

A Study of Health Problems and Nutritional Status of Tea Garden Workers of Assam

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Abstract

A study was conducted to ascertain the socioeconomic profile of tea garden workers of Assam, India. For the purpose, 299 families from three different villages were selected randomly and the socioeconomic profile was collected through a pre-scheduled structured questionnaire. The study revealed that children between 3-6 years of age and also the mothers suffered from stunted body growth. High rates of illiteracy were found in the study area and this led to marriage of the girls at a very young age. Average income of the families was very less with most of the people living in katcha house only. The study concludes that the socioeconomic condition of this section of the people of Assam may be upgraded through mass awareness programmes and emphasis on nutrition and health care.

Keywords: Socioeconomic profile, Tea garden workers.

Introduction

The area under tea in Assam was 321319 ha in 2007 of which Dibrugarh district alone covered 122514 ha and that is about 38 per cent of the total tea area of Assam (Nazara Arya, 2013). Assam's tea industry depends on tea labourers, who are the backbone of the industry. The tea tribes are the descendents from the inhabitants of Santhal Parganas (Jharkhand district of India). The tea tribes of Assam are among the backward and most exploited tribes in India (Wikipedia). Prejudice, superstitious beliefs, alcoholism etc. are high among this underdeveloped community. Socially they are less exposed, economically hard pressed, educationally and culturally backward, although the new generation is comparatively educated and many of them are now professionals in various fields. However there are few studies on tea garden women workers, who are mostly illiterate.

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The present study was undertaken with the following objectives:-

1. To assess the relationship between the socio-economic characteristics of the workers and their livelihood improvement status.
2. To study the causes of poverty, ignorance and illiteracy of female tea workers.
3. To find out causes of diseases suffered by children of tea workers.

Materials and Methods

The study was conducted among the workers of three tea gardens namely Basmatia, Rungliting and Ghagrajan tea estate of Lahoal block of Dibrugarh district of Assam, India during the period April 2013 to March 2014 to ascertain socioeconomic conditions of the tea workers. Data was obtained through a structured interview schedule from mothers and their children in the age group of 3-6 years. A total of 299 families of 3 villages, where family members were engaged in the tea gardens, were the subject of the study. Height and weight of the mothers and their children were compared with ICMR standards (Anonymous, 1990). Educational pattern was classified as no education, Lower primary pass (LP - up to Class Vth pass), Middle Education (ME - up to class VIIIth pass), High School pass (Xth pass) and Intermediate pass. Other points in the Socioeconomic profile included type of family (nuclear or joint), number of family members (2-4, 5-7 and 8-10), earning members in the family (one, two, three or more), monthly income of the family, child mortality upto 6 months following birth, delivery of child either at hospital or home, mother's age at marriage, housing pattern (Katcha, Pucca or others), sanitation measures (type of toilets used like Katcha, Pucca or open defecation), availability of electrical connection. Common diseases of children and adults and types of vaccines used for children were also noted down.

Results and Discussion

Comparison of height and weight of mothers has been shown in Table 1. It was observed that upto 147 cm height, average weight recorded was equal or more than the ideal height provided by ICMR standard. However, beyond 147 cm height, weight of the mothers was below the ideal weight (Anonymous, 1990). Generally tea labourers got married at an early age (Table 7) and entered in the child bearing stage. Moreover they were undernourished or suffered from malnutrition which led to stunted body growth. The lesser body weight of the mothers recorded in the study might be attributed to these factors only.

Table 1. Comparison of Height and Weight of mothers

Height of respondents in cm.	Average Weight of respondents in Kg. (No. of observations)								Ideal weight as per height in Kg.
	Basmatia		Rungliting		Ghagrajan		Average		
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	
129	28 (8)	0.87	22(8)	1.43	38.33 (12)	0.56	30.57 (28)	0.24	25
132	30 (5)	1.56	24 (7)	1.33	28 (5)	1.98	26.73 (17)	0.43	26
135	33.5 (11)	0.	35 (8)	1.04	34 (10)	0.61	34.09 (29)	0.23	27.5
138	36.83 (6)	1.20	40.2 (7)	1.22	31.5 (8)	0.93	35.92 (21)	0.33	31.5
141	40 (6)	0.89	44 (8)	1.05	34.75 (12)	0.55	38.81 (26)	0.27	33.1
144	38.05 (15)	0.40	33.63 (12)	0.72	40.4 (10)	0.68	37.25 (37)	0.18	36
147	42.14 (14)	0.46	40.51 (19)	0.42	40 (10)	0.69	40.96 (43)	0.15	38.5
150	43.8 (13)	0.49	40 (7)	1.31	40.47 (15)	0.44	41.61 (35)	0.19	45
153	42.25 (8)	0.89	44.5 (2)	13.59	45 (4)	2.08	43.3 (14)	0.51	47.5
156	43 (8)	0.86	40.6 (11)	0.77	51.11 (9)	0.80	44.68 (28)	0.25	50
159	42 (4)	2.09	45 (12)	0.70	43 (5)	1.52	43.67 (21)	0.33	52

Average height and weight of both male and female children of 3-6 years of age and their comparison with ideal height and weight has been depicted in Tables 2, 3, 4 and 5. Both average height and weight of the children were found far below the ideal height and weight. This is mainly because of undernourishment as mentioned earlier. Wasting in Indian boys and girls was recorded earlier in several reports (Khalil and Khan, 2004; Ramachandran and Gopalan, 2011). Low birth weight, too early introduction of breast milk substitutes, too late introduction of complementary feeds, poor feeding practices, high morbidity rates due to infections and poor access to health care are the major factors associated with low weight/ stunting rates in infants and young children (Ramachandran and Gopalan, 2011). Building of awareness and advocacy to improve nutritional status of young children is of utmost importance. Special emphasis should be given to nutrition education for improvement of feeding practices and also to health education for improvement of timely access to health care. Poor growth is an adaptation to chronic low energy intake and stunting is a measure of cumulative impact of chronic energy deficiency on linear growth. Stunting should be prevented as it is not readily reversible.

Most of the workers are illiterate, showing a frequency of 51.17 per cent against female workers and 35.79 per cent against male workers and ranged from 22.45 to 71.29 per cent as a whole (Table 6). Only 48.82 per cent female labourers had education up to LP or ME pass and this value was slightly higher for male labourers. Only 2 per cent of the labourers had education up to Xth pass. Education beyond intermediate level was not recorded in the study area. This very low educational profile also resulted in marriage at a very early age.

Table 2. Comparison of Weight as per the age of Male Child of Tea Labourers

Age (Years)	Basmatia		Rungliting		Ghagrajan		Average weight		Ideal weight (Anonymous, 1990)
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	
3	11.35	0.11	9.5	0.08	9.28	0.27	10	0.04	15.7 kg
4	12	0.32	10.25	0.29	14.26	0.49	12.02	0.11	16.7 kg
5	16	0.58	14.15	0.21	15.03	0.20	15.15	0.12	18.7 kg
6	17.4	1.22	15.8	0.39	17.15	0.33	16.43	0.13	20.7 kg

Table 3. Comparison of Weight as per the age of Female Child of Tea Labourers

Age (Years)	Basmatia		Rungliting		Ghagrajan		Average weight		Ideal weight in kg (Anonymous, 1990)
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	
3	9.8	0.09	8.5	0.19	8.04	0.33	9.0	0.06	14.1 kg
4	12.66	0.15	10.3	0.92	9.3	0.008	10.74	0.07	16 kg
6	13.5	0.32	12.35	0.11	10.57	0.27	12.08	0.06	19.5 kg

Table 4. Comparison of Height as per the age of Male Child of Tea Labourers

Age (Years)	Basmatia		Rungliting		Ghagrajan		Average (height)		Ideal height in cm. (Anonymous, 1990)
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	
3	86.85	0.6	88	0.4	91.5	0.4	88.4	0.2	99
4	96	0.7	97.5	1.5	94.5	0.6	95.2	0.4	102.9
5	97.2	3.2	99	11.8	94.5	0.2	95.2	0.5	109.8
6	99	6.3	101.6	1.9	102	0.6	101.4	0.6	116.1

Table 5. Comparison of Height as per the age of Female Child of Tea Labourers

Age (Years)	Basmatia		Rungliting		Ghagrajan		Average (height)		Ideal height in cm. (Anonymous, 1990)
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	
3	84.2	0.5	78.2	1.0	86.5	0.6	82.9	0.2	93.9
4	93	0.8	90	4.5	93.3	0.3	92.9	0.3	101.6
6	104	0.6	109.9	0.54	93.5	0.2	103.4	0.3	114.6

Table 6. Education of Adult Labourers of the three Villages

Education		Basmatia (N=98)		Rungliting (N=101)		Ghagrajan (N=100)		Overall (N=299)	
		Frequency	%	Frequency	%	Frequency	%	Frequency	%
Female labourer	NIL	43	43.88	72	71.29	38	38	153	51.17
	LP (I-V)	15	15.31	19	18.81	34	34	68	22.74
	ME (VI-VIII)	38	38.78	10	9.90	24	24	72	24.08
	High School (IX-X)	2	2.04	0	0	4	4	6	2.00
Male labourer	NIL	22	22.45	51	50.50	34	34	107	35.79
	LP (I-V)	38	38.78	31	30.69	40	40	109	36.45
	ME (VI-VIII)	34	34.69	18	17.82	23	23	75	25.08
	High School (IX-X)	2	2.04	1	0.99	3	3	6	2.01
	Intermediate	2	2.04	0	0.00	0	0	2	0.67

Table 7. Other Socio-economic characteristics of the respondents

S. No.	Particulars		Basmatia (N=98)		Rungliting (N=101)		Ghagrajan (N=100)		Overall (N=299)	
			Frequency	%	Frequency	%	Frequency	%	Frequency	%
1	Type of family	Nuclear	59	60	40	40	65	65	164	54.85
		Joint	39	40	61	60	35	35	135	45.15
2	Family members	2-4 nos	33	33.67	61	60.40	43	43	137	45.82
		5-7 nos	52	53.06	36	35.64	30	30	118	39.46
		8-10 nos	13	13.27	4	3.96	27	27	44	14.72
3	Earning members in the family	Only one	21	21.43	35	34.65	19	19	75	25.08
		Two	76	77.55	64	63.37	78	78	218	72.91
		Three	1	1.02	2	1.98	3	3	6	2.01

S. No.	Particulars		Basmatia (N=98)		Runglitin (N=101)		Ghagrajan (N=100)		Overall (N=299)	
			Frequency	%	Frequency	%	Frequency	%	Frequency	%
4	Income of family/ month (Rs.)	2000.00	0	0.00	16	15.84	0	0	16	5.35
		3000.00	25	25.51	24	23.76	25	25	74	24.75
		3500.00	38	38.78	36	35.64	26	26	100	33.44
		4000.00	25	25.51	11	10.89	21	21	57	19.06
		4500.00	5	5.10	14	13.86	18	18	37	12.37
		5000.00	5	5.10	0	0.00	10	10	15	5.02
5	Child mortality up to 6 months after birth		2	2.04	3	2.97	0	0	5	1.67
6	Child delivered at	Hospital	37	37.76	44	43.56	69	69	150	50.17
		Home	61	62.24	57	56.44	31	31	149	49.83
7	Marriage age of mothers	15 years	21	21.43	12	11.88	11	11	44	14.72
		16 years	13	13.27	9	8.91	20	20	42	14.05
		17 years	0	0.00	4	3.96	8	8	12	4.01
		18 years	47	47.96	21	20.79	37	37	105	35.12
		19 years	3	3.06	11	10.89	24	24	38	12.71
		20 years	14	14.29	36	35.64	0	0	50	16.72
8	Type of house	Katcha	36	37	40	40	35	35	111	37.12
		semi-pucca	62	63	61	60	65	65	188	62.88
9	Type of toilet	Open	10	10	40	40	20	20	70	23.41
		Katcha	59	60	45	45.45	40	40	144	48.16
		Pucca	29	30	16	14.85	40	40	85	28.43
10	Electricity	Present	59	60	45	45	70	70	174	58.19
		Nil	39	40	56	55	30	30	125	41.81

Although maximum number of families adopted nuclear family structure, but still about 45 per cent of the families adopted joint family structure. Most of the families had upto 4 members which is because of prevalence of more nuclear families in the area. In majority of the cases (72.91%) both husband and wife engaged in the work force. Monthly income was less than Rs. 3000.00 for those families where income was coming from one head of the family. No significant child mortality occurred in the last 3 years as most of the children were immunized against common diseases as per common mandatory immunization programme provided from health services. However, in spite of getting good health services,

about 50 per cent of the mothers delivered their child at their home due to illiteracy. Females got married below 20 years of age. There was no unmarried female beyond 20 years of age in the study area. Early marriage results in many problems including stunted body growth.

No pucca house is available in the villages in the study area and almost 37 per cent of the families live in katcha house made up of bamboo, thatch, straw, polythene and other locally available cheap materials. It is a matter of concern that about 23 per cent people are still adopting open defecation that leads to spreading of many infectious and contagious diseases amongst the villagers. Although majority of the people have electricity connection, still a proportional number of people are living without electricity and these people are using lantern, candles and other locally available items as a source of light during the night.

Common diseases of respondents recorded were giddiness, breathing problem, fever, headache, swelling of body, gastritis, stomach pain etc. Children most frequently suffered from diarrhoea, fever, vomiting, cough, swelling of gums, indigestion. This is mainly because of unhygienic conditions of most of the families. The people do not use soap or other detergent even after coming from toilets. Moreover open defecation also results in spreading of many infectious diseases.

Conclusion

This study clearly depicts that due to illiteracy of female tea workers the standard of living deteriorates. Their diet of meagre nutrition leads to the children being unhealthy. Hence regular mass awareness programmes, through involvement of all family members of the tea labourer families, on proper education will definitely help in augmenting the socioeconomic condition of the tea labourers. Moreover associating with NGOs and Government Agencies with different programmes and rallies in uplifting the standard of living will surely promote the livelihood of female tea workers to help change their lifestyle.

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