Major Drivers and Barriers to The Uptake of Nutrition Education Among Pregnant and Lactating Women in Rural Communities, Moyamba District, Southern Sierra Leone

Sylvia Kercher Bangura

Njala University, Sierra Leone, West Africa

sylviakercherbangura@gmail.com

Abstract This study evaluates the efficacy of a community-based nutrition education intervention aimed at reducing maternal and child malnutrition in Moyamba District, Sierra Leone. Using a mixed-methods approach, we assessed knowledge, attitudes, beliefs, and practices (KABP), anthropometric measures, and dietary diversity. A key objective was to identify major drivers and barriers to the uptake of nutrition education among pregnant and lactating women. Results show significant improvements in nutrition-related knowledge and behavior post-intervention, alongside modest gains in anthropometric indicators. Key drivers of uptake included perceived health benefits, peer support, and accessible delivery formats. Major barriers were cultural beliefs, economic constraints, and low male involvement. The study recommends integrated, culturally sensitive, and gender-inclusive strategies for sustainable nutrition education interventions.

Keywords: Nutrition education, maternal health, child malnutrition, dietary diversity, KABP, Sierra Leone

1.1 Introduction

Maternal under nutrition remains a pressing public health concern in many low- and middle-income countries, including Sierra Leone. Pregnant and lactating women represent a nutritionally vulnerable group due to increased physiological demands, yet their dietary intake often remains inadequate due to multiple socio-economic, cultural, and systemic challenges (Black et al., 2013; FAO, 2021). In rural areas such as Moyamba District in Southern Sierra Leone, the situation is further exacerbated by limited access to healthcare services, low levels of education, food insecurity, and entrenched traditional beliefs that influence nutritional behaviors (M'Cormack-Hale et al., 2021; WFP, 2022).

Nutrition education is a proven strategy for improving knowledge, attitudes, and practices related to diet and health, particularly among women of reproductive age. It plays a pivotal role in promoting healthy eating habits, enhancing maternal and child nutrition, and reducing risks of low birth weight, stunting, and other forms of malnutrition (UNICEF, 2022; Bhutta et al., 2013). However, the successful implementation and uptake of nutrition education interventions depend largely on how well they address the specific needs, perceptions, and barriers faced by target populations (Nguyen et al., 2021).

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Although several governmental and non-governmental efforts have been made to improve nutrition outcomes through education in Sierra Leone, the uptake and impact of such programs in rural communities remain inconsistent (Kamara et al., 2020; WHO, 2021). A comprehensive understanding of what facilitates or impedes participation in nutrition education among pregnant and lactating women is necessary to guide the development of more contextually appropriate and effective interventions.

This study focuses on rural communities in Moyamba District—a region characterized by high poverty rates, limited infrastructure, and significant maternal and child health challenges (Statistics Sierra Leone & ICF, 2020). By examining the drivers and barriers influencing the uptake of nutrition education, the study aims to inform stakeholders, including public health practitioners, program designers, and policymakers, on how to strengthen nutrition initiatives and improve health outcomes for mothers and children.

1.2 Research Aim and Objectives

1.2.1 Aim

The main aim of this study is to assess the major drivers and barriers to the uptake of nutrition education among pregnant and lactating women in rural communities in Moyamba District, Southern Sierra Leone.

1.2.2 Specific objectives include:

1. To explore the level of awareness and participation in nutrition education programs among pregnant and lactating women in rural communities.
2. To identify the key motivators that enhances the uptake of nutrition education in the target population.
3. To examine the socio-cultural, economic, and institutional barriers that limit women's access to and engagement with nutrition education.
4. To recommend strategies for improving the delivery and effectiveness of nutrition education interventions in rural settings.

1.3 Research Questions

1. What is the current level of participation in nutrition education among pregnant and lactating women in rural Moyamba District?
2. What factors motivate these women to engage with nutrition education programs?
3. What are the major socio-cultural, economic, and institutional barriers to the uptake of nutrition education?
4. What improvements can be made to existing nutrition education strategies to enhance uptake and effectiveness?

1.4 Significance of the Study

. This research is of critical importance to public health stakeholders, development agencies, and local government authorities engaged in maternal and child nutrition programs. By identifying and analyzing the factors that influence the uptake of nutrition education, the study provides empirical evidence that can guide the design and implementation of more tailored and impactful interventions. Moreover, it contributes to the broader literature on community-based nutrition education in sub-Saharan Africa, where rural realities often differ greatly from urban contexts (Osei-Kwasi et al., 2020; M'Cormack-Hale et al., 2021). Ultimately, this study aims to support ongoing efforts to reduce maternal and child malnutrition in Sierra Leone and similar low-resource settings (UNICEF, 2022).

Despite the recognition of these factors, few studies have specifically explored the interplay of drivers and barriers to nutrition education uptake among pregnant and lactating women in rural Sierra Leone. Most available data are either national in scope or focused on urban areas, leaving a critical gap in localized evidence needed to tailor interventions to specific districts like Moyamba (Kamara et al., 2020; WHO, 2021).

2.0 Methodology

2.1 Study Design and Area

The intervention was conducted across five selected communities in Moyamba District. The target population comprised 150 pregnant and lactating women, A mixed-method, cross-sectional design was use purposively sampled from health facility records and community groups.in Moyamba District between June and November 2024.

2.2 Study Population

Participants were pregnant and lactating women aged 15–49 years residing in the selected communities. A total of 150 respondents participated in the quantitative component. Five FGDs and ten (Key Informant Interviews)

2.3 Sampling Technique

Purposive and convenience sampling were used. a pre-post intervention design with quantitative and qualitative data collection tools. For qualitative data, key informants included community health workers, traditional birth attendants, and healthcare staff.

2.4 Data Collection Tools

Data Collection Instruments

- Structured questionnaires, FGD guides, and interview schedules were developed and pre-tested. Quantitative data focused on socio-demographics, education uptake, and practices. Qualitative data captured beliefs, barriers, and attitudes. **Anthropometric Measurements**: BMI and MUAC.

- **24-Hour Dietary Recall**: Evaluated dietary diversity using the MDD-W tool.

Focus Group Discussions: Identified perceived

2.5 Intervention Details The intervention consisted of six weekly community-based sessions on topics such as exclusive breastfeeding, complementary feeding, maternal nutrition, hygiene, and food groups. Sessions were interactive, culturally tailored, and facilitated by trained community health workers.

2.6 Data Analysis

Quantitative data were analyzed using SPSS Version 26. Descriptive statistics were used for demographic and categorical variables. Thematic analysis was used for qualitative data from FGDs and KIIs. Ethical Considerations

2.6 Ethical approval was obtained from the [Institutional Review Board or Ethics Committee Name]. Informed consent was obtained from all participants. Privacy and confidentiality were maintained.

3 .0 Results and Discussions

3.1 Socio-Demographic Characteristics of Respondents

A total of 150 pregnant and lactating women participated. Their demographic profile is summarized in **Table 1** below.

Table 1: Socio-Demographic Characteristics of Respondents (N = 150)

Variable	Frequency (n)	Percentage (%)
Age Group		
15–24 years	52	34.7
25–34 years	64	42.7
35 years and above	34	22.6
Education Level		
No formal education	81	54.0
Primary education	42	28.0
Secondary education	22	14.7
Tertiary education	5	3.3
Marital Status		
Married	112	74.7
Single	38	25.3
Occupation		
Farming	93	62.0
Petty trading	36	24.0
Unemployed	21	14.0

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3.2 Uptake of Nutrition Education

Only 61 respondents (40.7%) reported having received any form of nutrition education during pregnancy or lactation.

- Among these, the majority (72.1%) received information through health talks at antenatal clinics.
- 18% mentioned receiving messages from community health volunteers.
- 9.8% accessed nutrition information via radio programs.

3.3 Drivers of Nutrition Education Uptake

Table 2: Major Reported Drivers for Uptake (n = 61)

Factor	Frequency	Percentage (%)
Availability of CHWs and health talks	44	72.1
Support from spouses or family	31	50.8
Perceived benefits (health outcomes)	27	44.3
Group counseling at clinics	20	32.8

Qualitative Findings (FGDs and KIIs) confirmed that women are more likely to participate in nutrition education if:

- Sessions are integrated into regular clinic visits.
- CHWs deliver messages in local languages.
- Husbands or elders support attendance.

3.4 Barriers to Nutrition Education Uptake

Table 3: Major Reported Barriers (N = 150)

Barrier	Frequency	Percentage (%)
Financial constraints	95	63.3
Long distance to health facility	71	47.3
Low literacy/difficulty understanding info	59	39.3
Cultural beliefs or food taboos	51	34.0

3.5 Food Diversity

Indicator	Pre-Intervention (%)	Post-Intervention (%)
Minimum dietary diversity	34	70
Consumption of protein-rich foods	42	68

- Minimum dietary diversity increased from 34% to 70%.
- Protein-rich food consumption rose from 42% to 68%.

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Qualitative Data revealed:

- Some women avoided clinics due to fear of being scolded or judged by nurses.
- Taboos included avoiding eggs, groundnuts, or pineapples during pregnancy for fear of birth complications.

3.5 Nutritional Knowledge and Practices

- 68% of respondents demonstrated **low-to-moderate knowledge** of maternal nutrition.
- Only 38% consumed at least three different food groups in the previous 24 hours.
- Protein and fruit intake were especially low due to cost and food taboos.

3.6 Discussion

The study confirms low uptake of nutrition education in rural communities due to a combination of financial, geographic, cultural, and informational barriers. These findings align with previous studies in low-resource settings (Girard et al., 2012; Kamara et al., 2021). Family support, community health services, and localized education delivery were identified as effective drivers. A socio-ecological approach is needed to address barriers at individual, community, and policy levels.

3.6.1 Drivers Enhancing Uptake

Consistent with previous studies (Girard et al., 2012; Nguyen et al., 2017), this study confirms that **access to CHWs**, **clinic-based education**, and **family support** are strong motivators. The importance of **culturally appropriate delivery** of nutrition education is also evident, with women responding better to locally contextualized sessions.

3.6.2 Barriers Limiting Uptake

The barriers reported align with the **Health Belief Model**, where perceived barriers (e.g., cost, literacy, distance) outweighed perceived benefits in many cases. Cultural taboos and traditional beliefs remain major obstacles, reinforcing findings by Sellen (2000) and Kamara et al. (2021). Structural issues, such as poverty and distance from health facilities, echo the **Social Ecological Model**'s recognition of environmental influences.

3.6.3 Implications for Policy and Practice

- **Community-based nutrition outreach**, using CHWs and mobile clinics, could improve access.
- **Engaging male partners** and local leaders could improve family support and cultural acceptance.
- **Visual tools and oral communication** methods may help overcome low literacy barriers.

- **Behavior change communication** strategies should be integrated into antenatal/postnatal care programs.

4.0 Conclusion and Recommendations

4.1 Conclusion

Despite the critical importance of maternal nutrition, this study reveals that uptake of nutrition education in Moyamba District is low, with significant barriers including poverty, illiteracy, and cultural norms. However, targeted, community-based interventions show potential to improve knowledge and practices among pregnant and lactating women.

4, 2 Recommendations

- The Nutrition Directorate through the ministry of Health to Expand community-based nutrition outreach programs.
- The ministry of Health to Integrate nutrition sessions into antenatal/postnatal visits.
- Ministry of Health to Train and deploy CHWs to deliver culturally tailored content.
- The Government of Sierra Leone toUse non-text-based tools to overcome literacy challenges.
- The ministry of Health to Involve male partners and local leaders in awareness campaigns.

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