Health Care and Nutrition Status among Mothers and Adolescent Girls of Tea Gardens in Bangladesh

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Abstract:

While Bangladesh is the 10th largest tea-yielding country in the world, health and nutrition status among the mother and adolescent girls in Bangladesh is a great issue of concern that impedes to national development. This research paper aims to explore the scenario of health care and nutritional status among the mother and adolescent girls of Phulbari, Teliapara, Surma and Noyapara tea garden of Sylhet division in Bangladesh. As reflecting on an empirical study, the research has been carried out following both quantitative and qualitative methods, and paper is mainly developed based on primary and secondary sources of data. The purposive sampling method has been applied for the study of 215 population sample. The cross-sectional study has been used for this study. Every responsible agent should come forward to take the necessary measures and it's reformation to improve the health care and nutrition status among the mother, children and adolescent girls in Bangladesh. Limited access to health care facilities, miserable poverty, illiteracy, shortage of social safety net measures, pitiful implementation of laws regarding hinders to the betterment of nutrition, hygiene and health care issue.

Key Words: *Health care, food and nutrition status, women, adolescent girls, national development.*

1. Introduction of the Study:

Tea cultivation is an important agro-based industry in Bangladesh. Tea has been displayed as a labor exquisite and export-based industry in Bangladesh which is availing about 0.8 per cent of (BTRI-2009)[1]. There have 167 tea estates and 746 small growers of tea available in all over the country. The quantity of total garden area is 115,629.76 ha. Along with 3,50,000 dependents, about 0.15 million people are directly employed in tea industry which constitutes about 3.3 % of the country's total employment. Sixty percent workers of this sector are female and tea industry contributes about 0.81% of GDP in Bangladesh (Tea Industry 2009)[2]. Our Government has recently planned to yield 140 million kg of processed quality tea exportation after making sure the indigenous demand

[1]Bangladesh Tea Research Institute (Chittagong, Bangladesh)

[2] A branch of the food processing industry for the production of loose and processed teas from leaves of the tea plant, the British initiated this industry in Assam and even in even in Sylhet in 19th century

in the country (by 2030)[3]. The tea workers of Bangladesh are of people with a multi-tribal ethnic origin. The tea employees are from different colonial regions, are from different tribal groups including Santal, Munda, Orao, Lohar, etc. 132 estates are located in Sylhet division including 23 in Habiganj, 90 in Moulvibazar and 19 in Sylhet district. There are a several number of tea estates in Chittagong and Panchagar districts (BTRI-2009).

The present neonatal mortality rate in Bangladesh is 23.672 deaths per 1000 live births, a 4.28% decline from 2020, which was 41 per 1000 deaths in 2003 with most of the estimated 170,000 annual deaths occurring due to infections, birth asphyxia, and complications of pre maturity and low birth-weight (LBW). In Bangladesh approximately 9,300 babies are born every day. Almost 90% of these babies are delivered at home mostly by amateur attendants. At the same time, the nutrition status of mothers and adolescent girls are high in developing countries. Bangladesh is still classified as having a high prevalence of under nutrition of children, adolescent girls, pregnant and lactating mothers. At present stunting 36%, wasting 14%, underweight 33% of are 5 years old children, which all indicate the status of nutrition, and obviously the major cause is inadequate food intake (BDHS- 2014)[4].

1.2. Study Context and Rationale:

Tea garden workers are severely deprived from basic rights. Bangladesh is the countries in the world with 20.5 per cent of its total population are living below the poverty line. The poverty rate is expected to decline to 15.6 per cent at the end of the period by 2020-2021 (8th Five Year Plan)[5]. Health and nutrition status are inter linked to the poverty. At present, Maternal and child mortality are one of the major health problems in Bangladesh. Bangladesh has made significant progress in reducing maternal and child mortality rates over the last decades. Nutrition is also in-built among the different Goals 1,3,4,5 and 6. Article 18 (1) in the Constitution of Bangladesh declares *"the State shall regard the raising of the level of nutrition and improvement of public health as among its primary duties"* (Bangladesh Constitution)[6]. But nutrition status is alarmingly high till now especially Sanitation and literacy issues of tea garden workers. However, few studies focus on health care and nutritional status among the mother and adolescent girls of tea garden. So, it is a very much well-timed study to explore the present scenario of health care and nutritional status among the mother and adolescent girls of tea garden.

[3] Tea is a formed organization represents the commercial business sector, builds a sustainable progress across the globe.
[4]Bangladesh Demographic and Health Survey is 7th related national survey, emphasizes on maternal and child health, nutrition status of mother and children.
[5]Eighth Five Year Plan (July 2020-June 2025), General Economic Division approved with targets to attain 8.51% GDP growth and reduce the poverty rate to 15.6% at the end of this period.
[6]Constitution of the People's Republic of Bangladesh is the supreme law of Bangladesh.

2. Literature Review:

Some relevant literatures are reviewed to acquire knowledge to conduct this research. Published books, reports, journals, articles, and other documents on key areas of newborn care were identified through searches of all available electronic databases.

According to Koblinsky, M (2003)[7] on his Maternal and newborn-care practices during pregnancy, child birth, and the postnatal period: a comparison in three rural districts in Bangladesh. The aim of this study was to examine the prevalence of maternal and newborn-care practices among women reporting a birth in the previous year in three districts in different divisions of Bangladesh. Overall, less than half of the women received any antenatal care, and 11% received a minimum of four check-ups. Only 18% took iron tablets for at least four months during pregnancy.

Jiban Kumar Pal, Muhammed Muazzam Hussain (2016)[8], Conducted a study in Lackatoorah Tea Garden of SylhetDistrict(2016), this study revealed that majority of the tea garden's older people suffers from one or more diseases like headache, skin diseases, fever, cough and cold, gastric/ulcer, toothache, diarrhea, jaundice and dysentery, heart disease, hypertension, cancer, asthma, depression, mental stress, feelings of insecurity. They are mostly marginalized.

According to Syed Shafi Ahmed, MD. Rabiul Hasan et al (2020)[9], on Nutritional Status of 1-5 Years Children of the Tea Workers in Sylhet Division (2017), That study was conducted upon 800 children. Lack of maternal education was an agonizing outcome. He studied about social and health profile of a tea garden worker in Bangladesh. They found that 65% of the respondents had fever, cough and cold (34.50%) and gastroenteritis (32.50%). respiratory problem was found 37%. The other diseases such as Diarrhea (37.5%), Malaria (12.5%), Typhoid (12.5%) and Cholera (6.25%) were also found. About 82.50% of the respondents had various diseases. The study covered 200 workers. Respiratory problem was found 37% of the respondents. The other diseases such as Diarrhea (37.5%), Malaria (12.5%), Typhoid (12.5%) and Cholera (6.25%) were also found.

According to National Nutrition Policy, 2011[10] in article 34, it is said that about to fulfill nutrition rights and also maintain supreme physical and mental standard in their childhood, adolescence, pregnancy period and in old age. The policy emphasizes on primary health care.

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[7]Koblinsky, M. (2003); Maternal and newborn-care practices during pregnancy, childbirth, and the postnatal period: a comparison in three rural districts in Bangladesh. Journal of Health, Population and Nutrition; International Centre for Diarrhoeal Disease Research

[8]Jiban Kumar Pal, MuhammedMuazzamHussain (2016), Health Care and Hygiene Practices of Older People in Tea Garden: A Study Conducted in Lackatoorah Tea Garden of Sylhet District. Open Journal of Social Sciences, 2016, 4, 144-154 Published Online May 2016 in SciRes. http://www.scirp.org/journal/jsshttp://dx.doi.org/10.4236/jss.2016.45018

[9]Syed Shafi Ahmed, MD. RabiulHasan at al (2\020), Nutritional Status of 1-5 Years Children of the Tea Workers in Sylhet Division (BANGLADESH J CHILD HEALTH 2010; VOL 34 (1): 11-16)

[10]National Nutrition Policy 2011, Ministry of Women and Child Affairs, March 2011, Government of the People's Republic of Bangladesh, article 34.1-34.8, Page 21.

According to Sayeed Mahmud, Abu Zafar Mahmudul Haq et al (2017)[11] in their Social and Health Profile of a Tea Garden Worker in Bangladesh, the aim of the study is to evaluate the socio demographical differentials and health seeking behavior of tea garden worker at New educate on nutrition, hygiene, safe drinking and sewerage system, less maternal and child death rates etc.

National Nutrition Policy 2015[12],talked about the betterment in the nutrition status, formulates to sustain world promise with like Sustainable development goals (SDGs), World Health Assembly. It's motive to promote nutrition for children, adolescent girls, pregnant and lactating mothers.

National Food and Nutrition Security Policy of Bangladesh (NFNSP), 2020[13], the vision is to deliver food and security and active life for all Bangladeshi people. The rate of undernourishment has declined from 35% in 1990-2002 to 14.7% in 2016-2018 (FAO-2019)

3. Objective of the Study:

3.1. General Objective:

To explore the scenario of health care and nutritional status among the mother and adolescent girls of Phulbari, Teliapara, Surma and Noyapara tea garden of Sylhet division.

3.2. Specific Objective:

i) To explore the neonatal care practice and rituals of the tea plantation workers;
ii) To assess the nutrition situation of mothers, children and adolescent girls;
iii) To find out the level of knowledge about maternal and newborn care;
iv) Toknow the menstrual hygiene practice among the adolescent girls.

4. Research Questions:

What are the health care and nutrition status of the tea garden workers in Bangladesh??

5. Methodology of Study

5.1 Study Design:

This is a cross-sectional study. This study has incorporated both qualitative and quantitative method of research. Semi-structured questionnaire has been used for primary data collection. Qualitative data has been collected through observation, focus group discussion and by in-depth interview. On

[11]Sayeed Mahmud, Abu ZafarMahmudulHaq at al. (2017) Social and Health Profile of a Tea Garden Workers in Bangladesh. Ref. American Journal of Social Sciences 2017; 5(5): 37-40 http://www.openscienceonline.com/journal/ajss ISSN: 2381-599X (Print); ISSN: 2381-6007 (Online)

[12]National Nutrition Policy 2015

[13]National Food and Nutrition Security Policy of Bangladesh (NFNSP), 2020

the other hand, a number of research techniques have been applied such as key informant technique, case study, life history, informal discussion for collecting the qualitative data. At the same time, few direct and indirect methods of nutritional assessment like MUAC, height, weight anthropometric measurement has been applied for data collection. Quantitative and qualitative data have also been collected from secondary sources.

Table No. 1: Distribution of the respondents by number of places, gardens and groups

Sl. No.	Place	Name of the Gardens	Number of Mother	Number of Adolescent Girls	Total
1	Habiganj District	Telipara Tea Garden	35	9	44
2	Habiganj District	Surma Tea Garden	40	17	57
3	Moulvibazar District	Noyapara Tea Garden	45	21	66
4	Moulvibazar	Phulbari Tea Garden	35	13	48
Grand Total		4	155	60	215

Data are collected from four gardens of Habiganj and Moulvibazar districts of Sylhet division like- Telipara and Surma; Noyapara and Phulbari tea gardens. The number of respondents especially mother are gradually 35, 40, 45, 85 in total 155 and adolescent girls are gradually 9, 17, 21,13 in total 60

5.2. Population and sample size:

The present study population is all the mothers are having child less than 5 years of old, and 15-19 years old adolescent girls of Phulbari, Teliapara, Surma and Noyapara tea garden. The purposive sampling method has been applied for the study sample. The total number of study population is 215. Among the study sample 155 are mothers and 60 adolescent girls.

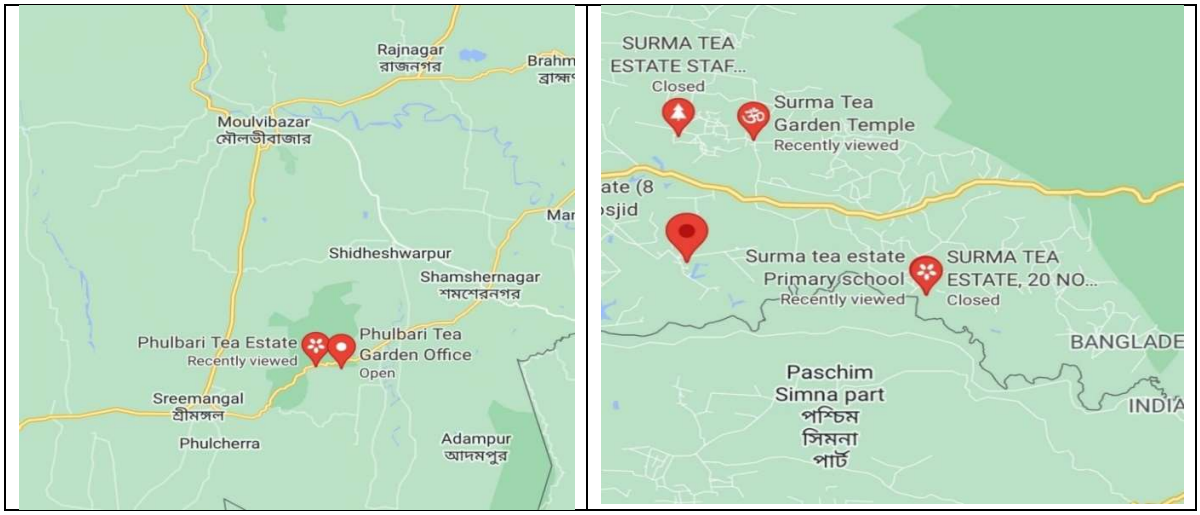
5.3. Duration of the Study:

The study period was from April 2019 to November 2021.

5.4. Study Area:

The study area is 4 tea gardens from Sylhet division. Phulbari and NoyaparaTea garden from Kamalganj Upazila of Moulvibazar district; Teliapara and Surma tea gardens from Madhabpur Upazila of Habiganj districtin Bangladesh. The gardens have been selected purposively.

Figure No. 1 : Map of the Study Area



6. Data Collection:

In this cross-sectional study data has been collected from four tea gardens-Phulbari tea garden from Kamalganj upazila under Moulvibazar district and Noyapara, Surma, and Teliapara of Habiganj district. A total number of 155 mothers and 60 adolescent girls were interviewed using semi structure questionnaire to explore newborn care practice. Data has been collected through both qualitative and quantitative ways.

Table 2: Distribution of the respondents by age

Age of the respondents (Years)	Frequency (n)	Percentage (%)
13–19	60	28
21 – 25	105	49
26 – 30	50	23
Total	215	100

From the age distribution we found that more than half of the respondents are in the age group 21 to 25 and the respondent of adolescent girls are 28%.

Table 3: Distribution of the respondents by educational level

Level of Education	Frequency (n)	Percent (%)
Illiterate	132	61.39
Primary	67	31.16
Secondary level	16	7.45
Total	215	100

From the table we can say that most of the respondents are illiterate, 31% are completed primary education and 7.45% are completed secondary level education only.

Table 4: Distribution of the respondent's family monthly income

Monthly family income (Tk.)	Frequency (n)	Percent (%)
Less than4000	27	12.55
4000 to 5000	88	40.93
5001 to 6000	85	39.53
6001 and above	15	6.97
Total	215	100

Majority of the respondent's that is 40.93% family, monthly income is Tk.4001 to 5000, tk. 6001 and above income is 6.97% family, less than Tk.4000 monthly income of 12.55% family.

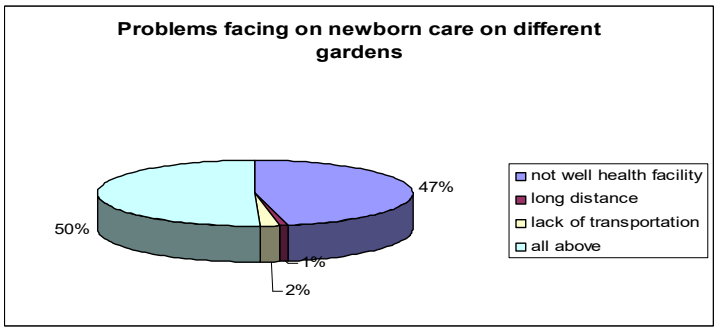
Table 5: Newborn care practice among the tea plantation workers

First feed your baby	Frequency (n)	Percent (%)
colostrum feeding	11	7
Honey	108	69.67
any sweet water	36	23.22
baby's umbilical cord cut		
Blade	106	68.38
Knife	41	26.45
Telong (slice of bamboo)	8	5.16
To dry the baby's cord- use		
Medicine	9	5.80
Goat's stool(dry)	29	18.70
warm cloth	21	13.54
warm oil	96	61.93
To first wash the baby- use		
clean cloth only	37	23.87
cloth with boil water	118	76.12
baby's hair after- cut		
7^{th} day	87	56.12
9^{th} day	8	5.16
21^{st} day	34	21.93
Different Day/time	26	16.77
First bath the baby after delivery		
2-4 hours	91	58.70

5-6 hours	39	25.16
12 hours	15	9.67
baby's body- use		
Oil	23	14.83
Warm oil with garlic	132	85.16
when baby seek where you go		
garden hospital	119	76.77
government hospital	22	14.19
Healer	14	9.03
Total	**155**	**100**

We can interpret from the above percentage distribution that most of the workers that is 69.67% first feed honey to their babies. 68.38% workers cut the umbilical cord by blade, 26.45% cut by knife and only 5.16% cut by a *telong* (slice of bamboo). 61.93% use warm oil and 18.70% use dry goat's stool to dry the baby's cord.76.12% workers use cloth with warm water to wash the baby and 56.12% cut the baby's hair at 7th day. About 58.70% workers bath their babies within 2-4 hours, 25.16 % workers bath their babies within 5-6 hours and only 9.67 % bath their babies within 12 hours. Majority of the mothers85.16% use warm oil with garlic of their babies' body. When their baby sick 76.77% workers gone to garden hospital, 14.19% gone to government hospital and 9.03% gone to the healer.

Figure 2: Problems faced in newborn care



From the above pie-chart we found that almost 50% of the total workers have all the problems of newborn care, 47% face the problem of health facility, 2% have lack of transportation and only 1% have the problem of long distance.

Table 6: Adolescent girls, what type of materials they used during menstruation period

Name of the garden	Use sanitary pad		Use cloth only	
	No.	%	No.	%
Phulbari (13)	3	23	10	77
Noyapara (21)	3	14	18	86

Surma (17)	2	12	15	88
Teliapara (9)	1	11	8	89
Total (60)	9	15%	51	85%

Among the 60 adolescent girls from 4 tea gardens, 85% adolescent girls use cloth and 15% adolescent girls use sanitary pad only.

Table 7: Mothers, what type of materials they used during menstruation period

Name of the garden	Use sanitary pad		Use cloth only	
	No.	%	No.	%
Phulbari (37)	9	30	27	70
Noyapara (29)	5	22	24	78
Surma (38)	5	14	33	86
Teliapara (51)	6	14	45	86
Total (60)	25	17%	130	83%

Among the 155 mothers from 4 tea gardens, 83% mothers use cloth and only 17% mothers use sanitary pad.

Table 8: Adolescent girl's daily food consumption

Name of the garden	Daily 1966 KC & above		Less than 1966 KC daily	
	No.	%	No.	%
Fulbari (13)	4	31	9	69
Noyapara (21)	6	29	15	71
Surma (17)	4	23	13	76
Teliapara (9)	2	22	7	78
Total (60)	16	27%	44	73%

(Ref. value 1966 KC/daily)

From 7 days recall method, only 27% adolescent girls have taken food Daily 1966 KC and above. Rest of 73% adolescent girls has taken food Daily Less than 1966 KC. The data shows that majority percent of the adolescent girls did not take food properly and they also eat less amount of protein enriched food.

7. Study Findings:

Many studies have been conducted on mother and adolescent health care and nutrition situation in Bangladesh and all over the developing world, but there are very few studies has so far been conducted regarding the issue among the tea plantation workers in Bangladesh. Not only that, there are very limited study has been conducted on tea plantation workers. Because, there has very limited public access in tea garden. NGOs and other development work are very limited and strongly restricted. They are isolated from other part of Bangladesh. Their lives and livelihoods remain tied to the labor lines ever since.

1) This study focuses on the health care and nutrition status of the respondents. Most of the respondents are below standard in all levels such as-illiterate, low-income level and malnutrition. From the age distribution we found that more than half of the respondents are in the age group 21 to 25 and the respondent of adolescent girls are 28% (Table-2). The main findings of present study shows that the 61.39% respondents are illiterate, 31.16% have primary level education only (table-3).
2) Majority of the respondent's that is 40.93% family, monthly income is Tk.4001 to 5000, tk. 6001 and above income is 6.97% family, less than Tk.4000 monthly income of 12.55% family (table-4).
3) They are unconscious about their daily lives and they do not maintain their controlling capacity of their working and living in the family life. About adolescent girls, data were collected 60 adolescent girls from 4 tea gardens, 85% adolescent girls use cloth and 15% adolescent girls use sanitary pad only (Table-6).
4) Among the 155 mothers from 4 tea gardens, 83% mothers use cloth and only 17% mothers use sanitary pad.
5) The findings of the study reveal that they live under the poverty line. They live their daily life in traditional ways. It indicates that the respondents in most cases are backdated. They do not care about them and also family members. From 7 days recall method, only 27% adolescent girls has taken food Daily 1966 KC and above. Rest of 73% adolescent girls has taken food Daily Less than 1966 KC. The data shows that majority percent of the adolescent girls did not take food properly and they also eat less amount of protein enriched food (Table-8).

The overall present study findings from 4 tea gardens shows that the level of education, income, hygiene, sanitation, health facilities and daily live is very poor. The health seeking behavior and nutrition status, particularly of mother children and adolescent girls is also very poor than other parts of Bangladesh. These consequences of malnutrition are diverse, severe and long-lasting and it also effects on their physiological, psychological and immunological consequences and has a strong impact on mortality, morbidity and quality of life.

9. Suggestions and Conclusions:

As citizens of Bangladesh the tea garden people are free to live anywhere in the country but an invisible chain keeps them tied to the tea gardens. The workers are not receiving proper attention and care from the owners of the tea gardens and factories. Impoverishment is a strong indicator of poor health and malnutrition is more prevalent among mother, children and adolescent girls who live in penury. They have poor housing, lack of health services, including lack of access to clean drinking water and hygienic sanitation, poor educational opportunities and they work beyond cheap employment conditions. The existing maternal services are quietly inadequate and insufficient. The maternal health care and hygiene practice of mother and adolescent girls and also nutrition status in tea garden areas is very miserable. In order to make improve the present situation in tea garden areas some initiatives should be taken. According to the study findings, the recommendations that may be put forward in this regard are as follows:

1) The Tea Garden authorities should increase health facility especially for mothers, children and adolescent girls;
2) The government health department should be established mini public clinics within the tea garden or adjacent areas;
3) The authority should increase transport facility for emergency treatment;
4) To change their health seeking behavior, the garden authority can engage NGOs;
5) The government has to take necessary steps to improve the poor housing, water and sanitation facilities in the tea garden areas.

10. Limitations of the Study:

1) It was difficult to conduct interview with the respondents because they are working in the garden (8 am to 5 pm).
2) They use Bengali and tribal language in a mixed way. So, some time it's difficult to \understand their opinion.
3) Study area is hilly. There are no available transport facilities. So, it was difficult to collect data.
4) The tea garden workers have deficient socio-economic condition especially the study confers the picture of the severity of malnutrition among the children of tea workers which has significantly higher value than national data.

11. Conclusions:

The tea garden workers have indigent socio-economic condition especially their level of education and income is inadequate. As most of the people live hand to mouth, their living condition is not up to the standard at all. This study also focuses on some other contributing factors which may adversely affect child nutrition like maternal education and health, early marriage, low income, housing, sanitation etc. The study gives the picture of the severity of malnutrition among the

children of tea workers which has significantly higher value than national data. It needs to keep an eye immediately on the health and nutrition care of the mother and adolescent girls of tea garden for being national development.

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