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A Case Study Of Exploring The Causes And Impact Of Malnutrition On Children Health Living In Urban Slum At Khulna City

Nabila Najnin, Md. Hafizur Rahman, S. M. Mahbubur Rahman, Munshi Ashiqul Islam, Lamia Binte Rafiq And Gazi Mamunar Rashid
Child Development And Family Relation Department, Khulna University, Khulna 9208, Bangladesh
Biotechnology And Genetic Engineering Discipline, Khulna University, Khulna 9208, Bangladesh
Business Administration Discipline, Khulna University, Khulna 9208, Bangladesh
Department Of Agriculture, Bsmr Science And Technology University, Gopalganj, Bangladesh
Department Of Mathematic, Khulna University Of Engineering & Technology, Khulna-9203, Bangladesh

Abstract
The main purpose of the study is to identify the causes and impact of malnutrition on children health in urban slum children. Survey data collected from April to May 2009, for household survey taken 200 living children aged 6 to 12 years. The causes and impact of malnutrition of children on children health living in urban slum is also a critical issue. The overall environment and surrounding conditions of the slum area is worse and unhealthy from any consideration because of the absence of the proper planning and lack of different basic services necessary for decent living in the urban area. This research tries to identifies the causes and impact of malnutrition on children health living in urban slum in khulna city on Fulbarigate Bashtala slum area and find out the information about the cause and impact of malnutrition respectively. Firstly, the causes of malnutrition in the study area are responsible for the lack of nutrients, lack of balance diet, unavailability of adequate food, low income, lack of parental knowledge and awareness, unhealthy housing condition, poor sanitation system, improper water supply etc. Secondly, the study also tries to find out the impact of malnutrition on children health, these are the children of the study area often suffer from frequent diseases like diarrhea due to malabsorption, fever and cough, beriberi, skin disease, and allergy etc. It is remarkable that their growth rate is slow according to their age and they are irritable. In this study, mainly secondary data from different sources and some primary data from questionnaire survey are used.

Keywords: *Explore, Impact, Malnutrition, Urban, Slum.*

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I. Introduction

The population of Bangladesh is growing at an alarming rate. The urban population of Khulna city has been increasing extremely in the recent year. A vast majority of the population of Khulna is living under the poverty line and most of them are occupied either in various informal sector jobs or medium and large sized industries as worker. As a result, they are compelled to live in slums area. Every year approximately two million new urbanites shelters (UNDP-UNHCS, 1983). The majority of these populations are likely to poor and its consequences on the housing sector will inevitably be serious. The overall environmental condition of the slum area is worse and unhealthy from any consideration. The existing services and facilities provided by different agencies (viz, Khulna Developers Authority (KDA), Khulna City Corporation (KCC), Local Government Engineering Department (LGED), World Vision etc. are not adequate to manage with ever increasing demand for these services and facilities by the burgeoning city dwellers of Khulna. The slum area people cannot afford to meet their basic needs (including food and nutrition1950 calories; clothing primary health care, education and shelter), requirements with their own income (Islam-1994). The children of slum areas are deprived from their basic needs of life. Most of the children are malnourished. The World Health Organization (WHO) defines malnutrition as, "the cellular imbalance between supply of nutrients and energy and the body's demand for them to ensure growth, maintenance and specific functions". Medical Encyclopedia defines Malnutrition as, "malnutrition is the condition that develops when the body does not get right amount of vitamin, minerals and other nutrients, it need to maintain healthy tissues and organ function". Children's Health Encyclopedia defines Malnutrition as, "malnutrition is a condition that develops when the body does not get the proper amount of energy (calories), vitamins and other nutrients, it needs to maintain healthy tissues and organ function". Poverty and lack of adequate food are the primary cause of malnutrition. 10% of all members of low-income households do not

always have enough health all food to eat, and malnutrition can occur because of the lack of a single vitamin in the diet. Starvation is another cause of malnutrition. Malnutrition also occurs when adequate nutrients are consumed in the diet but one or more nutrients are not digested or absorbed properly. Worldwide, Malnutrition continues to be a significant problem, especially among children who cannot fend adequately for themselves. Poverty, natural disasters, political problems and war all contribute to this condition. Malnutrition is globally the most important risk factor for illness and death, contributing to more than half of deaths in children worldwide. Child malnutrition was associated with 54% of deaths in children in developing countries in 2001. A new survey DHAKA 9, April 2009, jointly conducted by World Food Program (WFP), the UN Children fund (UNICEF), and the government's Institute of Public Health Nutrition (mm) has revealed that about two million children in Bangladesh are suffering from acute malnutrition. The situations being described as one of the most severe in South Asia. The health condition of children living in urban slum is also a critical issue. One of the objectives of SIP (Slum Improvement Project) was to develop the nutritional status and health condition of children and women that reflect the importance of child health of slum area. The total income of the majority of households was below the breadline of the household subsistence level of R525 (50.48 Euro) per month for an African household of five members in the East London area during 1990 (most recent available level; Potgieter, 1990). These data indicate that some children (control group) did not experience growth failure, despite the poor household food security. Sive et al, (1992) also found in Cape Town that family income was grossly inadequate in both kwashiorkor and control groups. Once again it can be speculated that quality of care could be a protective factor under circumstances of household food insecurity. Inadequate nutrition leading to undernutrition has short- and long-term implications for the individual. Undernourished children can easily be drawn into the malnutrition/infection cycle (Tomkins & Watson, 1989) and furthermore can grow up as adults with a decreased work capacity. It is therefore clear why access to adequate nutrition is seen as a basic human right (Jonsson, 1996). It is estimated that about 32% of children in Africa are undernourished (Torün & Chew, 1994), with the picture in South Africa looking as bleak as elsewhere in the developing world. The South African National Food Consumption Survey in 1999 indicated that the nutritional status of this age group had neither improved nor deteriorated since 1994 (Labadarios, 1999). Immediate causes include inadequate dietary intake and disease, while the underlying causes refer to insufficient household food security, inadequate maternal and childcare, and insufficient health services in an unhealthy environment. The basic causes include the potential resources available, the economic structures that are in place and the political and ideological superstructure within which all these factors operate (UNICEF, Policy Review, 1990). Duncan Village is a poor urban residential area in South Africa where undernutrition among young children is a recognized problem (De Villiers, 1998). It is part of the greater East London area, a minor coastal city with a fragile economy, situated in the second poorest province (the Eastern Cape) in the country. Duncan Village is East London's most congested township, with basic socio-economic indicators clearly identifying it as a deeply impoverished urban slum (Bank et al, 1996). Observations by the researchers at a local health center from where the research was undertaken showed that, although there are indications that many children in Duncan Village suffer from growth failure, not all children are afflicted. This indicates that those factors contributing to the development of growth failure in certain children and those factors that contribute to the maintenance of a relatively good nutritional status among other children living under similar conditions of poverty need to be identified to develop meaningful intervention strategies. The objectives of this research therefore were (l) to identify the determinants of undernutrition based on the multifactorial UNICEF framework in 12–24-month-old children attending the health center, and (2) to identify focus areas for intervention. The low protein, albumin and hemoglobin levels are indicative of a compromised nutritional state that could have had a direct effect on immuno-competence and susceptibility to infection, with consequent further negative effects on nutritional status (malnutrition—infection cycle; Tomkins & Watson, 1989). The apparent lack of influence of poor environmental conditions (poor housing, water supply, sanitation and refuse clearance) on the nutritional status of children in this study was also indicated in 11-month-old children in an urban Brazilian study (Huttly et al, 1991). The prevalence of wasting in the growth-failure group was low, with stunting being the most prominent nutrition problem. This fact, combined with the, in general, good nutritional status of the mothers (based on Blvfl), seems to point to the possibility that the poor household food security did not result in an acute lack of food in the home. Chronic energy and nutrient deficiencies at the individual level might therefore be the most likely explanation for the observed growth failure in the sample. Bank et al (1995) found that female-headed households in Duncan Village developed strategies to combat poverty by manipulating kinship relations, neighborhood links and welfare structures to their own advantage. These findings most probably also explain why the marital status of the mother was not related to the nutritional status of their children. In the present study the nutritional status of children was positively influenced if the mothers had been born in Duncan Village or a city, and had been living in Duncan Village for a longer time. This seems to confirm the migrant hypotheses that leads to the expectation that individuals' nutritional status or food intakes should improve with length of residence in the city (Atkinson, 1995). Closely related to this aspect are the findings regarding access to and utilization of health services. Health services were available to all members of the study population at the time of the study. Although the majority of

children were born in hospitals, more children from the control group were born in the two referral hospitals in the greater East London area than growth-failure group children. This could point to a lack of access to, or the inadequate quality of, antenatal and labor facilities in outlying or rural areas. Le Roux and Le Roux (1991) also found that 21.9% of children born outside Cape Town were underweight for age in comparison to 13.5% of children born in Cape Town. Women's health status—general, nutritional, reproductive and psychological—plays an important role in their caring capacity and consequently in the health of their children (Dhansay and Hendricks, 1994). The self-reported general health of the mothers seemed reasonable, as was their nutritional health based on the BNfl. Findings on birth weight as an expression of maternal reproductive health identified low birth weight (<2500 g) as a risk for growth failure. This corresponds with other findings in this regard in general (Ricci & Becker, 1996), and more specifically with the findings in a squatter community in Cape Town (Le Roux & Le Roux, 1991). The smoking and drinking habits of the mothers of growth-failure children could have contributed to depressed intra-uterine growth of their children (Kibel & Wagstaff, 1995), contributing to the higher prevalence of LBW in the growth-failure group. It can also be speculated that these practices could have contributed to the poorer caring capacity or attitude of the mothers of growth-failure children. The low level of education and lack of proficiency in reading and writing at least Xhosa, which is the indigenous language in the study area, correspond with the findings of Fabricius and McWilliams (1991) for the study area. The low educational status could be one of the reasons for the low level of employment among the mothers as well as the poor food security in their households (Kurz & Johnson-Welch, 2000). Furthermore, nutrition education as part of basic health education has a direct influence on a mother's knowledge, skills and preferences in caring for her child when it is healthy or ill. This is clearly illustrated by the findings of this study, namely that a child of a mother who had not received nutrition education had a higher risk of developing growth failure. Experiences in the 1980s in Indonesia and the Dominican Republic have also shown that appropriate health and nutrition education can result in improved nutrition under certain conditions (Gillespie & Mason, 1991).

Objectives of the study

General objectives:

- To know the cause and impact of malnutrition of slum children.

***Specific objectives*:**

- To find out the causes of malnutrition.
- To find out the impact of malnutrition on child health.
- To know the present health status and environmental condition.
- To know the information about maternal health condition during pregnancy and after delivery.
- To find out the knowledge and educational level of parents.
- To know what type of diseases the children often suffer.

Scope of the study

This study would try to sort out the problem of children in respect of, impact of malnutrition on children health living in urban slum of the study area. It would also reveal the constrains encountered by children at daily life. It would also like to point out the cause of malnutrition determine the child health at slum level. The study has been an attempt to identify the causes and impact of malnutrition on children's health.

Limitation of the study

The study has encountered some limitation that needs discussion. As the study based on both primary and secondary data therefore some phenomenon of the study may not be rationale at some scale. In the case of primary data collection, the respondents give wrong information because of their limited knowledge and lack of interest. The slum area house is very much congested and dirty which create problem to collect data.

In secondary data collection, government organization tried to give data that does not represent real situation.

Therefore, it is natural that some errors could be found. Moreover, human error of researcher also needs consideration.

Main limitations are pointed below:

- In some cases, the mothers could not give adequate and exact information about the nutritional status, health and problem, disease condition, treatment history of their children, and their information during pregnancy and delivery. Due to the women's lack of education, awareness, consciousness, experience. This was the important limitation of this study.
- Here present study considered the impact of malnutrition on children health that is different disease but which they have attacked during April to May 2009. But this two months of surveying is not sufficient enough to give exact, elaborate and proper information about the impact of malnutrition which is the main theme of this study.

- Health status is associated with a large number of social, environmental and physical factors. This analysis could not take into account all parameters in this study. This may be a weakness of this study.
- In some cases, children who die before birth or immediately after their mothers do not know the reason. In those cases, it was not possible to find out the exact reason of child death.

Despite all the above limitation, this study might be a model for future research on malnutrition and health aspect of Bangladesh.

II. Methodology

Methodology is a systematic as well as logical part of the study to guide to specific investigation. Methodology helps to organize the experience, objectives, analysis of the data and information, their logical interpretation in a systematic manner for the achievement of the study objectives smoothly. The following methodological activities have been undertaken to complete the research work.

Selection of the topic

Impact of malnutrition on children health condition of children group of slums has not got any light or anyone's attention. Although UNICEF is working on child health worldwide, health conditions of slum children need to pay more attention. The topic was selected to know the present health condition living in urban slum children, factors influencing the state of their health.

Study area

Study area is selected according to the objectives of the study. It is remarkable that the ultimately success of any research work fully depends on the selection of the study area. Since Khulna city is the third largest city of Bangladesh and it is rapidly being urbanized. 69% of Khulna City Corporation (KCC) population consists of low-income group. There are 172 slums in Khulna city. (Source: LGED, URBAN BASIC SERVICE DELIVERY PROJECT). Among them Fulbarigate Bashtala slum has selected for study. Fulbarigate Bashtala slum is one of the largest urban slums in KCC area and it is the oldest urban slum in the KCC in respect of its information.

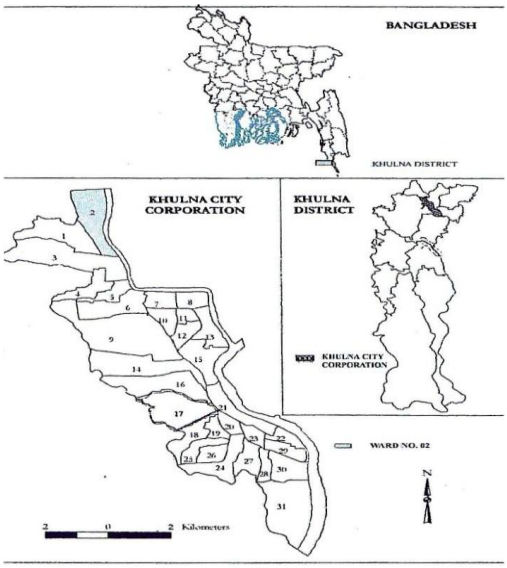


Figure: 21 Layout map of Fulbarigate Bashtala Slum, Ward No. 02 of KCC

Sample techniques and Study design

The study sample size is 200 and this was selected by purposive sampling. The slum is situated in word no 2 of KCC area. The slum is famously known as Fulbarigate Bashtala slum or Fulbarigate Railway slum. This study is conducted by using survey research design.

Questionnaire preparation

Questionnaire prepared after conducting reconnaissance survey. It was both close and open ended for collection-desired information. Several parameters have fixed for the data collection according to the objectives of the study.

Some parameters using questionnaire preparation
*Age

*General information about family
*Socio-economic condition of the family
*Education
*Monthly income
*Food habits
*Housing condition
* Sanitation
*Water supply
*Personal and environmental hygiene
*Health condition
*Frequent diseases

At first draft questionnaire was prepared and pre tested. After necessary correction, final questionnaire was prepared.

Data collection

Data is the basic and primary element of any study. In this study, data have been collected from the primary and secondary sources. Primary data and information have been collected by personal interview method and field survey. A set of written questionnaire has been used to collect information. For any rigorous research, it needs to collect secondary information. Present study also incorporated some secondary data and relevant information were collected from national and international journals, books, thesis and earlier research papers.

Table 2.1: Secondary data sources

Required data	Sources
Population data	BBS, Word commission office
Child diseases	Medical books
Service delivery	KCC, LGED
Child health related data	Journals, UNICEF
EPI coverage and nutrition	KCC, HFHP, UPHCS, WORLD VISION

Data processing and interpretation

The relevant raw material has been processed by coding & decoding and analyzed through manually and computer.

Report preparation

Finally, a draft report was prepared & given to the authority for proper comments & suggestions. According to the suggestions draft report was revised and finalized and submit to the authority.

III. Study Findings

Impact and causes of malnutrition on children health of children living in urban slum of Fulbarigate Bashtala slum area is the main concern of this study. This study work has attempted to observe and find out the social as well as economic condition, environmental condition, food habits, and describe pattern of disease of health condition of slum children.

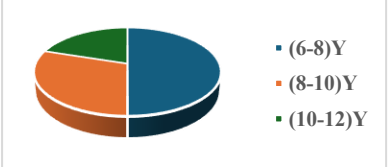
General family information

Normally the family information of the slum area is not good. Because the slum dwellers do not maintain any plan, and the member of the family are not educated and they are not aware about their family. For this reason, they face many problems in every step of life. This point contains the children age range, number of family member and total child number.

Table 3.1: General Family Information (Data has been presented with Chart and Graph)

Age range of the children

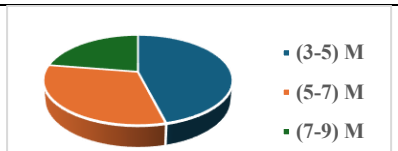
Age range(years)	Number of respondents	Total sample	Percent
6-8	100	200	50
8-10	60		30
10-12	40		20



Total family member

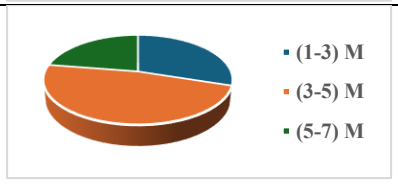
Family member	Number of respondents	Total sample	Percent
3-5	92	200	46

5-7	63		31.5
7-9	45		22.5



Total child number of family

Child member	Number of respondents	Total sample	Percent
1-3	60	200	30
3-5	95		47.5
5-7	45		22.5



Source: (Field survey '2009)

Table 3.1 shows the general family information. In the context of the age range of the children, total family member and the total child numbers of family's data have been presented the table respectively. It reveals that about 50% children's is 6-8 years, 30% children's age is 8-10 years, and rest of 20% is 10-12 years old. For the case of family member, 46% families have 3-5 members, 5-7 members have in 31.5 % families and 22.5 % families' member are 7-9 people. Large family is the important cause of malnutrition. And for the case of total child numbers of family, about 47.5% family has 3-5 number of child and about 22.5% family has 5-7 number of child- This the major cause of children malnutrition. Because the poor parents are not able to fulfill their large number of child demands.

Socio-economic condition of urban slum

Socio-economic condition of urban slum of our country always remains in sub-standard level. The poor economic condition is responsible for malnutrition and poor health condition. The associated terms in this topic are monthly income, occupation and education.

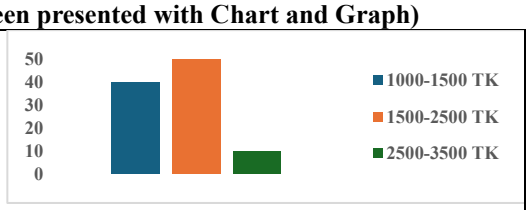
Monthly income

Income is one of the major determinants of any kind of social issue. It indirectly influences health condition of the family.

Table 3.2.1: Monthly income of family (Data has been presented with Chart and Graph)

Monthly income

Taka per month	Number of respondents	Total sample	Percent
1000-1500	80	200	40
1500-2500	100		50
2500-3500	20		10



Source: (Field survey '2009)

Table 3.2.1 shows the monthly income of family, it reveals that about 50% family's monthly income is 1500-2500 taka., 40% family's monthly income is 1000-1500 taka. And rest 10% family's monthly income is 2500-3500 taka. This income is not sufficient for any family for each month in this high price of market.

Occupation

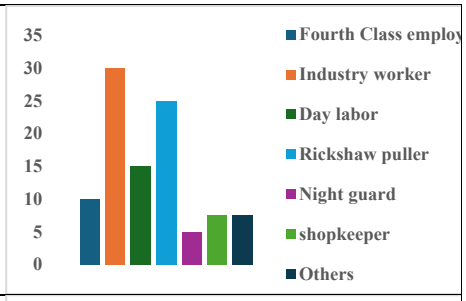
Most of the male occupations in this slum area are fourth class employee, industry worker, day labor, rickshaw puller, night guard, shopkeeper etc. and female are housewife, industry worker, work at hotel etc. Their occupation quality is very poor and hard.

Table 3.2.2: Occupation (Data has been presented with Chart and Graph)

Household head's occupation

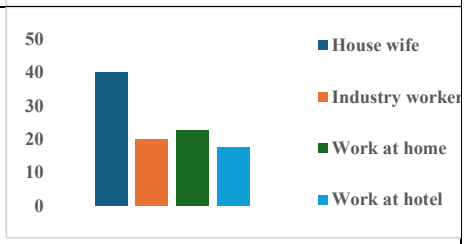
Occupation	Number of respondents	Total sample	Percent
Fourth Class employee	20	200	10
Industry worker	60		30
Day labor	30		15

Rickshaw puller	50		25
Night guard	10		5
shopkeeper	15		7.5
Others	15		7.5



Female occupation

Occupation	Number of respondents	Total sample	Percent
House wife	80		40
Industry worker	40		20
Work at home	45		22.5
Work at hotel	35	200	17.5



Source: (Field survey '2009)

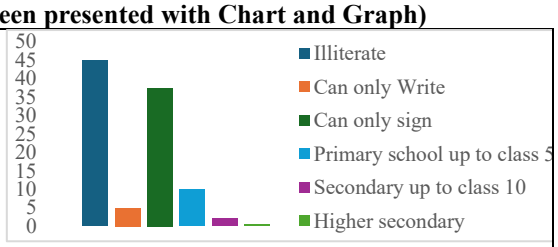
Table 3.2.2 shows that the occupation of the household head or female. This indicated that 30% of the household heads are engaged in industry worker, 25% rickshaw puller, 15% day labor, 10% forth class employee, 5% night guard, 7.5% shopkeeper and 7.5% is engaged in other informal job, and about 40% respondents of the study area are housewife, 22.5% work as temporary maid servant at different home and remaining 20% respondent are industry worker in the respect of household head and female respectively.

Education

Educational conditional of the area is not satisfactory, as most people are found illiterate. Educational issue is neglected for the slum dwellers. They have much problem in getting educational facilities. Maximum parents of slum dwellers are not interested to send their children to school without any direct benefit like sources of food or Money. As a result, the number of school going children is in warning situation in the slum of this study area.

Table 3.2.3: Respondent education (Data has been presented with Chart and Graph)

Level of education	Number of respondents	Total sample	Percent
Illiterate	90		45
Can only Write	10		05
Can only sign	75	200	37.5
Primary school up to class 5	20		10
Secondary up to class 10	4		2
Higher secondary	1		0.5



Source: (Field survey '2009)

Table 3.2.3 shows the educational condition of the study area. This obtains that about 45% mother of the study area are illiterate, 37.5% can only sign, 10% completed primary education, 2% completed high school, 05% can only write and rest 0.5% have studied in college.

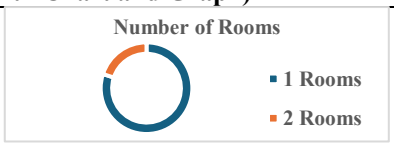
Housing condition

Housing condition is one of the most important factors for sound health. Well housing condition indirectly tries to decrease infectious disease. This topic contains the number of rooms, ventilation system, dampness and materials of house construction for assessment of housing condition.

Table 3.3: House Condition (Data has been presented with Chart and Graph)

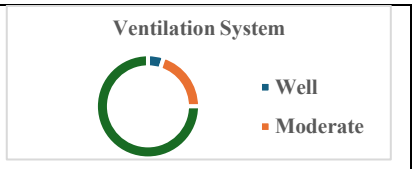
Number of rooms

Number	Number of respondents	Total sample	Percent
1	160	200	80
2	40		20



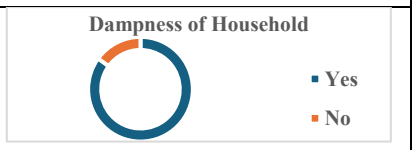
Ventilation system

System	Number of respondents	Total sample	Percent
Well	10	200	05
Moderate	40		20
Poor	150		75



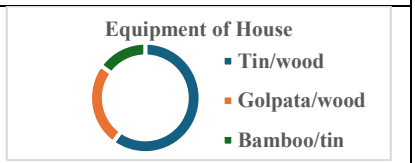
Dampness of households in the study area

Dampness	Number of respondents	Total sample	Percent
Yes	170	200	85
No	30		15



Equipment of house

Equipment	Number of respondents	Total sample	Percent
Tin/wood	120	200	60
Golpata/wood	50		25
Bamboo/tin	30		15



Source: (Field survey '2009)

Table 3.3 shows the house condition of the study area. It observes 80% family's room number is one and 20% have two rooms. This is one of the most important causes of poor health of slum area children: Because, they live in very congested condition in their room. Ventilation system lustrates that 75% households are completely dark in a broad daylight, 20% households are moderate condition and 05% households have the well light entrance. About 85% households are damped and rest are not damped. The data of equipment of house demonstrates 60% household's roof and wall is made of tin and wood respectively; 25% households are made of golpata and wood and rest 15% are made of bamboo and tin.

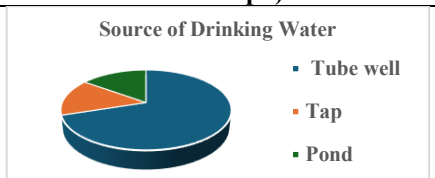
Services facilities

It is known to al that the slum dwellers are always deprived from all facilities. As being poor, the dwellers of slum are usually unable to get adequate services and facilities in term of sources of water, sanitation and electricity.

Table 3.4: Service Facilities (Data has been presented with Chart and Graph)

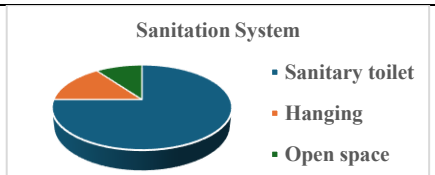
Sources of drinking water

Sources	Number of respondents	Total sample	Percent
Tube well	140	200	70
Tap	30		15
Pond	30		15



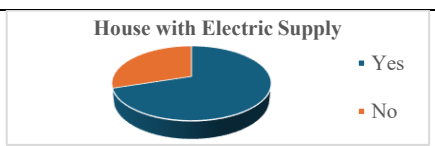
Sanitation system

Types of toilets	Number of respondents	Total sample	Percent
Sanitary toilet	150	200	75
Hanging	30		15
Open space	20		10



House with electric supply

House with electric supply	Number of respondents	Total sample	Percent
Yes	140	200	70
No	60		30



Source: (Field survey '2009)

Table 3.4 shows the service facilities of study area. It reveals that, 70% family's sources of drinking water are tube well, 15% collect their drinking water from tap and this service is away from their home and rest 10% collect their drinking water from pond. In case of sanitization, it illustrates that 75% household members use multiple sanitary toilets, 15% use hanging latrine and 10% use open space for defecation. As a result, infectious disease flourishes in the whole slum directly affected by sanitation problem. It also reveals that 70% households have electric supply and 30% dwellers do not enjoy electric supply.

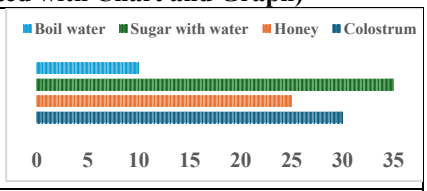
Food intake and habits

Food is the most vital component of every person. Adequate food (balance diet) intake is the main indicator of sound health and good nutritional status. If this adequate amount of food is not intake regularly then many problems arise among them malnutrition is most remarkable. In slum area, people do not able to maintain balance diet regularly because of their limited income and lack of knowledge. For this reason, the children of slum area are mostly suffering from malnutrition. This point contains about the past and present information of observed children that is, first food after delivery, exclusive breast-feeding during these children at birth to two years, supplementary food, special food, maternal knowledge about balance diet, intake of citrous fruits, yellow fruits, yellow and green vegetables, iodized salt.

Table 3.5: Food Intake and Habits (Data has been presented with Chart and Graph)

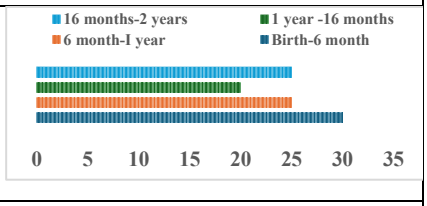
First food after delivery

First food	Number of respondents	Total sample	Percent
Colostrum	60	200	30
Honey	50		25
Sugar with water	70		35
Boil water	20		10



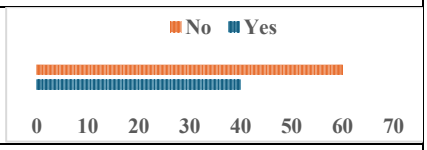
Exclusive breast-feeding

Duration	Number of respondents	Total sample	Percent
Birth-6 month	60	200	30
6 month-I ear	50		25
1 ear -16 months	40		20
16 months-2 years	50		25



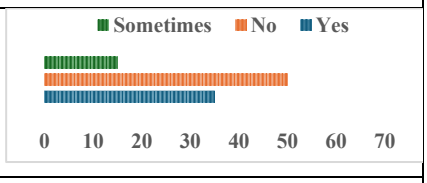
Supplementary food

Answer	Number of respondents	Total sample	Percent
Yes	80	200	40
No	120		60



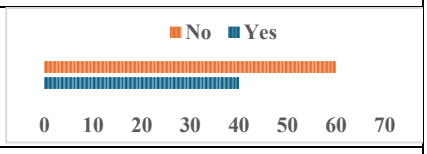
Special food for children

Answer	Number of respondents	Total sample	Percent
Yes	70	200	35
No	100		50
Sometimes	30		15



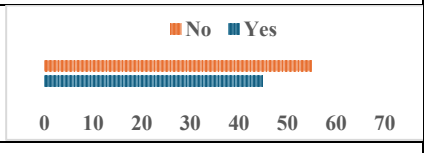
Maternal knowledge about balance diet

Answer	Number of respondents	Total sample	Percent
Yes	80	200	40
No	120		60



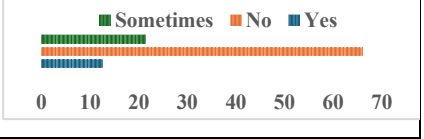
Intake citrous fruits

Answer	Number of respondents	Total sample	Percent
Yes	90	200	45
No	110		55



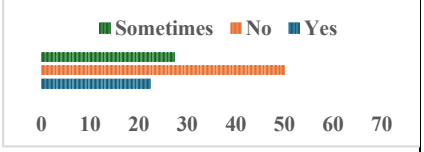
Intake yellow fruits

Answer	Number of respondents	Total sample	Percent
Yes	25	200	12.5
No	132		66
Sometimes	43		21.5



Intake yellow and green vegetables

Answer	Number of respondents	Total sample	Percent
Yes	45	200	22.5
No	100		50
Sometimes	55		27.5



Intake iodized salt			
Answer	Number of respondents	Total sample	Percent
Yes	30	200	15
No	120		60
Sometimes	50		25
Source: (Field survey '2009)			

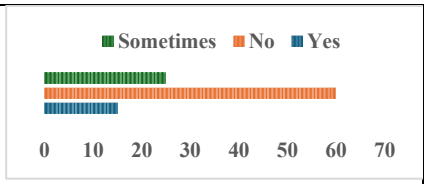
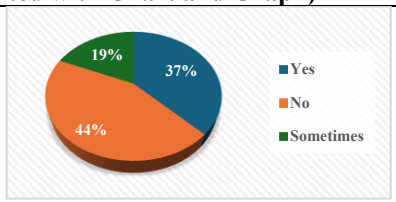


Table 3.5 shows the food intake and habits survey data. For the case of first food of delivery, exclusive breast feeding and supplementary food respectively: It observes that 70% children's first food was sugar with water, 60% colostrum, 25% honey, 10% boil water., 30% child get exclusive breast-feeding, 25% get 6months to 1 year, 20% get 1 year to 16 months, and 20% get 16 months to 2 years., and 60% Children do not get supplementary food after 6 months and 40% get supplementary food after 6 months. In the case of special food for children, maternal knowledge about balance diet and intake citrous fruits respectively: It obtains that, there is no arrangement of special food for children in 100% family, 35% family arranges special food for their children and 15% family try to manage sometimes special food for their children., 60% mother has no knowledge about balance diet and 40% mothers know about balance diet., and 55% children do not intake citrous fruits and 45% children intake citrous fruits regularly. This is one of the important causes of vitamin-C deficiency. In the case of intake yellow fruits, intake yellow and green vegetables and intake iodized salt respectively: It also indicated that about 66% children do not intake yellow fruits, 21.5% intake sometimes and rest of the 12.5% children intake yellow fruits regularly. Does not intake yellow fruits regularly are the major cause of vitamin-A deficiency of the study area's children., 50% children do not intake yellow and green vegetables regularly, 27.5% children intake yellow and green vegetables sometimes and 22.5 % children intake yellow and green vegetables regularly., and 60% children do not intake iodized salt regularly, 25% children intake iodized salt sometimes and 15% children intake iodized salt regularly in the study area. Lack of intake-iodized salt is the major cause of iodine deficiency.

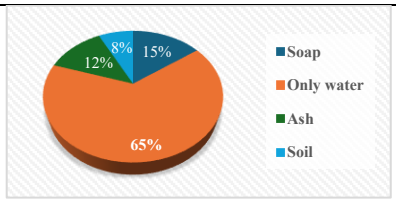
Personal hygienic condition

Table 3.6: Personal Hygienic Condition (Data has been presented with Chart and Graph)

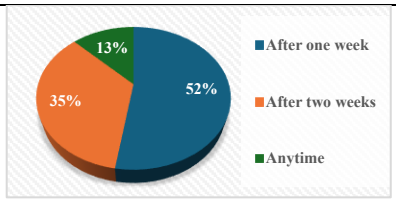
Use sandal at the time of toilet			
Answer	Number of respondents	Total sample	Percent
Yes	75	200	37.5
No	88		44
Sometimes	37		18.5



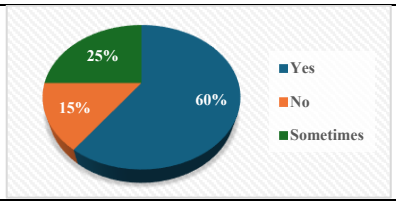
Wash their hands after toilet			
Materials	Number of respondents	Total sample	Percent
Soap	30	200	15
Only water	130		65
Ash	25		12.5
Soil	15		7.5



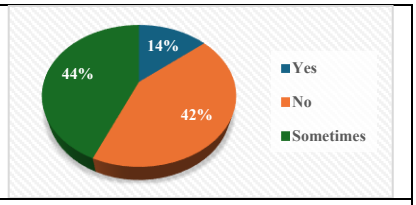
Cutting the children's nail			
Duration	Number of respondents	Total sample	Percent
After one week	105	200	52.5
After two weeks	70		35
Anytime	25		12.5



Wash their hands before eat			
Answer	Number of respondents	Total sample	Percent
Yes	120	200	60
No	30		15
Sometimes	50		25



Use soap at bath time			
Answer	Number of respondents	Total sample	Percent
Yes	28	200	14
No	85		42.5
Sometimes	87		43.5



Source: (Field survey '2009)

Actually, the slum dwellers do not maintain their personal hygienic, because of their limited knowledge and lack of awareness. For this reason, the people of slum area are suffered from many communicable diseases. The impact of communicable disease on children is very harmful for their health.

Table 3.6 shows the personal hygienic condition of the study area. In case of use sandal at the time of toilet, wash their hands after toilet and cutting the children's nail respectively. It demonstrates that 44% children of slum area do not use sandal at the time of toilet, 37.5% children use sandal at the time of toilet and 18.5% children sometimes use sandal at the time of toilet., 65% children of slum area wash their hands after toilet only water, 15% children use soap for wash their hands, 12.5% children use ash and 7.5% children use soil for wash their hands after toilet. Major number of children only wash water for wash their hands is the important cause of communicable disease of children in study area., and 52.5% children of slum area cutting their nails in one-week duration, 35% cutting their nail in two weeks duration and 12.5% children of the study area cutting their any suitable time. The table also illustrates that 60% children of slum area wash their hands before eat, 25% children sometimes wash their hand and 15% do not wash their hands before eat. Mention that, they do not use soap for wash their hands before eat and it is the important cause of different types of infectious disease., and 42.5% children of slum area sometimes use soap at birth time, 42.5% children do not use soap regularly at birth time and 14% children use soap at birth time. Does not use soap regularly is the important cause of skin disease of children wash their hand before eat and use soap at bath time respectively.

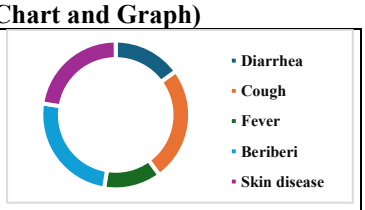
Disease condition

Disease condition of slum area children is a critical issue. Different disease causation among different age groups of children in the study area. In the study area, most of the children fall into disease-like diarrhea, cough, fever, beriberi, and skin disease. The responsible causes of the above common disease are due to malnutrition, unhygienic living condition, lack of education and awareness.

Table 3.7: Disease Condition (Data has been presented with Chart and Graph)

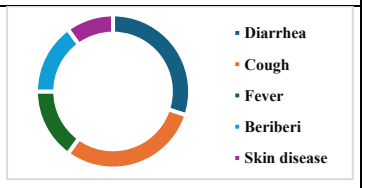
Disease suffered by children

Disease	Number of respondents	Total sample	Percent
Diarrhea	30	200	15
Cough	50		25
Fever	25		12.5
Beriberi	50		25
Skin disease	45		22.5



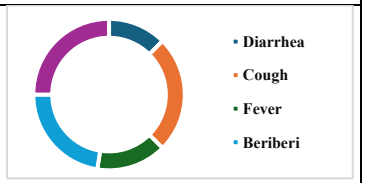
Frequent disease

Disease	Number of respondents	Total sample	Percent
Diarrhea	60	200	30
Cough	60		30
Fever	30		15
Beriberi	30		15
Skin disease	20		10



Disease suffered in last two months

Disease	Number of respondents	Total sample	Percent
Diarrhea	25	200	12.5
Cough	50		25
Fever	30		15
Beriberi	45		22.5
Skin disease	50		25



Source: (Field survey '2009)

Table 3.7 shows the disease condition of the study area. illustrates that 25% children of slum area suffered by cough, 25% suffered by beriberi, 22.5% children suffered by skin disease, 15% suffered by diarrhea and 12.5% children suffered by fever in the study area. It also illustrates that 30% children of slum area suffered by cough frequently, 30% suffered by cough, 15% children suffered by fever, 15% suffered by beriberi and 10% children suffered by fever frequently in the study area. Because their disease prevention capacity is so poor and their poor prevention capacity is responsible for malnutrition. In the context of disease suffered in last two months, the table indicates that 25% children of slum area suffered by cough in last two month, 25% suffered by skin disease, 22.5% children suffered by beriberi, 15% suffered by fever which is viral and 12.5% children suffered by diarrhea in last two month in the study area.

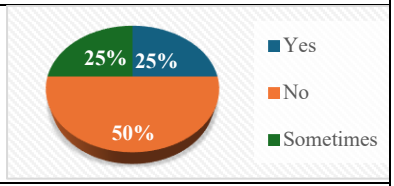
Maternal information during pregnancy and delivery

It is very much necessary to know the information of maternal health condition during pregnancy and delivery period. Because, child health condition is interrelated with maternal health during pregnancy and delivery period. Maternal malnutrition is one of the major causes of children malnutrition and poor health condition. This point contains that, the intake of nutritious food, intake iron pill, take rest, delivery months of respondent mother during pregnancy and delivery period.

Table 3.8: Maternal Information During Pregnancy and Delivery (Data presented with Chart and Graph)

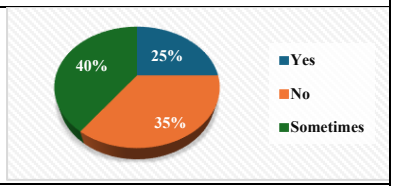
Intake nutritious food during pregnancy

Answer	Number of respondents	Total sample	Percent
Yes	50	200	25
No	100		50
Sometimes	50		25



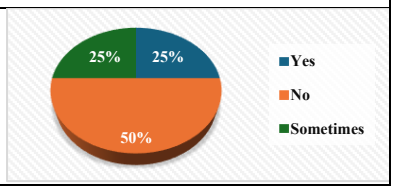
Intake iron pill during pregnancy

Answer	Number of respondents	Total sample	Percent
Yes	50	200	25
No	70		35
Sometimes	80		40



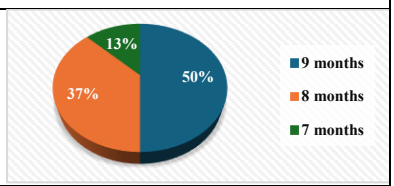
Take rest two hours in a day

Answer	Number of respondents	Total sample	Percent
Yes	50	200	25
No	100		50
Sometimes	50		25



Delivery months

Answer	Number of respondents	Total sample	Percent
9 months	100	200	50
8 months	75		37.5
7 months	25		12.5



Source: (Field survey '2009)

Table 3.8 shows maternal information during pregnancy and delivery. In the context of intake nutritious food during pregnancy, intake iron pill during pregnancy, take rest two hours in a day and delivery months respectively; the following results have been found: 50% mother of slum area do not intake nutritious food every day during pregnancy period, 25% intake nutritious food and 25% intake nutritious food during pregnancy. This is the important cause of maternal and children malnutrition., 40% mother of slum area sometimes intake iron pill during pregnancy, 35% mother do not intake iron pill and 25% mother intake iron pill during pregnancy. This is one of the major causes of iron deficiency of mother and children in the study area., 50% mother of slum area do not take rest two hours in a day, 25% pregnant mother sometimes take rest and 25% mother take rest two hours in a day in the study area., and 50% mother's delivery month was nine, 37.5% mother's delivery month was eight and 12.5% mother's delivery month was seven of slum area. Early delivery or pre-term delivery is an important cause of malnutrition of children.

IV. Recommendation And Conclusion

Recommendation

Based on the above finding the recommendation can be made which believed to have policy implications for the improving of malnutrition and health conditions of the urban slums children.

- Malnutrition problem creates mainly for inadequate nutrias food & lack of awareness of parents about food. Therefore, the people of society should arrange national nutrition programmed to create awareness especially for the poor people.
- Extra caloric diet and vitamins containing fruits and vegetables should be provided to the children.
- Vitamin and minerals should be provided at optimal levels. Increased intake of food will increase intake of micronutrients, but supplementation of vitamin sometimes is needed as kilocalorie intake is increased.
- Rich protein containing foods should be provided to the children. Rich protein food such as egg, meat, fish, liver, egg yolk etc.
- A huge publicity is required to build up awareness about balanced diet and the importance of nutrias food for children to the mother.
- Bangladesh government should take necessary step to fulfill children right to nutrition when it can be possible to remove malnutrition problem of children.
- It is required publicity by health worker to prevent malnutrition and death, such as how to give proper nutrition to the children by their mother and how it is possible spending a minimum cost.

Various service facilities like housing, water supply, electric supply, sanitation etc. should be developed and rehabilitation should be assured to the slum dwellers by the government.

Conclusion

Malnutrition and its impact on children health in Bangladesh is now a burning issue especially in case of the slum children. Because children of the slum area are deprived and disadvantages group in the context of the society of Bangladesh. The parents of children in slum area are very much poor and illiterate; they are not able to manage nutritious food as well as adequate food or balanced diet. The slum dwellers do get not pure and sufficient drinking water. Narrow and open environment, poor sanitation system presents the slum area and these are the main causes of children malnutrition and its impact on children is very harmful that is frequent disease-like diarrhea due to malabsorption, fever and cough, skin disease, beriberi, slow rate of growth etc. Although the study containing some limitations. Therefore, it would be a basement for studying malnutrition and its impact on children health of slum children irrespective of any geographical context.

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