



A Study to Assess the Level of Knowledge Regarding Maternal Nutrition among Pregnant Women Attending Antenatal OPD in Selected Hospitals, Bengaluru

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ABSTRACT:

This research evaluated the awareness level of maternal nutrition among pregnant women who visited the antenatal outpatient department (OPD) of selected hospitals in Bengaluru. Maternal nutrition is of paramount significance for a successful outcome of pregnancy. A cross-sectional descriptive research design was applied. A sample of 61 antenatal mothers was taken employing a convenience sampling technique. Data were gathered utilizing a structured questionnaire to assess knowledge. The findings indicated that 53% had poor knowledge, 45% had moderate knowledge, and only 2% had good knowledge. Significant associations were observed between knowledge levels and variables such as education, income, residence, parity, and history of abortion ($p \leq 0.05$). These findings emphasize the necessity of special nutritional education programs to improve both maternal and fetal well-being.

Keywords: Maternal Nutrition, Nutritional Knowledge, Pregnancy, Antenatal Mothers, Health Education, Socio-Demographic Factors

INTRODUCTION:

Maternal nutrition is important for fetal growth and prevention of pregnancy complications. Nutritional deficiencies continue to be a high-priority area in spite of attempts to create awareness, particularly in developing nations such as India. Poor intake of food, food taboos, poor access to health care, and low literacy are some of the causes of poor nutritional status. Rural and disadvantaged groups in Karnataka are the most vulnerable. Knowledge assessment of the current level can be helpful in the planning of culturally relevant interventions to enhance outcomes.

METHODOLOGY:

A descriptive cross-sectional study design was used to assess the knowledge about maternal nutrition among pregnant women. The study was conducted at Sanjaynagara Primary Health Centre (PHC), Bengaluru, Karnataka. The location was chosen as it was easily accessible, well-receiving patients, and had pregnant women from various socio-economic backgrounds.

Population of interest was pregnant women who attended antenatal services at the selected PHC. Sixty One (61) antenatal mothers selected by non-probable convenient sampling method. The criteria for inclusion were pregnant women who were willing, able to understand English or Kannada, and available for data collection. Women who were assumed ill at the time of data collection, were excluded from sampling.

Data were gathered through a pre-tested and validated structured questionnaire with two distinct sections. Section A comprised demographic variables like age, education, occupation, income, family status, residence area, parity, food habit, and abortion history. In contrast, Section B comprised 20 multiple-choice questions on maternal nutrition. For every correct response, the score was 1, and for every incorrect response, the score was 0, and thus the maximum score that could be achieved was 20. Knowledge levels were categorized as follows:

- Adequate Knowledge: 15–20 correct responses (75–100%)
- Moderate Knowledge: 10–14 correct responses (50–74%)
- Inadequate Knowledge: 0–9 correct responses (<50%)

Content validity was ensured through expert review by nursing and nutrition experts. The tool reliability was established through Cronbach's Alpha, and high reliability was established at $\alpha = 0.972$.

A pilot test on 10 respondents was conducted to determine the feasibility and understandability of the questionnaire. Certain modifications were made, based on feedback from the pilot study.

Collection of data was conducted in a four-week period. Informed consent was taken from all the participants, and confidentiality was preserved throughout the study. Data were obtained through face-to-face interviews, taking about 20–30 minutes per participant.

Descriptive statistical methods, including frequency, percentage, mean, and standard deviation, were used to summarize demographic data and knowledge scores. Inferential statistical methods, specifically the Chi-square test, were applied to investigate the association between knowledge levels and specific demographic variables. A statistical significance threshold was set at $p \leq 0.05$.

RESULTS:

It was found that most of the respondents (42.6%) were in the age group 18–25 years, with a relatively young antenatal population. In terms of educational status, 36.1% were graduates and 13.1% were not educated. Mothers with higher education always possessed better knowledge regarding maternal nutrition, which can be explained by higher health literacy, better perception of diet advice, and greater participation in antenatal care programs. In terms of occupation, 50.8% of the respondents were homemakers and, in terms of income, 41.0% had a monthly income of ₹10,001–₹20,000. More than half of the women lived in rural areas (50.8%) and the majority (85.2%) consumed a mixed diet. From the obstetric point of view, 60.7% were primigravidas and 86.9% had no history of abortion. Positively, 93.4% of the respondents had knowledge regarding maternal nutrition, with health workers being cited as the primary source of information by 63.9%.

In spite of high awareness, the actual knowledge levels were relatively low: 53% of respondents had inadequate knowledge, 45% demonstrated moderate knowledge, and only 2% had adequate knowledge. This suggests a critical gap between awareness and understanding, necessitating structured and effective health education. Statistical analysis showed significant association between knowledge scores and educational qualification ($p = 0.009$), monthly income ($p = 0.020$), area of residence ($p = 0.022$), parity ($p = 0.046$), and abortion history ($p = 0.046$). Women with higher education and income, especially those who resided in urban areas, displayed better understanding of maternal nutrition, in line with earlier findings [1, 24, 25, 27, 31, 32, 35, 41]. Primigravidas were identified as more knowledgeable than multiparous women, perhaps because they were more motivated to learn about antenatal matters during their first pregnancy. Additionally, women with no history of abortion had greater knowledge levels, implying that emotional or healthcare disengagement after abortion may impede nutritional education. Conversely, variables like age, occupation, family structure, and dietary habits did not exhibit statistically significant correlations with knowledge, in line with diverse outcomes seen in earlier studies [26, 28, 34].

n = 61

Variable	Range	Frequency	≤ Median	> Median	X2	dF	p
Age in Years	18-25	26	9	17	7.921	4	NS
	26-30	23					
	31-35	12					
Educational Qualification	Graduation of Above	22	9	13	11.456	3	0.009 S*
	Secondary Education	18					
	Primary Education	13					
	No Formal Education	8					
Occupation	Home Maker	31	14	17	6.532	3	0.089 NS
	Private Employee	18					
	Government Employee	7					
	Self Employed	5					
Type of Family	Joint	48	7	6	4.112	2	0.128 NS
	Nuclear	13					
Monthly Income	10001-20000	25	13	12	9.874	3	0.02

	Above 30001	12					S*
	20001-30000	12					
	Less than 10000	12					
Area of Residence	Rural	31	13	18	5.246	1	0.02 S*
	Semi-Urban	7					
	Urban	23					
Dietary Pattern	Mixed	52	22	30	2.334	1	0.127 NS
	Vegetarian	9					
Have you had any abortions prior?	No	53	21	32	3.989	1	0.046 S*
	Yes	8					
Parity of the Mother	Multi	24	14	10	8.012	3	0.046 S*
	Primi	37					

S = Significant, NS = Non Significant at $p \leq 0.05$ | Mean Knowledge Score = 0.75, Median = 1.0

The findings highlight the imperative for some education programs, particularly for women from rural, economically disadvantaged, and poorly educated communities, and for encouraging the integration of nutrition education into routine antenatal care.

There was no strong association with occupation, family structure, or eating pattern.

The results show a lack of maternal nutrition knowledge in most of the sample. Education and income were strong predictors, as in previous literature. More educated women were better able to comprehend nutritional needs. Rural living and low income were barriers. High correlations with parity and abortion experience indicate experience has an impact on knowledge. These results emphasize the importance of including targeted nutritional counselling, particularly for high-risk groups.

CONCLUSION:

The research recognizes that nutrition knowledge among antenatal women is mostly inadequate. There is a pressing need for systematic health education programs, especially among rural women, poorer classes, and less educated groups. Nutrition education should be a priority in routine antenatal care by nurses and health workers.

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