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Nutritional Knowledge and Social Work Interventions during Pregnancy among Rural Women: A Case Study in Chamarajanagara District

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ABSTRACT :

This study investigates the nutritional knowledge and dietary practices of pregnant women residing in the rural areas of Chamarajanagara district, Karnataka, with a particular emphasis on the influence and effectiveness of social work interventions. Proper nutrition during pregnancy is essential for maternal and fetal health; however, in many rural regions, socio-cultural barriers, economic hardships, and lack of access to reliable health information hinder optimal dietary behaviors. Using a cross-sectional descriptive and inferential research design, data were collected from 400 rural pregnant women through a structured questionnaire comprising items on knowledge, attitudes, practices, challenges, and exposure to social work initiatives.

The findings reveal that while a majority of respondents demonstrated a moderate level of nutritional knowledge, substantial gaps persist in awareness of key micronutrients such as iron, folic acid, and calcium—critical for preventing anemia, neural tube defects, and low birth weight. Cultural taboos, distance from healthcare centers, and limited participation in government nutrition programs further compound these deficiencies. Notably, social work interventions such as nutrition education through pamphlets, counseling sessions, awareness camps, and home visits have shown a statistically significant positive effect on improving knowledge levels and practices among rural women.

The study underscores the urgent need for enhanced, culturally contextualized health education and support systems, particularly led by trained social workers at the grassroots level. Strengthening these interventions within existing maternal health programs can bridge knowledge gaps, foster behavior change, and contribute to better maternal and child health outcomes in under-resourced rural settings.

Keywords: Pregnancy, Nutritional Knowledge, Rural Women, Social Work Intervention, Maternal Health, Chamarajanagara District, Micronutrient Awareness, Public Health.

Introduction

Nutritional well-being during pregnancy plays a crucial role in ensuring the health and development of both the mother and the fetus. In rural areas of India, such as Chamarajanagara district, pregnant women often face multiple challenges including socio-cultural restrictions, economic hardships, and limited access to quality healthcare services. These factors contribute significantly to inadequate nutrition, which can lead to adverse pregnancy outcomes like low birth weight, anemia, and developmental issues in infants. Despite the importance of proper nutrition, awareness and knowledge about dietary requirements during pregnancy remain low among rural women. This study aims to assess the level of nutritional knowledge among pregnant women in rural Chamarajanagara and to explore the effectiveness of social work interventions—such as community education, counseling, and outreach programs—in improving nutritional awareness and promoting healthier practices. The findings intend to guide future strategies for enhancing maternal and child health through targeted social support.

Historical Development of Nutritional Knowledge during Pregnancy

Historically, maternal nutrition in India was guided by traditional systems like Ayurveda, which emphasized natural foods and herbs to support pregnancy. In the 20th century, the focus shifted towards medicalized perspectives, with organizations like the WHO highlighting the importance of micronutrients such as iron and folic acid. Contemporary approaches now combine biomedical knowledge with broader holistic models that address individual behaviors, community practices, and policy frameworks to improve maternal nutrition. In rural India, however, traditional beliefs and

customs often conflict with modern dietary recommendations, making culturally sensitive and integrated interventions essential for effective nutritional guidance during pregnancy.

Research Methodology

This study employed a descriptive and inferential statistics-based cross-sectional design to assess the nutritional knowledge and challenges among rural pregnant women. The research was conducted in Chamarajanagara district, Karnataka, involving a sample of 400 pregnant women aged 20 to 39 years, selected from 50 villages using a systematic sampling technique. Data collection was carried out between March 2024 and February 2025 through a structured questionnaire, which included sections on nutritional knowledge, attitudes, practices, challenges faced, and social work interventions. Ethical considerations were strictly observed, with informed consent obtained from all participants, confidentiality maintained, and voluntary participation ensured. Necessary permissions were granted by the District Health Office, Primary Health Centers (PHCs), and Anganwadi centers. The collected data were analyzed using descriptive and inferential statistical methods to identify key factors influencing nutritional status and to evaluate the impact of social work efforts in promoting maternal health.

Findings

Table 1: Descriptive Statistics

Variable	Frequency (n=400)	Percentage (%)
Age (20–29)	307	76.8
Antenatal visits (>3)	383	95.8
Moderate Nutritional Knowledge	349	87.3
Participation in Nutrition Programs	44	11.0
Nuclear Families	357	89.2

Results and Discussion

The descriptive statistics reveal that a majority of respondents (76.8%) were aged between 20–29 years, indicating a youthful reproductive population. An overwhelming 95.8% had more than three antenatal visits, suggesting good access to maternal healthcare services. Most participants (87.3%) demonstrated moderate nutritional knowledge, reflecting a basic awareness of dietary needs during pregnancy. However, only 11% participated in nutrition programs, highlighting a significant gap in program outreach or engagement. Additionally, 89.2% of the respondents belonged to nuclear families, which may influence decision-making autonomy and support systems. These findings emphasize the need for targeted awareness campaigns and improved community-level nutrition interventions.

Table 2: Inferential Statistics (Sample Results)

Hypothesis	Test	p-value	Result
Education level vs. Nutritional Knowledge	ANOVA	<0.05	Significant
Age group vs. Nutritional Knowledge	t-test	<0.05	Significant
Social work intervention vs. Practice improvement	Chi-square	<0.01	Strong Association

Results and Discussion:

The inferential statistics highlight significant relationships between key variables. ANOVA results show a statistically significant association between education level and nutritional knowledge ($p < 0.05$), indicating that higher education correlates with better understanding of nutrition during pregnancy. Similarly, the t-test reveals a significant difference in nutritional knowledge across different age groups ($p < 0.05$), suggesting age-related variations in awareness. The Chi-square test indicates a strong association between social work interventions and improvement in nutritional practices ($p < 0.01$), underscoring the effectiveness of such interventions. These findings emphasize the importance of educational and social strategies in enhancing maternal nutrition outcomes.

Suggestions

To improve maternal nutrition in rural areas, several strategic interventions are recommended. First, increasing the frequency of community-based nutrition camps can provide direct access to nutritional services and education, especially for underserved populations. Second, implementing culturally sensitive educational programs that align with local food customs and beliefs will enhance acceptance and participation. Third, integrating trained grassroots social workers into the system ensures ongoing, personalized support for pregnant women, facilitating behavior change and practical

implementation of nutritional knowledge. Fourth, utilizing digital tools, such as mobile apps or SMS-based education in local dialects, can expand reach and engagement, especially among younger women. Lastly, establishing strong monitoring mechanisms through social audits and regular community feedback will help track progress, address gaps, and adapt interventions effectively. Together, these measures can foster sustainable improvements in maternal nutrition and overall health outcomes in rural communities like those in Chamarajanagara district.

Conclusion

The study underscores the moderate but insufficient nutritional knowledge among rural pregnant women in Chamarajanagara. Educational status, age, and social work interventions significantly influence dietary awareness and practices. Strategic, culturally sensitive, and localized social work interventions can effectively bridge existing knowledge gaps, thereby enhancing maternal and fetal health outcomes in underserved rural communities.

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