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## **THE IMPACT OF UNHYGIENIC PRACTICES ON SOCIAL BEHAVIOR: A CROSS-SECTIONAL STUDY IN TEA GARDENS**

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### **ABSTRACT**

This paper tried to explore the impact of unhygienic practices on social behavior of the tea garden workers by considering 5 point Likert scale with factor analysis. We collected cross-sectional data and information randomly from 355 tea garden workers by following a systematic set of semi-structured interviews questionnaire. Finding reveals that female's perception level was likely higher than male's perception level about unhygienic practices and social behavior as well as unhygienic practices could not only impact negatively on individual social behavior but also on individual health. Workers of the tea gardens are generally suffered by different kinds of diseases attributable to poor sanitation conditions and unhygienic practices. They have neither good educational attainment nor have opportunities to lead hygienic life but fully unhygienic and miserable.

**Keywords:** Unhygienic practices, perception, health, social behavior, sanitation

### **1. INTRODUCTION**

Bangladesh is well known tea producing country in the world (Ahmad et al., 2015) and it has around 164 tea gardens which produces approximately 60 million kilograms of tea annually from about 53259 hectors of land. Nearly 358, 550 workers are employed on the tea estates (Kamruzzaman et al., 2015) and most of the tea estates are in the Northeast of the country (Ahmed, 2013). Bangladesh receive 2,000 million takas' (Bangladesh currency) each which contributing about 0.8% to the total GDP (Majumdar and Roy, 2012). Thus, Tea became one of the most crucial cash crops in many countries (Acharjee and Ahmed, 2016) and each tea garden

greatly relies upon tea laborers who passed most of their life in the tea garden (Ahmad et al., 2015). By restless work of tea worker, Bangladesh has become one of the largest tea producing country among south (ITC, 2011) but tea workers are the most less fortunate workers in Bangladesh—they are not getting their basic needs and live under the poverty line (Barkat et al., 2010), leading a life of unbelievable misery (Das and Islam, 2006). It is assumed that among the 45-different tribal group in Bangladesh (Achariya, 2005) tea workers are an exploited, subordinate group of people with a multi-tribal ethnic origin (Muaz et al., 2010). In terms of hygiene practices and sanitation facilities, people who work in the garden to produce tea are very much unfortunate people (Acharjee and Ahmed, 2016). Proper hygienic practice and safe sanitation facilities are very important for a human being. Healthy sanitation facilities and hygienic life enable people to lead a standard diseases free life. Study showed that, globally, around 10% disease could be prevented by improving hygiene, reliable sanitation as well as drinking water management (Prüss-Üstün et al., 2008). In developing countries, mostly, children are dying from water born disease and other diseases attributable to unhygienic practice (Bartam and Cairncross, 2010). In world, around one in five people habitually defecates in the open place. Contrarily, just over 60% of the world's population has some formed of improved sanitation at home a basic hygienic latrine or a flush toilet. In many parts of the world households rely on dirty, unsafe latrines or shared toilet facilities (WHO and UNICEF, 2010). The scenarios of hygiene and Sanitation condition in developing country it has become a global issue including Bangladesh as well as many parts of the world (Amin et al., 2008). Only sanitation facilities are not enough to ensure people's hygienic life or adoption of other hygienic practices (Samanta and Van, 1998) but also awareness about safe drinking waters and perception of hygiene and related health issues are important factors (Nath et al., 2010). Water play a vital role in human body, in some organisms, around nine-tenths of the body weight is consisting of water. In terms of adult human, almost 60% is composed of water (Mitchell et al., 1945). Around 884 million people still use unsafe drinking as a principle water sources (WHO and UNICEF, 2010) and 1.5 million infant die from water borne diseases every year worldwide (Dzwairo et al., 2006). Moreover, 88% of these deaths occurring by cause of poor hygiene practices, unsafe sanitation, and drinking water (Lipson, 2010). Over 80 percent of people collect water from unimproved drinking water sources (DFID, 2008). Inadequate access to safe water along with sanitation facilities made Hygiene practice becomes severe in Bangladesh (CDC, 2010). Different kinds of diseases are rising due to lack of clean drinking water and sanitation (Amin et al., 2008; Ahmed and Rahman, 2000). Among the developing countries, approximately one-third people defecate in the open, making the everyday environment unsafe for human being (UNICEF, 2008). Only 26.7% people wash their hands with soap or ashes after defecation (Kabir et al., 2010). There are also other difficulties such as scarcity, shortage of space, and some people prefer to defecate in an open place preference (United Nation, 2009). Bangladesh earns cash by exporting tea, but

those who work in the tea garden don't aware of safe a sanitation and hygiene practice that's become their life tragic (Ahmad et al., 2015). Studies exposed the pathetic life of tea workers in terms of socio-economic condition and health security (Khan, 1991; BPMI, 1997; Saha, 2001; Ahmed and Chowdhury, 2014) and how they fail to get sufficient facilities from the tea gardens authority as well as the state (Ahmad et al., 2015). Lack of basic facilities such as low wage, housing, food and sometimes-even drinking water and sanitation facilities add to their dismay (Majumder and Roy, 2012). It is the main duty of the garden authorities to assure supply of adequate quantity of pure drinking water as well as sanitation facilities to its workers. Sanitation improvement not only prevent endemic diarrhea but also adequate sanitation can help to prevent different kind of diseases as intestinal helminthiases, giardiasis, schistosomiasis, trachoma, and numerous other infections also could be controlled by using of safe water (Carincroos et al., 2010). Furthermore, for inappropriate hygiene practice in school children suffered with different kinds of diseases such as res infectious, gastrointestinal, neuro-cognitive and psychological illnesses (Jasper et al., 2012) which can impact on attendance rates of students (Doyle, 2015), by cause of unhygienic related diseases student drop out from school (Birdthistle et al., 2011). The living environment of tea workers are worse than that of others community especially economic, social and cultural side of their life, even they are very unaware of their rights regarding sanitation (Das and Islam, 2006). House wastes are generally disposed to nearby water bodies or throwing in the jungle that's harming environment (Chowdhury et al., 2011). Open defecation and not practiced with washing hand after defecation causing different kind of excreta related diseases (Ahmed, et al., 2006). Unfortunately, government and non-government organization don't arrange enough programs to increase their awareness towards hygiene and sanitation in tea garden area. Even though the state is working for making awareness about safe sanitation and hygiene practices, but the tea gardeners become out of the implementation of these programs. It is true that the tea workers make considerable contribution to produce tea, but the downturn of living environment and economic condition of the workers did not get enough attention from any corner, even sometimes they become alienated from the products they made. However, existing water supply and environment of sanitation in tea garden area are very unhealthy (Das and Islam, 2006). Moreover, they often use unsafe water for drinking as well as domestic purposes which is below the permissible water quality standard (Chowdhury et al., 2011). Livelihood status of the tea garden workers have not been changed over time. Although it may be difficult to establish what constitutes a living wage, it is often claimed that the minimum salary levels are not enough to meet the basic requirements, because the people working tea garden always receive low wage, even by the plantation sector's standards (Oldenziel and otten, 2006). The life of tea worker is extremely vulnerable in terms of food, water, shelter, education, health and sanitation and children and women are suffering much (Lahiri, 2000). In Bangladesh, there are many researches have been conducted on tea workers, tea plantation and the marketing of tea but those studies are

not enough to reveal the unhygienic practices and sanitation conditions of tea garden workers. This study was undertaken to assess the unhygienic practices, social behavior, sanitation conditions and personal hygiene practice on daily basis of tea worker in Bangladesh which would help to inform policy and decision maker on proper mitigations to improve hygiene practices and sanitation condition in tea garden.

## **2. LITERATURE REVIEW:**

### ***Personal Hygiene and educational Status:***

Personal hygiene is a public health tool which helps to prevent diseases and enable people to increase control over, and to improve, their health (Ahmadu et al., 2013). Appropriate practices of personal hygiene help to improve life standard and longevity. It is not only important for individual but also community and living condition (Sarkar, 2013). Personal hygiene improved by educational attainment in society (Winslow, 1920). Cleanliness in individuals in communities can reduce communicable diseases and food borne diseases (Ehiri& Morris, 1996). Proper Personal hygiene practice can develop by educational institutions. Children in their early education can learn specific health-promoting behaviors and from primary school that's enable to understand the relation between illness and behavior (UNICEF, 1999; Richmond and Kotelchuck, 1994). Afifi and Abushelaibi stated that the effect of educational level on the participant personal hygiene practices during daily life. The study also showed that peoples who have diploma and bachelor degree always wash their hand before touching food (Afifi and Abushelaibi, 2012). Maintenance of good personal hygiene helps to reduce diseases, damages and some other health related issue through observation and improve hygiene practices in aspects relevant to human health. It may have developed by implementing cultural and educational programs (Aiello et al., 2008). In many countries in world, Good personal hygiene is an essential parts of health prevention policies, and the strategy is helping to reduce death rate of children (Luby et al., 2002). Hygiene practices and health related education in primary school can be reduced illness among the children and increased the attendance rate in school (Ilika and Obionu, 2002). In addition, it can be said that the practices of hygiene and health among the children motivated by level of mother's education and Maternal education have a direct relation with the practices of personal hygiene among the primary school children (Sarkar, 2013). Moreover, in his study, Sarkar (2013) showed that a mother who is not literate or educated doesn't have enough knowledge to teach her children about proper personal hygiene practices. So, it is crucial to increase parent's awareness by educational program that's emphasis on their role to improve the health habits of their children (Sarkar, 2013). Workers of tea gardens are devoid of basic health facilities and education, even human rights (Ahmad et al., 2015). Educational status of the family members of tea workers is very lower situation. In 2006, Das and Islam overserved that

59% of the tea workers are illiterate; Majumder and Roy (2012) also found in their study around 60% tea worker were illiterate. Consequently, they don't able to learn and utilize their knowledge regarding health related issues. Thus, they are highly lacking proper knowledge on sanitary and hygiene practices (Chowdhury et al., 2011).

*First hypothesis* considered that educational attainment may have effect on hygienic practices. More specifically, people who have higher educational attainment are likely to practices hygiene and people who have lower educational attainment are likely to practices unhygienic.

***Sanitation and hygiene related diseases:***

In world, Diarrhea alone kills more young children each year than three big diseases—HIV/AIDS, tuberculosis, and malaria (Boschi-Pinto et al., 2008), and the key to its control is hygiene, sanitation, and water (HSW). Unsafe water and sanitation condition are responsible for significant proportion of mortality and morbidity from communicable diseases worldwide. It is measured that globally, nearly 11 million children die every year from diseases relate to unsafe water and basic sanitation. Majority of these cases are caused by diarrheal diseases and worm infestations (ICR and UNICEF, 2010). Almost two-thirds of the population in the region defecates in the open that pollute the environment and expose themselves to severe health risks (WHO and UNECEF, 2010). All skin related disease occurred by unsafe water and unhygienic life style (Hollestein and Nijsten, 2014). It has been estimated that at any given time, almost half of the poor population in the developing world are suffering by diseases which related to hygiene, sanitation and water supply (WSSCC, 2008). In terms of hygiene practices and sanitation facilities, Tea workers are suffering much. The living status of the ethnic group is remarkably meager due to the lack of proper sanitation facilities along with water supply system (Ahmed et al., 2010). Although Tea workers are contributing in national economy but poor socio economic conditions, ignorance, illiteracy, overcrowded and unhygienic living conditions made their life vulnerable to various communicable diseases and malnutrition (Gogoi, 2014). Normally it is assumed that tea workers working have been leading a pathetic life because of unhygienic practices and unsafe sanitation condition (Saha, 2001). Study explored that they have no safe and healthy living space and home and wages are too low to meet minimum requirements. Although As permanent worker's tea workers get house from the authority with water and sanitation facilities but these are not adequate and satisfactory (Majumder and Roy, 2012). On the other hand, there are few people whose are not habituated in using safe toilet, they used to use open place for defecation (Khan, 1991; UNICEF, 1999). Their awareness on hygiene practices and healthy lifestyle was trivial, proper knowledge on common illnesses and prevention and treatment-seeking behavior not useful to the maintenance of health (Ahmed, 2013). Defecation in open place and not practiced washing hand after defecation causing different kinds of infectious

and excreta related diseases (Ahmed et al., 2006). In tea garden, because of illiteracy, ignorance, social exclusion and poverty hindrance tea workers to practices hygiene practices. ‘Diarrheal Diseases’ without proper treatment makes life more miserable and fear of infecting isolated from others, obstruction with social relationships or daily activities (Kashem, 2015). Lack of social interaction and social participation expressed as social and emotional impact of households (Schaetti et al., 2010).

*Hypothesis two* considered that unhygienic practices may impact negatively on individual health. People who conceived unhygienic practices impacts on individual health are likely suffer different kinds of sanitation and hygiene related diseases.

### ***Unhygienic practices and social behavior***

Tea workers of the Bangladesh are vulnerable people lead an isolated, deprived and disconnected life (Majumder and Roy, 2012). In tea garden, the scenario of socio-economic and political aspects of the tea workers community is full of deprivation (Sarma, 2013). The social life of the tea garden is pathetic and tea workers lead separated and alienated life detached from mainstream of culture (Hassan, 2014). Tea garden community is being lived isolated in an enclave resident from mainstream society (Saikia 2008). Tea workers hardly interact with mainstream of society (Ahmed and Chowdhury, 2014) and often face different difficulties outside of the garden (Majumder and Roy, 2012). In most of the cases, Tea workers neither have political awareness nor have political involvement (Sarma, 2013). And female workers hardly participate of voting by husband and father choices (Saikia 2008, Hassan 2014). Tea workers have neither social sound position nor good communication with relatives and remain exploited and alienated (Sarkar, 2013); sometimes they take social support such as loans from relatives (Sarma, 2013). Tea workers are, in one side detached from modernization and on the other side they are failed getting rights in all stage of life (Hassan, 2014). We proposed our hypotheses that:

*Hypothesis three* considered that unhygienic practices may impact on individual social stress and lack of interaction.

*Hypothesis four* considered that unhygienic practices may impact negatively on individual social participation.

## **3. MATERIALS AND METHOD**

### ***Sources of Information, Research Design***

There are very few researches exactly on the unhygienic practice, social behavior sanitation and health conditions of the tea garden workers in Bangladesh but by focusing the key words



regarding Bangladesh and third world countries perspective this study tried to seek some necessary related literatures. Besides research journals, this study combined relevant information from various secondary sources such as books, articles, report, news report, websites, thesis work etc. as well as the primary source of information of this study was the selected six tea gardens. The nature of the research design of this study is a combined method: descriptive and exploratory. Descriptive research studies describe the general characteristic where exploratory studies study a problem with more investigation (Kothari, 2005). This study is descriptive in nature of describing the variable's characteristics and exploratory study in terms of formulating problems with more precise inquiries.

### ***Study area, sampling, data collection and analysis***

In Bangladesh, tea gardens are about 163 (Kamruzzaman et al., 2015) and tea plantation was initiated by British (Tea garden in Bangladesh, 2015). Among the tea estates we have selected six different tea estates which are located in greater Sylhet and these were: Malnichhera, Rashidpur, Lackaturah, Kalagul, Keramotnagor, Balishera, and Lackaturah. More specifically, Rashidpur tea garden is situated in Habigonj district, Balishera and Keramotnagor tea gardens are situated in Moulovibazar district. Likewise, Lackaturah, Kalagul and Malnichhera are located in Sylhet district. The basic necessity of sample is that it might be representative from the drawn population (Nachmias & Nachmias, 1996). There are about 300000 workers are employed in tea estates and 75% of them are female (Tea garden in Bangladesh, 2015). In this study, by applying sampling formula the sample was consisted of 351 male and female tea garden workers out of the total population 3993 (source: selected tea gardens authorities, 2015). The simple random sampling design was used to collect data (Blalock, 1979) and the primary sampling units of analysis was the selected six tea gardens. The total numbers of tea workers of these six tea gardens considered as the population size and we selected a representative sample systematically. We used the following formula from Islam (2011) to calculate sample size.

$$\text{Sample size, } n = \frac{Nno}{N+no} = 351$$

The formula of calculating sample size was considered on the basis of the given assumptions: 95% confidence interval for the normal variant value ( $Z=1.96$ ), 10% admissible error ( $d=0.05$ ), and 50% as admissible percentage). Fortunately, we were able to collect information from 355 respondents.

Before final data collection, we conducted a pilot survey in the six tea estates and found workers within 15-50+ old holders and we considered that the age group of population as target population. The tea garden workers both men and women (15-50+ old holders) were the primary

unit of analysis. In this study, social survey method regarding a semi-structured questionnaire schedule with both open and closed ended is used to collect cross-sectional data. Every single tea worker was randomly selected in the survey from each household. We used Likert items scale to analyze the perception about unhygienic practices and social behavior and to explore impacts of unhygienic practices on social behavior. After finishing data collection, data were coded, compiled, tabulated and analyzed by using IBM SPSS Statistic 20. Different socio-demographic characteristics of selected tea garden workers like gender, educational attainment, age, marital status, religious belief, perceptions level, sanitation conditions etc. were taken into account as independent variables and social behavior of the workers was measured as dependent variable. Similarly, respondents' perception about unhygienic practices and social behavior was measured by applying 5 point Likert scales with 9 items (*see Table 1*) along with 5 degrees of response. We carried items score likes 1 for strongly disagree, 2 for disagree, 3 for neutral, 4 for agree and 5 for strongly agree. Likewise, If a respondent assume most favorable degrees of perception then it indicates the highest score (say 5) and if respondent indicate least favorable degrees of perception then it means lowest score (say 1). Lastly, we calculated mean score and explain respondent's perception about unhygienic practices and social behavior on basis of score indicators. After that, we used various descriptive and inferential statistical measures such as mean, frequency, percentage, crosstab, ANOVA tests, chi square, correlation, standard deviation and factor analysis.

**Table 1: Items scale of unhygienic practices and social behavior**

Items	Perception about unhygienic practices and social behavior
Item 1	Practice of unsafe sanitary is harmful for social environment
Item 2	Unhygienic practices are noticed in the tea gardens
Item 3	Now impacts of the unhygienic practices are an issue
Item 4	Unhygienic practices can reduce individual's social participation
Item 5	Unhygienic practices exposure individual's social stress and lack of interaction with society
Item 6	Unhygienic practices can impact negatively on individual health
Item 7	Unhygienic practices can decrease social support among the



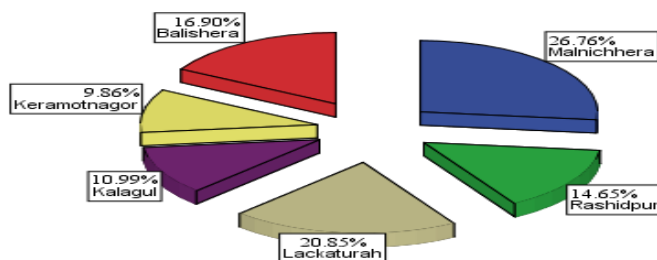
	individuals in the community
Item 8	Unhygienic practices can increase social isolation and group decision making opportunity
Item 9	Unhygienic practices can be minimized by group action

#### 4. RESULTS AND DISCUSSION

##### *Socio-demographic characteristic*

In this study, we tried to describe some socio-demographic variables and shown in the **Figure 1 and Appendix A**. We collected information from 355 respondents and among them male and female respondents were 37.7% and 62.3% respectively and among the respondents 26.8% of them from Malnichhera tea garden; 14.6% of them from Rashidpur tea garden; 20.8% from Lackaturah tea garden; 11% from Kalagul tea garden; 9.9% from Keramothenagor tea garden and 16.9% from Balishera tea garden. Educational attainment of the respondents were varied likes, 2.8% of the respondents mentioned that they have HSC degree, 25.9% respondents mentioned having a low level of educational degree likes under primary and 44.5% respondents stated primary level of education.

Figure 1- Working Tea Gardens



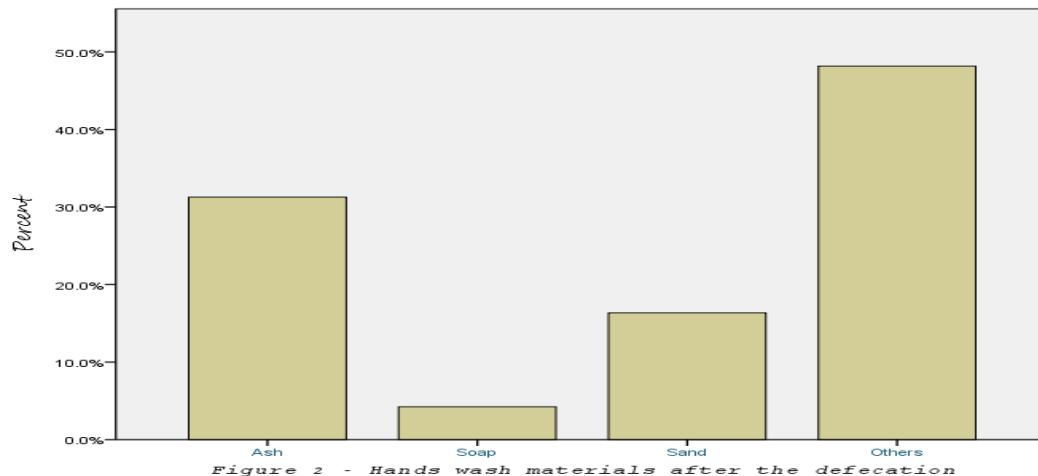
Likewise, 26.8% respondents mentioned S.S.C level of education. Studies found that maximum portion of the tea gardens workers were illiterates (Sharma and Bhuyan2016, Timung and Sarmah 2013, Banik, 2015).Results indicate that in the tea gardens most of the respondents were Sanatan religious believer, 20.3% of the respondents were Christian and 7.9% of the respondents were Muslims. Among the six tea gardens, 28.7% respondents stated their marital status as single and 71.3% respondents mentioned as married. Among the married respondents, we found some female respondents were widowed; some male and females respondents were having polygamy and some male respondents were widower too. We categorized respondent's age by nine categories and every category were 5 interval gaps and age categories were between 15 and 55+. Results indicate that 3.4% respondents belonged to 15-19 age categories, 18.6% respondents' age were 30-34 age category, 6.5% respondents' age were 55+ etc.

### ***Sanitation conditions and practices***

This study tried to seek respondents' sanitation conditions and practices and results shown as **Appendix B**. We asked them, *do you use toilet to defecate?* Results found that every respondents used toilet to defecate and some mother of the households added that even their child (under 5<sup>th</sup> year) defecates outside toilet then they make clear it and throw the defecation into toilet and clean it with water. Study found differs result that tea garden worker of Bangladesh defecate frequently in open air (Chowdhury et al., 2011). Similarly, we also asked them; *do you have separate latrines for male and female?* Results found that there were not separated latrines for male and female. Study also found that most of the household had single latrine and both male and female of the respondents shared latrines but not separated for male and female. Similar studies also found that lot of respondents use single latrines (Chowdhury et al., 2011). Likewise, we also asked them, *what kinds of latrine do you use to defecate?* According to the results, about 10.7% of the respondents used sanitary latrines which are fully terraced, about 7.6% use half terraced sanitary latrines and near 81.7% just basement sanitary which basement were fully sanitary but the surroundings were wrapped by clothes, sacks etc. Similar studies found that few tea garden workers use sanitary latrine and maximum of them use unhygienic latrine (Chowdhury et al., 2011). Another study also found same result that toilets of the tea garden workers are not sanitary (Bhattacharjee and Nirmolia, 2015), tea garden workers neither have sanitary latrines (Banik, 2015) nor own bathroom (Sharma and Bhuyan, 2016) and they use both unsafe and damage latrine (Pal and Hussain, 2016).

We also asked *do you wash your hands with after using toilet?* Results found that about 88.7% and 11.3% respondents replied yes and no respectively. The respondents who replied yes and no were also asked *what do you use to wash your hands after using toilet?* From **Figure 2** results indicate that 31.3% respondents mentioned that after defecating they clean hand with ash and

nearly 4.2% respondents stated soap as well as about 16.3% clean hand after defecating with sand. A lot of people about 48.2% mentioned “others” which indicate that some respondents do ground touch to clean and some of them do cortex and stem touch to clean hand after defecating with soil as well as some of them use clothes too.



According to Timung and Sarmah (2013), in Assam maximum female tea garden workers don't clean hands appropriately after using toilet. Another study found that in the tea gardens hand wash facilities are not also appropriate (Pal and Hussain, 2016). We asked them, *do you clean toilet yourself with available cleaner materials?* Results found that 46.8% stated they clean toilet with available cleaner materials and 53.2% respondents did not clean toilet with available cleaner materials. But in this case, male respondent's role is lower than female respondent's. This study also tried to find toilet cleaners and found that only 1.4% respondent clean toilet with available toilet cleaners brought from shop; 9.3% respondents use slaked lime to clean toilet and this one is also brought from shop. Some of them about 26.8% stated that they clean toilet just using water and brush as well as 9.3% respondents mentioned “others” include; a few of them clean toilet with hot water, homemade brush and so on. Then we asked *how many days later do you clean your toilet with available cleaning materials?* Among the respondent 3.9% and 6.5% respondents stated they clean toilet 1 week and 2 weeks later respectively. Likewise, 13.5% and 13.8%, respondents stated that they clean toilet with available cleaning materials 3 weeks and 1 month later respectively. Similar study found that toilets cleaning facilities are not appropriate (Pal and Hussain, 2016).

### ***Personal hygiene practices and health conditions***

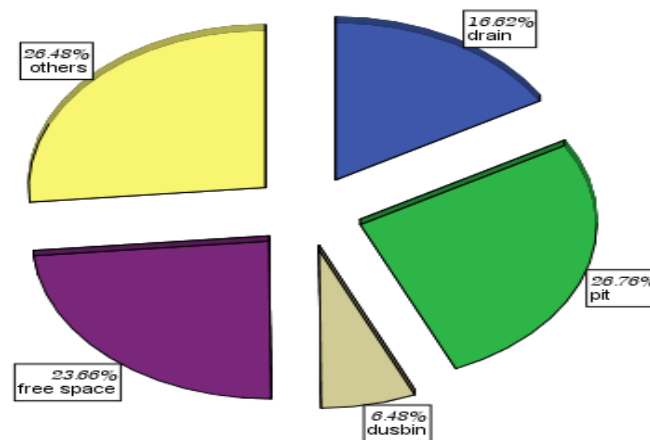
In this study, we tried to explore personal hygienic practices of the tea gardens worker on the daily basis and results shown as ***Appendix C***. We asked the respondents, *do you take bath daily?*

Among 355 respondents, 190 respondents replied that they take bath daily but the rest of them (165 respondents) replied no. The respondents who, take bath daily and don't take bath daily, also asked whether they take bath with soap/shower jell or not. Among the total respondents, 34 respondents stated that they normally take bath with soap and 321 respondents mentioned taking bath without soap. Then we wanted to know the reasons behind that and asked them, *why don't you take bath with soap?* We disclosed some reasons: 55.8% respondents mentioned that they don't take bath with soap because soap is costly goods to them; 19.4% respondents stated that they are used to take bath without soap or any kinds of shower jell. Lastly, 24.8% respondents replied "others" which indicates that among 88 respondents, some of them clean their body without soap with nun's veiling as well effacing body grime and some of them did not say anything. Similar study also found that some tea garden workers neither take bath nor clean body (Pal and Hussain, 2016). We asked them, *what do you use to clean your hair?* Results found that only 2% respondent use shampoo to clean hair, 19.7% of the respondents' clean hair by using soap and the rest of 78.3% mentioned "others" which indicated that they massage oil in hair before taking bath and thus they clean hair. Then we asked them *do you clean your teeth at least twice a day regularly?* Result found that 7.9% of the respondents' responded that they clean teeth in a day for two times and 92.1% of the respondents replied "No". Similarly, we asked them *how do you clean your teeth daily?* Result showed that only 5.9% of the total respondents use brush and paste to clean teeth, 50.1% of them use just ash and 43.9% mentioned "others" more specifically, they use Citrus tree's leaves, mango tree's leaves and so on to clean teeth. We tried to figure out why they use leaves instead of brush and paste and study found that, according to their opinions brush and paste are not a purchasable goods by their little income. Leaves and ash are both available cleaning materials to them and these two elements are used in the tea garden from gene expression. Similar study reveals that some tea workers don't brush their teeth (Pal and Hussain, 2016).

Next, we wanted to them, *do you pair your nail once in a week?* Study found that about 42% respondents have a positive conception to pair nail within a week and they used to do that by one week but approximately 58% respondents don't pair nails in a week. They pair nails when it grows long; feel it needs to pair then they do it. On the hand, this study tried to seek whether respondent wash hands or not before and after taking meals or foods. Results found that before taking meals or foods about 17.2% respondents wash hands and 82.8% respondents don't wash hands. Likewise, this study also tried to know what about after taking meals or foods and found that 33% and 67% respondents wash hands and don't wash hands after taking meals or foods respectively. Similar study found that majority female tea garden workers don't wash hands appropriately before eating (Timung and Sarmah, 2013). Next, we asked *do you wash hands after cleaning garbage?* Found that 57.2% and 42.8% respondents clean and don't clean hands

after cleaning garbage respectively. Then we wanted to know how they clean hands after cleaning garbage and found that most of them just used water.

*Figure 3 - Waste disposal system*



In this study, we also tried to seek waste disposal system and figure 3 shows that 16.6% respondents replied that wastes are disposed in drain, 26.8% of the respondents disposed wastes in a specific pit and only 6.5% of the respondents use dustbin. Similarly, 23.7% of the respondents use free space outside house and 26.5% mentioned others option which indicates that some use lowland, some use bin etc. Similar studies found that some waste collection bins found in the tea garden (Chowdhury et al., 2011).

Next, this study tried to find what kinds of physical problems which are related with unhygienic practices along with poor sanitation conditions they face on everyday life and on the time of survey about 76.9% respondents stated that they have physical problems more specifically health related diseases and about 23.1% respondents stated on survey time facing no health related problems or diseases. Respondent who stated facing health diseases most suffer were asked to provide opinions regarding diseases.

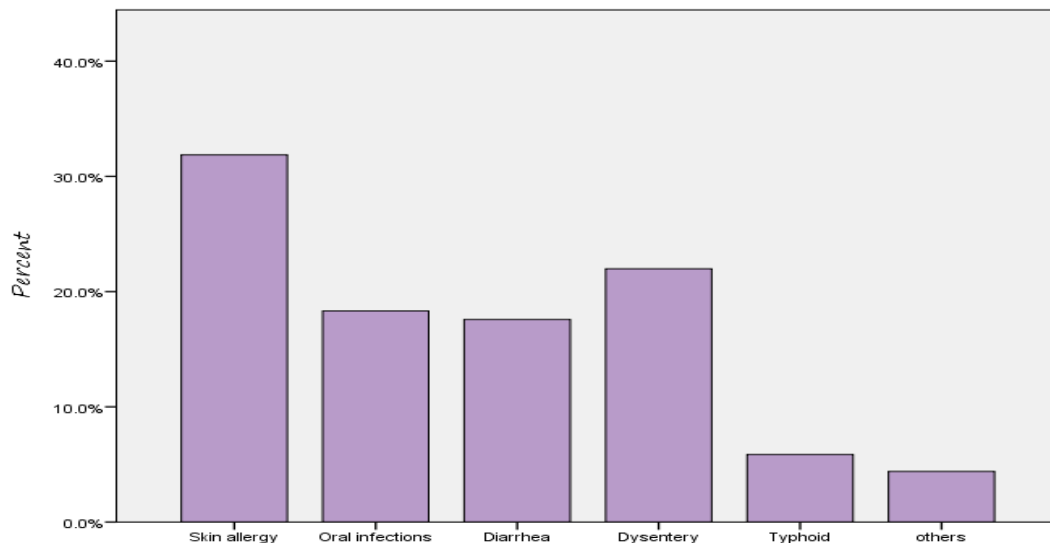


Figure 4 - Most suffering diseases

From *Appendix D and Figure 4* result indicated that 24.5% respondents suffer Skin Allergy most; 14.1% respondents suffer Oral infections most; 13.5% respondents suffer Diarrhea most; 16.9% respondents suffer Dysentery most; 4.5% respondents suffer Typhoid most and 3.4% respondents suffer some others problems or diseases most. Studies found similar results that diarrhea, dysentery etc. are common disease in tea gardens (Sharma and Bhuyan, 2016), older people of the tea garden frequently suffer from the skin diseases, diarrhea, jaundice and dysentery, asthma, depression etc. (Pal and Hussain, 2016). Another study found that female worker in the tea garden suffers frequently from backache, headache and body ache, bacterial infection etc. (Banik, 2015).

#### ***Respondents' perception about unhygienic practices and social behavior***

The term personal hygiene can be defined a way to keep body, clothes and the surrounding clean as well as off from both germs and getting diseases (Rasool, 2012). The perception and practice toward personal hygiene can vary relaying on culture, gender, living stander, etc. to country to country (Aburaghif, 2015). In this study, we tried to explore people's perception toward unhygienic practices and social behavior and how it varies by gender. This study took into account some scale variables with 5 different items to explore respondents perceptions toward hygienic practices and social behavior (see table 1). To explore the level of perception, this study calculated the mean value and took the value like that mean 4 and above indicates high level of perception. Likewise, mean 3.5 and below level 4 indicates medium level of perception and the mean 2.5 and below level 3.5 indicates neutral. Lastly, the mean value below 2.5 indicates low level of perception.



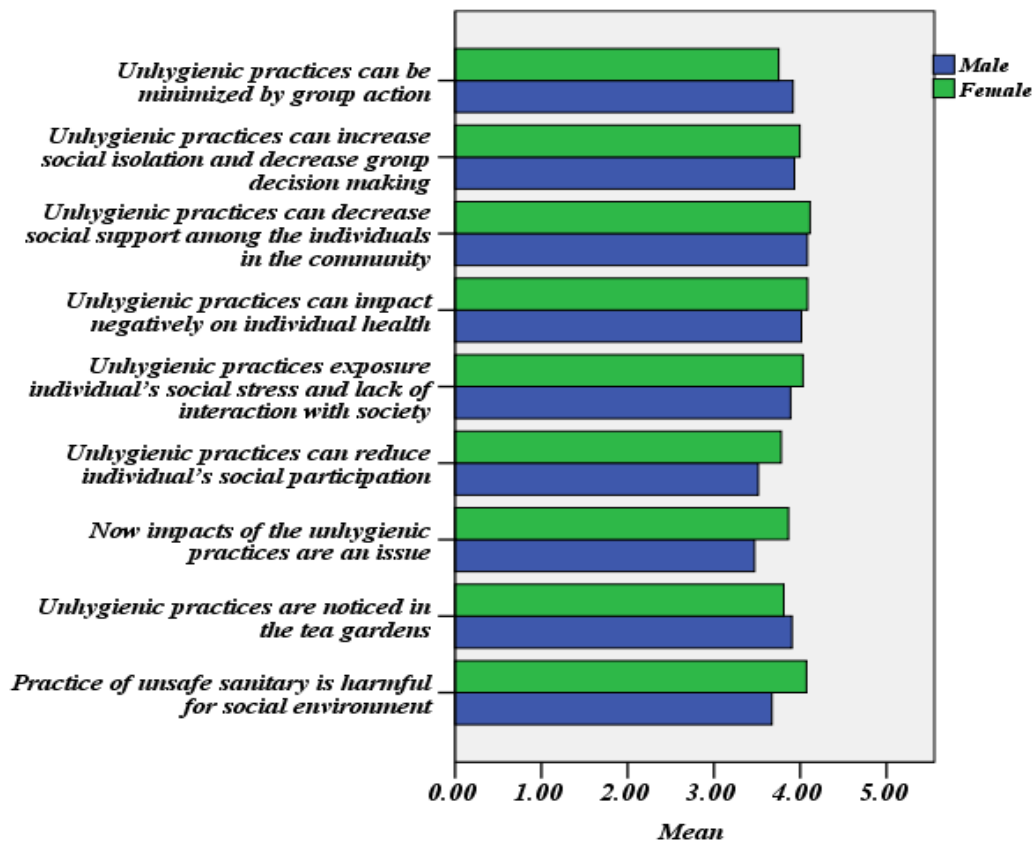


Figure: 5 Gender and perception about unhygienic practices and social behavior

Figure 5 and Appendix E show that, the mean scores for male and female were 3.67 and 4.07 respectively which indicated that female’s perception towards the item practice of unsafe sanitary is harmful for social environment was high level where male’s perception was medium level. Similarly, results showed that perception toward unhygienic practices are noticed in the tea gardens was medium level by both male and female (mean score ware 3.90 and 3.81 respectively) towards unhygienic practices are noticed in the tea gardens. The mean values of the item, now impacts of the unhygienic practices are an issue, were 3.47 for male and 3.86 for female which indicated that male’s level of perception was neutral and female’s conception was medium level. The mean values for the item unhygienic practices can reduce individual’s social participation indicated medium level of perceptions by both male and female. In this case, mean score were 3.51 and 3.78 for male and female respectively and results indicated that female’s conception was a bit high than the perception of male’s.

Likewise, perception towards unhygienic practices exposure individual’s social stress and lack of interaction with society was high level by female (mean score was 4.03) and male’s perception

was medium level (mean score was 3.89) on that item. The perception level for the statement unhygienic practices can impact negatively on individual health was high. In this case, the mean scores for male and female were 4.01 and 4.09 respectively which indicated that female's perception a bit high than male's. Likewise, the mean scores of the statement unhygienic practices can decrease social support among the individuals in the community were 4.08 and 4.11 for male and female respectively. Results indicated that both male and female opined high level of perception and female opined a bit higher than male's. The mean scores were 3.93 and 4.00 for male and female respectively which indicated that male's perception level was medium where female's conception was high level toward unhygienic practices can increase social isolation and decrease group decision making opportunity. Lastly, results indicated that the perceptions, toward unhygienic practices can be minimized by group action, were medium level and the mean scores were 3.92 and 3.75 for male and female respectively. In this case, we can say that male's perception was a little bit high than female's perception. In brief, results showed that respondents' perception about unhygienic practices and social behavior was varied by genders and female's perception's level was likely higher than male's perception about unhygienic practices and social behavior.

### ***Inferential statistics regarding perceptions***

In this study, to measure items' (perception about unhygienic practices and social behavior) means whether statistically significant difference or not we conducted ANOVA tests to measure as shown in the *Appendix F*. We can say that as to gender some scaling items means were statistical significance difference such as unsafe sanitary is harmful for social environment, now impacts of the unhygienic practices are an issue and unhygienic practices can reduce individual's social participation which significance values were below 0.05. On the other hand, some scaling items means were not statistical significance difference such as unhygienic practices are noticed in the tea gardens, unhygienic practices exposure individual's social stress and lack of interaction with society, unhygienic practices can impact negatively on individual health, unhygienic practices can decrease social support among the individuals in the community, unhygienic practices can increase social isolation and decrease group decision making opportunity and unhygienic practices can be minimized by group action which significance values were greater than 0.05. In this study, bivariate analysis carried out regarding unhygienic practices and social behavior as exhibited below the *Table 2*. Results indicated that there were both negative and positive relationships among the items regarding perception of the unhygienic practices and social behavior. We also considered the correlation coefficients above 0.40 at the -1 to +1 range. Respondent who comprehend practice of unsafe sanitary is harmful for social environment also comprehend some items such as unhygienic practices are noticed in the tea gardens (Correlation Coefficient = .558 and Correlation's significant at the 0.01 level), now impacts of the unhygienic

practices are an issue (Correlation Coefficient = .524 and Correlation's significant at the 0.01 level), unhygienic practices can reduce individual's social participation (Correlation Coefficient = .483 and Correlation's significant at the 0.01 level) and unhygienic practices exposure individual's social stress and lack of interaction with society (Correlation Coefficient = .528 and Correlation's significant at the 0.01 level). Similarly, Respondent who comprehend unhygienic practices are noticed in the tea gardens also perceived some items likes unsafe sanitary is harmful for social environment (Correlation Coefficient = .558 and Correlation's significant at the 0.01 level), now impacts of the unhygienic practices are an issue (Correlation Coefficient = .656 and Correlation's significant at the 0.01 level), unhygienic practices can reduce individual's social participation (Correlation Coefficient = .568 and Correlation's significant at the 0.01 level) and unhygienic practices exposure social stress and lack of interaction with society (Correlation Coefficient = .498 and Correlation's significant at the 0.01 level). Respondent who comprehend now impacts of the unhygienic practices are an issue also comprehend some items such as practice of unsafe sanitary is harmful for social environment (Correlation Coefficient = .524 and Correlation's significant at the 0.01 level), unhygienic practices are noticed in the tea gardens (Correlation Coefficient = .656 and Correlation's significant at the 0.01 level), unhygienic practices can reduce individual's social participation (Correlation Coefficient = .635 and Correlation's significant at the 0.01 level) and unhygienic practices exposure social stress and lack of interaction with society (Correlation Coefficient = .543 and Correlation's significant at the 0.01 level). Respondent who comprehend unhygienic practices can reduce individual's social participation also comprehend some items such as unhygienic practices exposure social stress and lack of interaction with society (Correlation Coefficient = .628 and Correlation's significant at the 0.01 level).

**Table 2:** Correlation coefficients of the items considering perception about unhygienic practices and social behavior

Items	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9
Item 1	1								
Item 2	<b>.558**</b>	1							
Item 3	<b>.524**</b>	<b>.656**</b>	1						

3									
Item	.483**	.568**	.635**	1					
4									
Item	.528**	.498**	.543**	.628**	1				
5									
Item	-.021	.134*	.095	.088	.025	1			
6									
Item	.173**	.207**	.149**	.231**	.110*	.236**	1		
7									
Item	.032	.003	-.150**	-.141**	-.097	.063	.027	1	
8									
Item	.114*	.117*	.121*	.169**	.111*	.060	.002	-.057	1
9									

\*\* . Correlation is significant at the 0.01 level (2-tailed).

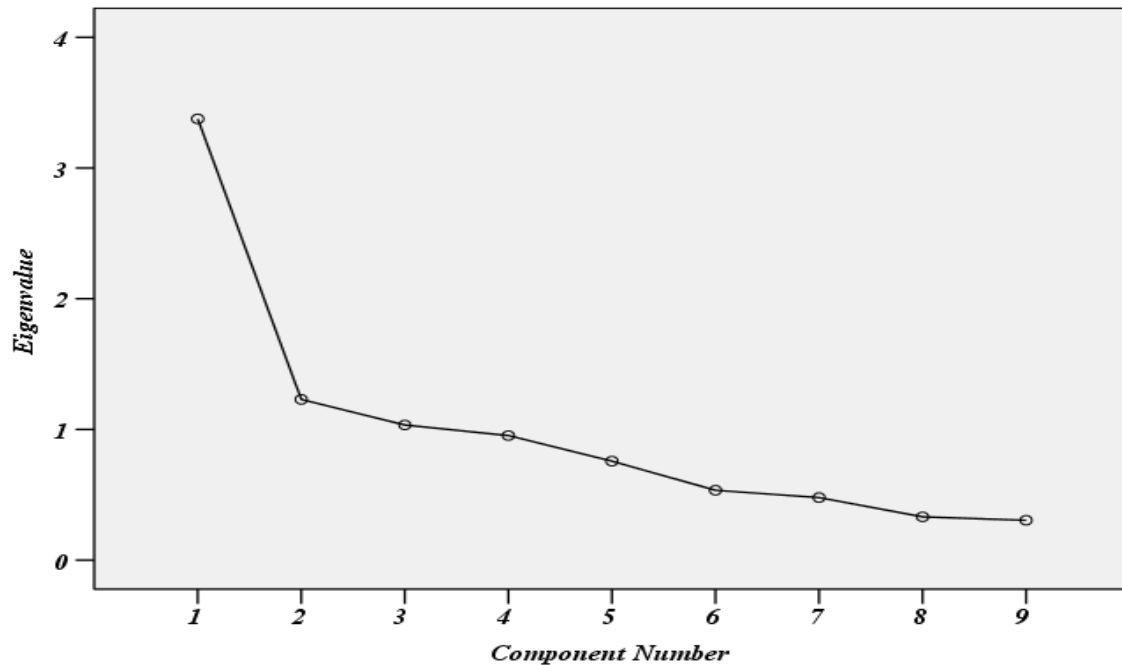
\* . Correlation is significant at the 0.05 level (2-tailed).

**Factor analysis and results:**

In this study, the Kaiser-Meyer-Olkin (KMO) value was .821 which was completely suitable to consider the further analysis of Factor analysis (*see Table 3*) and we got 3 components extracted which Eigen values were more than 1 (*Appendix G*) and it is also highlighted in scree plot below (*Figure 6*). Likewise, in the analysis we used the varimax rotation along with took into account the correlation coefficients above than 0.50.

Table 3: KMO and Bartlett's Test	
Kaiser-Meyer-Olkin measure of sampling adequacy.	.821
Approx. Chi-Square	
Bartlett's Test of Sphericity	883.945
df	36
Sig.	.000

From the *Appendix H*, we can say according to the results that on the first factor there were five items loaded and these items were: unhygienic practices exposure individual’s social stress and lack of interaction with society, unhygienic practices can impact negatively on individual health, unhygienic practices can decrease social support among the individuals in the community, unhygienic practices can increase social isolation and group decision making opportunity and unhygienic practices can be minimized by group action. We can label these components likely, *unhygienic practices and social stress and interaction, unhygienic practices and individual health, unhygienic practices and social support, and unhygienic practices and social isolation and group decision making*. Likewise, on the second factor there were two items loaded and these items were: now impacts of the unhygienic practices are an issue and unhygienic practices can reduce individual’s social participation. We can label these components likely, *unhygienic practices as an issue and unhygienic practices and social participation*. On the third factor there were also two items loaded and these items were: practice of unsafe sanitary is harmful for social environment and unhygienic practices are noticed in the tea gardens. We can label these components likely, *unsafe sanitary and social environment and unhygienic practices and tea gardens*.



**Figure 6: Scree plot**

### ***Hypotheses and results***

The first *hypothesis* considered that educational attainment may have effect on hygienic practices. More specifically, people who have higher educational attainment are likely to practices hygiene and people who have lower educational attainment are likely to practices unhygienic. Similarly, hypotheses were tested by inferential statistical test as chi square and results shown in **Table 4** below. Finding discloses that for the first hypothesis, Pearson Chi-Square statistic,  $\chi^2 = 30.77$ , and  $p < 0.001$  and the null hypothesis is rejected, since  $p < 0.05$ . From the results it may concludes that the level of educational attainment may effect on hygiene practices. The higher the educational status has the lower the unhygienic practices and the lower the educational status has the higher unhygienic practices. Similar results found that educational qualification and hygiene practice was associated significantly (Timung and Sarmah, 2013). *Hypothesis two* considered that unhygienic practices may impact negatively on individual health. People who conceived unhygienic practices impacts on individual health are likely suffer different kinds of sanitation and hygiene related diseases. Statistical findings indicate that for the second hypothesis, Pearson Chi-Square statistic,  $\chi^2 = 35.57$ , and  $p = .017$ . Result disclosed that unhygienic practices and health diseases are associated variables. People who do unhygienic practices are more likely suffer different kinds of unhygienic related diseases. Similar studies found that unhygienic practices and health problems are associated (Bortamuli et al., 2016), due



to unhygienic practices tea workers suffer different kinds of diseases (Ruma and Dipak, 2014; Sarma, 2013). *Hypothesis three* considered that unhygienic practices may impact on individual social stress and lack of interaction. Results indicate that for the third hypothesis, Pearson Chi-Square statistic,  $\chi^2 = 2.68$ , and  $p = .611$ . It may conclude that unhygienic practices of the respondents are not associated with social stress and interaction. There are not clear evidences that people who do unhygienic practice it does not expose social stress and minimize interaction among them. Studies found different results that tea workers remain isolated with society and often lack of interaction with society (Majumder and Roy, 2012), and they rarely interact with other community (Sarma, 2013). *Hypothesis four* considered that unhygienic practices may impact negatively on individual social participation. Result indicates that for the fourth hypothesis, Pearson Chi-Square statistic,  $\chi^2 = 9.90$ , and  $p = .042$ . From the results, it may conclude that unhygienic practices can reduce individual's social participation. Studies found that tea workers have neither social sound position nor good communication with relatives and remain exploited and alienated (Sarkar, 2013), they don't participate in the political activities (Sarma, 2013), and female workers hardly participate of voting by husband and father choices (Saikia, 2008).

**Table 4:** *Inferential statistical test regarding hypotheses*

<i>Hypothesis</i>	<i>Test</i>	<i>Value</i>	<i>Df</i>	<i>Asymp. Sig. (2-sided)</i>
<b>H1</b>	Pearson Chi-Square	30.774 <sup>a</sup>	12	.002
	Likelihood Ratio	31.858	12	.001
	Linear-by-Linear Association	.211	1	.646
a. 5 cells (25.0%) have expected count less than 5. The minimum expected count is .65.				
<b>H2</b>	Pearson Chi-Square	35.572 <sup>a</sup>	20	.017
	Likelihood Ratio	20	20	.005
	Linear-by-Linear	39.819	1	.011

	Association	11.851		
a. 15 cells (50.0%) have expected count less than 5. The minimum expected count is .40.				
<b>H3</b>	Pearson Chi-Square	2.689 <sup>a</sup>	4	.611
	Likelihood Ratio	2.660	4	.616
	Linear-by-Linear	1.465	1	.226
	Association			
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.04.				
<b>H4</b>	Pearson Chi-Square	9.901 <sup>a</sup>	4	.042
	Likelihood Ratio	9.606	4	.048
	Linear-by-Linear	4.168	1	.041
	Association			
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.93.				

**CONCLUSION**

In this study, we tried to explore impacts of unhygienic practices on social behavior. While conducting so, we considered possible variation of the perception about unhygienic practices and social behavior by genders. We claimed four hypotheses obtained from relevant literature reviews and three out of four hypotheses were confirmed by this study data. More specifically, first hypothesis suggested that the level of educational attainment would effect on hygiene practices. The higher the educational status of the respondents has the lower the unhygienic practices and the lower the educational status of the respondents has the higher unhygienic practices. Second hypothesis suggested that unhygienic practices and health diseases are associated with one another. People who make unhygienic practices are more likely suffer

different kinds of unhygienic related diseases. Third hypothesis concerned whether unhygienic practices of the respondents may exposure social stress and lack of interaction with society or not. But there was not clear evidence that people who make unhygienic practice, it does not expose social stress and minimize interaction among them. Last hypothesis was confirmed and suggested that unhygienic practices could reduce individual's social participation. In conclude, from hypotheses results we can say that educational attainment could effect on personal hygienic practices; unhygienic practices could affect negatively on health and unhygienic practices could reduce individual's social participation. We observed perception level regarding unhygienic practices and social behavior by gender and study found variation on perception level and as gender female's perceptions level are likely higher than male's perception about unhygienic practices and social behavior but they do not practice proper personal hygienic on daily basis. We observed factor analysis regarding perception about impacts of unhygienic practices on social behavior and found three components extracted which eigen values were more than 1. Considering factor analysis all together, conclude that some most influencing factor such as unhygienic practices concerns with social behavior, more precisely, unhygienic practices exposure individual's social stress and lack of interaction with society; it impacts negatively on individual health; it reduces social support among the individuals in the community and it increases social isolation and decreases group decision making opportunity along with social participation. We should indicate some variables such as socio-demographic, sanitation conditions and personal hygienic practices which are also observed in this study. Firstly, female workers are considerable high in the tea gardens; maximum respondents are primary level of educated and level of taking higher education is also noticeable. Most of the respondents are Sanatan religious believer and few are Muslim. There are no separated toilets or bath room for male and female but mostly single basement sanitary toilet where maximum workers usually defecated but no one frequently used open space to defecate. A lot of the workers do not wash hands properly with soap after defecation but Ash. The way of cleaning toilet is differed; clean toilet by using slaked lime and just using water and brush. The sanitation conditions in the tea gardens are very unhygienic and pathetic. Even though lot of people don't take bath regularly and few take bath as well as tried to clean grime by using soap which is costly to buy. Very few respondents' clean teeth twice a day but most of them do not brush and maximum respondents use unhygienic materials to clean teeth such as Ash, Citrus tree's leaves, mango tree's leaves etc. Most of the workers neither pair nails in a week nor wash hands properly before taking meals or foods. Similarly, lot portions of the workers do not wash hands after taking meals or foods. Tea gardens workers don't practices personal hygiene properly everyday life but unhygienic practices are very common. Due to unhygienic practices they generally suffered different kinds of health problems. Most frequently suffered diseases in the tea gardens are Skin Allergy, Oral infections, Diarrhea, Dysentery etc. In the tea gardens workers are used to unhygienic practice instead of

proper personal hygiene and which leads them to suffer different kinds of health problems. It is important to note that perceptions about impacts of unhygienic practices on social behavior are about medium level by both genders but actual scene in the tea gardens are worker usually detached practicing proper hygiene and used to lead a life with unhygienic way.

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**List of acronyms**

SSC=Secondary School Certificate

HSC=Higher Secondary Certificate

**Appendixes**

<i>Appendix A: Socio-demographic characteristic of the respondents.</i>			
Variables		Frequency	Percent
Gender	Male	134	37.7
	Female	221	62.3
Working Tea Garden	Malnichhera	95	26.8
	Rashidpur	52	14.6
	Lackaturah	74	20.8
	Kalagul	39	11
	Keramotnagor	35	9.9
	Balishera	60	16.9
Educational Attainment	under primary	92	25.9
	primary	158	44.5
	S.S.C	95	26.8
	H.S.C	10	2.8
Religion	Muslims	28	7.9
	Sanatan	255	71.8
	Christian	72	20.3

Marital Status	married	253	71.3
	single	102	28.7
Age	15-19	12	3.4
	20-24	32	9
	25-29	56	15.8
	30-34	66	18.6
	35-39	54	15.2
	40-44	45	12.7
	45-49	38	10.7
	50-54	29	8.2
	55+	23	6.5

**Appendix B:** Sanitation practices and facilities of the respondents.

Variables		Frequency	Percent
Do you use toilet to defecate?	Yes	355	100
What kinds of latrine do you use to defecate?	Terraced sanitary	38	10.7
	Sanitary just basement	290	81.7
	Half-terraced sanitary	27	7.6

Do you wash your hands with soap or ash after using toilet?	Yes	315	88.7
	No	40	11.3
What do use to wash your hands after using toilet?	Ash	111	31.3
	Soap	15	4.2
	Sand	58	16.3
	Others	171	48.2
Do you clean toilet yourself with available cleaner materials?	Yes	166	46.8
	No	189	53.2
How do you clean your toilet?	Toilet cleaners	5	1.4
	Slaked lime	31	8.7
	Use only water	95	26.8
	Others	35	9.9
How many days later do you clean your toilet with available cleaning materials?	1 week later	14	3.9
	2 weeks later	23	6.5
	3 weeks later	48	13.5
	1 month later	49	13.8
	Others	32	9
Do you have separate latrines for male and female?	No	355	100



**Appendix C:** Personal hygiene practices of the respondents.

Variables		Frequency	Percent
Do you take bath daily?	Yes	190	53.5
	No	165	46.5
Do you take bath with soap?	Yes	34	9.6
	No	321	90.4
Why don't you take bath with soap?	Costly	198	55.8
	used to	69	19.4
	Others	88	24.8
What do you use to clean your hair?	Shampoo	7	2
	Soap	70	19.7
	Others	278	78.3
Do you brush your teeth at least twice a day regularly?	Yes	28	7.9
	No	327	92.1
How do you clean your teeth daily?	Ash	178	50.1
	Brush and paste	21	5.9
	Others	156	43.9
Do you pair your nails once in a week?	Yes	149	42
	No	206	58
	Drain	59	16.6

Waste disposal system	Pit	95	26.8
	Dustbin	23	6.5
	Throw free space	84	23.7
	Others	94	26.5
Do you wash hands after cleaning garbage?	Yes	203	57.2
	No	152	42.8
Do you wash your hands with soap before taking meals/foods?	Yes	11	3.1
	No	344	96.9
Do you wash your hands with soap after taking meals?	Yes	16	4.5
	No	339	95.5

<b>Appendix D:</b> Health issues of the respondents.			
Variables		Frequency	Percent
Do you have any physical problem?	Yes	273	76.9
	No	82	23.1
What kind's health related problem do you	Skin allergy	87	24.5
	Oral infections	50	14.1
	Diarrhea	48	13.5

suffer most?	Dysentery	60	16.9
	Typhoid	16	4.5
	Others	12	3.4

**Appendix E:** Descriptive statistics regarding gender and perception about unhygienic practices and social behavior.

Items	Gender	Mean	Standard Deviation
Practice of unsafe sanitary is harmful for social environment	Male	3.67	1.20
	Female	4.07	1.04
Unhygienic practices are noticed in the tea gardens	Male	3.90	1.28
	Female	3.81	1.19
Now impacts of the unhygienic practices are an issue	Male	3.47	1.28
	Female	3.8	1.20

	e	6	
Unhygienic practices can reduce individual's social participation	Male	3.5 1	1.27
	Femal e	3.7 8	1.11
Unhygienic practices exposure individual's social stress and lack of interaction with society	Male	3.8 9	1.13
	Femal e	4.0 3	1.05
Unhygienic practices can impact negatively on individual health	Male	4.0 1	1.05
	Femal e	4.0 9	1.06
Unhygienic practices can decrease social support among the individuals in the community	Male	4.0 8	1.11
	Femal e	4.1 1	1.10
Unhygienic practices can increase social isolation and group decision making opportunity	Male	3.9 3	1.12
	Femal e	4.0 0	1.11

Unhygienic practices can be minimized by group action	Male	3.9	1.10
		2	
	Femal	3.7	1.17
	e	5	

**Appendix F:** ANOVA regarding gender and perception about unhygienic practices and social issues

	Items	df	Sig.
Gender	Practice of unsafe sanitary is harmful for social environment	1	.001
	Unhygienic practices are noticed in the tea gardens	1	.488
	Now impacts of the unhygienic practices are an issue	1	.004
	Unhygienic practices can reduce individual’s social participation	1	.041
	Unhygienic practices exposure individual’s social stress and lack of interaction with society	1	.227
	Unhygienic practices can impact negatively on individual health	1	.541
	Unhygienic practices can decrease social support among the individuals in the community	1	.798
	Unhygienic practices can increase social isolation and decrease group decision making opportunity	1	.607
	Unhygienic practices can be minimized by group action	1	.185

**Appendix G:** Eigen value and number of components (total variance explained)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.376	37.514	37.514	3.375	37.514	37.514	3.236	35.953	35.953
2	1.230	13.664	51.178	1.230	13.664	51.178	1.292	14.350	50.303
3	1.034	11.491	62.669	1.034	11.491	62.669	1.113	12.366	62.669
4	.953	10.589	73.258						
5	.757	8.417	81.675						
6	.534	5.939	87.613						
7	.479	5.317	92.930						
8	.331	3.680	96.610						
9	.305	3.390	100.000						

Extraction Method: Principal Component Analysis

Appendix H: Factor analysis and rotated component matrix			
Items	Component		
	1	2	3
Practice of unsafe sanitary is harmful for social environment	.10	.15	<b>.59</b>
Unhygienic practices are noticed in the tea gardens	-.03	.18	<b>-.80</b>
Now impacts of the unhygienic practices are an issue	.19	<b>.69</b>	-.07
Unhygienic practices can reduce individual's social participation	-.03	<b>.83</b>	.09
Unhygienic practices exposure individual's social stress and lack of interaction with society	<b>.79</b>	-.03	.10
Unhygienic practices can impact negatively on individual health	<b>.79</b>	.17	.22
Unhygienic practices can decrease social support among the individuals in the community	<b>.81</b>	.08	.17
Unhygienic practices can increase social isolation and decrease group decision making opportunity	<b>.80</b>	.18	-.01
Unhygienic practices can be minimized by group action	<b>.79</b>	-.00	-.12

Extraction Method: Principal Component Analysis

Rotation Method: Varimax with Kaiser Normalization

a. Rotation converged in 4 iterations