



Research Article

**A STUDY ON NUTRITIONAL STATUS OF PREGNANT WOMAN IN SOUTH-WEST REGION
OF BANGLADESH**

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Abstract: To determine the nutritional status and analyze the nutritional survey based on broad range of dietary, clinical, biochemical, anthropometric and socio-economic data for pregnant women the study was conducted on 400 pregnant women in South –West region of Khulna division, Bangladesh. The study was carried out by cross sectional methods amongst pregnant women in different trimesters of pregnancy. Data were collected with a pre-tested questionnaire composed of structured and non-structured question. The questionnaire included Socio-economic status, educational status, age, family member, child of respond, daily requirement of nutrients, vaccination during pregnancy, food habits, food believes, food prices, awareness about common disorder during pregnancy, height weight and clinical condition of mother, etc. We found that 66.25% pregnant women were nourished (including- normal 39.62%, over weight-21.50% and obese-5.13%), 24.75% were moderately malnourished. We also found that about 60%, 20%, 13.25% and 6.75% peoples comprises the monthly family income \leq 5000 TK, 5000-8000 TK, 8000-10000 TK and \geq 10000 TK respectively. In addition 34.50% people are primary education, 47.00%, secondary education, 5.25%, under graduate, 2.50% graduate and nearly 10.75% even does not have primary education. Very much unexpectedly about 59.50 % pregnant women were anemic who are risk to deliver their baby. The nutritional statuses of the pregnant women in the family size \leq 4 people are better than \leq 6 people. On the other hand urban pregnant women (68.57%) are comparatively well nourished than rural pregnant women (61.54%). Therefore, the key factor for the nutritional status of pregnant women may depend on the education and financial condition of their family. It is postulated that the nutrition situation of South-West region of Bangladesh has not improved satisfactory as an educational environment and need more attention and a community based strategy for the improvement of maternal nutritional status. This study would be useful in understanding the severity of the nutritional status of pregnant women and increase the awareness on pregnant women accomplishing their physical, mental and academic achievements.

Keywords: nutritional status, pregnant woman, malnutrition, anemia

INTRODUCTION

Maternal nutrition and health is considered as the most important regulator of human fetal growth. A healthy mother can produce a healthy child. If women are not well nourished, they are more likely to give birth to weak babies resulting in high infant mortality rate. Pregnancy is the period of dynamic change for a mother requiring a lot of care during this period the fetus is nourished directly by the mother through placenta. In this period a mother needs more nutrition to meet the requirement of growing fetus and of maternal tissues associated with pregnancy therefore proper dietary balance is necessary to ensure sufficient energy intake for adequate growth of fetus without drawing on mother's own tissues to maintain her pregnancy¹. A very unfortunately maternal anemia causes 12-28% loses of fetus, 30% prenatal and 7-10% neonatal death. The remaining births have about 50 percent chance resulting in a low birth weight (LBW) baby². In pregnancy period anemia has a

significant impact on the health of the fetus as well as that of the mother. It is the most wide spread nutritional disorder in the world effecting 30% of the world's population³.

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 area⁴. Women in Bangladesh live in an unequal society. Violence against women is widespread inside and out side the home. 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 \leq 5 is greater than boys. The United Nations development program estimates that 58% of pregnant women (15-49) suffer from anemia and only 23 % of births are attend by health care professionals⁵. Due to legal discrimination and high illiteracy rates, women have little access to credit and few inheritance rights under the law⁶.

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 areas⁷. The effects of women's malnutrition and under nutrition are also the major cause of infant mortality⁸ and maternal mortality which rate is 38 and 2.40 per 1000 respectively^{5,6}.

Pregnancy is a normal physiological state of women. It is very important to determine the nutritional status in pregnancy stage because in this stage pregnant women needs extra nutritional requirement over her daily needs and development of fetus. The aim of this study to determine the nutritional status of pregnant women in specific zone and compare between urban and rural area

MATERIALS AND METHODS

For the determination nutritional status and analysis of nutritional survey, we conducted the collection of broad range of dietary, clinical, biochemical, anthropometric and socio-economic data. It is usually included the regular and timely collection data, analysis and reporting of nutrition relevant data. The study was carried out by cross sectional methods amongst pregnant women in different trimesters of pregnancy belonging to South-West region of Bangladesh. 400 pregnant women constitute the sample respondents in South –West region (Khulna division). Purposive sampling method was adopted for surveying the sample. The sampling surveying was done by means of random sampling procedure. The study was conducted from. Data were collected with a pre-tested

questionnaire composed of structured and non-structured question. The questionnaire included Socio-economic status, educational status, age, family member, child of respond, daily requirement of nutrients, vaccination during pregnancy, food habits, food believes, food prices, awareness about common disorder during pregnancy, height weight and clinical condition of mother, etc^{9,10,11}.

RESULT AND DISCUSSION

For this study the pregnant women were divided into four age groups. About 16% of the mothers in South-West region of Bangladesh were bellow 20 years of age, 44% are age group 20-24 years where pregnant women were belonged to age group 25-29 years while 8% of pregnant women were age in >30 years. Majority of the pregnant women in Khulna division of Bangladesh were in 20-24 years. According to BMI 35.50% of pregnant women were BMI level <18 which indicates underweight, 40.25% of pregnant women were BMI level 19-24 indicates normal weight, 21.25% were BMI level 24-29 while only three percent were BMI level >29 indicates overweight as presented in Table-1. Hemoglobin (Hb) level of 20% of pregnant women in South-West region of Bangladesh were below 7, 39% were Hb level 7-9 and 34.50% were 10-12gm/dl while 6% were Hb level >13. Data showed the majority of pregnant women bearing Hb level 7-9%. But the ideal range of Hb level 11-13gm/dl. In addition educational level 10.75% pregnant women are uneducated, 34.50% are completed primary, 30.50% are six to ten, 16.50% are SSC and 5% were HSC while 2% were graduate and in case of Mid upper circumference level 13.25 % pregnant women were MUAC level is <15, 18.75% were MUAC level 15-18, 39% were 19-22 and 23.75% were 23-26 (Table-1)

Table 1: Distribution of pregnant women according to their age, BMI, hemoglobin, educational and mid upper arm circumference level respectively (n=400).

Parameters	No. of mother	%	
Age of mother (years)	<20	64	16.00
	20-24	176	44.00
	25-29	128	32.00
	>30	32	8.00
Basal metabolic Index (BMI)	<18	142	35.50
	19-24	161	40.25
	25-29	85	21.25
	>29	12	3.00
Hemoglobin (Hb) gm/dl	<7	80	20.00
	7-9	158	39.50
	10-12	138	34.50
	>13	24	6.00
Education level	Uneducated	43	10.75
	Primary	138	34.50
	VI-X	122	30.50
	SSC	66	16.50
	HSC	21	5.25
Mid upper arm circumference level (MUAC)(cm)	Graduate	10	2.50
	<15	53	13.25
	15-18	75	18.75
	19-22	156	39.00
	23-26	95	23.75
>26	21	5.25	

It is also important to determine the rational distribution of pregnant women by their family size and income, our survey indicated that 6.75% of pregnant women has family size <3, 42.75% pregnant were family size 3-4, 50.50% were family size >4. The majority family size were >4 and 60 % of pregnant women were family income

<5000, 20% pregnant women were family income 5000-8000 and 13.25% were family income 8000-10000 while only six percent were family income >10000. The majority of pregnant women were family income less than 5000 as presented in Table-2.

Table 2: Distribution of pregnant women by family size and income.

Parameter		Pregnant women	% of pregnant women
Level of family size (number of person)	<3	27	6.75
	3-4	171	42.75
	>4	202	50.50
Range of family income (taka)	<5000	240	60.00
	5000-8000	80	20.00
	8000-10000	53	13.25
	>10000	27	6.75

About 39.75 % pregnant women below 20 years of age were well nourished and rest of mal nourished, 79.25% of age 20-24 years were well nourished and rest of mal nourished, 25-29 years age group were 65.00% well

nourished and rest of mal nourished ,above 30 years age group were 44.50% well nourished and 55.50% mal nourished (Figure-1).

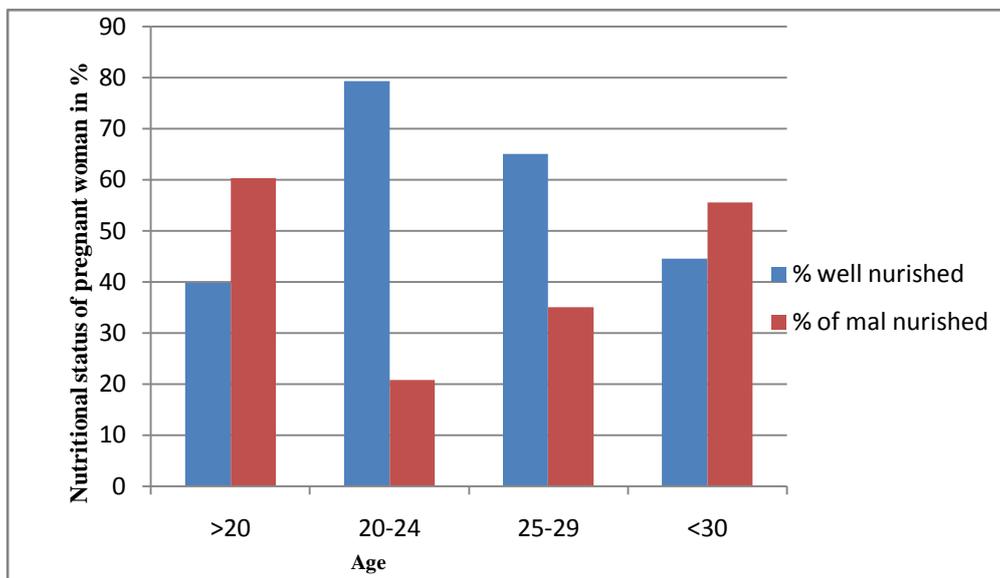


Figure-1: Distribution of age of pregnant women by their nutritional status.

However a very good result has been come out about the distribution of pregnant women based on living area 65% pregnant women are living in rural area where as 35% are living in urban area, data are presented in figure-2. Among the pregnant women in rural area 61.54% are well

nourished and 38.46% are mal nourished. On the hand pregnant women in urban area about 68.57% are well nourished and 31.43% are mal nourished, data are presented in figure-2. Therefore very small percentages (7%) of pregnant women are suitably living in urban area.

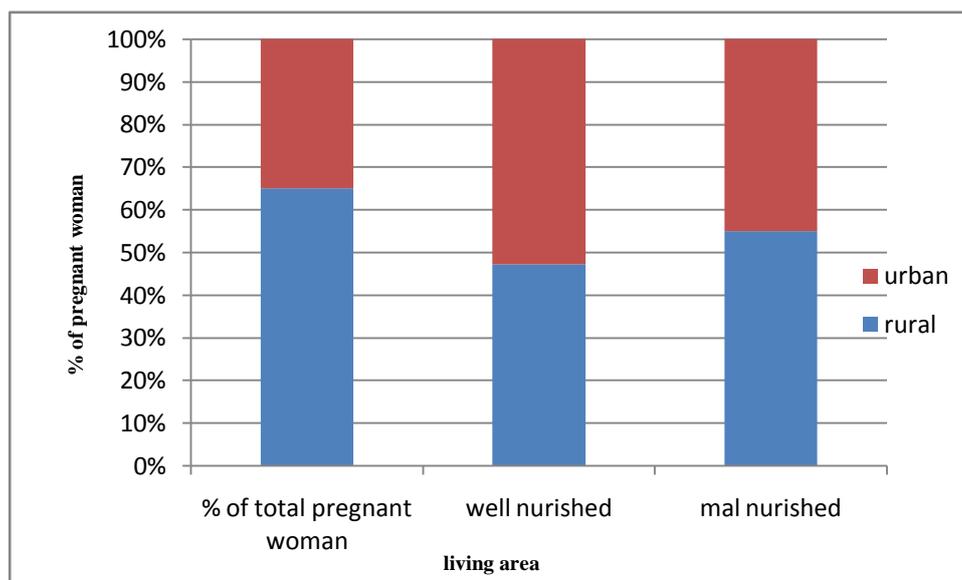


Figure-2: Distribution of pregnant women by living area and nutritional status.

This is a prospective study performed in South- West region of Bangladesh to find out the nutritional status of pregnant women and activities of health care center. The factors influencing nutritional status of pregnant women are maternal age, weight, height, anemic status, TT vaccination, educational qualification of pregnant women and husband family income, family size and living status. Maternal age is an important determinant of nutritional status for pregnant women. The ideal age of pregnancy is 19-30 years due to the tendency of increasing in birth weight. A provision study has also found a similar trend, with an interrelation between birth weight and maternal age^{12,13}. In our country the most vulnerable groups of population to malnutrition are pregnant women, children and lactating mother. It was observed that during abortion 4.4 per 1000 of live birth of mother were death¹⁴.

This study found that 16% of the mother in south –west region of Bangladesh were below 20 years of age, where as 44% were 20-24 years age. However, majority of the mother were in 20-24 years of age. Present study observed that that a tendency towards an increase nutritional status in pregnancy with an increase in the family income. Anemia in pregnancy is another indicator of nutritional status. Prevalence of anemia among the study population was also quite high. The normal range of Hb in pregnant women is 11-13 gm/dl. There were 59.50% of pregnant women suffer from anemia. Nutritional anemia is a world wide problem; Iron deficiency is common cause. So, health workers should advice to take Fe, folic acid and multivitamin tablet supplementation to prevent anemia. 25% of the surveyed pregnant women have a diet lacking at least one of the food groups. The inadequate nutritional intake, the qualitatively and quantitatively imbalanced diet, with low consumption of foodstuffs such as milk and dairy products, meat, fish, can trigger off some nutritional deficiencies. On the whole, 68.8% of the mothers had their first prenatal consultation in the first trimester of pregnancy (79.2% in the urban area and 58.5% in the rural area).

Almost 6% of women covered by this survey did not go for a prenatal consultation during their latest pregnancy. Most pregnant women went for their first prenatal visit in the second (34.6%) or third month (23.4%) of pregnancy. After surveying on pregnant women based on 30 questionnaire, from the study it can be concluded that 66.25 % (including-normal 39.62%, over weight-21.50%, and obese 5.13%) pregnant women were normal or well nourished, 24.75% were moderately mal nourished and 9.00% were severely mal nourished (by using BMI and MUAC) in South-West region of Bangladesh.

CONCLUSION

The nutrition situation of South-West region of Bangladesh has not improved satisfactory as an educational environment and need more attention and a community based strategy for the improvement of maternal nutritional status. Mal nutrition, underweight, wasting, stunting is more common nutritional problem in Bangladesh. An individual can easily over come these problems without excess money wasting by acquiring nutritional knowledge, nutritional value of food and dietary habits. Moreover, nutritional needs

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