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Awareness about Welfare Benefit and Health Practices among Women TeaWorkers of Upper Assam District

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ABSTRACT

The tea industry in Assam is a labor-intensive industry and the health status of the tea plantation workers is an asset to the industry. However, they are most negligent population in terms of their health, sanitation condition and the accessibility of the provisions allotted to them as per the Plantation Labour Act 1951. The study focuses on the awareness of women tea workers regarding the welfare services to be provided by the management in compliance with Plantation Labour Act 1951 and awareness of basic health practices. The study was conducted in a tea plantation of Dibrugarh district with a sample size of 50. Simple random sampling technique was used for sample selection, and data was collected through interview schedule. The majority of respondents (46%) had below average awareness level of the welfare services to be provided by management in compliance with the PLA 1951. In terms of awareness level of basic health practices, only 6% of respondents had above average and 60% had an average level of awareness. The study found a significant association between the education level of the tea workers and the awareness level of basic health practices. Awareness among women workers plays an important role in the reducing risk of acquiring preventable diseases; however, management is responsible to provide the basic services and develop monitoring mechanism to ensure proper maintenance of the basic amenities.

1. INTRODUCTION

India is the second largest tea producer, exporter, and consumer in the world, with its inception dating all the way back to the British colonial period (AMRC, 2010) (IBEF, 2018). Tea is primarily grown in three main regions namely, Darjeeling, the Nilgiris, and the Assam Valley, where it is an integral part of the state's economy contributing to 51% of annual tea production in the country (Arya, 2013a). The tea industry is mainly dependent on its workers and employs over one million persons, therefore, the health of the workers of the tea plantation is an asset (GOI, 2012).

The tea laborers or workers called "*Adivasis*" migrated decades ago from states such as Orissa, Jharkhand, and Bihar have permanently settled in and around the plantations. Among these workers, the majority are women who are preferred to pluck tea leaves for long hours due to their soft hand and nimble fingers, suitable to pluck tea leaves (Bhowmik, 2002) (Employment, 2009) (Baishya, 2016). Although the tea community is considered the backbone of the industry, it is one of the most socially backward communities who are deprived of basic welfare provisions and services (Sarkar & Bhowmik, 1998). Furthermore, women, who are low in social position and economically weaker than men, face exploitation, have poor nutritional status due to their constant outdoor work like plucking tea leaves, weeding and clearing. They are at greater risk in developing epidemics like malaria, cholera diarrheal diseases, and conditions such as anemia, hypertension, and malnutrition (UNICEF, 2012) (Borah, 2013) (GOI, 2015) (Cousins, 2016) (Roy, 2017).

To manage the wellbeing of the workforce, the Plantation Labour Act (PLA) 1951, mandates the tea management to provide welfare provisions such as like clean drinking water, hygienic latrines, and urinals, education, recreational facilities, housing facilities, etc. It accentuates on the provision of medical facilities with full-time doctors to protect the wellbeing and raise the living standard of the tea workers (GOI, 1951). However, these directives are not implemented properly compromising the quality of life of the tea workers (Bhowmik, 2002).

It is crucial that tea workers are aware of their right to avail the basic amenities. Many health adversaries are preventable, provided the management provide the workers with basic welfare services at homes and workplaces. Besides, good health-seeking behavior, health practices, cultural factors, knowledge, and awareness is crucial to avert avoidable and curable diseases and conditions by availing the services in appropriate time (S. K. Roy et al., 2013) (B. R. Bora, 2015).

According to literature, women tea workers in Assam have a low level of knowledge on nutrition health and hygiene which is a barrier to raise their nutrition and health status (Timung et al., 2013).

In a study conducted on 100 women between the ages of 28-35 in Darjeeling, West Bengal, two groups were composed, i.e. control group and experiment group. The experimental group was given nutritional awareness over a period of 6 months and the control group was not given any awareness. It was observed, that a significant increase in the weight, hemoglobin level, and chronic energy deficiency was decreased of the subjects of the experimental group after the awareness generation. The level of blood pressure of the control and the experimental group remained the same. The participants of the experimental group had also improved their cooking practice, diet pattern, and sanitation practice and food hygiene (Manna, 2012).

While studies are available related to types of prevailing diseases amongst tea garden communities, research on awareness level of health leading to poor health conditions has been limited. While the poor health condition is distributed in both genders, the researcher finds that most of the outdoor manual work is performed by the women who are more at risk to contracting diseases, therefore is intending to carry out the present study.

2. METHODOLOGY

The study is a descriptive study where the researcher described the awareness level pertaining to mandatory welfare provisions in compliance with PLA 1951 and awareness about basic health practices among the women tea workers of Dibrugarh district in upper Assam.
The study was conducted in Chabua tea estate of Dibrugarh district. The sample size of the study was 50 from five different domiciles. The tea manager provided the list of all the women tea workers after a discussion about the study, from which sample selection was done using simple random sampling technique.

A self-constructed tool was developed and validated by the community medicine department at St. Johns Hospital in Bangalore.
The tool comprised of three sections

i. Socio-demographic details constituting age, relationship status, education qualification, language, religion, domicile, income, number of children, number of family members, and number of family members earning, of the respondents.
ii. Awareness level of the welfare provisions in compliance to PLA 1951 encompasses components regarding accessibility and availability of amenities such as well-ventilated housing with urinals, clean drinking water at homes/workplace, health care services, maternity benefits, education facilities, and child care facilities.
iii. Awareness of basic health practices includes components such as boiling water before drinking, outdoor defecation practices, utilization of personal protective equipment, walking barefoot outside, eating practices and immunization.

Prior to the data collection, a pilot test was conducted with 10 participants in the field to check the relevance of the tool. The secondary data was obtained from research journals, reports, government documents, and electronic newspaper articles. The primary data was collected through interview schedule within a period of one month, which was cleaned, validated to reduce errors and analyzed using the Statistical Package of Social Science (SPSS) version 17.0. In addition, health awareness tables were developed using Microsoft Excel. The awareness level was based on tertile distribution of score which was categorized into above average, average and below average.

3. RESULTS

The socio-demographic details of the participants constitute of the age, relationship status, education qualification, language, religion, domicile, income, number of children, number of family members, and number of family members earning, of the respondents (See Table - 1).

Table 1 - Socio-demographic Profiles of the Respondents- Women Tea Workers

Socio-Demographic details		**Frequency**	**Percentage (%)**
Age	20 and below	3	6
	21-30	14	28
	31-40	18	36
	40 and above	15	30
Relationship Status	Married	46	92
	Single /widows	2	4
	Widowed	2	4
Education Qualification	Higher Secondary	2	4
	Middle School	9	18
	Primary Education	6	12
	No education	33	66
Languages	Assamese, Adivasi	6	12
	Assamese, Hindi, Adivasi	43	86
	Hindi, Adivasi	1	2
Religion	Christian	9	18
	Hindu	40	80
	Muslim	1	2
Domicile	Karakjun	11	22
	Line no 6	30	60
	New line	1	2
	Old line	3	6
	SP line	5	10
Income (Monthly)	1000-1999	33	66
	2000-3999	17	34
Number of Children	0	5	10
	1	4	8
	2	19	38
	3	12	24
	>3	10	20
Family Members	1 to 4	12	24
	5 to 8	32	64
	9 to 12	6	12
Earning Members	1	38	76

	2	11	22
	3	1	2

Majority of the respondents (36%) fall within the age range of 31 to 40 years and have been working in the plantation for an extended period. Hence there are chances that they could be well aware of the about the PLA welfare provisions. The study shows that 92% of the respondents are married and 4 percent of the respondents are either widowed or single.

The literacy level of the respondents was observed to be poor, 66% of the respondents had no education whereas only 12% and 18% of the respondents had completed their primary school and middle school education respectively. Only four percent of the respondents had completed their higher secondary level education.

According to the statistics, the majority of the respondents, which is 86% could speak and understand Assamese, Hindi and the Adivasi language. This indicates that the tea workers are still attached to their origins, culture and their roots from where they have migrated. Majority of the respondents (80%) of the respondents follow Hinduism followed by Christianity (18%) and Islam (2%).

In the tea plantation, the tea workers live in colonies, which are called labour lines. Each labour line comprises of labour quarters. The number of these labour quarters can vary according to their job profile and may be influenced by religion as well. A very high proportion of the respondents (60%) were domicile of Line No. 6, which is predominantly a Hindu colony, 22% and 10% of the respondents were from Karakjun and SP line respectively.
The income of the participants is another important variable considered in the socio-demographic profile. The majority (66%) of the participants earn up to Rs.1000-1999/-per month and remaining earn an income of Rs.2000-3999/- per month. The study found that 44% of the respondents had three or more children and 38% had two children in their family.

About three fourth of the respondents (76%) more than four family members living in one house. Majority of the respondents (76%) are the only earning members in their family, 22% and 2% have two and three earning members respectively.

Awareness Level PLA Provision of the tea workers
Majority of the respondents (46%) indicated an awareness level of below average, while 28% had above average and 26% had an average level of awareness (See Table-2).

Table 2 – Awareness Level of provisions in compliance with PLA 1951

Awareness level	Frequency	Percent (%)
Above Average	14	28
Average	13	26
Below Average	23	46
Total	50	100

All the respondents were aware that the management should provide them with clean drinking water at their workplace, and 76% of the respondents were aware that the management must provide with clean drinking water at their residences. However, more than 70% of the respondents did not agree or don't know that the management must periodically monitor the proper operation of the drinking water points.

Majority of the respondents (78%) are aware that management must provide with proper urinals and latrines at homes, but the majority of them are not aware that periodical maintenance and repair of these structure is the responsibility of the management.

All the respondents are aware that the management should establish health care facilities and services with competent medical staff easily available and accessible. Nevertheless, more than half (54%) of the respondents disagree or don't know that they can avail maternity leave and benefits from the management.

The majority (98%) of the participants know that management should be providing them good quality ration, however, 44% reported that the quality of ration is of poor quality. Around 92% agree and are aware that management must provide the workers with well-ventilated, clean housing facilities, however, 18% of them feel that the houses are not properly ventilated.

Table 3 – Plantation Labour Act Parameters

Parameters	**Agree**	**Don't Know**	**Disagree**
Clean drinking water at the workplace	50 (100%)	-	-
Clean drinking water at residence	38 (76%)	-	12 (24%)
Maintenance and routinely check of water points at work and homes	13 (26%)	2 (4%)	35 (70%)
Available urinals at residence	39 (78%)	-	11 (22%)
Urinals and latrines are well maintained, in a clean and sanitary condition	10 (20%)	1 (2%)	39 (78%)
Available medical facilities and hospitals	50 (100%)	-	-
Access to basic medical facilities	50 (100%)	-	-
Availability of medical doctors and staff	50 (100%)	-	-
The facilities are clean place and well maintained	49 (98%)	-	1 (2%)
Provision of maternity leaves	23 (46%)	20 (40%)	7 (14%)
Management provides adequate ration supply	49 (98%)	-	1 (2%)
Provision of house	46 (92%)	-	4 (8%)
The houses have adequate ventilation	41 (82%)	-	9 (18%)
Provision of education facilities	47 (94%)	2 (4%)	1 (2%)
Provision of well-ventilated creche	10 (20%)	39 (78%)	1 (2%)
Cleanliness maintenance of creche and school	10 (20%)	35 (70%)	5 (10%)
Training regarding occupational health-hazards at work	49 (98%)	-	1 (2%)
Food Security Bill	50 (100%)	-	-

Majority of the respondents (94%) are aware that there should be proper education facilities for the children of the tea workers provided by the management. On the contrary, only 20% are aware that it is the management's responsibility to provide well-ventilated crèche as well. However, it is also alarming to know that 80% of the respondents don't know that the management should regularly check and repair the damaged infrastructure as well. The respondents agreed that management must make them aware of such provisions and train them about issues pertaining to food security bill and occupational hazards.

Awareness of Basic health practices of the tea workers

In this section, 34% of the respondents had an awareness level of below average and 60% had an average level of awareness. Only 6% had above average awareness level.

Table 4- Basic health practices

Awareness level	**Frequency**	**Percent (%)**
Above Average	3	6
Average	30	60
Below Average	17	34
Total	50	100

All the respondents agreed that water should be boiled before drinking. Majority of the respondents (80%) agreed that drinking water directly from the tube well is not good for health, however, 20% felt that it is good to drink water

directly. Similarly, 92% of the respondents agreed that washing hands before eating is important. More than 90% agreed that personal protective gear/equipment must be worn during plucking tea leaves or spraying pesticides. However, 8% did not know or disagreed that personal protective gear/equipment is necessary or essential to prevent occupational health hazards.

It is reported that 84% of respondents were aware that any dirty stagnant water near their house is not hygienic. Majority of the respondents (88%) were aware that open/outdoor defecation is an unhygienic practice. Majority of the respondents (94%) were aware that walking bare feet outside their homes is not a healthy practice and can lead to biological hazards.

Table 5 – Parameters of basic health practices

Parameters	**Agree**	**Don't Know**	**Disagree**
Water should be boiled before drinking	50 (100%)	-	-
Drinking water directly from tube well and tap is good	10 (20%)	-	40 (80%)
Eating without washing hands does not make me sick	4 (8%)	-	46 (92%)
wearing personal protection equipment is important for my health	46 (92%)	-	4 (8%)
Making sure that there is no stagnant water is important to me	42 (84%)	-	8 (16%)
open defecation is alright if it's not near my house	6 (12%)	-	44 (88%)
open defecation is alright if it is not near my community	6 (12%)	-	44 (88%)
walking barefoot in the tea garden does not get me sick	3 (6%)	-	47 (94%)
plucking tea leaves beyond the recommended weight to meet my basic needs does not affect my health	18 (36%)	-	32 (64%)
Using a cloth to clean up after menstrual cycle is hygienic	5 (10%)	-	45 (90%)
Taking Bath once a week is adequate	5 (10%)	-	45 (90%)
Taking Bath once a month is adequate	5 (10%)	-	45 (90%)
eating food once a day is adequate	6 (12%)	-	44 (88%)
Cleaning up and sweeping my house is an important part of my day	47 (94%)	-	3 (6%)
sleep well helps me maintain good health	45 (90%)	-	5 (10%)
It is important to get my children vaccinated	43 (86%)	3 (6%)	4 (8%)
Visiting hospital time to time for general check is important to me	6 (12%)	9 (18%)	35 (70%)

More than half (64%) of the respondents disagreed that plucking tea leaves beyond the recommended weight is healthy, whereas the remaining 36% think that it does not affect their health.

Regarding reproductive health and menstrual hygiene, 90% of the respondents were aware that it using cloth during menstruation was not hygienic; however, 10% of the respondents felt that it is hygienic and safe to use cloth. Majority of the respondents (94%) of the respondents were aware that cleaning the house every day is an important part of being hygienic.

Around 86% of the respondents agreed that it is important to get their children vaccinated and the remaining 14% either did not know or disagreed. This can also indicate that many children could be infected with diseases, which can be prevented through vaccination. With regard to general health checkups, a maximum number of respondents (88%) did not think that visiting hospitals regularly for general health checkup was important to maintain and achieve good health.

Table 6 - Association between awareness of basic health practices and education

	Education	**No Education**	**Total**
Above Average	3 (17.6%)	0	3 (6%)
Average	9 (52.9%)	21 (63.6%)	30 (60%)
Below Average	5 (29.4%)	12 (36.4%)	17 (34%)
Total	17 (100%)	33 (100%)	50 (100%)

A chi-square analysis was performed between the awareness level of basic health practices and the socio-demographic variables. There was a significant association between the basic health practices awareness and education level (p=0.045).

Table 7 – Chi-Square test between education and awareness level of basic health practices

Chi-Square Test			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	6.197a	2	.045
Likelihood Ratio	6.855	2	.032
N of Valid Cases	50		

4. DISCUSSION

Some of the noticeable results of the study were that the majority of the women (66%) had no education. This result suggests that illiteracy is still a major issue that still prevails in the tea plantation industry (Saikia, 2017). A study conducted in Dewan Tea Garden of Cachar district in Assam, which assessed the educational status of women along with their male counterparts and children revealed that 80% of female compared to 56% among male respondents were totally illiterate (Ruma & Dipak, 2014). Another study which assessed the educational status of tea plantation women in four tea estates in Assam found that only 33.4% of the female workers were literate compared to 45% of the male workers (Bosumatari & Goyari, 2013).

The study depicts that 66% of the female workers earn 1000-1999 Rs per month, which can be a limiting factor to good health among women workers in tea plantations. Insufficient income makes them economically backward and vulnerable to exploitation (Borah, 2013). A case study which assessed the health condition and awareness among the tea garden labourers, conducted in Tinsukia district found that out of 542 samples (276 males and 266 females) 75% of the respondents had a monthly income between Rs. 2000 to Rs. 5000 and 12% had a monthly income below Rs.2000 (Sahoo, Konwar, & Sahoo, 2010). The reason for this high range could be that the study included both male and female workers. Another study in Marangi tea estate depicted that permanent workers received a wage of Rs 57.14 and the temporary workers got Rs 54.86 as daily wage and lived in their own *kuccha* houses (Borgohain, 2013) (Baishya, 2016).

More than a quarter (44%) of the respondents had three or more children in their family and 76% of them had five or more family members living in one house. Majority of the respondents (76%) had only one earning member in their family. While women are aware of basic good health practices, low-income levels, less number of earning members and large family sizes can limit families to acquire a healthy diet. It curtails the affordability for sufficient ration for a well-balanced diet, therefore most of the workers and their family suffer from nutritional deficiency (G.K.Medhi, Barua, & J.Mahanta, 2006) (Sahoo et al., 2010) (Borgohain, 2013).

Awareness level about welfare provisions in compliance with PLA 1951

The study found that only 28% of the respondents had above average awareness level about PLA welfare benefits to be provided by the management. This indicates that many of the workers are not aware of the many benefits they are entitled to being a tea worker. A study conducted in Teok tea estate of upper Assam suggests that due to the high prevalence of illiteracy many workers are unaware of the government scheme or the provisions of the Plantation Labour Act, 1951. They face the problems related to poor housing infrastructure, proper sanitation, and drainage system which affect the health of the workers (B. R. Bora, 2015). Another literature observed that majority of worker in the tea plantation are at risk of multiple threats mainly due to their poor economic condition, insecure livelihood opportunities, lack of awareness and knowledge about government policies/schemes (Ruma & Dipak, 2014).

More than 70% did not know that management must monitor the proper functioning of urinals, drinking water points at the residence and at the workplace. It indicates that most of the urinals and latrines may not be functional as the workers are unable to repair the structure, due to their low socio-economic status, and leading them to defecate outdoors. More than one-third of the respondents feel that are no sufficient latrines and urinals available. According to a community based descriptive cross-sectional study, conducted in tea gardens of Jorhat district, 64.1% of the respondents practiced open defecation due to non-availability of household latrines and strong traditional cultural practice (P. J. Bora, Das, & Das, 2018).

More than half of the respondents were unaware that they could avail maternity leave. This can cause pregnancy complications while plucking tea leaves beyond the recommended load for pregnant workers, given the minimum load to be carried by a tea plucker varies from 24 to 28 kgs per day (Bhowmik, 2002). According to the Plantation Labour Act, pregnant women must get maternity leave of at least 12 weeks and not less than 6 weeks along with maternity allowance (GOI, 1951) (Borah, 2013).

Around 18% of the respondents reported poor ventilation at homes, which makes the workers susceptible to respiratory health issues as the majority of the workers use firewood to cook at homes (Sahoo et al., 2010). Most of the respondents are not aware that management should regularly check and repair the damaged educational infrastructure as well. This implies that schools may often run with poor infrastructure including urinals and quality of education which can also lead to school dropouts enabling early marriage among girls (UNICEF, 2012).

Awareness level about basic health practices

The study found that only 6% of the respondents had above average level of awareness and 34% had below average. There was a significant association between education and level of awareness about basic health practices. The finding aligns with a case study conducted in Tinsukia district which found the level of health awareness to be very poor (Sahoo et al., 2010). Another study assessed the knowledge of women tea workers of four tea gardens of middle Assam, indicated that women tea workers had a low level of knowledge on nutrition, health, and hygiene (Timung, Sarmah, & Das, 2013).

Results show that 16% of the respondents disagreed that dirty stagnant water can lead to any health-related problems, whereas, stagnant water can create a breeding ground for mosquitoes and germs leading to water born diseases such as dengue, typhoid, cholera, etc (Borgohain, 2013).

Around 12% of the respondents didn't see open defecation as harmful and unhygienic. It is crucial to create awareness regarding open/outdoor defecation as an unhygienic practice which poses a serious threat, especially to children as they can contract diarrhea and intestinal worm infections but also typhoid, cholera, and other gastrointestinal infection (Ambesh & Ambesh, 2016) (UNICEF, 2018).

Around 8% of the respondents disagreed that personal protective gear/equipment is essential to prevent occupational health hazards. A study conducted in Assam depicted that the general awareness and perception about occupation hazards are low among the tea garden workers because of illiteracy and also because they live in isolated surroundings with few contacts with the urban milieu (Bhadra, 1997) (Borgohain, 2013).

Around 36% of the workers were unaware of the adverse effects of plucking tea leaves beyond the recommended weight. In order to get wage incentives, they pluck more than the recommended load. Carrying heavy load of baskets on their backs repeatedly all-round the year can cause health hazards such as musculoskeletal injuries

leading to back pain, chest pain and miscarriages for pregnant women, from repetitive and forceful movements, bending, and lifting (ILO, 2004) (Mittal & Gupta, 2008). Majority of the respondents were aware of the benefits of immunization. With regard to general health checkups, a maximum number of respondents (88%) did not think that visiting hospitals regularly for health checkup was important to maintain and achieve good health. Work in the plantation is mainly manual, hence it is very crucial that tea workers especially pregnant women, who are engaged in plucking tea leaves, carrying heavy load, spraying pesticides, hoeing, weeding, pruning of the bushes to have regular checkups in the tea health facilities to avoid potential health and reproductive hazards in the future.

6. LIMITATION

The researcher was only able to collect information from 50 participants due to time constraints. The researcher had one two weeks to collect data from the tea plantation, only in the evening when the tea workers were at home. The researcher was accompanied by a local tea worker and was able to locate the houses of the participants.

7. CONCLUSION

This study indicates that it is not sufficient to have increased awareness about basic health practices but it is also essential to be well aware of the welfare provisions the management is mandated to provide as per PLA 1951. Awareness among women workers plays an important role in the reduction and prevention of diseases, however, it is only one part towards maintaining good health. In addition to good health awareness, the workers need to be supported by better income and support of the tea management in providing essential and quality basic needs. The effectiveness of tea management in imparting health values in schools can be a large contributing factor in increasing health awareness in the community from a very young age. Having said that, management should establish effective monitoring mechanisms to ensure proper maintenance of the amenities and be approachable.

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