

Nutritional Value and Food Security

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ABSTRACT: The status of food and nutrition security is underlying factors in Himachal Pradesh as well as in India is investigated. We came across that one-third to a half of the children (<5 years of age) suffer from stunting with the incidence of wasting and under-weight also being very high. The prevalence of stunting, wasting, underweight in children is particularly high in some mountain areas of H.P state in India. Factors such as high poverty and low dietary energy intake, inadequate nutritional knowledge and climate change and environmental degradation are also influencing food and nutrition security in mountain areas of H.P state in India. To achieve sustainable food and nutrition security in the mountains, this study suggests a multi-sectoral in integrated approach with consideration of nutrition aspects in all development processes dealing with economic, social, agriculture and public health issues.

Keywords: Nutrition Security; agriculture; public health; food security

INTRODUCTION

Food and nutrition security is a basic human need. It is essential for living a healthy and productive life. Nutrition is the intake of food, considered in relation to the body's dietary needs. It is both input to and an output of the development process. Good nutrition – an adequate, well balanced diet combined with regular physical activity – is a cornerstone of good health. What nutrition exactly is? It is made up of three words. i.e (Nu – tri – tion). It is a process by which an organism obtains the nutrients needed for growth metabolism. The growing world population, environmental degradation (ozone depletion, global warming, greenhouse effect etc.), limited natural resources and climatic changes pose a greatest challenge to the food security (it is that everybody is able to get enough food to be healthy, well and active) of human population.

“Higher economic growth has not been fully translated into higher food consumption, let alone better diets overall, suggesting that the poor and hungry may have failed to benefit much from overall growth,” (by the Hindu)

It is estimated that about 195 million people have been undernourished. Further, a billion people lack adequate nutrition. Hunger and malnutrition are alone responsible for the killing of many children every year. The impact of malnutrition are higher among the poor, women and children, leading to negative effects on immune functioning, cognitive development child growth, reproductive performance and work productivity. The nature and causes of under nutrition and malnutrition and mountain areas are often different from those in the plains due to the difficult topography poor accessibility, poor market access and inadequate public health systems. It is important to assess the status of under nutrition and mal

nutrition to identify causes and pathways to achieve food and nutrition security specifically for mountain areas. In India situation is far more pathetic, about 217 million of population is undernourished. Occurrence of underweight in children under five years is also increasing with 40.2 percent of children being underweight and India ranked second to last on child underweight out of 129 countries. India being the 2nd most populated nation in the world is full of different types of crops that are cultivated every year. Though a major percentage of the population is involved in agricultural and horticultural activities, due to natural calamities like droughts and floods, every year several tonnes of crops get destroyed resulting in financial loss to the farmers as well as to the country. In spite of all these factors, our country still gets a good yield which we import to other countries too. This implies that India grows a decent amount of food every year which could feed each and every civilian of the country. Let us have a look on how much amount of calories, an individual requires on a day to stay healthy.

As we can see from the above tables the calorie requirements of all the individuals on the basis of their gender age and physical activity are different. But the question is the plate filled with regular Indian food contains the required amount of calories in it? Let us see the average calories of different Indian foods:

- 1) Chapatti: about 70-100 calories.
- 2) A bowl of cooked rice: 1 bowl of cooked rice = 136 calories and plateful of cooked rice = 272 calories.
- 3) One parantha: 1 plain parantha has about 121 calories and a portion of stuffed parantha contains about 210 calories.
- 4) One bowl of cooked daal: contains about 104 calories (1 bowl of cooked moong daal)
- 5) Mix veg.: upto 150 calories.

- 6) Curd: 100 grams of curd contains about 100 calories.
- 7) Chicken curry: it adds upto 120 calories approximately.

Calories in males:

Activity level age	Sedentary	Moderately active	Active
2-5	1000	1000	1000
6-10	1600	1800	2000
11-15	1800	2600	2800
16-20	2400	2800	3200
21-25	2400	2800	3000
26-30	2400	2600	3000
31-35	2400	2600	3000
36-40	2400	2600	2800
41-45	2200	2600	2800
46-50	2200	2400	2800
51-55	2200	2400	2800
56-60	2200	2400	2600
61-65	2000	2400	2600
66-70	2000	2200	2600
71-75	2000	2200	2600
76 plus	2000	2200	2400

Calories in females:

Activity level age	Sedentary	Moderately active	Active
2-5	1000	1000	1000
6-10	1400	1800	2000
11-15	1600	2600	2800
16-20	1800	2200	2400
21-25	2000	2200	2400
26-30	1800	2000	2400
31-35	1800	2000	2200
36-40	1800	2000	2200
41-45	1800	2000	2200
46-50	1800	2000	2200
51-55	1600	1800	2200
56-60	1600	1800	2200
61-65	1600	1800	2000
66-70	1600	1800	2000
71-75	1600	1800	2200
76 plus	1600	1800	2000

So, if we take this information into account we can conclude that if an average is having three meals a day in which takes the following items, his calorie intake would be good as all these things are the main constituents of a balanced diet. But when we talk about a big country like India having vast difference in cultures, it is reflected in food also. A typical plate of a person taking lunch in Punjab will have almost totally different calories as compared to a person taking lunch in Kerala or Mizoram. This difference of the culture gets reflected in the overall health of the peo-

ple of a particular region also i.e. their physical traits may vary.

As we have sufficient data about food intake and calories but if we see the condition of our country, mainly Indians are suffering from malnutrition. About a one-third of Indians are believed to be the victims of malnutrition and over 40% of children receive less food because of the lack of resources. India's major population is either poor or belongs to lower middle classes. These sections could hardly afford to eat three meals a day and as most of them are employed in labour work they are not able to get the required number of calories on a daily basis. This mostly affects children.

The rapid survey on children (RSOC), is a survey performed between the year 2013 and 2014. It reports that:

- 38.7% are considered stunted (low height for age)
- 29.4% are considered underweight (lower weight for age)
- 15% are considered wasted (low weight for height)

Micro nutrient malnutrition in India: With one sixth of the global population residing in India, one third of about two billion people suffering from vitamin and micronutrient deficit are in India. Micronutrients are required in small quantities and responsible for vital functions of the human body. Recent data suggest, some forms of micronutrients malnutrition are reaching their peak in the present country. An effort has to be made to consider newer options and commitments required that are available for taking the problem of micronutrient malnutrition.

World Bank report on nutrition in India: Stunting (described as low height for age) in Indian children, 6-24 months of age, could be dramatically reduced if children receive three things critical for good nutrition adequate feeding, health care and environmental health. This is in a new world bank report which analyses data from the National Family Health Survey (NFHS) 2005-2006 and the HUNGAMA survey 2011 to indicate a strong co-relation between stunting in children and their adequacy or inadequacy in these three dimensions.

Malnutrition among children in Himachal Pradesh: Malnutrition in Himachal Pradesh is a silently creeping crisis under the cover of an emerging developed state in terms of a decline in its infant mortality rate. At 60 per 1000 live births, it was lower than the national average of 68 per 1000 but the problem of under nutrition persists. An undernourished child is prone to morbidity and has longer periods of illness as compared to a well fed child. Its impact is evident from late school entry, slow learning abilities and eventually becoming an under productive adult. A

reduction in child malnutrition in Himachal Pradesh is evident during 1992-1993 to 1998-1999, but it was not as noteworthy as its neighbouring states. The state government proposes to reduce malnutrition by less than 5% (Himachal health Vision, 2020). It would be

relevant for the state to replicate the Tamil Nadu Integrated Nutrition Programme, which is a success as far as decreasing the proportion of underweight children is concerned.

Table 1: The underweight children at birth as percent of total deliveries in Himachal Pradesh, neighboring states and India during 1992-1993 and 1998-1999

STATES	1992-1993			1998-1999		
	TOTAL	RURAL	URBAN	TOTAL	RURAL	URBAN
H.P	28.2	30.8	18.7	35.1	35.8	31.7
Punjab	28.6	31.0	25.4	23.8	25.3	21.6
Haryana	26.0	26.5	25.5	24.3	29.1	18.5
J&K	32.4	38.0	23.2	28.3	24.0	33.8
India	26.0	24.7	26.3	22.7	23.9	21.1

Source: Computed form the National Family Health Survey, India, 1992-1993 and 1998-1999.

Table 2: Child malnutrition in Himachal Pradesh, neighboring states and India: 1992-1993 to 1998-1999

STATES	PERCENTAGE OF MALNUTRITION CHILDREN	
	1992-1993	1998-1999
Himachal Pradesh	47.0	43.6
Punjab	45.9	28.7
Haryana	37.9	34.6
J&K	44.5	34.5
India	53.4	47.0

NOTE: Age of children in 1992-1993 (under 4 years). Age of children in 1998-1999 (under 3 years)

The nutritional status of children (0-30 months) in Himachal Pradesh indicates that more than two-fifth are underweight. The corresponding figures at the national level are 47%, 45.5% and 18%. Himachal Pradesh has a higher proportion of underweight children than the neighbouring states of Punjab, Haryana and J&K. Apparently, the proportion of underweight males is higher than females. The standard of living has an impact on the nutritional status of the child. Nearly one-third of the children with a higher standard of living are undernourished 33.1% and stunted (29%) as against nearly three-fifths 57.7% of children with a lower standard of living. The literacy level of the mother has a deep impact on the nutritional status of the child, the higher the education level of the mother, the lower the under nutrition level of the children (NFHS 1998-1999). This makes a case for focusing on children belonging to lower income groups and imparting education to women. At the district level, more than three-fifth of children (1-5 years) in the rural areas of Bilaspur, Sirmaur, Solan, Mandi and Kullu are underweight. While more than half the children in the districts of Kangra and Hamirpur and more than two-fifths of the children in Shimla, Kinnaur and Una are underweight. The low proportion of prevalence of underweight, stunting and wasting at district level (rural) children (1-5 years) in H.P. (in percent) of underweight children in Shimla can be

attributed to the impact of urbanization (23.12%) increased awareness and access to quality health services. In the tribal areas of the state, data are available only for Kinnaur, which also has the lowest proportion of underweight children among the 10 districts. The better nutritional status of the tribal can be attributed to their consumption of local cereals, such as amaranthus, which has a high nutritive content. Non-availability of vegetables and fruits round the year increases the consumption of non-vegetarian and fruits round the year increase the consumption of non-vegetarian food, which provides them with adequate nutrients.

Table 3: Underweight, stunting and wasting male and female percentage in Himachal Pradesh

District/State	Underweight			Stunting			Wasting		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Bilaspur	73.6	70.1	72.1	73.5	82.1	77.3	11.5	10.4	11.0
Hamirpur	59.8	50.7	56.0	67.6	60.6	64.7	2.9	1.4	2.3
Kangra	65.9	51.2	58.8	71.6	69.1	70.3	6.8	4.8	5.8
kinnaur	45.9	43.5	44.5	52.4	56.6	54.9	11.5	14.1	13.1
Kullu	87.3	54.9	61.0	61.0	70.2	66.1	17.7	9.0	13.3
Mandi	58.3	64.9	61.2	71.8	77.0	74.1	10.4	10.9	10.6
Shimla	43.9	51.4	47.4	52.4	69.5	60.4	1.2	4.2	2.5
Sirmaur	63.7	63.4	63.5	79.6	75.6	77.7	4.5	4.9	4.7
Solan	52.3	69.8	61.7	61.6	63.2	62.5	10.7	13.1	12.0
Una	42.1	47.0	44.4	72.7	67.7	70.4	2.5	2.0	2.2
Himachal Pradesh	57.6	55.9	56.8	67.3	68.8	68.0	7.8	7.4	7.7

Source: India Nutrition Profile Development Ministry of Human Resources Development, government of India

The present nutritional status of children below six years is evident from the data provided by the department of social, women and scheduled castes welfare which indicates trends similar to the ones reported by the Indian Nutrition Profile (1998). During 2000-2003 the proportion of underweight children in the state marginally increased by 1.6 percent points. In the four districts, Chamba, Bilaspur, Mandi and Kangra, the proportion of underweight children has increased during this period. In Chamba, the number of such children increased by 16.1% points and in Bilaspur by 13.5% points. On the other hand, in Solan district this proportion decreased by 12.2 % points and in district Kinnaur by 11.2% points.

The Main Reason: The main reason why our Indian Society is facing a problem like undernourished and malnutrition is primarily lack of affordability. In other words, those who are poor or even below the poverty line quality food is out of their reach. Even for most of them its difficult to earn two meals for a day. Though the government cannot ensure employment to ensure that everyone in our country gets atleast the minimum quantity of food on a daily basis. Already government has launched several schemes and passed many bills for food security.

Food security in India: Food security entails ensuring adequate food supply to people, especially those who are deprived of basic nutrition. Food security has been a major concern in India. According to UN-India there are nearly 195 million undernourished people in India which is a quarter of the world's hunger burden. Also roughly 43% children in India are chronically undernourished.

Laws: In order to provide the right to food to every citizen of the country, the parliament of India enacted legislation in 2013 known as the National Food Security Act, 2013 also called as the right to food act; this act seeks to provide subsidized food grains to approximately two-thirds of Indian 1.2 billion populations. It was signed into law on 12th September, 2013 retroactive to 5th July 2013.

Mid Day Meal: A school meal programme of the government of India designed to improve the nutritional status of school age children nationwide. The programme supplies free lunches on working days for children in primary and upper primary classes in government, government aided, local body, education guarantee scheme and alternate innovative education centres, Madarsa and Maqtabs supported under Sarva Shiksha Abhiyaan and National child Labour project school run by the ministry of labour. Serving 1,20,00,000 children in over 12,65,000 school and education guarantee Scheme Centres. It is the largest such programme in the worlds. Under article 24, paragraph 2C of the convention on the rights of the child, to which India is a party India has committed to providing adequate nutritious foods for children. The programme has gone many changes since its launch in 1995. The Midday Meal Scheme is covered by the National Food Security act, 2013. The legal backing to the Indian school meal programme is similar to the legal backing provided in the U.S though national school lunch acts.

Antyodaya Anna Yojana (AAY): It is a government of India sponsored Scheme to provide highly subsidized food to millions of the poor families. It was launched by the government on 25th Dec, 12000 and first implemented in Rajasthan. So, we can say that the government has taken several steps from its side to provide food security to each and every Indian.

CONCLUSIONS

Though the government of India has taken several steps to ensure food security, these steps have not been satisfactory to meet the needs of Indians. So, what we can conclude that government should make some extra effort in order to bring a change in the current situation. Several camps for pregnant women, lactating mothers and mothers with grown up children should be organized in which they could learn the importance of nutrition and good food. We should not waste our food. Also through several be made available for the poorer sections of the society.

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REFERENCES

1. Sarkar, D., Thanai, D., Food security: Challenges and Opportunities in India, XVI Annual Conference Proceedings, January, 2015
2. Rasul, G., Hussain, A., Mahapatra B, (2017) Dangol, N. Food and nutrition security in the Hindu Kush Himalayan region, J. Sci Food Agric
3. Lathi, B. J., Narkhede, P. (2010) Food security in India: concept, realities and innovations, KECS Inst. Of Mgt. and Res., Jalgaon
4. <http://www.thehindu.com>
5. FAO,WFP,IFAD analyses, 2012, IFPRI analyses, 2013
6. <http://www.foodsecuritynews.com>
7. Antyodaya Scheme: many states yet to identify poor – The Financial Express
8. Dept. of Economics and Statistics, Economic Survey (2002), Govt. of H.P, Shimla
9. Dept. of Health and Family welfare, Himachal Health vision, 2020, H.P, pp. 26&27.
10. Dept. of Health and Family welfare, year Book 1997&98, Family Welfare Programme in India, Govt. of India.
11. Feature: Pib.nic.in