the children of India may not have reached their physical or mental potential and sizable proportion of them may be functionally impaired. Clearly the incidence of malnutrition is much more widespread than the incidence of income poverty. Also reduction in malnutrition is much slower than that of income poverty. (Radhakrishna, R et.al, 2011)

Impact of Child marriage

Infant nutritional status is reflected through her mother's health status. Early marriage and repeated episodes of pregnancies has a serious effect on mother which contributes to serious problem like 'maternal depletion syndrome' which has a direct effect on her body.

Adverse effect of short birth interval of child survival is the first mechanism is 'maternal depletion syndrome' according to which a mother with repeated pregnancies and especially short birth intervals doesn't have sufficient time for recovering both physically and nutritionally particularly in conditions of malnutrition and is more likely to have premature and low birth weight babies having poor survival chances. (Srivastava, J.N. 1990)

Early conception results in early termination of breast feeding for preceding child which results in underweight among children. Conceiving before 18 years of a mother has a greater health impact on both mother and baby if it continuous with short birth spacing with second child bearing it leads to greater depletion of physical and nutritional status of both mother and child, ultimately resulting in immature birth of baby.

Mother's role in child nutrition

Nutritional level of a child begins from the first condition of being foetus in mother's womb. During this stage baby gets all the materials starting from oxygen to food from mother. In that situation healthy living condition of mother is very much essential for well being of mother and child. Furthermore child health totally depends on mother at least till baby reaches 6 to 10 months after delivery. Therefore healthy living condition of mother results in health baby. In many cases mother couldn't be able to take proper care of herself ultimately results in low birth weight of a baby.

Malnutrition is self-perpetuating. A child's nutritional status at any point of time depends on his or her past nutritional history, which may particularly account for the present status to some extent; this nutritional history is linked to the mother's health and nutritional status. This in turn has been influenced by her living conditions and nutritional history during her own childhood. (Park K, 2009)

Malnutrition is intergenerational process because malnourished girls when they marry and have low birth weight infants the child in turn becomes malnourished. This is how the cycle continuous. This is mainly because of improper health care and inadequate nutrition. Lower the percentage of mothers who have been to school, the large number of women who have given birth to low birth weight babies. (HUNGAMA, 2011)

There exists an inverse relationship between socio-economic condition of child health and nutrition. There are various factors like poor sanitation, improper food intake, poor household and improper health care has a greater impact on mother and child health. In developing countries like India, male child's health condition is given more importance to female child and it is more prevalent among mothers educational attainment is low and household income

is less. The determinants of child malnutrition in rural areas have been analysed by Radhakrishna and Ravi (2004) using a logit regression model. The result shows that the probability of a child falling into malnutrition decreases with improvement in mother's nutritional status, mother's education, mothers age and ante natal visits, but increases when the mother is working. The adverse effect of the working status of the mother may be a characteristic among the poor households. The risk of malnutrition also decreases with the standard of the household whereas it increases with household size. (Radhakrishna. R, 2011)

Sanitation

Though, many governmental, non-governmental and various other international organisations have taken steps to improve the sanitation facilities in India, it couldn't reach the goal. People are not coming forward to make use of these programmes perhaps because of illiteracy and ignorance. Furthermore in many cases misappropriation of funds also happening. Health is considered as important aspect of social development. Increased income condition is not considered as development. Increased income is only one part of development can be achieved only with overall social development like income, health, improved standard of living, equal status of women, healthy living condition and clean environment.

Health outcomes in society are influenced by activities in the economy, social practices and cultural values. Three factors contribute towards them: the first relates to living conditions which prevent occurrence of ill health, the access to food security, balanced nutritional diet, safe drinking water, sanitation arrangement etc. The second is availability of health services which include preventive and curative medicine and hospital care. The development resulting from consumption of products, use of service and social intercourse also produce profound consequence for health this constitute the third factor. (Saxena, K.B, 2011). Good income has a positive impact on proper sanitation, availability of medical services and proper housing thus contribute to good health and increased chances of infant survival. Further literate people give more importance to good sanitation facilities, personal hygiene which contributes to good environment.

In the backdrop of impact of malnutrition on the growth of healthy children in India, an attempt has been made in this paper to examine and analyse the problem of malnutrition among Indian children. This paper describes the nature and extent of malnutrition in India and socio-economic background of malnourished children. This study is based on secondary data.

Height and Weight of children

Overall growth of children always depends on satisfactory Body Mass Index (BMI). Height and weight of children are the important aspects in measuring the stable physical growth of children. Children should have adequate height and weight according to their age.

In India stunting of children though decreased from NFHS-I to NFHS-II, it has increased from NFHS-II to NFHS-III. In north Indian states with some exceptions, in all other states the rate stunting has been increased from NFHS-I to NFHS-II. Waterlow's classification defines two groups for protein energy Malnutrition: - Malnutrition with retarded growth, in which a drop in the height/age ratio points to a chronic condition- shortness or stunting: - malnutrition with a low weight for a normal height, in which the weight for height ratio is indicative of an acute condition of rapid weight loss, or wasting. This combination of indicators makes it possible to label and classify individuals with reference to two poles: children with insufficient but well-proportioned growth and those with a normal height, but who are wasted. (Park K, 2009)

Weight-for-height

There is a gradual decrease in wasting. But when it comes to the matter of NFHS-3, it is depressing to know that there is a drastic increase in wasting among children. This is mainly due to lack of proper governmental intervention in improving child nutritional status.

Table 1 Weight-for-height in North and south India

India	NFHS-1		NFHS-2		NFHS-3	
	% below -3 SD	%below -2 SD	% below -3 SD	%below -2 SD	% below -3 SD	%below -2 SD
	3.2	17.5	2.8	15.5	6.4	19.8
North						
Delhi	2.7	11.9	4.1	12.5	7.0	15.4
Haryana	0.6	5.9	0.8	5.3	5.0	19.1
Himachal Pradesh	U	U	3.3	16.9	5.5	19.3
J. & K.	3.4	14.8	1.2	11.8	4.4	14.8
Punjab	2.8	19.9	0.8	7.1	2.1	9.2
Rajasthan	5.2	19.5	1.9	11.7	7.3	20.4
South						
Andhra Pradesh	U	U	1.6	9.1	3.5	12.2
Karnataka	2.6	17.4	3.9	20.0	5.9	17.6
Kerala	1.3	11.6	0.7	11.1	4.1	15.9
Tamil Nadu	U	U	3.8	19.9	8.9	22.2

Source: NFHS I, II, III, IIPS, Mumbai

In north India, though there is slight variation with regard to decrease and increase. But every NFHS-II report shows that there is a gradual decrease in wasting of children. When we analyse NFHS-III report almost in all states there is a drastic increase in the rate of wasting among children. In north Indian states like Haryana and Rajasthan it has increased twice which needs special attention.

In the same way in the central Indian states like Madhya Pradesh, Uttar Pradesh the rate of wasting of children has been doubled which is very shocking to notice which needs serious attention. We find there is a twice the rate of increase in these states which are specially known for their backwardness BIMARU state which are very much backward in health, literacy, standard of living condition, sanitation and various other social developments. In eastern part of India though wasting has been decreased gradually, but again it is sad to know that except in the states of Orissa in other two states that is Bihar and west Bengal wasting of children have been increased compared to NFHS-II report to NFHS-III report.

In North eastern part of India we find there is a greater variation in NFHS-II report with regard to wasting of children. In some states it has increased in some states it has decrease. When it comes to the matter of NFHS-III except in the states like Manipur and Mizoram that to meagre decrease like 0.3% and 1.2% respectively, where as in other states it has been increased drastically two times more which is very much shocking to know. In western part of India it is good to know that all most all states except in Maharashtra to some extent in all other states by the time of NFHS-II report wasting of children has been decreased. However by the time of NFHS-III report in all other states except in Maharashtra to some extent, wasting of children has been increased from NFHS-II to NFHS-III report.

In south India there exists variation in wasting of children by increase and decrease from one report to another report. Further it is sad to know that there is not much improvement in wasting of children almost the rate of wasting of children increased from NFHS-II to NFHS-III report with some exceptions. This shows backwardness not only present in BIMARU states; even in developed states have severe nutritional problem which needs special attention.

Weight-for-age

The table-2 shows that the rate of under nutrition in India has gradually decreased from NFHS-I to NFHS-II. Coming to north Indian states except in Haryana and Rajasthan in all other states underweight has been decreased from NFHS-I to NFHS-II. In central part of India except in Uttar Pradesh the rate of underweight has increased in the state of Madhya Pradesh from NFHS-I to NFHS-II.

Table-2 Weight-for-age

India	NFHS-1		NFHS-2		NFHS-3	
	% below -3 SD	%below -2 SD	% below -3 SD	%below -2 SD	% below -3 SD	%below -2 SD
	20.6	53.4	18.0	47.0	15.8	42.5
North						
Delhi	12.0	41.6	10.1	34.7	8.7	26.1
Haryana	9.0	37.9	10.1	34.6	14.2	39.6

Himachal Pradesh	12.9	47.0	12.1	43.6	11.4	36.5
J. & K.	13.8	44.5	8.3	34.5	8.2	25.6
Punjab	14.2	45.9	8.8	28.7	8.0	24.9
Rajasthan	19.2	41.6	20.8	50.6	15.3	39.9
South						
Andhra Pradesh	15.6	49.1	10.3	37.7	9.9	32.5
Karnataka	19.4	54.3	16.5	43.9	12.8	37.6
Kerala	6.1	28.5	4.7	26.9	4.7	22.9
Tamil Nadu	13.3	48.2	10.6	36.7	6.4	29.8

Source: NFHS I, II, III, IIPS, Mumbai.

In eastern part of India from NFHS-I to NFHS-III there is a gradual decrease in stunting in West Bengal whereas it is sad to know that the same tempo doesn't found in the place of Bihar and Orissa. In Bihar acute underweight has increased from NFHS-I to NFHS-III in the same way acute underweight has increased from NFHS-I to NFHS-II.

In North eastern states except in Manipur and Nagaland in all other states underweight has increased particularly in NFHS-III report. In Arunachal Pradesh and Meghalaya both acute and chronic underweight has increased specially in NFHS-III report. Even in Assam and Nagaland acute underweight has increased in the NFHS-III report whereas in Mizoram chronic underweight has increased in NFHS-III report. In western part of India chronic underweight has increased in the states like Goa and Gujarat particularly from NFHS-II to NFHS-III.

Nutritional status of children by caste and Tribe

We all know that how caste and tribal factors influence socio-economic and cultural status of communities and groups in India. In India backward and lower castes and tribe are sufferers of socio-economic maladies. This is also reflected in malnutrition status. For instance in Table -3 we can observe that underweight of children among Scheduled Castes has been decreased gradually from NFHS-I to NFHS-II. However, among Scheduled Tribes during NFHS-I to NFHS-II chronic underweight has increased.

Table-3 Nutritional status of children by caste and Tribe

Sched uled caste	Weight-for-age		Height-for-age		Weight-for-Height	
	% below - 3 SD	% below -2 SD	% below -3 SD	% below -2 SD	% below -3 SD	% below -2 SD
NFH S-1	23.7 %	57.5%	33.2%	58.0%	3.4%	18.5%
NFH S-2	21.2%	53.5%	27.5%	51.7%	3.0%	16.0%

NFH S-3	18.5%	47.9%	27.6%	53.9%	6.6%	21.0%
Scheduled tribe						
NFH S-1	25.3%	56.8%	28.8%	52.8%	4.1%	22.0%
NFH S-2	26.0%	55.9%	27.6%	52.8%	4.4%	21.0%
NFH S-3	24.9%	54.5%	29.1%	53.9%	9.3%	27.6%

Source: NFHS I, II, III, IIPS, Mumbai.

Household socio-economic status is by far the most robust single predictor of nutritional wellbeing in focus states, but this effect more or less disappears in the best states (except Kerala). Children from households belonging to scheduled caste or scheduled tribe generally have worse nutrition, but the specific effects vary considerably by state. Children from households identifying as Muslim do have significantly worse nutrition except in Himachal Pradesh. (HUNGaMA Survey Report, 2011)

While, it is true that the incidence of poverty has declined over time in India and more so in the more recent years, the incidence of poverty among SCs and STs, however, is much higher than the national aggregate by 8.5 (SC-rural) and 19.4 (ST-rural) percentage points. The gap across social groups in poverty has reduced somewhat over time, though it is still present. Across religious groups, the incidence of poverty among Muslims in rural areas is actually less than the aggregate.

However, this community exhibits greater poverty incidence than the aggregate in urban areas. There is a high concentration of Muslims in the urban areas, as a result of which they become more visible. Finally, poverty among Christians and Sikhs is considerably lower than the aggregate. (India Human Development Report, 2011) It shows instead of improvement vulnerability of marginalized group has been increased in spite of several governmental plans to improve their condition. Further compared to S.C's and others the condition of S.T. children is worsening. In other's category good improvement can be found except the chronic wasting which has increased from NFHS-II to NFHS-III.

In other reports the wasting of children has been decreased. The rate of decrease is also greater than the National average in wasting. In Indian culture we find different religion and among religion only we find different caste and sub-caste. In this context historically some of the castes have been given more importance and some castes like SC and ST have been socially, economically and culturally have been segregated. Thus it has direct effect on overall development of nation and community. This backwardness can be solved by addressing the problem with proper developmental programmes focusing the vulnerable groups.

Nutritional status of children by Religion

Different religious groups live in India. Variations in their socio-economic status are found throughout in Independent India. Underweight of children is not a serious problem because the rate has been decreased from NFHS-I to NFHS-III in all religious groups except among Christians where we found though chronic underweight has increased but by the time of NFHS-II to NFHS-III acute underweight has decreased, but the decreased rate of underweight among Christians is very less compared to other religious groups and national average of decreased rate. Stunting of children has been increased among every religion from NFHS-II to NFHS-III report. Further it is sad to know the increased rate of stunting among Muslims and Christians. Moreover the rate stunting of Christian children is greater compared to Hindus, Muslims and national average rate of stunting which needs special attention.

Rate of wasting has been increased among all the religion from NFHS-II to NFHS-III particularly among Hindus and Muslim. Coming to Christians there is no improvement instead the rate of wasting among Christian children has been increased from NFHS-I to NFHS-II from NFHS-II to NFHS-III which shows the vulnerable condition under which Christian children are suffering.

Stunting of children gradually decreased from NFHS-I to NFHS-II but by the time of NFHS-III rate of stunting of children has been increased among all caste, tribes and religion but the rate of increase is greater among Muslims and Christians compared to any other group. The rate of wasting has also decreased from NFHS-I to NFHS-II, in all other category to some exceptions whereas wasting of children has been increased drastically from NFHS-II to NFHS-III. At the same time, it is sad to know that the rate of wasting has not at all decreased in any report instead it has increased to a greater extent among Christians and STs which needs special attention.

Thus, Nutritional problem is not just a medical or biological. It involves multifarious factors. By understanding these, nutrition related problem can be dealt with root effect. One of the important factors among them is culture, beliefs, attitudes which originate from their religion and cultural beliefs. It is not only the responsibility of government but also every citizen to work towards individual and community health. Mother and Child health and nutritional programmes are very much essential in a country like India where we find increased number of infant mortality, child mortality and maternal mortality.

We find that some of the diseases and health problems among children depend not only requires community action but also on the level of parents' education and their attitude towards health. Apart from government effort to improve sanitation and malnutrition problem among children, it becomes the responsibility of an individual taking care of themselves and their children for proper implementation and utilisation of health programmes. Many times malnutrition among children in developing countries like India depends not only on the availability of food but on the selection preparation and proper utilization of food stuff among children at right age and right time.

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