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Health and nutritional status of tribal population

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ABSTRACT The tribal populations are is recognised as socially and economically vulnerable. Their

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lifestyles and food habits are different from that of their rural neighbours. They depend on minor forest produce and manual labour for livelihood. They may not have adequate income. Their food consumption pattern is dependent on the vagaries of nature and varies from extreme deprivation (in the lean seasons) to high intakes (in the post-harvest period). This leads to the health and nutrition problems. The health and nutrition problems of the vast tribal population of India are as varied as the tribal groups themselves who present a bewildering diversity and variety in their socio-economic, socio-cultural and ecological settings. The objective of the present paper is to examine health and nutritional status of the tribal population in India. The collected data reveals that Primitive tribal groups of India have special health problems and genetic abnormalities. The malnutrition is high among the tribal population. The tropical disease like malaria is still widespread in the tribal areas. The tribal population has a much lower Infant Mortality Rate (IMR) as compared to the scheduled castes but moderately higher than the other population. No specific precautions are observed at the time of conducting deliveries which resulted in an increased susceptibility to various infections. Services of paramedical staff are secured only in difficult labour cases. Vaccination and immunization of Infants and children have been inadequate among tribal groups. In addition, extremes of magico-religious beliefs and taboos tend to aggravate the problems. Lack of medical facility is another problem for them. Hygiene problem is very common in rural as well as in tribal areas. Hence proper methods should be developed to tackle the problems.

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Tribal communities in India mainly consist of forest

dwellers who have accumulated a rich knowledge on the uses of

various forests and forest products over the centuries. According

to Article 342 of the Indian Constitution, the Scheduled Tribes

are the tribes or tribal communities or part of or groups within

these tribes and tribal communities which have been declared as

such by the President through a public notification. India

possesses a total of 427 tribal communities, of these more than

130 major tribal communities live in North East India, which is comprised of the 8 states Meghalaya, Mizoram, Manipur,

Tripura, Sikkim, Assam, Nagaland and Arunachal Pradesh. The

major tribal communities of the North East India have been

categorized into sub-tribes and if these sub-tribes are taken into

account the total number of tribal groups reach up to 300. Table

1 will represent in brief the Demographic statistics of Tribals of

population of India are as varied as the tribal groups themselves

The health and nutrition problems of the vast tribal

Introduction

Cultural.

It is generally believed that the nutritional status of a person is a function of his/her socio-economic condition. The economic condition of the people belonging to the rural areas is generally influenced by the possession of landholdings, capacity of producing crops, availability of work etc. In fact, socially and economically better off people enjoy high nutritional status. On the other hand, a vast mass of rural people suffers from undernutrition mainly due to the non-availability of work throughout the year.

Tribal groups constitute about 8.2 % of the total population in India (Indian Government Census, 2001). According to government statistics, tribes can be found in approximately 461 communities with almost 92 % of them residing in rural areas, mostly in remote underserved forest regions with little or no basic civic amenities like transport, roads, markets, health care, safe drinking water or sanitation. Tribal communities therefore lag behind other communities with respect to attainment of income, education, health and other requisites for good community nutrition. Of the 86 million tribal's who are 8.2 percent of the population, 80 percent live in the Middle India belt of Andhra Pradesh, Orissa, Jharkhand, Chhattisgarh, Madhya Pradesh, Northern Maharashtra and Southern Gujarat. Around 12 percent or 10.2 millions live in the Northeast. The rest are spread over the remaining States. Scheduled tribes are distributed throughout the country except Pondicherry, Haryana, Punjab, Chandigarh, and Delhi.

The requisites for good on tribal's who are 8.2 live in the Middle India markhand, Chhattisgarh, a and Southern Gujarat. The in the Northeast. The tes. Scheduled tribes are of Pondicherry, Haryana, the tribal population. Nutritional deficiency leads to disease like endemic goiter goiter: see thyroid gland, anemia, pellagra and beriberi beriberi(běr` $\bar{e}ber`\bar{e}$), deficiency disease occurring when the human body has insufficient amounts of thiamine (vitamin B₁). The deficiency may result from improper diet e.g. . Nutritional anaemia is a major problem for women in India and more so in the rural and tribal belt. This is particularly serious in view of the fact that

NE India

both rural and tribal women have heavy workload and anaemia has profound effect on psychological and physical health. Anaemia lowers resistance to fatigue, affects working capacity under conditions of stress and increases susceptibility to other diseases. Maternal malnutrition is quite common among the tribal women especially those who have many pregnancies too closely spaced. Tribal diets are generally grossly deficient in calcium, vitamin A, vitamin C, riboflavin and animal protein.

Higher prevalence of undernutrition in tribal population is due topoverty and consequent undernutrition

• lack of awareness about, access to and utilisation of the available nutrition supplementation programmes;

• social barriers preventing the utilisation of available nutrition supplementation programme and services.

• poor environmental sanitation and lack of safe drinking water, leading to increased morbidity from water- borne infections;

• environmental conditions that favour vector-borne diseases;

• lack of access to health care facilities resulting in increased severity and /or duration of illnesses.

The objective of the present paper is to examine health and nutritional status of the tribal population in india.

Materials and Methods

Health Status of tribes

Lack of personal hygiene, poor sanitation, poor mother-child health services health services Managed care The benefits covered under a health contract, absence of health education, lack of national preventive programmes, and lack of health services are responsible for the poor health of the tribals. Problems like in-sanitary food supplies, water contamination, and poor food in-take reflect on the health status of tribals. The tropical disease like malaria is still widespread in the tribal areas. Hence, better nutrition and good environmental health are the important aspects of village health services

Birth and mortality rate

The tribal population has a much lower Infant Mortality Rate (IMR) as compared to the scheduled castes but moderately higher than the other population. Table 2, 3, and 4 will highlight the birth and mortality rate of the individuals in the state which is found to be varied in different assessment years.

According to the study carried out by SRS, NFHS, Census-2001, and State Population Policy-2000, except CPR all the health indices are below the national average (Table 4).

Maternal and child health care practices

Child bearing imposes additional health needs and problems on women -physically, psychologically and socially. Maternal mortality was reported to be high among various tribal groups. The chief causes of maternal mortality were found to be unhygienic and primitive practices for parturition. From the inception of pregnancy to its termination, no specific nutritious diet is consumed by women. On the other hand, some pregnant tribal women reduced their food intake because of simple fear of recurrent vomiting and also to ensure that the baby may remain small and the delivery may be easier. The consumption of iron, calcium and vitamins during pregnancy is poor. The habit of taking alcohol during pregnancy has been found to be usual in tribal women and almost all of them are observed to continue their regular activities including hard labour during advanced pregnancy. More than 90 per cent of deliveries are conducted at home attended by elderly ladies of the household. No specific precautions are observed at the time of conducting deliveries which resulted in an increased susceptibility to various infections. Services of paramedical staff are secured only in difficult labour cases.

As far as child care is concerned, both rural and tribal illiterate mothers are observed to breast-feed their babies. But, most of them adopt harmful practices like discarding of colostrum, giving prelacteal feeds, delayed initiation of breastfeeding and delayed introduction of complementary feeds. Vaccination and immunization of Infants and children have been inadequate among tribal groups. In addition, extremes of magico-religious beliefs and taboos tend to aggravate the problems.

Genetic disorders and Sexually Transmitted disease

Primitive tribal groups of India have special health problems and genetic abnormalities like sickle cell anaemia, G-6-PD red cell enzyme deficiency and' sexually transmitted diseases. Genetic disorders especially sickle cell disease and G-6-PD have been found to occur in high frequency among various tribal groups and scheduled caste population. The sickle cell disease has been found in 72 districts of Central, Western and Southern India. About 13 lakh G-6-P D deficient are present in tribal population. The prevalence is especially high among the tribes and scheduled castes of Madhya Pradesh, Maharashtra, Tamil Nadu, Orissa, Assam (more than 15 per cent) especially in hyperendemic malarial zones (DST, Report 1990). Prevalence rate up to 40 per cent of sickle cell trait has been reported in some tribes i.e. Adiyan, Irula, Paniyan, Gonds. Sexually transmitted diseases (STDs) are most prevalent disease in the tribal areas. VDRL was found to be positive in 17.12 per cent cases (reactive in dilution of 1:8 or more) of polyandrous Jaunsaris of Chakrata, Dehradun. Out of 17 per cent, 9.92 per cent was found among males and 7.19 per cent among females. Among the Santals of Mayurbhanj district, Orissa, 8.90 per cent cases (reactive in dilution of 1:8 or more) of VDRL were observed, out of which 4.99 per cent were females and 3.91 per cent were males.

Sex ratio

In the 1991 Census, the sex ratio of the tribal population was 972 females per thousand males against 927 for the total population. The highest sex ratio for scheduled tribes among various States has been reported from Orissa (1002) and the lowest from Goa (889). The sex ratio of tribals is more favorable to females than the general population (972/1000 males vs. 927/1000).

However, there is a wide variation among the different groups and states (1002 in Orissa to 889 in Goa). The geriatric population (above 60 years of age) among tribal's is 6.1%. Though this is actually an increase from 5.6% in 1981 in comparison to the general population (7.9%), the proportion is less. The dependency ratio among tribal's is 83.9% and in the general population is 69%. Literacy is increasing (47% in 2001 from 29.6% in 1991) but still lower than the general population (65%) and the gap between the literacy rates of STs and the general population continues almost at the same level of 17-18% for the last three decades. Almost 65% women are illiterate against the national figure of 46%. High drop-out rates of 79% from formal education are a major problem. The sex ratio (or ratio of females to 1,000 males) is a simple indicator of gender equality. Among the countries of the world, India is unique in that the data show a decline in sex ratios in the twentieth century. In 2001, the overall sex ratio was 948 while the corresponding ratio for India was 933. The sex ratio among the major tribes was higher than the State average.

Sl.no	India/ State	Total Population		Decadal Growth in %	ST Population		Decadal Growth in %	%age of of STs in the state to total state population in 2001	% age of STs in the state to total ST population in India in 2001
		1991	2001		1991	2001			
1	India	838,583,988	1,028,610,328	22.66	67,758,380	84,326,240	24.45	8.2	-
2	Assam	22,414,322	26,655,528	18.92	2,874,441	3,308,570	15.1	12.4	3.92
3	Arunachal pradesh	864,558	1,097,968	27	550,351	705,158	28.13	64.2	0.84
4	Manipur	1,837,149	2,166,788	17.94	632,173	741,141	17.24	32.3	0.88
5	Meghalaya	1,774,778	2,318,822	30.65	1,517,927	1,992,862	31.29	85.9	2.36
6	Mizoram	689,756	888,573	28.82	653,565	839,310	28.42	94.5	1
7	Nagaland	1,209,546	1,990,036	64.53	1,060,822	1,774,026	67.23	89.1	2.1
8	Tripura	2,757,205	3,199,203	16.03	853,345	993,426	16.42	31.1	1.18

Table 1: Demographic statistics of Tribals of NE India, 2001 Census

Source: Annual Report 2009-10, Ministry of Tribal affairs, Govt of India available at

http://tribal.nic.in/writereaddata/mainlinkFile/File1220.pdf

Table 2: Health statistics of India, 2006s

Category	India	SC	ST	OBC	Others
Infant mortality/1000 live births	57.0	66.4	62.1	56.6	48.9
Under-5 mortality/1000 live births	74.3s	88.1	95.7	72.8	59.2
Child mortality rate	18.4	23.2	35.8	17.3	10.8

Table 3: Health Indices , 2007

Parameter	National Average (India)	Source					
Birth Rate	23.1	SRS 2007					
Death Rate	7.4	-do-					
Natural Growth Rate	15.7	-do-					
Infant Mortality Rate	55.0	-do-					
Couple Protection Rate	56.03	NFHS-3					
Total Fertility Rate	2.68	-do-					
Maternal Mortality Rate	4.37	State Population policy published at August 2001					
Sex ratio	933:1000	Census 2001					

Note: TFR-Total Fertility Rate, CPR-Couple Protection Rate, IMR-Infant Mortality Rate, MMR-Maternal Mortality Rate, SRS-Sample Registration System, NFHS-National Family Health Survey.

	Table 4: fleatth mulces, 2008								
SL No	Category	National (India)							
1	Birth rate, 2008	22.8							
2	Death rate, 2008	7.4							
3	Natural growth rate, 2008	15.4							
4	Infant mortality rate (IMR), 2008	53							
5	Couple Protection rate (CPR), NFHS-3	56.03							
6	TFR (total Fertility Rate), NFHS-3	2.68							
7	Maternal Mortality Rate, SPP-2000	4.37							
8	Sex ration, Census 2001	933:1000							

Table 4: Health indices , 2008

Source: SRS-2008, NFHS-3, Census-2001 and State Population Policy-2000

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Indicator		Scheduled tribes	Others
	NFHS 2	NFHS 3	NFHS 3
Median age at marriage	15.8 years	16.3 years	18.1 years
Awareness of legal age for marriage(4)	7.5%	-	22%
Age at consummation of marriage	16.6 years	17.0 years	18.5 years
Total fertility rate	3.06	3.12	2.68
Median age at first childbirth	18.8 years	19.1 years	20.6 years
Proportion of pregnancies with no antenatal checkups	43.1%	37.8%	22.8%
Proportion of pregnancies with no TT immunization	25.8%	36.9%	16.4%
Proportion of pregnancies receiving IFA tablets	48.6%	62%	72%
Home deliveries	81.8%	82.3%	49%
Contraceptive use	39.1%	42.7%	51.4%
Proportion of births of order more than two	53%	51%	34.6%
Infant mortality rate/1000 LB	84.2	62.1	57
Neonatal mortality rate/1000 LB	53.3	39.9	39.1
Under 5 mortality rate/1000 LB	126.6	99.8	74
Exclusive breast feeding (median)	2.9 months	3.1 months	1.9 months
Completion of primary immunization	26%	31.3%	53.8%
No vaccination	-	11.5%	4.3%

Table 5: Maternal and child health indicators among tribals and others

Source: Soudarssanane M Bala, Thiruselvakumar D, "Overcoming Problems in the Practice of Public Health among Tribal of India", Indian Journal of Community Medicine / Vol 34 / Issue 4 / October 2009

Table 6: Differences in Nutrient Intake									
State with									
Nutrient Intake	Lowest	Highest							
1-3 age-group									
Protein	12.9g	25.5g							
Energy	508 k cal	1047 k cal							
Vit. A	81 µ g	629 μ g							
4-6 age-group									
Protein	22.2 g	37.2 g							
Energy	842 k cal	1590 k cal							
Vit. A	98 µ g	915 µ g							
>16 years males									
Protein	45.6 g	67.7g							
Energy	1830k cal	2941k cal							
Vit. A	141µ g	1075µ g							

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Table 7.10.2: Nutritional	Status in	North	Eastern	States
Lable 7.10.2. Hutilitional	Status III	110101	Lastern	States

Percentage of children (age 0-71 months) classified as undernourished by weight for age according to Caste/ tribe# 2002-04										
States	S	С	S	Т	OI	BC	Others		То	tal
	<-3 SD	<-2 SD	<-3 SD	< - 2 SD	<-3 SD	<-2 SD	<-3SD	<-2 SD	<-3 SD	<-2 SD
Arunachal Pradesh	2	20.5	3.5	20.8	2.5	20.6	1.7	17.7	2.9	20.3
Andhra Pradesh	20.1	45.5	27.3	48.6	16.6	43.4	14	36.5	17.3	42.3
Assam	9.1	28.1	11.3	21.5	12.7	27.4	18.6	38.1	33.2	26.4
Gujarat	19.2	51.7	23.7	58.6	16.1	47.3	8.5	35.5	15.4	46
Haryana	14.4	36.8	16	43.9	14.7	38.1	11.5	32.6	13.3	35.6
Himachal Pradesh	12.2	35.9	14.7	35.4	19.6	53.7	10.9	33.1	12.4	36.4
Jammu & Kashmir	(7.3)	(19.5)	0	6.3	7.1	18.6	7.6	24.7	7	22.3
Jharkhand	22	56.8	23.4	55.1	21.2	52.8	12.9	40.5	20.7	52.2
Karnataka	15	45.9	18.5	47.2	13.1	42.8	15.7	46.7	14.6	44.8
Kerala	15.8	43.9	14.1	44.4	8.6	35.4	7.6	31.7	9.3	35.8
Madhya Pradesh	26.1	58.3	29.4	60.6	23.1	54.8	17.8	47.2	24.1	55.4
Maharashtra	17	50.8	23.7	59	14	48.3	10.8	40.9	15	47.7
Bihar	28.4	60.6	26.2	60	23.9	55.9	17.1	44.1	23.5	54.6
Chattisgarh	16.9	44.6	21.6	48.3	20.2	50	11.7	38.1	19.2	47.4
Delhi	12.9	42.4	(4.7)	(23.3)	10.6	35.3	10	32	10.8	35.3
Goa	0	0	0	0	3.1	22	6.6	28.3	6.5	30
Manipur	2.2	4.4	3.7	16	0.1	5.9	0.5	13.1	2.3	12.6
Meghalaya	0	0	11.6	34.9	0	0	0	0	11.6	34.9
Mizoram	1.9	16.4	0.7	14.6	0	0	0	0	0.8	15.2
Nagaland	0	0	7.9	19.6	0	0	0	0	8.2	21.4
Orissa	17	45.5	19.9	50.3	13.8	40.6	9.8	34.3	15.2	42.8
Punjab	17.6	44.6	13.6	33.1	13.4	43.1	10.4	34.2	13.9	40
Rajasthan	31	61.7	27.5	58	28.4	57.9	26.7	55.3	28.4	58.1
Sikkim	(2)	(23.5)	1.4	14.9	0.3	9.6	0.9	6.3	0.8	9.7
Tamil Nadu	18.2	41.5	17.7	41.5	15.9	36.9	16	38.2	16.6	38.3
Tripura	2.7	23.9	6.6	41.4	7.6	29.1	6.9	27.9	5.9	30.2
Uttar Pradesh	26	59	27.6	61.1	23.2	56.1	19.6	49.7	23.1	55.3
Uttaranchal	26.7	53.2	21.8	47.8	27.3	53.2	25.1	52.5	25.8	52.6
West Bengal	14.9	47.4	16.1	50.3	8.2	43.1	12.2	43.2	13.1	44.9
Andaman & Nicobar Island	12	31.1	4.8	26.9	6.4	40.1	5.7	31.3	5.8	29.7
Chandigarh	(7.1)	(38.1)	0	0	0	0	12.3	35.2	10.3	35.4
Daman & Diu	19.3	55.1	17.5	63.6	13.1	42.7	10.7	35.1	13.2	43.8
Dadar & Nagar Haveli	(24)	(40)	21.2	55.6	(2.3)	(37.2)	5.3	37.3	16.1	49.1
Lakshadweep	0	0	14	42.6	0	0	0	0	13.8	42.2
Pondicherry	7.7	29.5	0	0	7.9	25.6	0	0	8.2	26.8
India	21.6	52.4	23.2	53.5	20	50.3	15.4	43.2	19.4	49.2
Source: DLHS 20003-04 # Total of this group does not add up to total sample size due to don't know and missing case; () Based on										

The sex ratio among SC, though lower than among ST, was higher than the State average in both rural and urban areas. The child sex ratio (or sex ratio among children aged 0–6 years) was 966 as compared to the Indian average of 927. The child sex ratio was greater than 1,000.

Nutritional status of tribes

A study by Mishra (2005) using the National Family Health Survey (NFHS-2) found that in almost all the states of India, tribal households had a higher incidence of childhood stunting (52.3%) than non-tribal households (42.8%). Using the same dataset, Nagda (2004) reported an anemia prevalence of more than 80% among tribal children. Several studies have also reported deficient intake of calories and protein among tribal populations relative to the Indian RDA, which may be an explanation for the high rates of stunting among this group. Iron deficiency is recognized as the major cause of anemia in tribal communities and several studies have reported that deficiencies of micronutrients such as iron and zinc often occur together. Hence the high rates of anemia among tribal populations provide additional evidence of the possibility of marginal zinc deficiency in tribal areas. This is further supported by the high prevalence of stunting and the highly deficient dietary energy intakes in the tribal populations since intake of both zinc and iron are known to be highly correlated with dietary energy intake . At least one study has shown that zinc intake of populations in tribal regions was significantly lower than that of any of the other regions studied. Earlier studies indicated that, comparatively, the overall health of the tribal population is inferior to that of people elsewhere in India and that poor environmental sanitation and unhygienic personal practices predispose tribal populations to high risk of infection. Findings from a recent national survey showed that 82.4% of tribal households did not have latrines and 78.1% did not have drainage facilities in their homes (NFHS-2, 1998), a situation that predisposes children to diarrhoeal disease. The survey also found that the prevalence of diarrhoea and acute respiratory infection (ARI) was higher among tribal children than children of non-tribal mothers. Similarly, the study by Nagda (2004) suggested that childhood diarrhoea, ARI, anemia and fever were major causes of infant mortality in tribal areas. India's abysmal track record at ensuring basic levels of nutrition is the greatest contributor to its poverty as measured by the new international Multi-dimensional Poverty Index (MPI). About 645 million people or 55% of India's population is poor as measured by this composite indicator made up of ten markers of education, health and standard of living achievement levels.

The new data also shows that even in states generally perceived as prosperous such as Haryana, Gujarat and Karnataka, more than 40% of the population is poor by the new composite measure, while Kerala is the only state in which the poor constitute less than 20%. The MPI measures both the incidence of poverty and its intensity. A person is defined as poor if he or she is deprived on at least 3 of the 10 indicators. By this definition, 55% of India was poor, close to double India's much-criticised official poverty figure of 29%. Almost 20% of Indians are deprived on 6 of the 10 indicators. Nutritional deprivation is overwhelmingly the largest factor in overall poverty, unsurprising given that half of all children in India are under-nourished according to the National Family Health Survey III (2005-06). Close to 40% of those who are defined as poor are also nutritionally deprived. In fact, the contribution of nutrition to the overall MPI is even greater in urban than rural India. Multi-dimensional poverty is highest (81.4% poor) among Scheduled Tribes within India's Hindu population, followed by Scheduled Castes (65.8%), Other Backward Class (58.3%) and finally the general population (33.3%).

Generally, a balanced diet provides all the food substances needed by the body for healthy growth and development. Good nutrition also includes eating the proper amount of food each day. It helps keep the body healthy and fit. When they are not able to get two meals a day, how is the concept of nutritious food applicable to them.

Lack of medical facility is another problem for them. The poor tribals do not get food regularly so they fall sick. Doctors recommend that people have medical care at the first sign of any illness. Early care can result in quicker cure. But the tribals are deprived of all these basic needs. Due to mosquitoes bites, skin diseases, jaundice, natural calamities, they suffer and do not get any treatment on time.

Hygiene problem is very common in rural as well as in tribal areas. Due to unhygienic conditions their children suffer with many diseases like measles, mumps, polio, tetanus, and whooping cough. Prevention of disease is an important part of medical care. Parents should make sure that their children receive immunization against diphtheria, German measles, measles, mumps, polio, tetanus, and whooping cough. But tribal parents are ignorant of these things.

Several focused interventions for tribal development and improvement in health and nutritional status of tribal population have been initiated in the last three decades. In order to assess the impact of these, the National Nutrition Monitoring Bureau (NNMB) carried out a repeat diet and nutrition surveys of the tribal populations living in the Integrated Tribal Development Project (ITDP) areas in 1998-99 in Kerala, Tamil Nadu, Karnataka, Andhra Pradesh, Maharashtra, Gujarat, Orissa and West Bengal, where the NNMB had carried out an earlier survey in 1985-87.

Comparison of data of the two surveys showed that there has not been any improvement in the food and nutrient intake. There were substantial differences in the food and nutrient intake and nutritional status between tribal populations living in different states (Table 6). In some population groups, there was adequate intake of minerals and some micronutrients even though the diet was inadequate in terms of meeting energy and protein needs.

There has been some reduction in the prevalence of severe forms of under-nutrition and in nutritional deficiency signs in preschool children. The adult tribal population is more undernourished than their rural counterparts. Overnutrition is very rare among tribal population. Time trends in prevalence of undernutrition in tribal population in eight states is available from NNMB repeated survey 2000. Data indicated that Karnataka has shown the steepest decline in undernutrition especially severe undernutrition. Substantial decline in severe undernutrition is reported from Kerala, Andhra Pradesh, Gujarat, Orissa and West Bengal. However, it is a matter of concern that there has not been any decline in undernutrition rate in Tamil Nadu and Maharashtra.

NFHS surveys

NFHS surveys provide information on nutritional status of women and children in relation to the caste / tribe. Data on nutritional status of children from SC, ST, OBC and others from NFHS 1, 2 & 3. Undernutrition rates are higher in ST and SC as compared to OBC and others in all these three surveys. There are substantial interstate differences in stunting; underweight and wasting rates in preschool children; however in all states undernutrition rates are high in SC/ ST children. There is a small but sustained reduction in undernutrition as estimated by prevalence of underweight and stunting over these 15 years. However it is a matter of concern that there is small increase in wasting rates between NFHS 2 and NFHS 3 in all the four categories. India has a large and diverse tribal population. There are wide variations among the groups in nutritional status and access to and utilization of nutrition and health services. The tribal populations in the northeastern states have high literacy levels; they access available facilities, and hence nutritional and health status of women and children in these states is better than the national averages . On the other hand, primitive tribes such as the Onges in the Andaman have very little awareness or access to either nutrition or health care. Differential area-specific need assessment, strategies and programmes to improve access and utilisation of nutrition services have to be developed for each of the tribal areas.

DLHS survey

Data on interstate difference in nutritional status as assessed by weight for age indices from District Level Household Survey (DLHS 2002-04). In all states, prevalence of undernutrition is higher in SC and ST as compared to OBC and others. Over all undernutrition rates are high in Orissa, Bihar, Uttar Pradesh, Madhya Pradesh and Rajasthan. These states with high tribal population and high undernutrition rates should receive priority attention in improving access to nutrition and health care.

These data clearly indicates the need for continuous monitoring nutritional status of the tribal population. Monitoring of the ICDS reporting can provide early warning of any deterioration in the nutritional status in pre-school children so that appropriate intervention can be initiated. Research studies on dietary habits that contribute to good nutritional status as well as those that make the tribal population vulnerable to nutritional deficiencies should receive attention. Based on these data, specific intervention programmes can be taken up to improve nutritional status.

Conclusion

It is evident from the above discussions that tribal populations are affected by various social, economic and developmental constraints that potentially expose them to high rates of malnutrition and health problems which is correlated with the lower percentage of higher education of the community. The tribal of India are heterogeneous. Although scheduled tribes are accorded special status under the fifth/sixth schedules of the Indian Constitution, their status on the whole, especially their health still remains unsatisfactory. Hence, the methods to tackle their health problems should not only be multi-fold, but also specific to the individual groups as feasible as possible.

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