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### Nutritional Status of Children and Adults in India: Alarming Revelations from NFHS-4

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#### ABSTRACT

India continues to have serious levels of widespread hunger and malnutrition prevailing among children as well as adults. Performing very miserably on the Global Hunger Index (GHI) 2017, India ranked a low 100<sup>th</sup> out of 119 countries. The recently published National Family Health Survey (NFHS)-4 Factsheets provide selected information on 114 indicators which are related to population, health and nutrition for India and each state/union territory. This article explores the major achievements and shortcomings on progress made on key indicators related to nutritional status of children and adult in last one decade by making a comparative analysis of all the NFHS-4 factsheets and NFHS-3 data. The paper is divided in many sections and each of them focus on the important indicators of nutritional status of children and adults (men and women) such as stunting, wasting, underweight, breastfeeding, anaemia and BMI at various states and national level and identify the disparities existing among the good and poor performing states.

**Keywords:** Malnutrition, stunting, wasting, underweight, breastfeeding, anaemia, BMI.

#### 1. INTRODUCTION

India continues to have serious levels of widespread hunger, forcing it to be ranked a low 100<sup>th</sup> out of 119 countries on the Global Hunger Index (GHI) calculated in 2017<sup>1</sup>. The overall GHI score of India has improved from 38.2 in 2000 to 31.4 in 2017. However, this high overall GHI and slow rate of improvement in it makes India the worst performers in South Asian countries just slightly better than Afghanistan and Pakistan. The overall levels of child malnutrition in India are still very high, both in absolute terms and relative to other countries. Even today, close to half of all Indian children are underweight and about half suffer from anaemia. According to Akram, malnutrition is a major threat not only for the health of the

population but also for the social and economic development of the society (Akram, 2014a). It is important to mention here that the second of the seventeen Sustainable Development Goals (SDGs)<sup>2</sup>, promoted by the United Nations, talk exclusively about nutrition and food and categorically state to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture. India's National Health Policy, 2017<sup>3</sup> has also identified thrust to move away from "sick-care" to "wellness" through prevention and health promotion which could not be attained without ensuring proper nutrition care for Indian population in general and children and women in particular.

Malnutrition is a serious problem, especially for infants and young children. It reflects an imbalance of both macro and micro-nutrients that may be due to inappropriate food intake. Food intake is not only a result of food availability but also of dietary quality, quantity and feeding practices. Food consumption is one of the most important variable that influence nutritional status of adult and children. The linkage between diet and health is an inescapable fact of life; dietary choices are seen as maintaining, or actually enhancing, an individual's resistance to disease or as promoting the efficiency or durability of the body. Inadequate food intake will lead to weight loss and eventually to death. However, nutrient deficiencies which fall short of the absolute deprivation of starvation can result from low food intake and an unbalanced diet (Beardsworth and Keil, 1997).

According to a World Health Organization (WHO) report, India had the highest prevalence of moderate and severe underweight children. Further, about 97 million of the world's moderately or severely underweight children lived in India. The global number of moderately and severely underweight girls and boys was 75 million and 117 million respectively, in India in 2016 (WHO, 2017). Adult and child malnutrition continues to be a major public health problem in India. In terms of the proportion of underweight children, the levels of child malnutrition in India are exceptionally high and India also scores lower than many sub Saharan African countries on hunger and nutrition related indicators despite having a higher GDP (Kumar, 2007). Although the government has launched several programs like Integrated Child Development- (ICDS) Program, the Public Distribution System (PDS), the Midday Meal Scheme (MMS), Janani Suraksha Yojana (JSY) and Janani Shishu Suraksha Karyakaram (JSSK), etc, to promote nutritional level of children but the conditions are far away from being satisfactory.

The final report of the National Family Health Survey (NFHS)-4 conducted in 2015-16 is yet to come and the last NFHS-3 was conducted in 2005-06 and its report was published in 2007. However, the factsheets<sup>4</sup> of the NFHS-4 were released in March 2017 by the Ministry of Health and Family Welfare (MHFW). These factsheets provide selected information on 114 indicators which are related to population, health and nutrition for India and each state/union territory. The NFHS-4 has included information on several new indicators also in the current round. This article explores the major achievements and shortcomings on progress made on key indicators related to nutritional status of children and adult in last one decade by making a comparative analysis of all the NFHS-4 factsheets and NFHS-3.

## **2. METHODS**

This study is primarily based on the data provided by the Factsheets of NFHS-4. The NFHS-4 data collection was carried out from 20 January 2015 to 4 December 2016 by 14 Field Agencies and it gathered information from 601,509 households, 699,686 women, and 103,525 men. Further, as pointed out by the

NFHS-4 Research Collaborators (2017), a two-stage sampling design was adopted in the rural and urban areas of each district of India to provide district level estimates.

### 3. FINDINGS AND DISCUSSIONS

The following sections try to focus on the important indicators of nutritional status of children and adults (men and women) such as stunting, wasting, underweight, breastfeeding and anaemia at various states and national level and identify the disparities existing among the good and poor performing states as per the findings of NFHS-4 Factsheets.

**Breastfeeding children age 6-23 months receiving an adequate diet:** Breastfeeding gives babies the best possible start in life. In the words of Dr Tedros Adhanom Ghebreyesus, Director-General of WHO-2016 “breastmilk works like a baby’s first vaccine, protecting infants from potentially deadly diseases and giving them all the nourishment they need to survive and thrive”. NFHS-4 factsheets reveals that, Meghalaya is the best performing state in the category ‘breastfeeding children age 6-23 months receiving an adequate diet’, having prevalence of 24.2 percent and followed by Sikkim (23.1 percent), Jammu & Kashmir (21.8 percent), Tamil Nadu (21.4 percent) and Kerala (21.3 percent). Many states show high disparity between rural and urban areas under this category for example Himachal Pradesh (rural-10.5 percent; urban 21.3 percent); Telangana (rural 5.4 percent; urban- 14.8 percent); Sikkim (rural-25.0 percent; urban 19.0 percent) etc. However, Rajasthan is the worst performing state having only 3.4 percent breastfeeding children, age 6-23 months, receiving an adequate diet. Further, there are many states like Gujarat, Karnataka, Punjab, Maharashtra, Uttar Pradesh, Delhi and Rajasthan where percentages of such children are less than 6.0 percent and the all India average is 8.7 percent only.

**Non-Breastfeeding children age 6-23 months receiving an adequate diet:** Tamil Nadu is the best performing state having the highest percentage (47.1) of Non-Breastfeeding children age 6-23 months receiving an adequate diet, followed by Jammu & Kashmir (32.1 percent), West Bengal (25.7 percent), Arunachal Pradesh (25.4 percent), Kerala (22.3 percent) and Nagaland (21.4 percent). Many states show huge difference in percentage points between urban and rural areas under this category of Non-Breastfeeding children age 6-23 months receiving an adequate diet, such as Manipur (27.6percentage points), West Bengal (15.4percentage points), Chhattisgarh (13.5percentage points) and Nagaland (11.2 percentage points). Gujarat is the worst performing state where only 2.8 percent children age 6-23 months receive an adequate diet. The all India average of Non Breastfeeding children age 6-23 months receiving an adequate diet is 14.3 percent.

**Total children age 6-23 months receiving an adequate diet:** Tamil Nadu is the best performing state in the category of total children age 6-23 months receiving an adequate diet (30.7 percent), followed by Meghalaya (23.6 percent), Jammu & Kashmir (23.5 percent), Sikkim (23.1 percent), and Kerala (21.4 percent). Rajasthan is the worst performing state having only 3.4 percent of total children age 6-23 months receiving an adequate diet. Other states having low performance in this category are: Gujarat (5.2 percent), Uttar Pradesh (5.3 percent), and Punjab (5.9 percent). NFHS-4 (2015-16) factsheet reveals that the all India average of total children age 6-23 months receiving an adequate diet is only about 9.6 percent and 90.4 percent children age 6-23 months not receive an adequate diet, this is the disastrous situation faced by Indian children under the age of two years.

**Children under 5 years who are stunted (height-for-age):** NFHS-4 (2015-16) factsheets reveal percentage of children under 5 years who are stunted (height-for-age). Bihar is the worst performing state having the highest percentage (48.3 percent) of stunted children under the age of 5 years, followed by Uttar Pradesh (46.3 percent), Jharkhand (45.3 percent), Meghalaya (43.8 percent), Madhya Pradesh (42.0 percent), Rajasthan (39.0 percent) and Gujarat (38.5 percent). Some states show huge difference between urban and rural areas under this category such as Assam has the difference of 15.7 percentage points and it is followed by Jharkhand (14.3 percentage points), Gujarat (11.2 percentage points), Uttar Pradesh (10.6 percentage points) and Sikkim (10.0 percentage points). On the other hand Kerala is the best performing state where only 19.7 percent children under 5 years are stunted. A comparison between NFHS-4 and NFHS-3 reveals that all the states have made an improvement and the percentage prevalence has declined. Further, the all India average of stunted children under 5 years has declined to 38.4 percent (NFHS-4) from 48.0 percent (NFHS-3). The percentage of stunted children of schedule caste is 43 percent and schedule tribe is 44 percent at India level.

**Children under 5 years who are wasted (weight-for-height):** Jharkhand is the worst performing state having the highest percentage (29.0) of children under the age of 5 years who are wasted (weight-for-height). Other major Indian states also facing the problem of wasting among the children under 5 years are Karnataka (26.1 percent), Madhya Pradesh (25.8 percent), Maharashtra (25.6 percent), Rajasthan (23.0 percent) and West Bengal (20.3 percent). Two states where the percentage of wasted children under the age of 5 year is very low are Mizoram (6.1 percent) and Manipur (6.8 percent). If we compare the report of NFHS-3 (2005-06) and NFHS-4 (2015-16) we find that the percentage of wasted children under 5 years of age has increased in some states in last ten years. The increase is very high in some states like Gujarat (from 18.7 percent to 26.4 percent), Karnataka (17.6 percent to 26.1 percent), Maharashtra (16.5 percent to 25.6 percent), Rajasthan (20.4 percent to 23.0 percent), and Punjab (9.2 percent to 15.6 percent). It is very alarming to note that the all India average of wasted children under 5 years has increased to 21.0 percent (NFHS-4) from 19.8 percent (NFHS-3).

**Children under 5 years who are severely wasted:** NFHS-4 (2015-16) factsheets release data on severely wasted children under the age of 5 years, where Jharkhand is having the highest percentage of severely wasted children under the age of 5 years (11.4 percent) followed by Karnataka (10.0 percent), Gujarat (9.5 percent), Maharashtra (9.4 percent) and Madhya Pradesh (9.2 percent). It is important to mention here that Goa shows high difference between the urban and the rural areas (11.2 percentage points). The best performing state in this category are Manipur (2.2 percent), Mizoram (2.3 percent), Himachal Pradesh (3.9 percent), Nagaland (4.2 percent) and Andhra Pradesh (4.5 percent). The all India average of severely wasted children under the age of 5 years is about 7.5 percent. If we compare the report of NFHS-3 and NFHS-4 in the category of severely wasted children under the age of 5, we find that in most of the states the percentage of severely wasted children increases like in Karnataka (from 5.9 percent to 10.5 percent), Gujarat (5.8 percent to 9.5 percent), Maharashtra (5.2 percent to 9.4 percent), Kerala (4.1 to 6.5 percent) and Punjab (2.1 to 5.9 percent).

**Children under 5 years who are under weight:** Jharkhand is the worst performing state having the highest percentage (47.8) of underweight children under the age of 5 years. The major Indian states having high percentage of underweight children under the age of 5 years are Bihar (43.9 percent), Madhya Pradesh (42.8 percent), Uttar Pradesh (39.6 percent), Gujarat (39.3 percent), Rajasthan (36.7 percent) and Maharashtra

(36.0 percent). If we make a comparison between NFHS-3 and NFHS 4 data, we find that the percentage of underweight children in all states except Delhi has declined. Further, Delhi is also witnessing a huge disparity between the urban (27.3 percent) and rural (1.3 percent) areas. The best performing state is Mizoram (11.9 percent) followed by Manipur (13.8 percent), Sikkim (14.2 percent) and Kerala (16.1 percent). The all India average of underweight children under the age of 5 years is 35.7 percent. At national level, the percentage of underweight children of schedule caste is 39 percent and schedule tribe is 45 percent, the prevalence of underweight is highest in children of SCs and STs as compared to the all India average of underweight children under the age of five.

**Women whose body mass index (BMI) is below normal ( $BMI < 18.5 \text{ kg/m}^2$ ):** Jharkhand is the worst performing state having the highest percentage (31.5) in terms of women whose body mass index (BMI) is below normal, followed by Bihar (30.4 percent), Madhya Pradesh (28.3 percent), Gujarat (27.2 percent) and Rajasthan (27.0 percent). All states of India have witnessed improvement in BMI between NFHS-3 and NFHS-4 and this is also getting reflected in the decline in the proportion of women with below normal BMI at national level from 35.5 percent to 22.9 percent. But NFHS-4 factsheets also reveal the huge disparity between rural and urban areas in percentage prevalence of BMI in many states like Jharkhand (rural-35.4; urban-21.6), Madhya Pradesh (rural-31.8; urban-20.6), Gujarat (rural-34.3; urban-18.1), Rajasthan (rural-29.9; urban-18.6) and Uttar Pradesh (rural-28.1; urban-17.6). The good performing states in the category of women whose BMI is below normal are Sikkim 6.4 percent, Mizoram 8.3 percent and Arunachal Pradesh 8.5 percent.

**Men whose body mass index (BMI) is below normal ( $BMI < 18.5 \text{ kg/m}^2$ ):** Madhya Pradesh is having the highest percentage (28.4) of men whose BMI is below normal followed by Uttar Pradesh (25.9 percent), Bihar (25.4 percent), Gujarat (24.7 percent), Chhattisgarh (24.1 percent) and Jharkhand (23.8 percent). The best performing states in this category are Sikkim (2.4 percent), Mizoram (7.2 percent) and Arunachal Pradesh (8.3 percent). NFHS-4 factsheets reveal that all states of India show improvement in the situation of men whose BMI is below normal and the all India average has declined from 34.2 percent in NFHS-3 to 20.2 percent in NFHS-4.

**Women who are overweight or obese ( $BMI \geq 25.0 \text{ kg/m}^2$ ):** Some of the states with high proportion of women who are overweight or obese ( $BMI \geq 25.0 \text{ kg/m}^2$ ) are Delhi, Goa, Andhra Pradesh, Kerala, and Punjab with the percentage prevalence of 34.9 percent, 33.5 percent, 33.2 percent, 32.4 percent, and 31.3 percent respectively. When we compare the reports of NFHS-3 and NFHS-4, we find that the percentage of women who are overweight or obese increases in many of the states like Himachal Pradesh (increase by 15.1 percentage points), Jammu & Kashmir (Increase by 12.4 percentage points), West Bengal (increase by 8.5 percentage points) and Uttar Pradesh (increase by 7.3 percentage points). Jharkhand and Bihar are having the least percentage of women who are overweight or obese so these two states are best performing states. In terms of percentage of women who are overweight or obese most of the states show huge disparity between the rural and urban areas like Andhra Pradesh (rural-27.6; urban-45.6), Tamil Nadu (rural-25.5; urban-36.2), Jammu and Kashmir (rural-24.1; urban-40.6), Himachal Pradesh (rural-27.6; urban-38.4) and Telangana (rural-18.5; urban-39.5).

**Men who are overweight or obese ( $BMI \geq 25.0 \text{ kg/m}^2$ ):** In terms of men who are overweight or obese, Sikkim (34.8 percent) is the worst performing state followed by Andhra Pradesh (33.5 percent), Goa (32.6 percent), Kerala (28.5 percent), Tamil Nadu (28.2 percent), Punjab (27.8 percent) and Delhi (24.6



percent). In terms of percentage of men who are overweight or obese, many states show huge difference in percentage points between their urban and rural areas such as Odisha (19.1 percentage points), Mizoram (18.2 percentage points), Telangana (15.0 percentage points), Maharashtra (14.8 percentage points), Jammu and Kashmir (14.3 percentage points), Assam (14.3 percentage points), and Chhattisgarh (13.2 percentage points). After making a comparison between NFHS-3 and NFHS-4, we find that the percentage of men who are overweight or obese has increased almost two times in most of the states like Manipur (9.2 to 19.8 percent), Rajasthan (6.2 to 13.2 percent), West Bengal (5.5 to 14.2 percent), Kerala (17.9 to 28.5 percent), Arunachal Pradesh (7.1 to 20.6 percent) etc. The all India average in this category in NFHS-3 was 9.3 percent which increased to 18.6 percentage in NFHS-4.

**Children age 6-59 months who are anaemic (< 11.0 g/dl):** Anaemia is characterized by a low level of hemoglobin in the blood, which is a serious concern for young children as it can adversely affect cognitive performance, behavioral and motor development, coordination, language development and scholastic achievement as well as increase morbidity from infectious diseases (Shiva Kumar, 2007). Anaemia has been a big problem in India and NFHS-4 shows the prevalence of anaemia among children less than 5 years. Haryana is having the highest percentage of anaemic children age 6-59 months (71.7 percent). Other poor performing states along with Haryana are Jharkhand (69.9 percent), Madhya Pradesh (68.9 percent), Bihar (63.5 percent), Uttar Pradesh (63.2 percent), Delhi (62.6 percent), Gujarat (62.6 percent) and Karnataka (60.9 percent). If we make a comparison between NFHS-3 and NFHS-4 data, we find that the percentages of anaemic children in all states except Delhi and Goa have declined. However, Mizoram (17.7 percent), Nagaland (21.6 percent) and Manipur (23.6 percent) are best performing states in this category. NFHS-4 factsheets reveal that all states of India show improvement in the situation of children age 6-59 months who are anaemic and the all India average has declined from 69.4 percent in NFHS-3 to 58.4 percent in NFHS-4.

**Non-pregnant women age 15-49 years who are anaemic (< 12.0 g/dl):** In terms of non-pregnant women age 15-49 years who are anaemic, Jharkhand is the worst performing state having the highest percentage (65.3) of non-pregnant women who are anaemic, followed by Haryana (63.1 percent), West Bengal (62.8 percent), Bihar (60.4 percent) and Andhra Pradesh (60.2 percent). After making a comparison between NFHS-3 and NFHS-4, we find that the percentage of non-pregnant women age 15-49 years who are anaemic has increased in many of the states like Punjab (increase by 16.1 percentage points), Meghalaya (increase by 11.1 percentage points), Himachal Pradesh (increase by 10.4 percentage points), Delhi (increase by 7.8 percentage points) and Uttar Pradesh (increase by 2.8 percentage points). Mizoram is the best performing state having least percentage (22.4) of non-pregnant women who are anaemic. The all India average of non-pregnant women who are anaemic has slightly improved from 55.2 percent (NFHS-3) to 53.1 percent (NFHS-4).

**Pregnant women age 15-49 years who are anaemic (< 11.0 g/dl):** Some of the states with low proportion of pregnant women who are anaemic are Kerala (22.6 percent), Sikkim (23.6 percent), Mizoram (24.5 percent) and Manipur (26.0 percent). On the other hand Jharkhand is the worst performing state having the highest percentage (62.6) of pregnant women who are anaemic followed by Bihar (58.3 percent), Haryana (55.0 percent), Madhya Pradesh (54.6 percent), Tripura (54.4 percent) and West Bengal (53.6 percent). In this category all states show minimum disparity between their rural and urban areas. If we make a comparison between the reports of NFHS-3 and NFHS-4, we find that the percentage of women

age 15-49 years who are anaemic increases in three states which are Delhi (increase by 15.2 percentage points), Himachal Pradesh (increase by 12.1 percentage points) and Punjab (increase by 0.4 percentage points). The all India average of pregnant women who are anaemic is 50.3 percent as per NFHS-4 and it was 57.9 percent as per NFHS-3.

**All women age 15-49 years who are anaemic:** In terms of all women age 15-49 years who are anaemic, the worst performing state is Jharkhand (65.2 percent) followed by Haryana (62.7 percent), West Bengal (62.5 percent), Bihar (60.3 percent) and Andhra Pradesh (60.0 percent). Mizoram is the best performing state having the low percentage (22.5) of all women who are anaemic. When we compare the reports of NFHS-3 and NFHS-4, we find that the percentage of all women who are anaemic increases in many of the states like Punjab (increase by 15.5 percentage points), Himachal Pradesh (increase by 10.4 percentage points), Meghalaya (increase by 10.0 percentage points), Delhi (increase by 8.2 percentage points), Haryana (increase by 6.6 percentage points) and Uttar Pradesh (increase by 2.5 percentage points). NFHS-4 factsheets reveal that the all India average of all women age 15-49 years who are anaemic is 53.0 percent.

**Men age 15-49 years who are anaemic(< 13.0 g/dl):** Meghalaya is the worst performing state having the highest percentage (32.4) of men who are anaemic followed by Bihar (32.2 percent), West Bengal (30.3 percent), Jharkhand (29.9 percent), Odisha (28.4 percent) and Andhra Pradesh (26.9 percent). In terms of percentage of men who are anaemic, many states show huge difference in percentage points between their urban and rural areas such as Meghalaya (17.0 percentage points), Odisha (15.3 percentage points), Andhra Pradesh (11.6 percentage points), Jharkhand (10.5 percentage points) and Bihar (9.9 percentage points). The best performing state in terms of percentage of men who are anaemic is Mizoram having lowest (9.6) percentage prevalence. When we compare the reports of NFHS-3 and NFHS-4, we find that the percentage of all men who are anaemic increases in many of the states like Punjab (increase by 12.3 percentage points), Delhi (increase by 3.8 percentage points), Tamil Nadu (increase by 3.8 percentage points), Kerala (increase by 3.3 percentage points) and Haryana (increase by 1.7 percentage points). NFHS-4 factsheets reveal that the all India average of men age 15-49 years who are anaemic is (22.7 percent).

#### 4. CONCLUSION

The last National Nutrition Policy was introduced in India in 1993 to combat the problem of under-nutrition. It aimed to address this problem by utilising direct (short term) and indirect (long term) interventions. The direct interventions included proper nutrition of target groups, expanding the safety net for children, growth monitoring in 0-3 year age group, nutrition of adolescent girls to enable them to attain safe motherhood, nutrition of pregnant women to decrease incidence of low birth weight, food fortification, provision of low cost nutritious food and combating micro nutrient deficiency in vulnerable group. However, the indirect policy interventions included long term issues like food security, improving dietary pattern, nutrition education, prevention of food adulteration, nutritional surveillance etc. An assessment of the nutritional situation after 24 years of having the national policy on nutrition gives a very pessimist picture.

The worst victims of nutrition deficiency in India are the children. Child malnutrition is not a problem just confined to childhood; a malnourished child will grow up to be a malnourished adult and fail to realize his/her potential as a human being. (Human Development Report-2011). It is difficult to believe that most of Indian states are performing very poorly in providing adequate diet to even the breastfeeding or non-breastfeeding children age 6-23 months and states like Gujarat and Rajasthan are worst performers. It is

equally shameful that the percentage of children under 5 years who are stunted is closer to fifty percent in states like Bihar and Uttar Pradesh. It is also shocking to know that the average of wasted children under 5 years has increased to 21.0 percent (NFHS-4) from 19.8 percent (NFHS-3) at all India level. Further, Haryana is having the highest percentage of anaemic children age 6-59 months (71.7 percent). Other worst performing states along with Haryana are Jharkhand, Madhya Pradesh, Bihar, Uttar Pradesh, Delhi, Gujarat and Karnataka, all having prevalence rate of more than 60 percentages. Anemia is prevailing all around, states which are considered best in health outcomes like Kerala and Tamil Nadu also having high proportion of anemic women and adolescents. The malnutrition levels among the tribal children of Rajasthan were significantly higher than the non-tribal children, with the incidence of wasting being 26.7 percent versus 7.3 percent, respectively (Mohan, Agarwal and Jain 2016).

At the global level, the number of obese adults increased from 100 million in 1975 (69 million women, 31 million men) to 671 million in 2016 (390 million women, 281 million men). So, contemporary India is not only witnessing a problem of under-nutrition, it is also increasingly witnessing a problem of over-nutrition as the later is causing over-weight and obesity. States like Delhi, Goa, Andhra Pradesh, Kerala, and Punjab have high proportion (more than 30 percent) of women who are overweight or obese (BMI  $\geq 25.0$  kg/m<sup>2</sup>). Similarly the all India average of men who are overweight or obese has increased to 18.6 percentage (NFHS-4) from 9.3 percent (NFHS-3) in last ten years.

Nutritious food is one of the eight necessary elements for primary healthcare as suggested by Alma Ata declaration of 1978 also (Akram, 2014b). Malnutrition during childhood can affect growth potential and risk of morbidity and mortality in later years of life. Malnutrition threatens girls' ability to have healthy children in the future. According to a UNICEF report (What is the role of nutrition? no date), a child's nutritional future begins before conception with the mother's nutritional status prior to pregnancy. A chronically-undernourished mother is likely to give birth to an underweight baby, who may be stunted as a child and in turn give birth to malnourished baby. Hence, the gender dimension of malnutrition is even more complicated. According to Sethuraman and Duvvury (2007), there is a complex relationship between gender discrimination and malnutrition; where rates of malnutrition are high, gender discrimination is prevalent. Haddad (2015) also finds that child malnutrition in India is largely attributed to rigid tendered norms and low status of women.

We can conclude that nutrition related issues are generally invisible in India. Despite having nutrition and health related policies and plethora of government programmes, the nutrition care is not getting the kind of policy priority it needs (Choudhary, 2017). The NFHS-4 data reveal the draconian conditions related to nutrition care prevailing in most of Indian states. India lacks a comprehensive national nutrition strategy and linkages between planning, managing and implementing. There is an urgent need to formulate well-equipped nutrition policy and programs which could enable the availability and accessibility of scientific, balanced and affordable nutrition-rich food for all.

**Notes:**

1. The Global Hunger Index (GHI) is a tool designed to comprehensively measure and track hunger at the global, regional, and national levels. The report entitled "Global Hunger Index (2017): The Inequalities of Hunger", is jointly published by the International Food Policy Research Institute (IFPRI), Concern Worldwide and Welthungerhilfe. Available at: <https://www.ifpri.org/publication/2017-global-hunger-index-inequalities-hunger>
2. The Intergovernmental Negotiations on the post 2015 Development Agenda (IGN) began in January 2015 and ended in August 2015. Following the negotiations, a final document was adopted at the UN Sustainable



Development Summit September 25-27, 2015 in New York, USA. The title of the agenda is Transforming Our World: the 2030 agenda for Sustainable Development. Available at: <https://unstats.un.org/sdgs/files/report/2017/TheSustainableDevelopmentGoalsReport2017.pdf>

3. Available at: [https://www.nhp.gov.in/NHPfiles/national\\_health\\_policy\\_2017.pdf](https://www.nhp.gov.in/NHPfiles/national_health_policy_2017.pdf)
4. Available at: [http://rchiips.org/NFHS/factsheet\\_NFHS-4.shtml](http://rchiips.org/NFHS/factsheet_NFHS-4.shtml)

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