



**Daffodil**  
*International*  
**University**

PROJECT WORK REPORT  
ON  
BARRIERS OF NUTRITION SERVICES FOR PREGNANT MOTHERS  
ATTENDING IN THE HOSPITALS OF DHAKA

SUBMITTED TO  
PROFESSOR DR. MD. BELLAL HOSSAIN  
LECTURER  
DEPARTMENT OF NUTRITION AND FOOD ENGINEERING  
DAFFODIL INTERNATIONAL UNIVERSITY

SUBMITTED BY  
SABIHA SULTANA  
ID: 151-34-388

DATE: 22-12-2018

## LETTER OF AUTHORIZATION

Date: 22-12-2018

Professor Dr. Md. Bellal Hossain

Head

Department of Nutrition and Food Engineering

Faculty of Allied Health and Science

Daffodil International University

Subject: Declaration regarding the validity of the project report

Dear Sir,

This is my truthful declaration that the “project report” is prepared by me. This is not a copy any thesis report previously made any other students.

I am also express my honest confirmation in support to the fact that, this thesis report has neither been used before to fulfil my other course related not it will be submitted to any other person a authority in future.

Sincerely yours,

Sabiha sultana

ID: 151-34-388

Department of Nutrition and Food Engineering

Faculty of allied health and science

Daffodil International University

## DECLARATION

This is to certify that this project entitled “Barriers of nutrition services for pregnant mothers attending in the hospitals of Dhaka” submitted to the Department of Nutrition and Food Engineering, Faculty of Allied Health and Science, Daffodil International University, has been carried out under my supervision. This is further to certify that this project work is carried out as partial requirement for fulfilments of B.Sc. in Nutrition and Food Engineering.



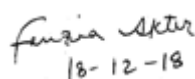
Supervisor

Professor Dr. Md. Bellal Hossain

Head

Department of nutrition & food engineering

Daffodil International University



Co-supervisor

Ms. Fouzia Akter

Lecturer

Department of nutrition & food engineering

Daffodil International University

## ACKNOWLEDGEMENT

At first, I would like to express my gratitude to my creator the almighty Allah for giving me the strength and opportunity to complete the report in time successfully. I am grateful to each and every people who are involved with me in every phase of my life.

My Deep gratitude and sincere thanks to the honourable Dean, Faculty of Allied Health Science, Professor Dr. Ahmed Ismail Mostafa for his kind cooperation and to accept this degree.

I am deeply indebted to my teacher Prof. Dr. Md. Bellal Hossain, Head of Department of Nutrition & Food Engineering, Daffodil International University for his whole hearted supervision during my organization attachment period.

I would also like to express my great respect and warmest thanks to my project co-supervisor Fouzia Akter, lecturer of Department of Nutrition and Food Engineering, DIU for her whole hearted help and supervision during my project work and organizational attachment period.

I also grateful to all the other NFE Faculty member for their great help during university life.

Finally I also thankful to Dr. Taherul Islam Khan, program manager, NNS. for his permission to carry out this thesis project in his organization.

## TABLE OF CONTENTS

SI. No.	Subjects	Page
01	Chapter -01	
	Abstract	1-2
	Background	3
	Measurement facility for mothers	4
	Objective of the study	4
02	Chapter -02	
	Introduction	5
	National nutrition services	5-6
	Barriers of pregnant mothers	6
03	Methodology	
	Study location	7
	Study period	7
	Data analysis	7
04	Chapter-04	8-12
	Questionnaire	
05	Chapter -05	
	Result and discussion	13-25
06	Conclusion	25

## Chapter- 01

### ABSTRACT

“Barriers of nutrition services for pregnant mother” remains one of the major public health problems in many parts of the world, especially in a developing country like Bangladesh. Several socioeconomic and demographic factors are responsible for this condition.

Nutrition is one of the basic human right, with both equity and equality related to eliminating malnutrition and ensuring human development. Though Bangladesh has achieved a significant reduction in under nutrition over the past two decades, still the prevalence of malnutrition in pregnant mother in Bangladesh is one of the highest among the developing countries. National nutrition services (NNS) has been leading the nutrition services through the platforms of public health curative facilities by mainstreaming implementations of nutrition interventions into health (DGHS) and family planning (DGFP).

In order to reach the objectives of the study, a cross-sectional method approach was applied, where qualitative data were collected. Quantitative data were collected by face-to-face interview using pre-tested, semi-structured questionnaire. The other methods of data collection in-depth interviews (IDIs), where conducted among the pregnant women to assess their nutrition services seeking pattern, received nutrition services, and their needs related to nutrition services.

In pregnant women government health facilities played a major role (76.9%) in providing nutrition services to the pregnant women. This was confirmed by the pregnant women, who preferred visiting govt. health facilities situated near to their houses. They also received nutrition services at household level more by the Non-government organization (NGO) health services provides than the govt. healthcare providers (25.5% vs. 22.8%).

Across the study areas, mostly counselled topic among the pregnant women was IFA intake, consumption of extra meal and nutrition food, whereas exclusive breastfeeding and colostrum were less counselled. Pregnant women of slum areas were least counselled on all the nutritional issues.

Highest proportion of pregnant women in attending govt. hospitals received IFA and calcium, respectively. The respondents received most their nutrient supplement /medicines from the

govt. health facilities compared to other facilities, which includes IFA, calcium, vitamin A, zinc, ORS, and Albendazole.

The purpose of the study is to find the existing nutrition services in Bangladesh and causes why pregnant mother are not able to receive this facilities. If receive then how much. For increasing the awareness of nutrition and the availability of its services, nutrition campaigns, courtyard meetings. There should be provisions for qualified and component healthcare providers, who receive frequent trainings to improve their quality of services delivery. Recruitment and allotment of female healthcare providers in various levels of health care delivery system will increase the service seeking and receiving pattern of the recipients.

## BACKGROUND

Malnutrition in pregnancy and childhood has various negative influence of their long term well-being. A healthy and well-nourished mother is a prerequisite for proper growth of unborn child. During pregnancy a mother needs to fulfil appropriate nutritional requirements for the physical and mental well-being of the child. Increased amount of energy, protein, essential fatty acids, vitamin A, vitamin B complex calcium, phosphorus, iron, zinc, copper, and iodine are required by the pregnant women.

- Access of pregnant women to health services centres: most of the pregnant women had access to govt. health facilities like- UHC, USC, CC and family welfare (FWC). Beside the govt. health facilities, they also received nutrition services from various non govt. organization and private clinics depending on their choice. Nutrition services for pregnant women include anthropometric measurement, nutrition supplement, and counselling regarding nutrition. Pregnant women also received nutrition services from domiciliary healthcare providers from both govt. and NGO sectors.
- IDIs from the pregnant women revealed that, they preferred visiting health centres located near proximity to their houses, whether it is CC, USC, or UHC. In general CCs were popular choice for pregnant women for receiving nutrition services.
- On the contrary, we also found that many pregnant women rely more on distant district hospitals or sadar hospitals for their check-ups and treatment, rather than visiting thaw UHC or CC in their localities. This was because they thought, that the quality of the health and nutrition services provide by the UHCs, CCs were not good enough.
- Regarding the NGO nutrition services, the present study found that BRAC was predominantly working with the pregnant women in most of the study areas.



## MEASUREMENT FACILITIES FOR PREGNANT WOMEN:

Anthropometric measurement of the pregnant women include measuring their height and weight which is done to assess their nutritional status during their gestational period except for maternal height which represent malnutrition in the past. Some pregnant women confirmed the availability of the weighing scales and sphygmomanometers in the USCs, though the instrument were not used during their checks-ups.

According to the World Bank study of Bangladesh national nutrition services conducted in 2014, it was found that 50% health facilities had functioning weighing scales and 36% health centres had functioning height scales.

## OBJECTIVE OF THE STUDY

General objective: To explore the nutrition services situation and nutrition service needs in pregnant women in Bangladesh.

Specific objectives:

- To identify the existing nutrition services for pregnant mother.
- To identify the demands or needs of nutrition services for pregnant women.
- To explore the challenges and barriers to provide nutrition services for pregnant women.
- To identify the demands or needs of nutrition services for the nutrition service provider.
- To identify the availability and utilization of nutrition specific measurement equipment in both government and non-government health care facilities in Dhaka hospitals.

## Chapter-02

### INTRODUCTION

Public health is a holistic approach that put efforts to promote population health status through sustainable improvements in the food and nutrition system. The aim of public health nutrition is to improve the nutritional status of an entire population, with specific focus group. It tries to improve nutrition service coverage by unifying existing resources in a country and its appropriate utilization.

Though maternal mortality and suffering are reducing in past two decades, the adolescent pregnancy issue is still prevalent in Bangladesh. In Bangladesh 18 years is a legal age of marriage for girls, but 66% girls get married before it. According to DHS data (2014) about 20% adolescent mother do not receive any antenatal care and the rate of delivery which take places at home without assistance of skilled person are 58%.

The world health organization recommendation is a pregnant mother should take antenatal care at least four times for identify the danger sign or complications during pregnancy, screening of infections, comprising of tetanus toxic vaccination.

### NATIONAL NUTRITIONAL SERVICES

The government of Bangladesh introduced Health, Population and Nutrition sector Development Program (HPNSDP), where malnutrition was addressed directly through mainstreaming implementation of nutrition services into health (DGHS) and family planning (DGFP). As per the NNS operational plan 2011, the ministry of health and family welfare is providing services on some key issues like maternal nutrition, micronutrient or medicine supplement.

- Growth monitoring and promotion
- Maternal nutrition and infant and young child feeding services
- Iron-folic acid supplementation of pregnant and lactating women and adolocent girls
- Prevention and control of anIMEA in pregnant mother
- Other micronutrient supplementation of public health importance (zinc, calcium etc)
- Management of severe and moderate acute malnutrition
- Nutrition during emergencies

- Promotion of use of iodized salt
- Monitoring and evaluation and nutrition surveillance

## BARRIERS OF PREGNANT MOTHERS

Poor women of Bangladesh in rural or urban areas have face more maternal mortality and receive low proportion of antenatal care and of births assisted by the skilled health personnel. WHO has given priority to the concerning issue of adolescent pregnancy. A major risk is associated with her own body and mental health. Nutrition is central fact for fetal growth and directly related to the maternal anthropometric and placental volume. Adolescent mothers are three times higher risk for having anaemia. The main barriers social (early marriage, perception of pregnancy and childbirth, high financial cost), physical (distance and waiting time), low quality services, lack of nutrition knowledge.

Among all the barriers financial cost is highly effected, poor patient were forced to pay medicine, laboratory investigation where government and different NGOs have provide free primary healthcare services.

Every year, approximately 16 million females aged 15–19 years and about one million females younger than 15 years old give birth worldwide (WHO 2014). Although most of these births occur in low- and middle-income countries, adolescent pregnancy remains a critical public health concern in developed countries (UNICEF 2013). From a public health perspective, adolescent pregnancy has a high-risk profile as the impact of multiple factors, including medical complications, lower educational level and long-term socio-economic consequences that confer increased risk of lifespan vulnerabilities to both mother and child.

The aim of this study is to focus the physical and mental effect of adolescent mother. The current review aim to associate with the nutrition services and adolescent mother. This review on medical aspect on pregnancies and birth, especially adolescent females.

Documents and report from world health organization (WHO), national nutrition services (NNS) from Bangladesh give more importance while writing this review.

## Chapter-03

### RESEARCH METHODOLOGY:

In order to reach the objectives of this study, a modernist-method was designed where both quantitative and qualitative data were collected. In qualitative data, take focus group discussion and in-depth interview. In quantitative, take data collection and then analysis.

### STUDY LOCATION AND STUDY PERIOD:

For this study the Maternal and child health training institute, Azimpur was chosen. Data were collected from December 3 to 12, 2018. Through interviews with mothers who came the hospital for her antenatal check-up.

### TARGET RESPONDENT:

This survey was carried out among 75 pregnant mother who are attending in Dhaka maternal hospital with permission of local authority of that hospitals. Among 75 mothers take 50 pregnant mothers who are adolescent. In this case, adolescent mother who are given either first birth or were first pregnant before 19. It was cross sectional survey.

### DATA COLLECTION:

This data collection of this study was a primary research (field research). Data were collected from face-to-face interview using pre-tested, semi-structured questionnaires.

IDIs (in-depth interviews) were conducted among the pregnant women to assess their nutrition services seeking pattern, received nutrition services and their needs related to nutrition services.

### DATA ANALYSIS:

The quantitative data were analysed by using IBM SPSS version 21.0. For analysis data were cleaned and coded, then display the data. This collected data were evaluated, categorized, grouped and interpreted aiming at the objective of the study.

## Chapter-04

### Questionnaire for the study on barriers of nutrition services for pregnant women in attending Dhaka hospital

Date :

Name:

1	How old are you?	<ol style="list-style-type: none"><li>1. 15-20</li><li>2. 20-25</li><li>3. 25-30</li><li>4. 30-35</li></ol>
2	What is your religion?	<ol style="list-style-type: none"><li>1. Islam</li><li>2. Hindu</li><li>3. Chirstan</li><li>4. Others</li></ol>
3	Nutritional status (weight)	<ol style="list-style-type: none"><li>1. underweight 18.5</li><li>2. normal 18.5-24.9</li><li>3. overweight 25-29.9</li><li>4. obese more than 30</li></ol>
4	What is your primary education?	<ol style="list-style-type: none"><li>1. 8passed</li><li>2. S.S.C</li><li>3. H.S.C</li><li>4. Illiterate</li></ol>
5	What is your husband's occupation?	<ol style="list-style-type: none"><li>1. Day labour</li><li>2. Service holder</li><li>3. Businessmen</li><li>4. Others</li></ol>
6	Do you have any child?	<ol style="list-style-type: none"><li>1. Yes</li><li>2. No</li></ol>
7	How many?	

8	How many member in your family?	<ol style="list-style-type: none"> <li>1. 5</li> <li>2. 6</li> <li>3. 8</li> <li>4. 10</li> </ol>
9	How many weeks of your pregnancy?	<ol style="list-style-type: none"> <li>1. 12-18</li> <li>2. 19-28</li> <li>3. 29-34</li> <li>4. 35-40</li> </ol>
10	Do you have any antenatal checkup during pregnancy?	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> </ol>
11	How many times?	<ol style="list-style-type: none"> <li>1. 2 times</li> <li>2. 3 times</li> <li>3. 4 times</li> <li>4. 5 times</li> </ol>
12	During your antenatal checkup, what complications did you face?	<ol style="list-style-type: none"> <li>1. No complication</li> <li>2. Headache</li> <li>3. Blurring of vision</li> <li>4. High blood pressure</li> <li>5. Anaemia</li> <li>6. Others</li> </ol>
13	From whom did you seek treatment for having the above complications?	<ol style="list-style-type: none"> <li>1. Medical doctors</li> <li>2. Nurse</li> <li>3. Homeopathic</li> <li>4. Others</li> </ol>
14	Have you got any treatment facility from government hospital?	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> </ol>
15	If yes, what kind of treatment facilities you got in your pregnancy period?	<ol style="list-style-type: none"> <li>1. Money</li> <li>2. Free medicine</li> <li>3. Free treatment</li> <li>4. Other</li> </ol>

16	Did you face any transport problem during pregnancy period?	1. Yes 2. No
17	If yes, what kind of transport problem you have face in your pregnancy period?	1. Bus were not available 2. Rickshaw were not available 3. Ambulance were not available 4. Other
18	Did you face any economic problem during pregnant period?	1. Yes 2. No
19	If yes, what kind of economic problem you have face in your pregnancy period?	1. Money 2. Well hospital 3. Nutritious food 4. other

#### Food frequency questionnaire (dietary intake)

Cereal	Rice	Yes-----1	No-----2
	Puffed rice	Yes-----1	No-----2
	Flour	Yes-----1	No-----2
	Chira	Yes-----1	No-----2
	Others	Yes-----1	No-----2
Roots & Tubers	Potatoes	Yes-----1	No-----2
	Kachu	Yes-----1	No-----2
	Kachur mukhi	Yes-----1	No-----2
	Radish	Yes-----1	No-----2
	Others	Yes-----1	No-----2
Pulses	Lentil	Yes-----1	No-----2

	Chola	Yes-----1	No-----2
	Mug	Yes-----1	No-----2
	Others	Yes-----1	No-----2

vegetables	Lal sak	Yes-----1	No-----2
	Pui sak	Yes-----1	No-----2
	Palong sak	Yes-----1	No-----2
	Kalmi sak	Yes-----1	No-----2
	Kochu sak	Yes-----1	No-----2
	Bean	Yes-----1	No-----2
	pumpkin	Yes-----1	No-----2
	Carrots	Yes-----1	No-----2
	cauliflower	Yes-----1	No-----2
	Cabbage	Yes-----1	No-----2
	Potol	Yes-----1	No-----2
	Borboti	Yes-----1	No-----2
	Ladies finger	Yes-----1	No-----2
	Carrot	Yes-----1	No-----2
	Tomato	Yes-----1	No-----2
	cucumber	Yes-----1	No-----2
Others	Yes-----1	No-----2	
Fish	Rui	Yes-----1	No-----2
	Katla	Yes-----1	No-----2



	Shurputi	Yes-----1	No-----2
	Tengra	Yes-----1	No-----2
	Kachki	Yes-----1	No-----2
	Nola	Yes-----1	No-----2
	Others	Yes-----1	No-----2
Fat	Soybean oil	Yes-----1	No-----2
	Mustard oil	Yes-----1	No-----2
	Plam oil	Yes-----1	No-----2
	Others	Yes-----1	No-----2
Meat & egg	Beef	Yes-----1	No-----2
	Chicken	Yes-----1	No-----2
	Mutton	Yes-----1	No-----2
	Egg	Yes-----1	No-----2
	Others	Yes-----1	No-----2
Fruit & milk produc t	Cow milk	Yes-----1	No-----2
	Curd	Yes-----1	No-----2
	Mango	Yes-----1	No-----2
	Guava	Yes-----1	No-----2
	Orange	Yes-----1	No-----2
	Banana	Yes-----1	No-----2
	Apple	Yes-----1	No-----2

## RESULT AND DISCUSSION

Table 1: Below, above or normal BMI range of pregnant women who were attending in the ANC at MCHTL.

Variable	Category	Frequency	Percent
BMI	18.5 underweight	11	22%
	18.5-24.9 normal	37	74%
	25-29.9 overweight	2	4%
	More than 30 (obese)	0	0

This table shows us, the variety of weight among 50 pregnant mother. Among them 22% are underweight, 74% are normal and rest 4% are overweight. Though the maximum pregnant women are in normal weight range but the range of underweight is not negligible. Early marriage, unconsciousness and malnutrition are main causes behind this.

Table 2: Demographic profile of respondent

Variable	Category	Frequency	Percent
Level of education (patient)	8 passed	12	24%
	S. S C	21	42%
	H.S.C	15	30%
	Illiterate	2	4%

It is clear from this table that the number of illiterate people is vary less. Now a days people are conscious their education at least complete their primary level education. Much educated women suffer less from any barriers in their pregnancy period than a less educated women.

Table 3: Demographic profile

Variable	Category	Frequency	Percent
Husbands education	8 passed	12	22.6%
	S.S.C.	18	36%
	H.S.C	13	26%
	Graduated	7	14%

Husband's education implies a great role in an women's pregnancy. Less educated husband are not aware of family planning that's why their wives are bound to conceive unexpected number of children thus their health become vulnerable and they become malnourished.

Table 4: Scio-economic characteristics

Variable	Category	Frequency	Percent
Husband occupation	Day labour	12	24%
	Service holder	19	38%
	Businessmen	13	26%
	Others	6	12%

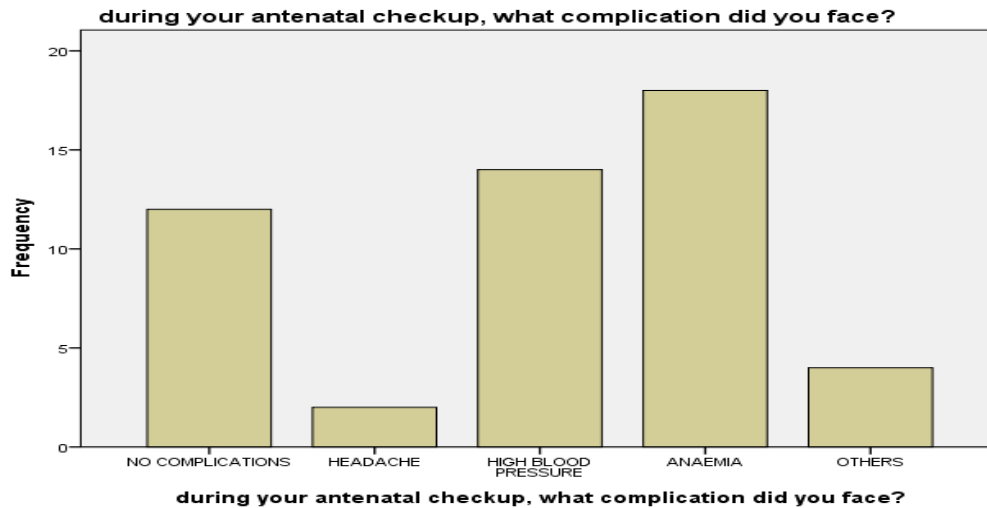
Variable	category	frequency	Percent
----------	----------	-----------	---------

Husbands occupation	Day labour	12	24%
	Service holder	19	38%
	Businessman	13	26%
	Others	6	12%

The health of a pregnant women also depends on her husband's income and occupation. In our country there is a trend that families with more income are much likely to keep more children. In some occupation, especially business based families grow more children so that they can handle the family business. These issues impacts a lot in women of those families.

Table 5: Frequency on antenatal check-up

Variable	Category	Frequency	Percent
Complication they faces during antenatal check-up	No complications	12	24%
	Headache	2	4%
	High blood pressure	10	20%
	Anaemia	22	44%
	Others	4	8%



This bar chart shows us, 24% w0men have no complication because their very first in their antenatal check-up. Very few faces headache problems. Experts don't say this is problem because pregnant women naturally faces some issues. High blood pressure have some effects on pregnant women. Though some participant are not clearly say about what their doctor actually find, serious high blood pressure or naturally feel sometimes. The most common and alarming problem is anaemia. This is happen because of they think eating much is enough for her and neonates and they starts imbalanced diet and unhealthy life style. They should follow a proper, healthy and balanced diet.

Table 6: frequency on seeking treatment

Variable	Category	Frequency	Percent
Seek treatment for having complications	Medical doctors	34	68%
	Nurse	8	16%
	Homeopathic	6	12%
	None	2	4%

From this, treatment during pregnancy is one of the most important thing to protect both the baby and the pregnant women. Proper treatment and diagnosis help them to protect their health and lifes during the stage of pregnancy, it helps them away from being malnourished.

Now a day's people are going for check-up from qualified doctors for their safety than before people do.

Table 7: Frequency on treatment facilities

Variable	Category	Frequency	Percent
Got treatment facilities from government hospital	Yes	31	62%
	No	19	38%

Variable	Category	Frequency	Percent
Facilities which provide government hospital	Free medicine	18	36%
	Free treatment	11	22%
	Other	2	4%
	None	19	38%

From above tables, 62% people get facilities and 38% are deprived. Government hospital offers many facilities like free medicine, free treatment and so on, which helps the pregnant women maintain their health who are not solvent.

Among 62%, 36% pregnant women received counselling on nutrition, extra meal, ifa and calcium intake. Other 22% received free treatment, rest 38% women are not aware of this service or may be the staff of that hospital are doing unethical work.

Table 8: Transport problem and transport types frequency

Variable	Category	Frequency	Percent
Facing transport problem during pregnancy period	Yes	30	60%
	No	20	40%

Variable	Category	Frequency	Percent
Types of transport problem	Bus were not available	12	24%
	Rickshaw were not available	10	20%
	Ambulance were not available	8	16%
	No	20	40%

Transport problem is one of the major barrier during pregnancy, it effects a lot for that women who lives rural or slum areas. In rural areas public transports are not friendly for pregnant mother. Sometimes its not possible to hire private transport for many families. On the other hand women who lives in slum areas, where roads are narrow, if any emergencies occur, the roads are not that much wide for entering an ambulance. Road under construction, unfriendly vehicle and long distant often create massive impact for the women and the neonate.

Table 9: frequency on economic problem

Variable	Category	Frequency	Percent
Facing any economic problem	Yes	28	56%
	No	22	44%

Variable	Category	Frequency	Percent
Types of economic problem	Money	6	12%
	Nutritious food	9	18%
	Well hospital	13	26%

	None	22	44%
--	------	----	-----

Economic condition and nutritious foods are interrelated fact for a pregnant women. people with poor economic condition cannot effort enough food or facility for pregnant women. In many cases, expecting women don't have enough idea about nutritious food which is low of cost. Sometimes people don't effort well hospital due to money.

Food frequency: food frequency is best available method for conducting studies. Easy to calculate the intake calorie and intake amount of food. In flowing table shows, pregnant women consume more carbohydrate than protein, fat or fruits. Though a pregnant women need equal all types of food, but they don't take any balanced diet because govt. hospital did not recommended any nutrition guideline.

Table 10: frequency of food based on cereal:

Variable	Category	Frequency	Percent
Rice	Yes	50	100%
	No	0	
Flour	Yes	19	38%
	No	31	62%
Puffed rice	Yes	24	48%
	No	26	52%
Chira	Yes	21	42%
	No	29	58%

Table 11: food frequency on roots and tubers

Variable	Category	Frequency	Percent
Potatoes	Yes	37	74%
	No	13	26%
Radish	Yes	7	14%
	No	43	86%
Kachu	Yes	34	68%
	No	16	32%



Kachur mukhi	Yes	18	36%
	No	32	64%

Table 12: food frequency on pulse

Variable	Category	Frequency	Percent
Lentil	Yes	34	68%
	No	16	32%
Chola	Yes	22	44%
	No	28	56%
Mug	Yes	26	52%
	No	24	48%

Table 13: food frequency on leafy vegetable

Variable	Category	Frequency	Percent
Lal sak	Yes	31	62%
	No	19	38%
Pui sak	Yes	28	56%
	No	22	44%
Palong sak	Yes	29	58%
	No	21	42%
Kochu sak	Yes	43	86%
	No	7	14%

Table 14; food frequency on vegetable

Variable	Category	Frequency	Percent
Bean	Yes	13	26%
Pumpkin	Yes	27	54%
Carrots	Yes	45	90%
Cauliflower	Yes	33	66%
Cabbage	Yes	38	76%
Potol	Yes	42	84%
Borboti	Yes	26	52%
Ladies finger	Yes	18	36%
Tomato	Yes	48	96%
Cucumber	Yes	43	86%

Table 15: frequency on fat

Variable	Category	Frequency	Percent
Soybean oil	Yes	50	100%
Mustard oil	Yes	43	86%

Palm oil	Yes	23	46%
----------	-----	----	-----

Table 16: frequency on fish, meat and egg

Variable	Category	Frequency	Percent
Fish	Rui	22	44%
	Katla	14	28%
	Shurputi	31	62%
	Tengra	46	92%
	Kachki	41	82%
	Nola	12	24%
Meat	Beef	13	26%
	Chicken	27	54%
	Mutton	6	12% 1
Egg		50	100%

Table 17: food frequency on fruit and milk product

Variable	Category	Frequency	Percent
Cow milk	Yes	27	54%
Curd	Yes	4	8%
Mango	Yes	0	
Guava	Yes	37	74%
Orange	Yes	17	34%
Banana	Yes	43	86%

**CORRELATION AMONG DIFFERENT VARIABLES:**

The following tables show that, some variables are positively associated with each other, some are not associated. P value are positive and significant in some cases, some are positive but not significant, some are negative.

**Table 18: correlation between BMI and participant education**

	Nutritional status (BMI)	Education	
Pearson correlation	1	.016	
Sig. (2-tailed)		.910	

**Table 19: correlation between nutritional status with socioeconomic condition**

	Nutritional status	Occupation	Husband's occupation	Husbands income	Family member
Pearson correlation	1	-.130	.673	.634	.157
Sig. (2-tailed)		.369	.000	.000	.278

Table 20: correlations between transport problems with antenatal check-up

	Transport problem	Antenatal check-up	Total check-up
Pearson correlation	1	.296	-.228
Sig. (2-tailed)		.037	.111

Table 21: correlations between complications with seeking treatment

	Complication during antenatal check-up	Seeking treatment from experts
Pearson correlation	1	-.667
Sig. (2-tailed)		.000

Table 22: correlations between economic problems with nutrition facility

	Economic problem during pregnancy	Nutrition facilities during pregnancy
Pearson correlation	1	.164
Sig. (2-tailed)		.257

Table 23: correlations between government treatment facilities with antenatal check-up

	Govt. treatment facilities	Antenatal check-up
Pearson correlation	1	-.117

Sig. (2-tailed)		.417
-----------------	--	------

Strength and limitations of the study:

- This study was attempted for the first time to understand the situation and needs for nutrition services in adolescent pregnant women. This study can be identified as a proper nutrition services for the people living in slum areas
- It provides balanced insight into both situation and need assessment of nutrition services for mothers
- Reliability and validation of the results have been ensured through proper data collection.

Limitation of the study:

- Due to the cross-sectional nature of the study, might have missed the seasonal variation of access to the health canters and services deliver.

CONCLUSION:

- As a substantial number of mothers researched have healthcare canters within their reach, distance to the healthcare centre from their homes appears not to have any vital influence on the utilisation of primary, particular maternal, healthcare services. However, distance, waiting time and transport problem, economic problem are barriers for rural and slum pregnant mother

## REFERENCE

1. <http://www.who.int/topics/nutrition/en/>, (june10,2018)
2. Introduction to public health nutrition , PHN, <http://epgp.inflibnet.ac>.
3. Nutrition background paper, 2015
4. Bangladesh demographic and health survey 2014.
5. Knowles & marks. Nutrition capacity assessment in Bangladesh. (UNICEF,2013)
6. Creswell et al. advanced mixed methods research designs. Handbook of methods in social and behavioural research'
7. Bangladesh national nutrition services assessment of implementation status.