Original Research Article

Effect of Nutrients less Diet on Pregnant Women in Urban Area Belonging to Low Income Group

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ABSTRACT

Introduction: It is now a well-know scientific fact that the nutritional status of the pregnant women affects the outcome of the pregnancy, especially related to birth weight. Low birth weight is associated with an increased risk for infant deaths and development disabilities and is seen more often in children from undernourished and underweight mothers.

Objectives: To study the demographic characteristics of the selected women, to study the related information regarding reproductive history of selected pregnant women to study the anthropometric measurement of the selected pregnant women. To assess the dietary intake of the selected women.

Methodology: Multistage systematic sampling techniques were used for selecting the sample. 50 women from government hospital and 50 from nursing home was the unit of the investigation. The investigator used the interview schedule for the present study.

Results: Out of the total 100 pregnant women the majority of them 32% were educated at High school, followed by 18% Junior High school, in the age group of 20-25 years. In the age group of 26-30 years the majority of them 8% were educated at High school. Out of the total pregnant women, the majority of them (98%) women have weight gain during pregnancy. Out of the total pregnant women the majority of them were of average height (60%) and 58% of low weight. Out of total pregnant women, the majority of them (92%) women had consumed fruits & vegetables (daily 2/3 times a day).

Key words: Pregnant Women, Nutrients, Low Income Group, Low birth weight.

INTRODUCTION

The most pertinent nutrition message for pregnant women can be summarized in one word: EAT! During pregnancy, more than at other at other in a women's life, it is vitally important to eat lots of healthy food. [1] These studies were initiated after it was observed that server food shortages in many parts of Europe during World War I resulted in a tremendous increase in the number of miscarriages, stillbirths, infant deaths and birth defects in Europe. [2] It is now a well-know scientific fact that the nutritional status of the pregnant women affects the outcome of the pregnancy, especially related to birth weight. Low birth weight is associated with an increased risk for infant deaths and development disabilities, and is seen more often in children from undernourished and underweight mothers. [3] During a healthy pregnancy, the body undergoes many changes to allow for the growth of the fetus and to prepare the mother for labour, delivery and lactation. Many of these changes increase the nutritional requirements of the mother. [4] To ensure that nutritional need are met, pregnancy women are encouraged to consume a diet rich in vegetables, fruits and whole grains, and to take a daily vitamin

and mineral supplement to guarantee adequate intake of iron and folic acid. [5]

Nutrient needs in pregnancy-

To support the growth and development of the fetes, a pregnant women requires extra amounts of nearly all essential nutrients. In fact, the recommended intake of some of the nutrients, including iron and folic acid, increase so much over non pregnancy amounts that most physicians encourage pregnant women to take a vitamin and mineral supplement each day to ensure nutrient needs are met. [6] In additional to maximizing nutrient intake, the mother-to-be is also encouraged to completely avoid alcohol and limit intake of caffeine to no more than 200 mg/day, the equivalent of 2 cups of coffee. The Dietary reference intakes for pregnant and non pregnant women appear in the table below. The nutrients highlighted below are of special importance. [7]

Calories: Additional calories are required during pregnancy. It has been estimated that it takes 75,5000 to 80,000 calories to make a baby, which represents approximately 2400 to 2600 calories per day throughout the pregnancy, Food and caloric intake must be high enough to ensure that all nutritional needs are met, and to allow for a 14-ounce weight gain per week during the last 30 weeks of pregnancy. [7]

Protein: Extra protein is needed during pregnancy to help with the synthesis of maternal and fatal tissue. The most current recommendations for protein requirements during pregnancy made by the Institute of Medicine, which establishes government guidelines for protein requirements, were established in 1989. The Institute of Medicine recommends 60 grams of protein per day during pregnancy. [8]

Fat: The recommendation for the amount of fat as percentage of total calories do not change during pregnancy, so like all adults, pregnant women should consume no more than 30% of calories as fat. However, the type and fat eaten during pregnancy is especially important. Mothers-to-be are encouraged to increase their consumption of the food containing omega 3 fats, as the omega 3 fat docosahexaenoic acid (DHA) is necessary for the development of brain and nerve tissue in the fetus. [8]

Folic acid: In recent years, the need for extra folic acid before and during pregnancy has been widely publicized, as researchers continue to establish a connection between the neural tube defects and folic acid deficiency. Neural tube defects, such as spina bifida, are among the most common birth defects in the United States, with approximately 2500 new case occurring the each year. [8]

Vitamin B12: Additional vitamin B12 is needed for synthesis of red blood cells. [9]

Vitamin B6: This vitamin is required for protein synthesis. In addition, vitamin B6 may help reduce severe nausea and vomiting, and may also help prevent depression during pregnancy. [9]

Iron: Iron is needed to produce haemoglobin, the oxygen-carrying molecule found in red blood cells. Because the maternal blood supply increase during pregnancy, the baby`s need for iron also increases. In many circumstances, the need for iron is not met from food sources alone, and supplementation is required to prevent iron- deficiency anaemia. [9]

Zinc: Zink participates in many physiological functions as a constituent of several enzymes, and zinc deficiency is known to cause birth defects in animals. [9]

Magnesium: Extra magnesium is needed to support fatal and maternal tissue growth. [9]

Iodine: Iodine deficiency during pregnancy is associated with cretinism carries cause physical and developmental delays. [9]

Vitamin A: It is important to note that the requirement of vitamin A does not increase during pregnancy. Vitamin A can be toxic to the fetus when consumed by the mother in amounts greater than 7500 RE per day. Pregnant women should not take supplements of vitamin A that exceed the dietary Reference Intake, and should avoid all prescription and OTC drugs used in the treatment of acne that made from vitamin A

analogs, such as Isotretinoin. [9]

Calcium: although the requirement for calcium does not increase during pregnancy it is important that pregnant women ensure adequate intake of this mineral. High dietary intake of calcium is needed for skeletal development of the fetus and to preserve maternal calcium stores. Additionally, calcium may also help prevent hypertension a dangerous pregnancy complication. [9]

Water: while not exactly a nutrient, water is definitely essential for a healthy pregnancy. Due to the increase in blood volume during pregnancy, fluid needs increase dramatically. In addition, extra fluid intake can help prevent constipation, a common problem during pregnancy. [9]

DISADVANTAGE OF NUTRIENTLESS DIET ON PREGNANT WOMEN-

An inadequate or excessive amount of some nutrients may cause malformation or medical problems who are malnourished. 23.8% of babies worldwide are estimated to be born with lower than optimal weights at birth due to lack of proper nutrition. An ever increasing number of studies have shown that the mother will have on effect on the child up to and including the risk cancer, cardiovascular disease, hypertension and diabetes throughout life. [10]

AIM AND OBJECTIVES

1- To study the demographic characteristics of the selected women.
2- To study the related information regarding reproductive history of selected pregnant women.
3- To study the anthropometric measurement of the selected pregnant women.
4- To assess the dietary intake of the selected women.

The growth of the nation depends on the healthy and prosperous population of the country. Women is more than 45% of the population is the most vulnerable segment of our population. The birth of the health child depends on the nutrition of the mother there for the maternal nutrition is the most important single environment factor in life of urban child. The food eaten by pregnant mothers has a profound and lasting effect on her over health as well as health of the new born. It is well known fact that the sickness and disability associated with child bearing and the high mortality of pregnant women could be substantially reduce by providing better nutritive full diet of those women. During pregnancy the mother has not only to be supplied with all the nutritional factor necessary for own health but has to substance the extra burden of having in provide many essential chemical substances for the development of embryo and fetes. Keeping the importance of nutrition to the pregnant mother and its relation to the socio economic status of a mother attempt has been made to know the dietary intake of pregnant women.

METHODOLOGY
SELECTION OF THE LOCALE
The present study was conducted in Farrukhabad district.

SAMPLING DESIGN

Multistage systematic sampling techniques were used for selecting the sample. Out of the 75 district in U.P. one district i.e. Farrukhabad was selected randomly. Farrukhabad district consists of one government hospital and three nursing homes. Out of which one hospital from each group was selected. 50 women from government hospital and 50 from nursing home were the unit of the investigation. Subjects from government hospital were considered as a low income group and the women attending nursing home were considered high income group. Thus the 100 women`s were selected from hospital and nursing home for the present study and were interviewed by the researcher for getting the required information.

TOOLS AND TECHNIQUES USED
The investigator used the interview schedule for the present study.

General Information about the respondents:

This section included Age, demographic and other characteristic of the sample i.e. name, address, education, type of family, income, expenditure on food items.

Information regarding reproductive history of pregnant women:

When include the past and present reproductive history of women i.e. order of birth difference between last and present pregnancy outcome of last pregnancy, type of delivery, weigh gain during pregnancy, weight loss during pregnancy, physical activity, body pain, clinical symptoms.

Anthropometric Measurements:

Height: Height is a linear measurement made up of following counter apartment leg pelvis, spine & skull, head chest.

While measuring the height, first the subject was asked to remove her shoes, stand on even floor our with the centre of her back touching the wall with her back touching the wall with her back touching the wall with her feet parallel & hells, buttocks, shoulder & back her feet, touching to the wall. The head was to be held comfort table erect, the arm was hanged loosely by the side. The measuring tape was held parallel to subjects' body & smooth this scale was held on the head in a centre, execrating the hair at a right angle to the rate, height was read off to the nearest 0.5 cm. (Gopal Das, 1987).

Weight: Weight was usually regarded as the most meaningful method because weight deficit is related to nutritional deficiency .A portable weighing machine was for used for this purpose. The scale was adjusted to zero before with meaningful clothing was asked to stand on the platform of the scale without shoes & without touching anything weight was recorded to the nearest of 0.25 kg. This section of the schedule included body weight and height of the pregnant women.

Information Related to Nutrients intake:

This section also included food habits and daily food intake of pregnant women and ask about of them vegetarian/ non vegetarian regularity of food, number of mean taken in a day, appetite, food liked food medicated intake vegetables and food, in a day and intake dry foods in a day pulses.

PROCEDURE OF DATA COLLECTION

1- Pilot Study:

A pilot study was conducted to know the validity and reliability of the test, 10 cases each from the hospital and nursing home were selected and interviewing spaceman spit of design test was found reliable and valuable.

Thus the test was found to be valid after the certain modification. The pretested interview was use for the actual study.

2- Actual study:

Before starting the actual study permission from the superintendent of the hospital and nursing home was granted for conducted the interview and nursing home was granted for conducted the interview from the selected women. Interview was conducted by the researcher herself for the selected women attending the OPD and necessary information was recorder on the pretested schedules. Interview of each women, took about 20-30 minutes and the data were collected about 7 months.

Nutritional Status

Nutritional status was obtained with following formula for each individual weight divide by their height and multiplied by 10000 were calculated. Mean and standard error in both the groups' nutritional status were calculated separately.

Statistical Analysis

The collected data were coded, tabulated and analyzed using various statistical techniques. The statistical tests used were coefficient of correlation and t-test. Significance of the result was at 5 percent and 1 percent level of significance.

RESULTS AND DISCUSSION

Table 1: Distribution of pregnant women according to their education in low income group.

Age	Education	No	%
20-25 years	Uneducated	18	18%
	Junior High school	18	18%
	High School	32	32%
	Intermediate	8	8%
	Graduation	2	2%
26-30 years	Uneducated	6	6%
	Junior High school	2	2%
	High School	8	8%
	Intermediate	6	6%
	Graduation	0	0%
	Total	100	100%

The above table highlights the distribution of the pregnant women according to their education in low income group. Out of the total 100 pregnant women the majority of them 32% were educated at High school, followed by 18% Junior High school, Uneducated and the minimum 2% were educated at the graduation in the age group of 20-25 years In the age group of 26-30 years the majority of them 8% were educated at High school, followed by 6% uneducated Intermediate and the minimum 2% at Junior High school.

Table:2 Distribution of pregnant women according to their weight gain during this pregnancy in low income group.

Weight Gain During Pregnancy	No	%
Yes	98	98%
No	2	2%
Total	**100**	**100%**

The above table reveals that the distribution of pregnant women according to their gain during pregnancy. Out of the total pregnant women, the majority of them (98%) women have weight gain during pregnancy. While remaining (2%) pregnant women have not weight gain during pregnancy.

Table 3: Distribution of pregnant women according to their height.

Parameter	category	No. Of Pregnant Women	%
Height in cms	145-147	6	6%
	148-150	6	6%
	151-153	16	16%
	154-156	40	40%
	157-159	20	20%
	160-162	8	8%
	163-165	4	4%

Height (in cms)	No. Of pregnant women	%
Above height	12	12
Average height	60	60
Below	28	28
Total	100	100

The above table show that the distribution of pregnant women according to their height. Out of the total pregnant women the majority of them of them whose average height (60%) followed by (28%) belonging to below height and minimum were. (12%) belonging to above height.

Table 4: Distribution of pregnant women according to their weight.

Parameter	category	No. Of pregnant women	%
Weight in Kg	49-51	12	12%
	52-54	6	6%
	55-57	40	40%
	58-60	32	32%
	61-63	0	0%
	64-66	10	10%

Weight (in Kg)	No. of pregnant women	%
High	10	10%
Average	32	32%
Below	58	58%
Total	100	100%

The above table shows that the distribution of pregnant women according their weight out of the total pregnant women. The majority of them (58%) whose low weight, followed by (32%) whose average weight and minimum whose high weight.

Table5: Distribution of pregnant women according to their taking fruits and vegetables in a day.

Fruits & vegetables	No.	%
Daily 2/3 time a day	92	92%
5 Times a day	-	-
Some time	8	8%
Never	-	-
Total	100	100%

The above table reveals that the distribution of pregnant women according to habit in taking fruits & vegetables. Out of total pregnant women, the majority of them (92%) women taken fruits &vegetables (daily 2/3 times a day) and minimum (8%) women`s taken fruits and vegetables sometimes only.

DISCUSSION

Table no.1 highlights the distribution of the pregnant women according to their education in low in low income group. Out of the total 100 pregnant women the majority of them 32% were educated at High school, followed by 18% junior High

school, Uneducated and the minimum 2% were educated at the graduation in the age group of 20-25 years. In the age group of 26-30 years the majority of them 8% were educated at High School, Followed by 6% uneducated, Intermediate and the minimum 2% at Junior High school.

Table no. 2 reveals that the distribution of pregnant women according to their weight gain during pregnancy. Out of the total pregnant women, the majority of them (98%). Women have weight gain during pregnancy, while remaining (2%) pregnant women have not weight gain during pregnancy.

Table no.3 shows that the distribution of pregnant women according to their height. Out of the total pregnant women the majority of them whose average height (60%0 followed by (28%) belonging to below height and minimum were. (12%) belonging to above height.

Table no. 4 shows that the distribution of pregnant women according their weight out of the total pregnant women, the majority of them (58%) whose low weight, followed by (32%) whose average weight and minimum (10%) whose high weight.

Table No. 5 reveals that the distribution of pregnant women according to habit intake fruits & vegetables (daily2/3 times a day) and minimum (8%) women`s taken fruits and vegetables sometimes only.

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