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Impact of Counseling in Pregnancy in Lower Socio-Economic Group at Tertiary Care Hospital

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ABSTRACT: Pregnant women in developing countries face plenty of challenges with a very high morbidity and mortality due to lack of primary health care settings, health professional resource and basic infrastructure. Moreover, they are not adequately counseled for their nutritional requirements and appropriate weight gain. Situation gets even more complicated with huge illiteracy, lower socioeconomic status, lack of antenatal check by a trained or even skilled health professionals leading to high morbidity both for the mother and for their baby. In this study, we investigated 163 pregnant women of lower socioeconomic class in a tertiary care hospital from September 2013 to January, 2014. After taking informed consent, they were interviewed for basic socio-demographic features, their daily dietary intake and a plenty of medical history with body measurements, e.g. weight, height, pulse, blood pressure etc. The status of counseling was studied, whether or not provided with regards to ideal weight gain, dietary advice, balanced diet, iron supplementation, which foods to take more or what to avoid, particularly the time taken for antenatal examination and physical examination and we found that 39.3 % females were overweight . We conclude that counseling is a critical component of the management of women during pregnancy. In this study, we found that, it is not being carried adequately. The healthy and safe outcome of the pregnancy is highly dependent on the nutrition of the mother. The service of a dietitian or nutritionist may be made mandatory in the care of pregnant women.

KEYWORDS: Pregnancy, BMI, lower socioeconomic status, counseling, Pakistan.

1 INTRODUCTION

Being obese or overweight is the outcome of an improper energy balance, lead to store of more energy as fat and extra calorie intake can be fatal if not treated.Appropriate weight gain during pregnancy is critical. In pregnancy body mass index is

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a crucial healthy component for the health of the mother and her baby. Pregnancy with higher body mass index is a major public health worry leading to mortality and morbidity [1].

High prevalence of obesity affecting the women of child bearing potential is a fast growing public health concern. Pregnancy with additional weight gain is highly risky resulting in many obstacles and long term adverse consequences like infertility, recurrent miscarriage, gestational diabetes, hypertension, thromboembolism, pre-eclampsia, adverse neonatal complications, stillbirth, congenital anomalies, intrauterine fetal death, neonatal intensive care admission, higher incidence of caesarean deliveries, perinatal mortality and neonatal death [2], [3], [4].

Body Mass Index (BMI) between 25 and 30 kg/m^2 considered as overweight, greater than or equal to 30 kg/m^2 defined as obesity and greater or equal to 40 kg/m^2 known as extreme obesity [5]. Obesity has become a dominant challenge worldwide and fifth important hazard for universal deaths [6]. In Pakistan poor socio economic grade inhibits the females to participate in health development, leading to mortality and morbidity [7]. One in every 23 woman, die due to maternal complications in Pakistan while in industrialized nations the rate is 1 in 5,000 [8].

Overweight and obese mothers have more possibilities of cesarean deliveries, anesthetic complications, postoperative difficulties, puerperal infection and decreased rates of breastfeeding [9]. As vitamins and minerals play a vital part and fundamental for the development of fetus maternal malnourishment sustain adverse effects on the health of mothers and their children.

Anemia, lower rate of lactation, children developmental delay and impaired fetal growth are the opposing outcomes of perinatal malnutrition in pregnancy. Habit of tobacco, physical inactivity and poor nutrition diverse the normal mechanism of body [10]. Malnourish mothers are at increased risk of complications hence a healthy diet is necessary for successful pregnancy outcomes.

2 MATERIAL AND METHODS

This is a hospital based study, conducted at Tertiary Care Hospital Liaquat University of Medical and Health Sciences, Jamshoro from September 2013 to January 2014. Antenatal out patient department (OPD) were visited two days in a week with permission of head of department. Information was obtained from the pregnant women by pre-designed semi-structured questionnaire. Pregnant women attending the antenatal OPD were interviewed after taking informed consent.

Data was collected from pregnant females of all trimester. Socio-demographic facts were recorded through face to face interview. Body mass index of each subject wascalculated using the formula: BMI = Weight in (Kg)/ Height in (meters) ^{2}.

Weight of each pregnant women was measured in standing position using weight measuring machine (Model: TANITA JAPAN 1369R). Height was measured in standing position without shoes using steel tape (STEEL TAPE GW-F213). From heel to head-crown height was measured in feet/inches and was converted into meter square. Blood pressure was also taken of each subject in sitting position using blood pressure monitor (Model: Aneroid BP-005) by a single investigator.

The questionnaires covered socio-demographic characteristics of the pregnant women, age, residence, occupation, race, medical history, education, house type, family size, monthly income of spouse, maternal problems and complications, no. of antenatal visit, weight measured in each visit, counseling on target weight gain, counseling on balanced diet, history of addiction and history of vaccination.

Statistical Package for Social Sciences (SPSS version 16.0, Chicago, Illinois USA) was used for statistical analysis of the data.

3 RESULTS

Their mean age was 28.51±6.11 years. The systolic, diastolic blood pressure was 105.80±14.226/73.35±12.06 mmHg and the mean gestational age was 7.953±3.3908. Mean regular antennal visit was 3.93 ± 2.089. Of the overall pregnant women 6% was smoker, 18% females addict to chaliya, 6% naswar, 12% manipuri and 2% females addict to multanimitti while 56% females had no history of addiction. However 23% women were vaccinated to one time, 62% vaccinated to two times and 15% females had no vaccination to TT vaccine. The 63% females replayed that they were not counseled regarding gestational weight gain and balanced diet while 37% females were counseled during pregnancy. There was 25% still birth, 21% abortions and 10% had history of pre-eclampsia. The demographic variables are shown in table.

Table1: Socio-demographic characteristics of pregnant women

	Frequency	Percentage
Residence		
Hyderabad	28	17.2
Jamshoro	84	51.5
Kotri	38	23.3
Others	13	8.0
Total	163	100.0
Occupation		
House Wives	135	82.8
Working Women	28	17.2
Total	163	100.0
Education		
Illiterate	96	58.9
Primary	47	28.8
Secondary	13	8.0
Intermediate	7	4.3
Total	163	100.0
House Type		
Pakka House	91	55.8
Kaccha House	72	44.2
Total	163	100.0
Monthly Income		
1000-10,000	90	55.2
11,000-20,000	20	12.3
21,000-30,000	2	1.2
Don’t know	16	9.8
Job less	35	21.5
Total	163	100.0

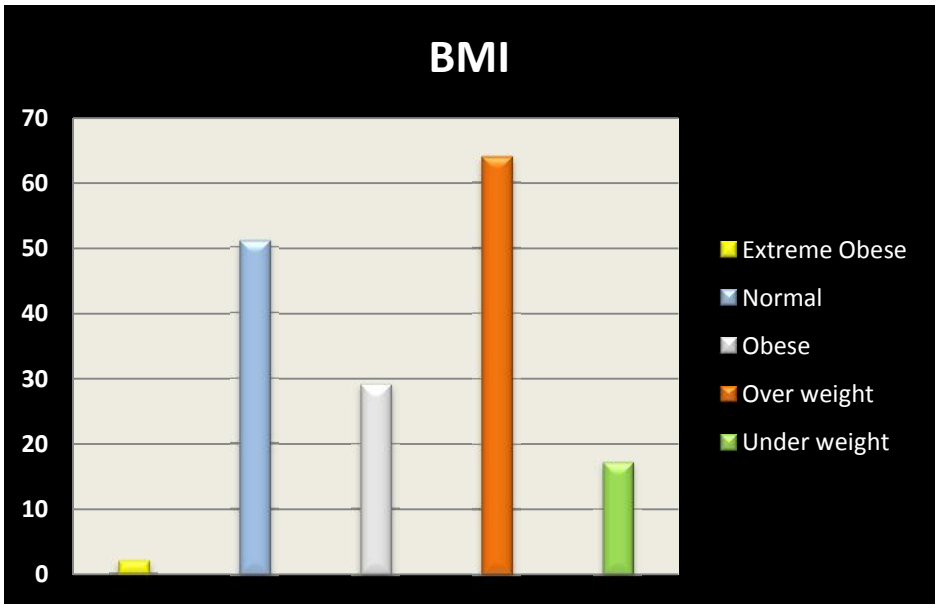

Fig.1. BMI of Pregnant Females

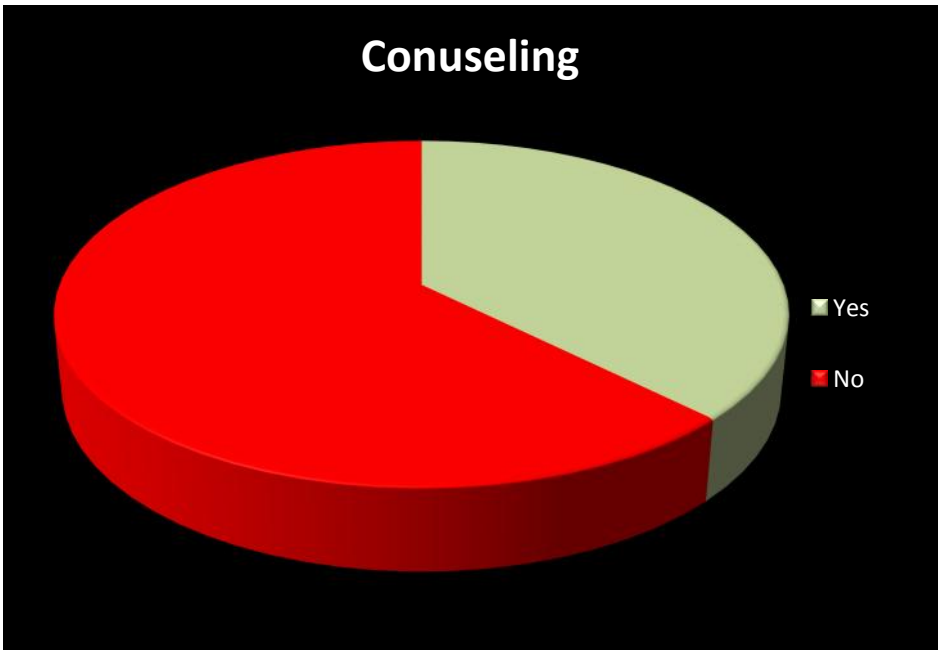

Fig. 2. Counseling on Target Weight Gain and Balanced Diet

4 DISCUSSIONS

Counseling during pregnancy is very much essential for the safe and successful outcome of pregnancy. Particularly in developing countries like Pakistan it is highly required, especially in public sector hospitals. In this study a great number of 62.6% women were not counseled about their diet and ideal weight gain in pregnancy.

We found positive and linear relationship between socioeconomic status and diet. Diet quality is affected by occupation, education, and income levels along with age and sex. Our assumptions prior to beginning the study was that since these women are from poor socioeconomic class, so would be rather underweight than being overweight. We found overweight pregnant females were 39% and obese were 29%. But this also has been reported in another study which is due to that being poor and uneducated they are least aware of the type of food important for them, hence taking only the cheapest

carbohydrates, refined grains, added sugars, lacking proteins, deficient vitamins, lower micronutrients and added fats to be energy rich but are nutrient poor which eventually expose them towards obesity [11], [12].

Vaccination in pregnancy is an important for both mother and neonatal. Antenatal TT vaccination is crucial to prevent from tetanus and provide immunization to pregnant mother and newborn against infectious diseases [13].

We found that 23% pregnant females were vaccinated to TT one times, 62% women vaccinated to two times while 15% females were not get vaccination during pregnancy.

Rubina et al. reported that lower socioeconomic groups have lack of education and nutritional knowledge than higher socioeconomic class which leads to poor health, obesity, diabetes and cardiovascular diseases [14].

In this study we found 82.8 % women were house wives and 17.2 % were working women and belong to lower socioeconomic class. Therefore they were dependent on their spouses, who were jobless or had low monthly income. Hence their eating behavior and antenatal checkup were fully dependent on their family members.

Diet cost is the barrier of consumption of healthy and energetic foods. One study conducted in America stated that food prices and income are correlated with selection and eating of healthy nutrition, dietary habits and diet quality [15]. Recommended daily dose for all pregnant women with a supplementation of 60 mg of iron and 400 g of folate is recommended to control iron deficiency anemia by World Health Organization.

One of the studies conducted in Iran was conclude that illiteracy is associated with higher BMI [16]. In this study we found 58.9% pregnant women was uneducated, 28.8% were primary passed, 8.0% were secondary and only 4.3% was intermediate. Fifty six (55.8%) women were lived in kaccha homes while 44.2% were lived in pakka homes with mean family size 10.45±6.6.

As antenatal checkup is the key for pregnant women to maintain the safe motherhood throughout pregnancy. The outcomes of obesity or overweight in pregnancy are macrosomia, cesarean deliveries and the incidence of preeclampsia. To overcome these complications it is necessary to restrict the excessive weight gain. The modern recommendation for the ideal weight gain in pregnancy is to note the patient's BMI before conception. One study highlighted that the recommended weight for overweight mothers should gain 0.9kg in the first trimester and no need of weight gain for obese pregnant women in first trimester [17]. Likewise overweight pregnant women should gain 0.3kg per week in second trimester while obese should gain their weight up to 0.2kg/week respectively. BMI must be checked at 1st antenatal checkup and should be monitored throughout pregnancy.

Maternal tobacco consumption during pregnancy is highly risky for the newborn. It increases the chances of morbidity and mortality in the neonatal period and associated with negative outcomes like mental and developmental health problems. One of the study highlighted that women of lower socio-economic class are more involved in smoking or smoke less habits [18]. In our study we also found 12% females were addicted to manpuri, 6% addicted to naswar, 6% were smoker, 18% were addicted to chaliya and 2% were addicted multanimitti, while 56% pregnant females had no habit of addiction.

5 CONCLUSIONS

Adequate counseling not carried out at tertiary care center. It must be an essential part of routine antenatal check for safe and healthy baby.

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