

Study of nutritional status of pregnant women throughout pregnancy reporting to primary health center

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Abstract

Introduction: Pregnancy strongly depends on the health and nutritional status of women, and a high proportion of pregnant women are affected by poor nutrition which leads them to unhealthy and distress conditions. Despite best efforts, malnutrition remains a major problem that affects our country. In Karnataka, the prevalence of undernutrition in 2019-20 is 17%. This is a significant risk factor for maternal and fetal mortality.

Aims and objectives: Evaluation of the nutritional status of pregnant women in Sindhnoor and Manvi taluka of Raichur district.

Methods: A hospital based cross sectional study was done on the rural pregnant patients attending malnutrition screening camp in taluka hospital of Manvi and Sindhnoor for 6 months. Proper history including dietary history taken, general physical examination done and vitals checked. Weight and height recorded, haemoglobin measured and data analysed.

Results: Two hundred participants in this study were between age ranges 17 to 40 years including Primi and grand multiparous women. Their Body Mass Index

(BMI) ranging 14 to 30. Nearly One fourth participants were having BMI of 18.5 or less and four fifth had anaemia.

Conclusion: This study finds that rural pregnant women in the study area are malnourished and anaemic. Health education for the rural public regarding the balanced diet, micronutrient supplementation is recommended to prevent maternal mortality and morbidity, also neonatal complications.

Keywords: Malnutrition, Anaemia, BMI, Hemoglobin.

Introduction

Pregnancy strongly depends on the health and nutritional status of women, and a high proportion of pregnant women are affected by poor nutrition which leads them to unhealthy and distress conditions. Optimal nutrition in mothers is not only crucial for their health but also for the health of future generations. Undernutrition is among the most common causes of maternal mortality. ^[1]

Maternal malnutrition remains unacceptably high across regions in South-central and Southeast Asia and Sub-Saharan Africa. In Karnataka, the prevalence of under nutrition in 2019-20 is 17% and maternal anaemia was

46% (Raichur being the 5th highest burden district).^[2]

Maternal malnutrition also plays a central role in influencing maternal, neonatal, and child health outcomes.^[3]

New evidence indicates the importance of maternal nutrition for the first 2 years of child life for prevention of stunting and subsequent obesity and non-communicable diseases in adulthood. Similarly, poor maternal nutrition prior to and during pregnancy is strongly linked with increased risk of maternal anemia, mortality, and adverse birth outcomes such as Low Birth Weight (LBW) and Preterm Birth (PTB) though the explanation for this link has been very complex.^[4]

Previous studies found that age at first marriage, educational status, Poor nutritional knowledge, dietary practice, and marital status were discovered as risk factors for under nutrition among pregnant women. Risk factors for undernutrition might not be the same across different regions due to differences in socio economic characteristics, culture, ethnicity, and geographical location^[5]

Pregnancy is an anabolic process, and a woman's normal nutritional requirement increases during pregnancy to meet the needs of the growing fetus and the maternal tissues associated with pregnancy.

the nutritional status of the expectant mother is one of the most important determinants affecting pregnancy outcomes.^[5] Therefore, the undernutrition of pregnant women needs to be assessed in a specific context to develop effective interventions.

Objectives

The objective of the study is evaluation of the nutritional status of pregnant women in Sindhnoor and Manvi taluka of Raichur district.

Materials and methods

- Source of data: Pregnant women attending malnutrition screening camp for regular ANC checkup in Sindhnoor and Manvi taluka of Raichur district.
- Study site: Malnutrition screening camp in Taluka hospital of Manvi and Sindhnoor, Raichur.
- Study design: Hospital based Cross sectional study
- Study period: 6 months
- Sample size: 200
- Inclusion criteria: All pregnant women attending the OPD in taluka hospital.
- Exclusion criteria: multiple pregnancy, women with bilateral edema, high risk pregnancy.

Methodology

After obtaining ethical committee clearance, in the malnutrition screening camp, all the pregnant women attending nutritional camp to OPD in taluka hospital, after obtaining written and informed consent from the patient, and satisfying the inclusion and exclusion criteria are taken. Proper history including dietary history was taken and General physical examination was done and vitals were checked. Weight and height of the women was checked and BMI calculated and required investigations were done.

Results

After statistical analysis (expressed in terms of percentages and graphs), data, final observations and results were tabulated as below.

Table 1: Sociodemographic characteristics of study participants

Variables	Categories	Percentage
Age	17-24	68.5
	25-34	28.5
	35-40	3

Family Size	≤5	39.2
	>5	60.8
Occupation	Housewife	59.6
	Farmer	34.8
	Others	5.6
Husband Occupation	Farmer	52.4
	Merchant	32.6
	Daily labourer	10.8
	Others	4.2
Source of food	Own product and market	62.4
	Own product	28.5
	Market purchase	9.1
Frequency of meals per day	Two times	13.1
	Three times	62.6
	Four times	24.3
Source of drinking water	Tap water	87.9
	Spring water	10
	Others	2.1
Hand washing prior to meal	Yes	76.7
	No	23.3
Type of latrine	Pit latrine with slab	67.7
	Pit latrine without slab/ open pit	32.3

A total of 200 pregnant women were enrolled in the study, who attended the malnutrition screening camp in Taluka hospital. Of the study subjects, the mean age group of pregnant women was 20.5 years. As to the family of respondents, over half of the respondents, 122 (60.8%) were from large family size (> 5 members). The occupational status of participants showed that 119 (59.6) of women and 105 (52.4) of husband occupation was

housewife and farmer, respectively. Majority, 125 (62.4%) of respondents origin of food was an own product and market purchase. Almost all, 195 (97.9) women used water from safe source (tap water and spring water) for drinking purpose. As to the frequency of meal, more than half, 125 (62.6) consumed their regular meal three times a day, almost 153 (76.7 %) washed their hand before meal. Nearly half of respondents, 135 (67.7%) had dry pit latrine with slab.

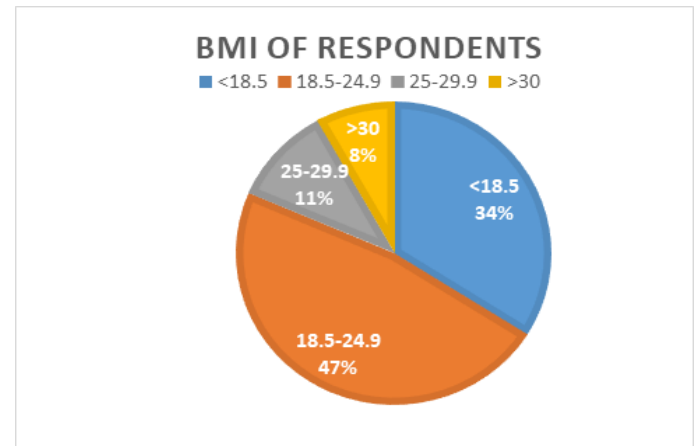
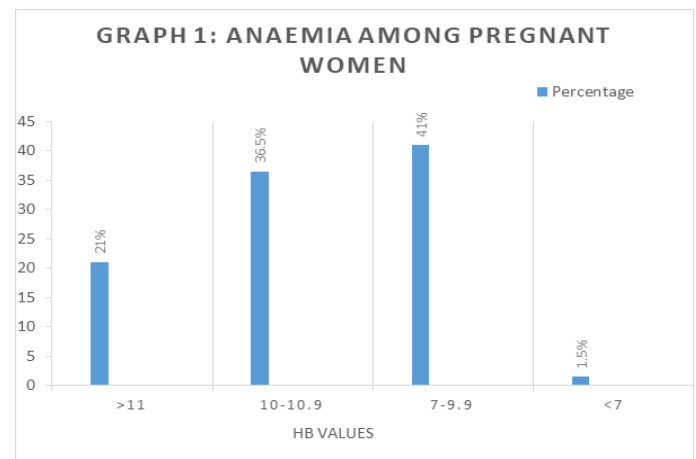


Figure 1: BMI of respondents

Figure 1 depicts the BMI status of 200 pregnant women who attended the nutritional camp. Out of 200 women, 34% were underweight with BMI <18.5, 47% in normal range BMI (18.5-24.9), 11% were overweight (25-29.9) and 8% were obese (>30).



Graph 1: Anaemia among pregnant women.

In our study group, out of 200 pregnant women, 36.5% women had mild anaemia, 41% had moderate anaemia and 1.5% had severe anaemia, only 21% had hemoglobin levels in normal range.

Discussion

This hospital based cross-sectional study attempts to review the situation of maternal nutrition and health in rural population reporting to Malnutrition screening camp in Taluka hospital of Manvi and Sindhnoor, Rai chur for a duration of 6 months.

The results indicate that majority of pregnant women reporting for antenatal check-up are malnourished. The women are very thin but their height is usually normal. Around the world, 9.7% of pregnant women are under nourished, 14.9% are obese.

Hossain et al suggested that a different approach may be developed to offer rural and poor urban women the opportunity to feed themselves properly, perhaps through appropriate household or village-scale technology. They found among rural study participants that 20% were severely malnourished; 54% were malnourished; 21% were normal; and 5% were over nourished. Further, 54% had moderate anaemia; 24% had mild anaemia; 16% had severe anaemia; 6% were normal as depicted in table 2.

	Present study	Hossain et al (2013)
Severely malnourished	3.5%	20%
Malnourished	34%	54%
Normal	47%	21%
Over nourished	19%	5%

Table 2: Comparison of malnutrition in present study and other study

Present study found that almost 34% were malnourished including 3.5% in the range of very severe malnutrition

with BMI below 16. Majority of our participants were anaemic with only 21% having haemoglobin above 11g/dL. 1.5% of the participants had severe anaemia with haemoglobin below 7g/dL.

According to Kalaivani et al (2018), most of the rural mothers in this study are lacking the awareness about the consequences of inadequate nutrition during pregnancy on mother and fetus compared to urban women. There is a significant association between women’s knowledge and practices of nutrition during pregnancy. Present study found that one fourth of the rural pregnant women were malnourished and that supports the finding that rural public is unaware about importance of nutrition in pregnancy.

Residence, educational status, iron supplementation during pregnancy, and meal frequency per day were statistically associated with anaemia among the pregnant women. Awareness creation and nutrition education on the importance of taking iron supplementation and nutritional counselling on consumption of extra meal and iron-rich foods during pregnancy are recommended to prevent anaemia in the pregnant women. Present study found that more than two third were anaemic that supports the finding that rural public deserved health education about importance problems of anaemia and malnutrition in pregnancy.

Most of the rural mothers in this study are lacking the awareness about the consequences of inadequate nutrition during pregnancy on mother and fetus compared to urban women. There is a significant association between women’s knowledge and practices of nutrition during pregnancy.

Conclusion

This study finds that rural pregnant in the study area are malnourished and anaemic. Food fads and superstitions like frequent fasting for religious reasons; eating left

overs after all have eaten in the home; doing excessive strenuous work to facilitate normal delivery are some of the superstitions that may worsen maternal nutrition. Family planning and interpregnancy interval play a significant role in maternal and child nutrition status, hence education regarding these is important to prevent complications like low birth weight, preterm labor and child undernutrition. Health education for the rural public is recommended to prevent maternal mortality and morbidity, also neonatal complications.

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