ORIGINAL ARTICLE

Dietary habits of women in antenatal period: a base line study in a rural community

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Abstract:

Mothers in developing countries, especially pregnant and lactating ones, are considered to be nutritionally vulnerable as they are often subjected to different degrees of nutritional stress. In Bangladesh, the maternal diet is limited and malnutrition rates are high, most often due to underlying economic, cultural, political and environmental factors that determine complex human behaviours, including food consumption practices. This descriptive type of cross-sectional study was conducted at Savar upazilla of Dhaka district to assess the dietary habits of women in antenatal period in rural area of Bangladesh. A sample of 180 respondents was selected purposively and a semi structured questionnaire was used to collect data by face to face interviews. The studies revealed that, majority of the respondents 75 (41.6%) were within the age group of 15-24 years. The mean age of the respondents was 29 years. Their monthly family income was more than 10000 taka. Regarding duration of pregnancy, majority of the respondents 164 (91.11%) were full term pregnant and among them, 120 (66.66%) took their meal with family members. Majority of the respondents 95 (52.77%) used to eat 3 times daily during their antenatal period. Most of them 147 (81.66%) took rice followed by vegetables 114 (63.33%) daily. Most of them 105 (58.33%) discarded rice ban during cooking. Majority of the respondents 116 (64.44%) used to wash vegetables after cutting, More than half of them 110 (61.11%) took advice from health centre during antenatal period. Most of them were advised to take nutritious food and eat frequently. So counselling programs may be taken to counsel the women about dietary habits during antenatal period and government should be more concerned about this.

Keywords: dietary habits, antenatal period, pregnant women, rural area.

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INTRODUCTION:

Maternal nutrition and health is considered as the most important regulator of human foetal growth. A healthy mother can produce a healthy child. If women are not well nourished, they are more likely to give birth to low birth weight babies resulting in high infant mortality rate. Antenatal period is the period of dynamic change for a mother requiring a lot of care during this

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period the foetus is nourished directly by the mother through placenta. In this period a mother needs 300 kcal more energy to meet the requirement of growing foetus and of maternal tissues associated with pregnancy therefore proper dietary balance is necessary to ensure sufficient energy intake for adequate growth of foetus without drawing on mother's own tissues to maintain her pregnancy[1].

Mothers in developing countries, especially pregnant and lactating ones, are considered to be nutritionally vulnerable as they are often subjected to different degrees of nutritional stress. At the individual level, nutrition requirements change throughout the lifespan, from childhood and adolescence to pregnancy and breast-feeding and into old age.[2] Very unfortunately maternal anaemia causes 12-28% loses of foetus, 30% prenatal and 7-10% neonatal death. The remaining births have about 50 percent chance resulting in a low birth weight (LBW) baby.[3] In pregnancy period anaemia has a significant impact on the heath of the foetus as well as that of the mother. It is the most wide spread nutritional disorder in the world effecting 30% of the world's population. [4]

Food habits are determined by multiple factors like social, cultural, economic and environmental influences, coupled with individual taste preferences. Individual characteristics such as income, education, cooking ability, age and ethnicity also affect food choice. [2] However Bangladesh is one of the densely populated countries in the world. The total enumerated population 80.80% lives in rural area and 19.20% live in urban area.[5] Women in Bangladesh live in an unequal society. Nutritional levels are lower for females than males. A recent human development report estimated that 59% of girls suffer chronic malnutrition and girl's death rate ≤5 is greater than boys. The United Nations development program estimates that 58% of pregnant women (15-49) suffer from anaemia and only 23 % of births are attend by health care professionals.[6] Due to legal discrimination and high illiteracy rates, women have little access to credit and few inheritance rights under the law.[7]

People living in poorer families are generally the victims of malnutrition diseases, within these families' women and children are more vulnerable. Health care in Bangladesh is poorly developed and concentrated in the urban areas.[8] The effects of women's malnutrition and under nutrition are also the major cause of infant mortality [9] and maternal mortality which rate is 26 and 1.73 per 1000 respectively[6]. The prevalent social customs, belief and practices regarding food intake during pregnancy are accelerating the morbidity and mortality rate. From the very beginning of pregnancy, the prevalent customs and beliefs are given importance in our society instead of providing them with satisfactory healthcare.[10] Energy requirements increase in pregnancy by about 12 percent. This is because of the increase in maternal body weight, an average 10-15 percent increase in basal metabolic rate (BMR) and the energy costs of the growing foetus and maternal physiological changes in pregnancy. [11]

The ultimate aim of this study is to find out the existing dietary habits during antenatal period and socioeconomic status of women to decrease morbidity and mortality during pregnancy. It is expected that the findings of this study will help to undertake nutrition education programs for the improvement of health status of pregnant mothers and thus the change in consumption patterns will reflects the success of a safe motherhood campaign propagated by the government.

Materials and methods:

The study design was a descriptive cross- sectional study, which was carried out to explore the dietary habits of women during antenatal period attending upazila health complex at Savar. The study population was women of reproductive age having one child attending to the Savar Upazila health Complex. A sample of 180 respondents were selected purposively. The study was conducted from 1st November 2019 to 21st November 2019. Research

instrument was an interviewer administered questionnaire. A semi-structured questionnaire was designed and pre-tested. Before starting the interview, the mothers were given a verbal consent and an explanation of the study.

instrument was an interviewer administered questionnaire. A semi-structured questionnaire was designed and pre-tested. Before starting the interview, the mothers were given a verbal consent and an explanation of the study. Only positive respondents were selected as research participant consistent with the selection criteria. The questionnaire was designed to include general information, socioeconomic, dietary habits and food intake pattern during their pregnancy. The study did not involve in any social, mental or physical risk to the patients. Prior to conduct, institutional permission was taken from the concerned authority of the hospital. After collection, data were checked and verified to reduce in consistency. The frequency distribution tables were prepared first and then a master table was made. Data were compiled and analyzed manually by using calculator and prepare the report by using both Microsoft word and excel.

Results:

Socioeconomic profile of the studied women of reproductive age having one child is summarized in the Table-I. Most of the respondents were within the age group of 15-24 years 77 (42.77 %) and 25-34 years 75 (41.66%). Majority of the respondents were Muslim 165 (91.6 %) followed by Hindu 15 (8.33%). Most of the respondents 55 (30.55%) had secondary level of education followed by 49 (27.22%) had primary level of education. Most of the respondents' husbands were illiterate 45 (25%) followed by primary level of education 41 (22.7%). (Table-1)

Table 1: Distribution of the respondents by socio-demographic characteristics (n=180)

Variables	Frequency	%
Age group (years)		
15-24	77	42.77
25-34	75	41.66
35-44	22	12.22
45- 49	06	03.33
Religion		
Muslim	165	91.6
Hindu	15	8.33
Educational level of respondents		
Illiterate	38	21.11
Primary	49	27.22
Secondary	55	30.55
S.S.C	20	11.11
H.S.C	15	08.33
Graduate	03	01.66
Occupation of Respondents		
Housewives	133	73.89
Garment workers	35	19.44
Laborer	06	3.33
Others	06	3.33
Husband's educational		
level	45	25.00
Illiterate	41	22.77
Primary	40	22.22
Secondary	21	11.66
S.S.C	23	12.77
H.S.C	10	05.55
Graduate		
Husband's Occupation		
Rickshaw puller	22	12.22
Garments worker	48	26.66
Laborer	20	11.11
Service holder	39	21.66
Others(dorji,cloth business,decorator)	51	28.33
Monthly family income (taka)		
<5000	29	16.11
5000-10,000	67	37.22
>10,000	84	46.66
Number of family member		
<4	98	54.44
5-9	72	40.00
>10	10	05.55

Most of the respondents were housewives 133 (73.89%) followed by garments workers 35 (19.44%). Most of the respondents' husbands had other occupations 51 (28.33%) followed by garments workers 48 (26.6%) and service holder 39 (21.66%). Majority of the respondents 84 (46.66%) had monthly family income more than 10,000 Taka. The median monthly family income was Taka 10238 ranging from Taka >10,000. Most of them 98 (54.44%) had ≤ 4 family members. (Table 1) Most of the respondents 134 (74.44%) were nuclear family.
(Fig-1)

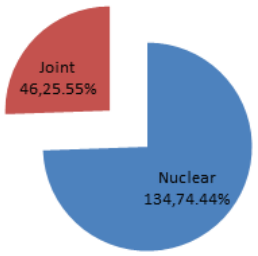

Fig 1: Distribution of respondents according to family type (n=180)

Table 2 represents the duration of pregnancy, nature of working and types of food intake during the antenatal period of the respondents. Majority of the respondents 164 (91.11%) were 9 months pregnant. Majority of the respondents 90 (50%) did light work followed by 55 (30.55%) heavy work during their antenatal period. Most of the respondents 177 (98.33%) took rice followed by vegetables 173 (96.11%) then fish 162 (90%) and meat 158 (87.77%) during their antenatal period.

Table 2: Distribution of the respondents by their antenatal period and dietary pattern during that period (n=180)

Duration of pregnancy (months)		
7	05	2.77
8	11	6.11
9	164	97.11
Nature of working		
Light	90	50.00
Moderate	35	19.44
Heavy	55	30.55
Types of food intake during antenatal period (multiple answer)		
Rice	177	98.33
Meat	158	87.77
Fish	162	90.00
Bread	76	42.22
Vegetable	173	96.11

Most of the respondents 147 (81.66%) took rice followed by vegetables 114 (63.33%) on daily basis and then meat 117 (65%) followed by fish 77 (42.77%) took 1-3 days. (Table-3)

Table 3: Distribution of the respondents by their food intake pattern (n=180)

Type of food intake	Did not take at all		1-3 days		4-6 days		Daily (7days)	
	No.	%	No.	%	No.	%	No.	%
Rice	2	1.11	5	2.77	6	3.33	147	81.66
Fish	12	6.66	77	42.77	22	12.22	49	27.22
Meat	22	12.22	117	65.00	14	7.77	7	3.89
Pulse	16	8.8	51	28.33	22	12.22	71	39.44
Egg	16	8.8	49	27.22	30	16.66	64	35.55
Milk	20	11.11	50	27.77	17	9.44	73	40.55
Vegetable	3	1.66	22	12.22	21	11.66	114	63.33
Fruits	30	16.66	64	22.22	23	12.77	43	23.89

Table 4: Distribution of the respondents according to dietary habit (n-180)

Frequency of food intake (daily)		
1 time	01	0.55
2 times	20	11.11
3 times	95	52.77
> 4 times	64	35.55
Whether Rice bran is discarded		
Yes	105	58.33
No	75	41.66
Washing vegetables for cooking		
Before cutting	64	35.55
After cutting	116	64.44
Time of taking meal		
With family members	120	66.66
Lonely	18	10.00
Last of all	26	14.44
After husband and children	16	08.88
Took advice about diet		
Yes	110	61.11
No	70	38.89
Types of Advice (multiple responses)		
To eat frequently	48	26.66
To take more food	34	18.89
To take nutritious food	98	54.44

Discussion:

Maternal dietary practices during pregnancy play an important role in determining the long-term health and nutritional status of both the mother and her growing foetus. Poor dietary practices during pregnancy may result in increased rates of stillbirths, premature birth, low birth weight, maternal and prenatal death. Therefore, in order to address this national issue, the present study attempted to focus on the dietary habits of women during their antenatal period. This descriptive type of cross-sectional study was conducted among 180 respondents, residing at Savar upazilla of Dhaka district attending the outdoor of Upazilla health complex. The study revealed that majority of the respondents 42.77% were in 15-24 age groups which corresponds with Bangladesh bureau of statistics.12 In the South West region of Bangladesh, the majority of the women in that region belong to 20-24 years age group [13], which is similar to our study. Most of the respondents 91.25% in our study were Muslim followed by Hindu 8.33%. Majority of the respondents 30.55% had completed secondary level of education. Another study shows that, mothers in the rural and urban region of Bangladesh were 15% and 18%, 44% and 17%, 29% and 25%, 10% and 39%, 2% and 11% Illiterate, Primary, Secondary, Under Graduate and above Graduate, respectively.[14] So, most of the respondent in both studies completed secondary level of education.

In this study, most of the respondents 133(73.89%) were housewives followed by garments workers 29 (18.12%). However, maximum of their husbands were illiterate 45 (25%) followed by 40 (22.22%) who had secondary level of education and they worked mostly as dorji, cloth business and decorator etc. 51 (28.33%) followed by garments workers 48 (26.6%). The Maximum monthly income of the family was 100,000 Taka whereas majority of the respondents had monthly family income ranges from above Taka > 10,000 (46.6%). The median family income was Taka 10238 ranging from Taka >10,000. In south west region of Bangladesh, 60% of pregnant women had family income <5000, 20% had family income in 5000-8000 range and 13.25% had family income in 8000-10000 range while only 6% had family income >10000 [12] which differs from our study. According to BBS household income per month data was reported a 15,988 BDT.12 This study also revealed that most of the respondents 134 (74.44%) were in nuclear families followed by joint families 46 (25.55%). Most of the respondents 56.25% had < 4 family members followed by 40%; who had 5-9 family members. Another survey indicated that 50.50% had family size > 4, 42.75% had family size 3-4, 6.75% of pregnant

women have family size < 3. So, in that study, the majority family sizes were > 4.

Most of the respondents 96.88% completed full term pregnancy. Comparatively, another study revealed that, majority of the respondents 37 (33.6%) went through [7] months of pregnancy. [15] Most of the respondents 50% did light work during their antenatal period followed by heavy work 34.37%. Another study showed that, 70.9% did light work during antenatal period and 27.3% did moderate work.17 The study revealed that, 68.75% respondents took their meal with family members followed by who took meal last of all members 13.12%. Majority of the respondents 54.37% used to eat 3 times daily during their antenatal period followed by those who used to eat more than 4 times a day 36.25%. It corresponds with other studies. Most of the respondents 95 (59.37%) discarded rice bran during cooking, only 65 (40.62%) did not. Also, maximum number of respondents 101 (63.12%) used to wash vegetables after cutting and 59 (36.87%) used to wash before cutting vegetables. Most of the respondents 147 (91.88%) took rice followed by vegetables 114 (71.25%) on daily basis and then meat 117 (73.13%) followed by fish 77 (48.13%) taken 1-3 days/week. It is comparable to a study conducted on antenatal mothers who attended in Cumilla Medical College hospital,[16] in which, out of 110 respondents, 78 (70.90%) took vegetables 4-6 times/week and 55 (50%) of them took egg 4-6 times/week.[18,19] About 56% respondents took advice and only 43.75% took no advice from a health center during antenatal period and those who took advice, most of them 88 (55%) were advised about taking nutritious food followed by 43(26.87%) about eating frequently.

Conclusion:

Maternal nutrition played a cardinal role in optimizing pregnancy and its outcome as well. Unlike other condition such as hereditary or pre-existing disease condition, the nutritional status of pregnant mother was easily modifiable. In his study we found most of the mother had lack of proper knowledge about the nutritional requirement needed during antenatal period. During antenatal period half of the respondents used to eat 3 times daily. Most of them took rice followed by vegetables daily. Half of the respondents took advice from health centre during antenatal period. This study provided a wide range of information on the dietary habits, duration of pregnancy, eating frequency and style of cooking vegetables which revealed that the dietary habits and nutritional requirement for pregnant women was inadequate. Training of family welfare assistant (FWA) should be incorporating with food habits and basic nutrition so that they can motivate the mothers about the importance of good dietary habit during pregnancy. Government should give emphasis on dietary need of pregnant women by mass media campaign to aware the neglected or drop out people of the country.

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