Human development, poverty, health & nutrition situation in India

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Background & objectives: Human development index (HDI) is extensively used to measure the standard of living of a country. India made a study progress in the HDI value. Extreme poverty is concentrated in rural areas of northern States while income growth has been dynamic in southern States and urban areas. This study was undertaken to assess the trends in HDI, human poverty index (HPI) and incidence of poverty among Indian states, the socio-economic, health, and diet and nutritional indicators which determine the HDI, changes in protein and calorie adequacy status of rural population, and also trends in malnutrition among children in India.

Methods: The variations in socio-economic, demographic and dietary indicators by grades of HDI were studied. The trends in poverty and nutrition were also studied. Univariate, bivariate and multivariate analysis were done to analyse data.

Results: While India's HDI value has improved over a time; our rank did not improve much compared to other developing countries. Human poverty has not reduced considerably as per the HPI values. The undernutrition among preschool children is still a major public health problem in India. The incidence of poverty at different levels of calorie requirement has not reduced in both rural and urban areas. The time trends in nutritional status of pre-school children showed that, even though, there is an improvement in stunting over the years, the trend in wasting and underweight has not improved much.

Interpretation & conclusion: Proper nutrition and health awareness are important to tackle the health hazards of developmental transition. Despite several national nutrition programmes in operation, we could not make a significant dent in the area of health and nutrition. The changing dietary practices of the urban population, especially the middle class, are of concern. Further studies are needed to measure the human development and poverty situation of different sections of the population in India using an index, which includes both income indicators and non income indicators.

Key words Human development index - human poverty index - poverty - time trends - undernutrition

The concept of human development is complex and multidimensional. Human development index (HDI) is extensively used to measure the standard of living of a country. HDI is calculated based on three indices; life expectancy to measure longevity, educational attainment to represent knowledge and real gross domestic product (GDP) to represent income. India made progress on the HDI value that has gone up from 0.595 in 2002 to 0.602 in World Human Development Report (HDR) 2005[1]. On HDI ranking, India is again ranked at 127 of 177 countries. India's rank on the human poverty index (HPI) is 58 in a universe of 103 developing countries.

On the gender development index (GDI), India's rank is 98 in a universe of 140 countries[1,2]. The variations in HDI could be socio-economic status (SES), demographic, health, and diet and nutrition indicators. Therefore, composite indexes of all these indicators can better represent the real human development and poverty status for Indian States[3,4].

The HDR Report 2005 warns that some of the most highly visible globalization 'success stories' including China and India are failing to convert wealth creation and rising incomes into more rapid progress on the social indicators[1,2]. If India could close the gender gap in < 5 yr age old mortality between girls and boys that would save an estimated 130,000 lives. Reducing gender inequality would have a catalytic effect on reducing gaps in primary education between girls and boys. Eliminating gender inequality could reduce the underweight rate among children less than three years old by 13 percentage points in South Asia, equal to 13.4 million fewer malnourished children. The Report[4] warns that if the current trends continue, the promise to get every child into school and to close gender gaps in education will not be met.

The Millenium Development Goals (MDGs) aim towards the reduction of maternal and child mortality. Low incomes, relatively higher prices, bad healthcare and neglect of basic education can all be influential in causing and sustaining the extraordinary level of under-nutrition in India. Yet, it has been shown that, even after taking note of low levels of these variables, "one would have expected a much higher level of nutritional achievement[5]. In most of Asia where the Green Revolution boosted food supplies, hunger and undernutrition have continued to decrease since 1981"[6]. Despite the availability of surplus food grains in India and in South Asia, the region is still facing high levels of hunger[6]. Even though, some of India's southern cities may be in the midst of technology boom, 1 in every 11 children dies in the first 5 years of life due to malnutrition, non availability of low cost technology, or low cost intervention. Extreme poverty is concentrated in rural areas of northern States while income growth has been dynamic in southern States and urban areas[3,9]. The incidence of income poverty has fallen from 36 per cent in the early 1990s to about 25 per cent in 2005[8].

The analysis of the human development and poverty situation in the major States of India is of prime importance to plan any further studies related to health and nutrition. We made an attempt to study (*i*) the trends in HDI, HPI and incidence of poverty among Indian States, and (*ii*) the socio-economic, health, and diet and nutritional indicators which in tern determine the HDI among Indian States. The changes in protein and calorie adequacy status of rural population and situation of malnutrition among children were also analyzed.

Material & Methods

Data: The data collected from various reports of Government of India, Reports of National Family Health Survey (NFHS), National Nutrition Monitoring Bureau (NNMB) and international organizations such as United Nations Development Program - Human Development Reports (UNDP) were utilized[9-15]. Data on poverty are taken from National Sample Survey Organization (NSSO) Report and Report of Expert Group on Estimation of Poor[8]. Information on the intake of diet and nutrients and nutritional status was collected from reports of NNMB and NFHS[9-18]. Data available from 1975-2005 were considered for different analysis. The census reports of 1991, 2001 and internet sites were also referred to get the required information on population characteristics[17-20].

Statistical methods: Descriptive statistics were computed for all the continuous variables. Univariate, bivariate and multivariate analysis such as 't' test, ANOVA and discriminant function analysis were carried out for assessing the socio-economic, demographic, health and nutritional status by grades of human development in India. SPSS, Windows version 14.0 (Chicago, USA) were used for the statistical analysis.

Results

Trends in HDI, HPI, Socio-economic and demographic variable: As per the reports of UNDP on HDI, India's value has been improved during the decade, but its rank has not improved much. The HPI is still high due to the high percentage of undernourished children. The rank of HPI has come down from 59 in 1997 to 55 in 2004 (Table I). The States with high incidence of human poverty are Bihar, Orissa, Madhya Pradesh and Rajasthan, which had lower HDI[1-3].

Both men and women have improved their education status since independence; however the gender gap in literacy rate could not be narrowed down (18.3 in 1951 and 21.7 in 2001). Even though the literacy status of men improved considerably, the literacy rate of women need to be improved further in order to achieve the desired empowerment. The school gross enrollment ratio (GER) has shown a remarkable improvement over the last 50 years (for class I to VIII). In 1951 GER for boys was

Table I. Trends in human development index (HDI) and human poverty index (HPI) of India

Year	Human development index	HDI rank	Human poverty index	HPI rank
1990	0.301	134	NA	NA
1997	0.545	132	35.9	59
1998	0.563	128	34.6	58
1999	0.571	115	34.3	55
2000	0.577	124	33.1	55
2002	0.595	127	31.4	54
2003	0.602	127	31.3	58
2004	0.611	126	31.3	55

NA, not available
(*Source*: Human Development Reports (UNDP)[1,2,16]

Table II. Sets of indicators studied by levels of human development

Sets of	Indicators utilized
Demographic	Life expectancy in years at birth & 5th year for male and female, Total fertility rate, Crude birth rate, Crude death rate, Maternal mortality rate (MMR) for 1000 live births, Infant mortality rate (IMR) for boys and girls, Mortality rate of 1- 5 yr old children (boys & girls), Population growth rate (%)
Socio-economic	GDP (Gross domestic product), Percentage of people under poverty line, Male and female literacy (%), girls and boys gross school enrolment ratio (primary & secondary), Government expenditure on education (%)
Health	Prevalence of contraceptive use (%), Availability of sanitation (%), Health services & safe drinking water (%), Prevalence of severely and moderately underweight children of less than 4 yr
Food intake (per consumption unit/ day in grams)	Cereals, pulses, roots and tubers, spices, sugar, meat & flesh foods, fruits, milk and milk products, green leafy vegetables, and other vegetables
Nutrients intake (per consumption unit/ day)	Total fat, Total calories, Total protein.

Note: Consumption unit (CU) is also known as adult unit which is based on the suggested allowances of calories = suggested calories for male sedentary healthy worker (having weight of 60 kg and age between 20-39 yr)[22] is 2425/day[22].

46.4 per cent which increased to 90.7 per cent in 2001. Similarly GER for girls increased from 17.7 per cent in 1951 to 82.4 per cent in 2001. But the sex ratio showed a declining trend indicating gender inequality. The regional variations also existed among States of India[17-21].

Variation in socio-economic, demographic and dietary indicators by grades of HDI among Indian States: The HDI and HPI values were computed for Indian States. The set of indicators studied by levels of HDI are provided in Table II. The States were divided into two groups (low and high grades) for comparison between States. The first group contains States with HDI value < 0.65 and the second group with HDI > 0.65. The mean and SD values of various indicators by grades of HDI are given in Table III. The mean values were significantly different between grades of HDI. The various demographic, socio-economic, health and dietary indicators were studied by grades of HDI. Life expectancy at birth of men and women, infant mortality rate, toddler mortality rate, maternal mortality rate and birth rate, were significantly different between the States with HDI lower than 0.65 and HDI of > 0.65. The infant mortality rate of both boys and girls was significantly ($P<0.01$) lower in high HDI group States than low HDI States. The average per capita Income of High HDI states was almost double that of low HDI states. Family planning methods were significantly ($P<0.01$) more prevalent among States with high HDI values. The gross school enrollment ratio were significantly ($P<0.01$) different between States with low and high HDI.

The dietary indicators were also studied between levels of HDI groups. The average consumption of foods such as milk and milk products was significantly ($P<0.01$) higher in States with high HDI value. Protein and calorie intake was not different between the two groups of HDI. The fat intake was almost double in the high HDI States than that of the low HDI States ($P<0.001$). In the States with high HDI, the fat intake was greater than the recommended levels of ICMR[22].

Best set of health and nutrition indicators by grades of HDI: Discriminant function analysis was carried out to find out the best set of indicators with reference to level of HDI among Indian States. Discriminant function analysis is useful to trace the best combination of variables that have optimal differentials between groups. Variations in the indicators of health, diet and nutrition by low and high HDI States were studied and the best set of indicators suitable was identified (Table IV). Among the health indicators studied, prevalence of family planning was the only indicators were excluded. Selection of more number of appropriate indicators may change the result.

Among the various dietary indicators studied, the consumption of income elastic foods such as sugar and jaggery was higher in the States with high HDI

Table III. Indicators of Indian States by grades of HDI
(Data or mean ± SD)

Indicators	Grades of HDI		
	<0.65	>0.65	F ratio
Life expectancy at birth			
(1) Men	57.95 ± 2.24	63.83 ± 3.02	19.53[**]
(2) Women	58.38 ± 3.40	65.96 ± 4.35	15.1[*]
Infant mortality rate (IMR) (1000 live births)			
(1) Boys	98.86 ± 21.35	61.92 ± 18.72	8.53 [*]
(2) Girls	95.07 ± 23.04	60.82 ± 21.27	5.73 [*]
Maternal mortality rate (MMR) (per 1000 live births)	5.14 ± 1.31	3.40 ± 1.0	8.43 [*]
GDP (Rs per capita/year)	8238 ± 2112	14104 ± 4671	16.56[* *]
Literacy rate (%)			
(1) Men	65.00 ± 9.77	80.09 ± 8.25	15.78 [**]
(2) Women	47.00 ± 19.27	62.55 ± 14.38	6.12 [*]
School enrollment ratio (primary and secondary)	73.05 ± 10.68	84.22 ± 12.03	4.89 [*]
% People below poverty line	35.99 ± 10.22	25.25 ± 8.66	6.24 [*]
Contraceptive usage (%)	34.14 ± 17.71	58.09 ± 14.88	8.462[*]
Milk and milk products (g/CU/day)	70.90 ± 53.12	158.40 ± 97.17	8.77 [*]
Sugar (g/CU/day)	14.27 ± 8.94	32.25 ± 11.12	16.03 [**]
Total calories intake (g/CU/day)	2149 ± 226	2150 ± 147	0.00
Total protein intake (g/CU/day)	64.9 ± 15.1	63.7 ± 9.4	0.04
Total fat intake (g/CU/day)	24.67 ± 9.30	40.54 ± 10.13	13.39 [**]

Source: 3, 4, 24; CU, Consumption unit

Table IV. Order and best set of indicators different between Indian States by grades of human development index (HDI)

Component	Order and best set of indicators	Standardized coefficients	D²	'F ratio(df)	% Correctly classified
Health indicators	Prevalence of contraceptive usage	1.00	2.85	13.18 (1,17)	77.3
Food intake	Sugar intake	1.00	2.87	13.59	81.8
Nutrients	Total fat intake	1.00	2.68	13.39 (1,18)	81.8
Pooled	1. GDP	0.896			
	2. Literacy rate (Male)	0.114	19.84	25.71 (3,12)	95.5
	3. Prevalence of contraceptive usage	0.796			

All the 'F' ratios were significant (*P*<0.001); df, degree of freedom
Source: Ref. 24.

compared to the States with low HDI. The percentage of misclassification (1- correct classification) was only 18.2 (Table IV). Among the nutrient indicators, the total fat intake was selected in the model, which varies between States with low and high grades of HDI. However, the average calorie and protein intakes were not significantly different among States with different grades of HDI. Consumption of fat is considered income related. HDI views the human development in relationship with income only. This shows the inappropriateness of HDI for classifying the Indian States by levels of diet and nutritional status indicators[2,3].

Poverty in India during the last 25 years: Since independence, India has its development policy to reduce poverty[19]. Even though, India has made significant progress in reducing poverty, 260 millions are still poor, which contribute one fourth of world's poor[16]. The percentage of people under poverty line in rural area has reduced from 54.1 in the 1972 to 19.3 in the 1994[8,17-21]. As per the expert group of the Planning Commission, about 40 per cent of people are still living below poverty line[23]. The 61st round of NSSO survey (2004-2005) has estimated poverty by different recall period and the estimates also varied. Since poverty is a

Table V. Poverty ratios (percentage of population below the poverty line)

Year	Poverty line (Rs.)		Poverty ratios as per expert group methodology (%)	
	Rural	Urban	Rural	Urban
1972-73	41	47	-	-
1973-74	49.63	56.96	56.4	49
1977-78	60.60	69.90	53.1	45.2
1983-84	101.80	117.50	45.7	40.8
1987-88	131.80	152.10	39.1	38.2
1988-89	NA	NA	39.2	38.4
1989-90	NA	NA	33.7	36
1990-91	NA	NA	35	37
1991-92	NA	NA	40	37.6
1992-93	NA	NA	41.7	37.8
1993-94	205.84	281.35	37.3	32.4
1999-2000[*]	327.6	454.11	27.1	23.6
2004-2005	356.30	538.60	28.3	25.7
			21.8[*]	21.7[*]

[*]Indicate estimates based on mixed recall period (MRP) method
Source: Government of India, National Sample Survey Organization and Planning Commission Reports[8, 26, 27]

Table VI. Incidence of poverty (%) in terms of head count ratio for the poverty line defined at different levels of calorie requirement in the rural and urban sector for selected rounds of NSSO under the scenario of fixed basket of commodities: All India

Rounds	27	32	38	43	50
Rural:					
Norm of calorie requirement	(Oct 72-Sept 73)	(July 77-June78)	(Jan-Dec83)	(July 83-June84)	(July 93-June94)
2400	64.78	59.21	51.44	45.3	42.17
2200	52.5	46.61	39.37	31.51	28.53
2000	39.88	33.83	26.91	19.26	15.88
1800	26.52	19.53	16.08	10.53	6.95
Urban:					
2200	63.75	61.7	58.12	54.27	49.49
2100	58.7	55.75	51.14	48.04	42.42
2000	50.71	47.93	43.21	40.36	34.83
1800	31.71	28.6	23.92	21.78	17.87

Source: Government of India, National Sample Survey Organization; Survekshana Reports[8,26]

Table VII. Protein and calorie adequacy of rural households

Year	Distribution of protein and calorie adequacy status (%)			
	P+C+	P-C-	P+C-	P-C+
1975	54.6	21.27	23.31	0.8
1976	59.0	17.33	23.19	0.5
1977	55.9	20.7	22.8	0.6
1978	55.2	17.4	26.9	0.5
1979	58.1	19.1	21.6	1.2
1980	60.1	18.5	20.6	0.8
1981	60.7	15.7	23.0	0.6
1982	51.1	27.0	21.5	0.5
1983-84*	71.6	7.7	22.34	-
1985-87 (Tribal survey)	25.2	47.6	29.3	0.9
1988-90	53.3(E+)	-	83.5(P+)	-
1991-92	55.5			0.3
1994-95 (NCAER)	52.0	19.5	28.2	0.3
1996-97 (second Repeat survey)	47.2	20.1	32.3	0.4
2002	36.6	26.9	36.3	0

Source: NNMB reports[12-16]
*NNMB-NSSO linked survey for 4 States
P+C+ protein and calorie adequate
P- C+ protein inadequate and calorie adequate
P+ C-, protein adequate and calorie inadequate
P- C-, protein and calorie inadequate
NCAER, National Centre for Applied Economic Research

multidimensional phenomenon, many experts felt that it cannot be measured based on calorie requirement alone and the need for a composite index[3,4,8,16-24].

The Planning Commission has been estimating the number and percentage of poor at national and State level. Since March 1997 it has been using the Expert Group Method[6,8,17,18] (Expert group on estimation of proportion and number of poor) to estimate poverty. Using this methodology the values estimated by Planning Commission for various years are given in Table V[6,8,17-21]. The estimates from 1973 to 1994 have been released by Government of India, Press Information Bureau in March 1997[25-28]. Subsequently the estimates for the year 1999-2000 were released by the Press Information Bureau as 27.1 for rural and 23.6 for urban which were strictly not comparable with the previous years. In fact, the reference period was not same as that of the previous years (NSSO)[8,26]. This result was based on 55th round of Consumer Expenditure Survey of NSSO[8]. The recent report of NSSO released the result of 61st round survey on consumer expenditure, for the period July 2004 to June 2005[26-28]. In the NSSO report, two different consumption distributions for the year 2004-2005 have been obtained. The first one is from a data collected using 30 day recall period (also known as reference period) for all the items such as food and various non food items and is called as Uniform Recall Period (URP). The second one is

obtained from the consumer expenditure data collected using 365-day recall period for five infrequently purchased non food items, namely, clothing, footwear, durable goods, education and institutional medical expenses and 30-day recall period for the remaining items. This is termed as Mixed Recall Period (MRP). The percentage and number of poor in 2004-2005 estimated from URP method of 61st round of NSSO are roughly (but not strictly) comparable with that of 1999-2000[25-28]. Accordingly the poverty ratio was 28.3 for rural and 25.7 for urban using URP method. The corresponding figures obtained by MRP method is 21.8 in rural and 21.7 in urban areas. These figures are not strictly comparable with that of 1999-2000 which was 27.1 and 23.6 per cent respectively. The poverty estimates in 2004-2005 based on URP consumption distribution (27.5) were comparable with the poverty estimate of 1993-1994 which was 36 per cent[8, 26-28].

In India, the official estimate of the poverty line was defined based on the expenditure required to obtain 2400 calories for the rural and 2100 for the urban[8, 27, 28]. The incidence of poverty in terms of head count ratio for the poverty line at various levels of calorie requirement in the rural and urban sector for selected rounds of NSSO is given in Table VI.

Protein calorie adequacy among rural households: NNMB has been collecting information on diet and nutritional status of rural households for 10 States since 1974-1975[12-15]. The protein and calorie adequacy status varied from 54.6 per cent in 1975 to 36.6 per cent in 2002 (Table VII). The protein and calorie adequacy status was stable till 1981 and there afterwards it was gradually declined. As per the NNMB Report 2002, only one third of the preschool children were meeting the protein calorie adequacy[14]. This clearly indicates the undernutrition as a major problem among the preschool children in India.

Time trends in the prevalence of undernutrition among preschool children: The NNMB (1990-1991 to 2000-2006) and NFHS (1993-1994 to 2005-2006) surveys revealed that though there is a declining trend, but still the problem of undernutrition is alarming in India (Table VIII)[9-15]. As per the NFHS-1 (1993-1994) data prevalence of undernutrition in India was 53.4[9]. 1n 1998, it was reduced to 47.0 and 46 per cent in 2005; the trend of change is discouraging. The National Nutrition Monitoring Bureau data also show similar trend. The NFHS surveys show that the levels of child malnutrition in India are exceptionally high and little progress has been made over the past 7 years. The

Table VIII. Prevalence (%) of underweight (<median - 2SD) and time trends among preschool children in India

States	Prevalence (%) of underweight (<median-2SD)				
	NFHS-1 (1993-94)*	NFHS-2 (1998-99)**	NFHS-3 (2005-06)	NNMB (2000-01)***	NNMB (2005-06)
Age groups (yr)	< 4	< 3	< 3	1-5	1-5
Andhra Pradesh	49.1	37.7	36.5	53.1	55.9
Assam	50.4	36.0	40.4	—	—
Bihar	62.2	54.4	58.4	—	—
Gujarat	44.1	45.1	47.4	62.8	57.5
Haryana	37.9	34.6	41.9	—	—
Himachal Pradesh	47.0	43.6	36.2	—	—
Jammu & Kashmir	44.5	34.5	29.4	—	—
Karnataka	NA	43.9	41.1	59.6	52.9
Kerala	28.5	26.9	28.8	40.2	34.8
Madhya Pradesh	57.4	55.1	60.3	74.2	64.0
Maharashtra	52.6	49.6	39.7	65.1	57.7
Orissa	55.3	54.4	44.0	65.9	60.3
Punjab	45.9	28.7	27.0	—	—
Rajasthan	41.6	50.6	44.0	—	—
Tamil Nadu	46.6	36.7	33.2	52.6	49.2
Uttar Pradesh	49.8	51.7	47.3	—	—
West Bengal	56.8	48.7	43.5	61.4	57.6
Arunachal Pradesh	39.7	24.3	36.9	—	—
Manipur	30.1	27.5	23.8	—	—
Nagaland	28.7	24.1	29.7	—	—
Tripura	48.8	NA	39.0	—	—
Meghalaya	45.5	37.9	46.3	—	—
Mizoram	28.1	27.7	21.6	—	—
All India	53.4	47.0	45.9	61.4	54.9

*Children under four years weight for age, percentage below two standard deviations, NFHS1, **Children under 3 yr weight for age, percentage below two standard deviations; NFHS2; ***Children between 1-5 yr, weight for age Gomez classification; NNMB, rural There was significant difference in nutritional status between NFHS1, 2, 3 ($P<0.001$); *Source*: NFHS reports, NNMB reports[9-11,14,15]

NFHS-3 presents data on three commonly used measures of child malnutrition; stunting (deficit in height-for-age), wasting (deficit in weight-for-height) and the proportion of underweight (weight-for-age) children. According to this, 46 per cent of below three year children are underweight, 38 per cent were stunted and 19 per cent were wasted[11]. NFHS reports states that the prevalence of undernutrition is more among the rural children[9-11].

Discussion

The improvement in HDI value in India is slow compared to other developing countries. The HPI values indicate that human poverty has not been reduced substantially[15]. Inter-regional and inter-State disparities

in HDI are seen due to variations in social development. The development of Kerala is better due to the highest rate of literacy among men and women. The development in Maharashtra is also better due to the vast growth of industries[23]. Tamil Nadu, Maharashtra and West Bengal improved well with declining birth and death rates. In West Bengal and other less developed States, birth and death rates are still high[23].

HDI was found to be a good index in classifying the Indian States by socio economic indicators[3,4]. However, the index was inadequate in classifying the States by health and nutrition indicators alone. The total fat intake and animal fat intake are also well correlated with HDI values[2,3]. HDI is not appropriate for defining inappropriateness of dietary intake[3,4,24].

In most of the empirical studies carried out in India, the distribution of consumption expenditure has been used, which is less fluctuating compared to income distribution[5]. The incidence of poverty at different levels of calorie requirement has not reduced significantly in both rural and urban areas. The regional differences vary from agricultural production to economic growth. The factors contributing to human poverty vary from State to State and region to region depending upon the profile of the poor and source of livelihood. Inter-state variations in poverty are mainly attributed to the agricultural productivity[29]. The NSSO data reveal that the per capita consumption of cereals has been declining since the early seventies[8,26]. The NNMB data also support this as the calorie intake is gradually declining. The NSSO data show that the per capita consumer expenditure steadily increased from 1970s both in rural and urban areas[8,26]. The International Food Policy Research Institute (IFPRI) has designed global hunger index (GHI) to help mobilize political will and promote good policies by ranking countries by three dimensions of hunger[30]. It captures insufficient availability of food, shortfalls in the nutritional status of children and child mortality. It is alarming to note that GHI of India is higher than other developing countries like China, Sri Lanka, Indonesia, Philippines and Pakistan[30]. This needs attention at government level. The prevalence of communicable diseases like HIV/AIDS affects agricultural production and household food security, which leads to hunger. Public action by government, civil societies and non-governmental organizations including research organizations are the need of the hour to tackle poverty and undernutrition.

Undernutrition among preschool children may be the result of faulty feeding practices rather than the scarcity

of the food. It was also assessed that the low status of woman and their lack of nutritional knowledge are important determinants of high prevalence of underweight children. Appropriate intervention strategies need to be developed to educate the mothers regarding the feeding practices of infant and young children. The results of NFHS-3 have been analysed to show the importance of infant feeding and caring practices as well as the nutritional well being of the mother[32]. Despite several National nutrition programmes in operation, we could not make a significant dent in this area. India is even lagging behind with Sub-Saharan countries, in spite high economic growth.

Globalization, industrialization, economic growth and transition in lifestyle patterns especially among the young generation, are contributing to physical inactivity which in turn leads to increase in obesity, type 2 diabetes, insulin resistance and cardiovascular diseases[33]. Therefore, proper nutrition and health awareness are very important to tackle the health hazards of developmental transition. Further studies are needed to measure the human development and poverty situation of different sections of the population in India using an index, which includes both income indicators and non income indicators.

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