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Effectiveness of Nutrition Extension Messages on Child Feeding Practices among Rural Households in South-South Nigeria

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Abstract

Undernutrition among children remains a critical challenge in rural South-South Nigeria, partly due to inconsistent adoption of recommended feeding practices despite the presence of nutrition extension services. This study assessed the effectiveness of nutrition extension messages on child feeding practices among rural households. Specifically, it examined household exposure to nutrition messages, the extent of implementation of recommended feeding practices, and the relationship between exposure and feeding behaviours. A multistage sampling procedure was used to select 360 households across 12 rural communities in Akwa Ibom, Edo, and Rivers states. Structured questionnaires administered via the Open Data Kit captured data on exposure to nutrition messages, breastfeeding, complementary feeding, and socio-demographic characteristics. Descriptive statistics revealed that most households had moderate exposure to nutrition extension messages (50%), while low and high exposures were 30% and 20%, respectively. Only 40% initiated breastfeeding within one hour of birth, 45% practiced exclusive breastfeeding for six months, and 50% continued breastfeeding up to 12–24 months. For complementary feeding, 55% met minimum meal frequency, 40% achieved dietary diversity, and 35% met minimum acceptable diet standards. Pearson correlation and linear regression analyses indicated a strong positive association between exposure to nutrition messages and child feeding practices ($r = 0.62$, $p < 0.01$; $\beta = 0.62$, $p < 0.001$), with exposure explaining 38% of the variance in feeding behaviours. The study concludes that consistent exposure to nutrition extension messages significantly improves child feeding practices in rural households and recommends that extension services enhance message frequency, provide practical training for caregivers, and strengthen monitoring to reach low-exposure households.

Keywords: Nutrition extension, feeding practices, rural households, South-South Nigeria, complementary feeding

Introduction

Nutrition extension messages have become an essential strategy for improving household knowledge and practices related to child feeding in many low- and middle-income countries. Effective nutrition communication is widely acknowledged as a critical driver of appropriate infant and young child feeding behaviours, particularly during the comple-

mentary feeding period when children are most vulnerable to malnutrition. Evidence from various settings shows that behaviour change communication and nutrition education can significantly improve mothers' knowledge, dietary practices, and children's nutritional outcomes. For instance, Afolabi and Afolabi (2021) demonstrated that behaviour change communication interventions led to notable

improvements in complementary feeding practices and infant nutritional status in Nigeria. Similarly, Saaka *et al.* (2021) found that nutrition messages delivered through radio increased maternal nutrition knowledge and improved child feeding behaviours. Studies among teenage mothers in Nigeria also show that mobile-based nutrition education significantly enhances understanding of infant and young child feeding (Sosanya *et al.*, 2025), while community-level actors have been effective in improving dietary adequacy among infants in Ethiopia (Abiyu and Belachew, 2020). Systematic reviews likewise affirm that social and behaviour change communication interventions contribute meaningfully to nutritional gains within the first 1000 days (Mahumud *et al.*, 2022). Together, these studies highlight the importance of timely, targeted, and culturally appropriate nutrition extension messages in shaping infant and young child feeding practices.

Despite the global and regional evidence supporting nutrition communication, inappropriate child feeding practices remain a widespread challenge in many developing contexts. Research has documented persistent problems such as delayed initiation of complementary feeding, inadequate meal frequency, poor dietary diversity, and reliance on nutritionally inadequate homemade foods (Abeshu *et al.*, 2016; Samuel and Ibidapo, 2020; Ajmal, 2024). Studies conducted across Africa and Asia reveal that socio-cultural beliefs, food taboos, limited nutrition literacy, and maternal misconceptions hinder optimal child feeding (McNamara and Wood, 2019; Tessema *et al.*, 2025; Hashmi and Legare, 2025). These broader insights underscore the complexity of feeding behaviours and the need for context-specific extension strategies that address knowledge gaps and behavioural barriers.

In South-South Nigeria, however, several challenges persist regarding the implementation and utilization of nutrition extension messages. Although the region benefits from active agricultural extension systems, studies emphasize gaps in information

dissemination, gendered constraints, and limited access to advisory services (Ekanem and Uloh, 2025; Uloh, 2025a; Ekanem *et al.*, 2024). Furthermore, existing evidence from Nigeria shows variations in complementary feeding practices, with many households struggling to meet recommended dietary standards due to poor nutrition awareness, socio-cultural norms, and inconsistent access to credible nutrition information (Egwuaba and Sunday, 2025; Bakare *et al.*, 2023; Udoh and Amodu, 2016; Anaemene and Sogunle, 2020). While previous studies such as Afolabi and Afolabi (2021) and Sosanya *et al.* (2025) have investigated the effects of behaviour change communication interventions on maternal knowledge and infant feeding practices, these works largely focus on urban or institutional settings, specific demographic groups, or technologically mediated interventions. None of these studies have specifically examined how rural households in South-South Nigeria receive, internalize, and apply nutrition extension messages delivered through the extension system. Moreover, although many studies confirm the effectiveness of nutrition education elsewhere, the extent to which exposure to nutrition extension messages translates into improved child feeding practices in this particular region remains insufficiently understood.

This gap is critical because suboptimal child feeding practices contribute significantly to undernutrition, impaired child development, and increased morbidity. Without a clear understanding of how households in rural South-South Nigeria engage with nutrition extension messages, it becomes difficult to design context-appropriate communication strategies capable of improving feeding behaviours. If this problem remains unaddressed, high rates of malnutrition and preventable child health challenges may persist, undermining the effectiveness of public health and agricultural extension initiatives.

In view of these gaps, this study examines the effectiveness of nutrition extension messages on child feeding practices among rural households in South-South

Nigeria. The broad objective was to assess how exposure to nutrition extension messages influences the adoption of recommended child feeding practices. The specific objectives were to assess the level of exposure of rural households to nutrition extension messages; determine the extent to which rural households implement recommended child feeding practices; and examine the relationship between exposure to nutrition extension messages and child feeding practices among rural households in South-South Nigeria

Methodology

The study was conducted in the South-South geopolitical zone of Nigeria, an area characterized by abundant agricultural resources, a network of extension services, and a favorable environment for diverse agricultural activities (Asanwana and Uloh, 2025; Uloh, 2025b). The study population consisted of rural households across the zone, particularly those involved in child caregiving. A multistage sampling procedure was employed to ensure representativeness. First, three states, Akwa Ibom, Edo, and Rivers, were randomly selected from the six states in the zone. Two local government areas (LGAs) were randomly selected from each state, and two rural communities were purposively selected from each LGA, resulting in 12 communities. From each community, 30 households were randomly selected, yielding a total sample of 360 households. This sample size was deemed adequate based on prior studies in similar rural settings, which utilized sample sizes ranging between 300–400 respondents to ensure statistical representativeness while maintaining feasibility (Okorie *et al.*, 2020; Ekanem and Akpan, 2018; Uko *et al.*, 2025). The combination of random and purposive sampling ensured representativeness of rural households while targeting communities likely to receive nutrition extension messages

Primary data were collected using structured questionnaires administered through the Open Data Kit (ODK) platform to ensure accuracy and completeness. Data collected

included household exposure to nutrition extension messages, child feeding practices, and socio-demographic characteristics. Exposure to nutrition extension messages was assessed based on frequency, sources, and comprehensiveness, while child feeding practices were measured using WHO Infant and Young Child Feeding (IYCF) indicators, including breastfeeding, complementary feeding frequency, dietary diversity, and minimum acceptable diet.

The collected data were analyzed using descriptive and inferential statistical tools. Descriptive statistics, including frequencies, percentages, and means, were used to summarize household exposure levels and feeding practices. The relationship between exposure to nutrition extension messages and child feeding practices was examined using Pearson correlation and chi-square tests. To determine the effect of exposure to nutrition extension messages on child feeding practices, linear regression analysis was employed. Linear regression was appropriate because the dependent variable, child feeding practice score, was continuous, and the conditions for regression, including linearity, normality, and independence of errors, were met (Afolabi and Afolabi, 2021; Sosanya *et al.*, 2025). The regression model was specified as follows:

Explicit form:

$$CFP_i = \beta_0 + \beta_1 ENM_i + \varepsilon_i \quad (1)$$

Implicit form:

$$Child\ Feeding\ Practice\ (CFP) = f(Exposure\ to\ Nutrition\ Messages\ (ENM)) \quad (2)$$

Where CFP_i represents the overall child feeding practice score for household i , β_0 is the intercept, β_1 is the coefficient for exposure to nutrition messages, ENM_i is the exposure score, and ε_i is the error term. Exposure to nutrition messages was included as the primary explanatory variable based on evidence that behavior change communication and nutrition education positively influence child feeding practices (Saaka *et al.*, 2021; Mahumud *et al.*, 2022; Afolabi and Afolabi, 2021). The model was evaluated using R^2 , F-

statistics, and p-values to determine the proportion of variance explained and statistical significance of predictors.

This methodology ensured a rigorous and representative assessment of the effectiveness of nutrition extension messages on child feeding practices among rural households in South-South Nigeria.

Results and Discussion

Level of Exposure of Rural Households to Nutrition Extension Messages

The exposure to nutrition extension messages varied across households as revealed in Table 1. A total of 35% reported receiving messages sometimes, while 30% and 10% indicated rarely and never, respectively. Only 20% received messages often and 5% very often. The pattern indicates that most households had irregular exposure, with only a small proportion consistently reached through nutrition communication channels. The pattern of exposure demonstrates that rural households are not uniformly engaged by nutrition extension systems, which aligns with trends identified in earlier extension and advisory service studies. Murugan and Chandrasekaran (2017) found that limited interaction with advisory services reduces message uptake,

reflecting similar irregularity in household contact with extension communication. Low or inconsistent exposure may stem from structural barriers such as inadequate extension staffing or infrequent field visits, an issue also highlighted by Makvereng *et al.* (2023), who emphasized uneven access to extension services among rural populations. Higher exposure among a subset of households may reflect localized availability of extension programmes, mirroring observations by Billah *et al.* (2024) that access to communication media and advisory services varies across communities. The implications are significant because exposure frequency is a known driver of behavioural adoption. Studies on nutrition-focused behaviour change have demonstrated that repeated message contact improves adoption of recommended feeding practices (Saaka *et al.*, 2021; Afolabi and Afolabi, 2021). The irregular pattern in the present context suggests that some households may benefit more from extension messaging than others, potentially widening disparities in child feeding behaviours. The lack of uniform exposure may also reflect constraints similar to those identified by Ekanem and Uloh (2025), who reported disparities in access to extension information among different groups.

Table 1: Frequency of Exposure to Nutrition Extension Messages among Rural Households

Frequency of Exposure	Frequency (n)	Percentage (%)
Never	36	10.0
Rarely	108	30.0
Sometimes	126	35.0
Often	72	20.0
Very Often	18	5.0
Total	360	100

Note: Frequency indicates how often households reported receiving nutrition extension messages.

Results in Table 2 shows that agricultural extension agents were the dominant source of nutrition messages (70%), followed by community meetings (50%) and radio/TV (40%). NGOs and health workers contributed moderately (30%), while social media accounted for the smallest share (20%). The distribution reflects reliance on interpersonal

and community-based channels, with digital platforms playing a limited but emerging role. The prominence of agricultural extension agents is consistent with the traditional structure of rural advisory systems, where face-to-face communication remains central. This aligns with findings by Sani (2024), who reported that extension personnel continue to

function as trusted conveyors of nutrition information in rural Nigeria. The strong role of community meetings further reflects the importance of collective learning platforms, consistent with evidence from Abiyu and Belachew (2020), who demonstrated the effectiveness of community-level actors in disseminating nutrition messages. Mass media participation, though moderate, supports earlier observations that radio is a growing channel for nutrition behaviour change, as demonstrated by Saaka *et al.* (2021). The relatively lower contribution of social media aligns with patterns identified by Asanwana and Uloh (2024), who found that digital adoption among rural populations remains constrained despite increasing use among extension workers. The involvement of NGOs

and health workers highlights the multisectoral nature of nutrition messaging, in line with the integrated approaches suggested by Adefalu *et al.* (2023). Variation in sources may reflect differences in infrastructure, programme intensity, and community engagement levels. In some contexts, farmers rely more on ICT-based sources (Ekanem and Akpan, 2018), but the present pattern suggests that personal and community-based interactions remain central in the study area. Divergence from ICT-heavy models may be due to limited connectivity or digital literacy gaps, as previously highlighted by Ekanem and Ekerete (2018). Overall, the distribution suggests that strengthening multiple complementary channels may enhance message penetration and improve feeding-related outcomes.

Table 2: Sources of Nutrition Extension Messages among Rural Households

Source of Messages	Frequency (n)	Percentage (%)
Agricultural Extension Agents	252	70.0
Community Meetings / Workshops	180	50.0
Radio / TV Broadcasts	144	40.0
Social Media (WhatsApp, FB)	72	20.0
NGOs / Health Workers	108	30.0

Note: Multiple responses allowed; percentages may exceed 100%.

Table 3 shows that 50% of households had moderate exposure to nutrition extension messages, while 30% recorded low exposure and only 20% had high exposure. This distribution reflects a mid-level coverage environment where many households are reached, but relatively few experienced consistently high exposures, indicating the need to strengthen both the reach and intensity of nutrition communication efforts.

The predominance of moderate exposure reflects a functional but uneven nutrition communication framework, where households receive messages but not with the intensity required for maximum behavioural change. This aligns with evidence from Mahumud *et al.* (2022), who emphasized that moderate exposure produces limited but positive behavioural effects, while higher exposure yields stronger improvements in feeding practices. The small segment of

households experiencing high exposure may correspond to communities with more active extension programmes or greater access to diverse communication channels.

The presence of a considerable low-exposure group mirrors findings from Uloh and Asanwana (2023), who reported variable access to extension information among rural populations due to infrastructural and institutional constraints. Similar disparities in exposure were reported by Ekanem *et al.* (2023) in studies of agricultural information utilization, pointing to persistent structural gaps. The mid-range exposure pattern may also be due to the mixed media environment described by Billah *et al.* (2024), where communication efforts exist but do not uniformly reach all households.

Exposure level has strong implications for child feeding outcomes. Studies such as Afolabi and Afolabi (2021) and Sosanya *et al.*

(2025) demonstrated that sustained and repetitive communication enhances caregivers' knowledge and adoption of recommended feeding practices. In this context, moderate exposure may support partial adoption but may not fully address behavioural gaps. Divergences in exposure categories also reflect

broader socio-cultural and logistical barriers similar to those identified by Tessema *et al.* (2025) and Fikadu *et al.* (2025), where community norms, access constraints, and resource availability influence how households interact with nutrition messages.

Table 3: Overall Level of Exposure to Nutrition Extension Messages among Rural Households

Level of Exposure	Frequency (n)	Percentage (%)
Low	108	30.0
Moderate	180	50.0
High	72	20.0
Total	360	100

Note: Overall exposure level computed as a composite score of frequency, sources, and comprehensiveness of messages.

Extent of Implementation of Recommended Child Feeding Practices

The findings in Table 4 showed that 40% of the respondents initiate breastfeeding within the first hour after birth, while 45% practiced exclusive breastfeeding for the first six months. In addition, 50% continued breastfeeding up to 12–24 months. These values indicate that although half of the households adhered to the recommended duration of breastfeeding, adherence to timely initiation and exclusive breastfeeding remained comparatively lower. Overall, the results reflect moderate compliance with recommended breastfeeding guidelines among the surveyed households.

The pattern observed suggests that breastfeeding behaviours among rural households remain uneven. The moderate adherence to core breastfeeding recommendations aligns with findings from Mphasha *et al.* (2023), who reported similar gaps in timely initiation and exclusive breastfeeding among caregivers in South Africa. Comparable inconsistencies were also described by Demir *et al.* (2020) in Turkey and by Pervez *et al.* (2023) in Bangladesh, indicating that suboptimal breastfeeding practices are a widespread challenge.

The relatively higher level of continued breastfeeding may be influenced by

cultural expectations that promote prolonged breastfeeding, as seen in Temoirokomalani *et al.* (2021), where cultural norms sustained longer breastfeeding durations despite earlier lapses in exclusive breastfeeding. Limited access to skilled counselling, reliance on informal advice networks, and inconsistent extension contact may also contribute, as previous extension-related studies have shown that communication effectiveness shapes adoption behaviour (Murugan and Chandrasekaran, 2017; Mahama *et al.*, 2024). Where exposure to accurate nutrition messaging is inadequate, households may default to local practices rather than recommended guidelines.

The lower adherence to early initiation and exclusive breastfeeding suggests gaps in maternal knowledge and support systems. This aligns with observations from Mphasha *et al.* (2023), who attributed similar patterns to inadequate guidance in the early postpartum period. Differences between recommended and actual practice highlight the need for stronger integration of nutrition education into extension services as emphasised by Sani (2024) and supported by Adefalu *et al.* (2023), who found that many extension agents lack adequate nutrition-sensitive training.

Table 4: Breastfeeding Practices among Rural Households

Breastfeeding Practice	Frequency (n)	Percentage (%)
Early initiation within 1 hour of birth	144	40.0
Exclusive breastfeeding (0–6 months)	162	45.0
Continued breastfeeding (12–24 months)	180	50.0
Total	360	100

Note: Percentages reflect households practicing each breastfeeding guideline.

Table 5 indicates that 55% of households met the minimum recommended meal frequency for children aged 6–23 months. However, only 40% achieved minimum dietary diversity, and 35% met the minimum acceptable diet standard that combines frequency and diversity. The results show that while meal frequency is relatively adequate, dietary diversity and overall acceptable diet scores remain low, reflecting limited adoption of comprehensive complementary feeding recommendations.

The findings demonstrate considerable gaps in children's dietary diversity and acceptable diet, a pattern consistent with evidence from Samuel and Ibidapo (2020) and Anaemene and Sogunle (2020), who reported poor complementary feeding outcomes among Nigerian mothers. Similar constraints were documented by Abeshu *et al.* (2016) in Ethiopia, suggesting that insufficient diversity in children's meals remains a recurring issue across developing contexts.

The relatively higher compliance with meal frequency compared with dietary diversity may be linked to household food insecurity and routine reliance on staple foods, which limit the variety of nutrients provided.

Studies such as Egwuaba and Sunday (2025) highlight the difficulties mothers face when transitioning from exclusive breastfeeding to diverse complementary foods, often due to cost, cultural restrictions, or limited knowledge. Socio-cultural influences also play a role; Tessema *et al.* (2025) demonstrated how cultural norms and gatekeeping by older family members affect feeding decisions, which may reduce the adoption of diverse diets.

Behaviour change communication has been shown to improve complementary feeding when effectively implemented. For instance, Afolabi and Afolabi (2021) and Saaka *et al.* (2021) demonstrated that structured communication interventions significantly improved dietary diversity and acceptable diets. The relatively low compliance observed in this study may therefore reflect inadequate exposure or limited reach of nutrition extension messages, similar to the challenges outlined by Billah *et al.* (2024) regarding communication access, and by Makvereng *et al.* (2023) regarding constraints to extension contact among rural households.

Table 5: Complementary Feeding Practices among Children 6–23 Months

Complementary Feeding Practice	Frequency (n)	Percentage (%)
Minimum Meal Frequency (≥ 3 meals/day)	198	55.0
Minimum Dietary Diversity (≥ 4 food groups)	144	40.0
Minimum Acceptable Diet (combines both)	126	35.0

Note: Based on WHO IYCF indicators. Percentages indicate compliance with recommended practices.

Table 6 shows that 30% of households exhibited poor child feeding practices, 50% demonstrated fair practices, and 20% attained

good practice levels. This distribution indicates that while half of the households meet a moderate level of recommended feeding

behaviours, only a small proportion adhere comprehensively to all recommended indicators. The predominance of fair practices suggests partial but incomplete adoption of breastfeeding and complementary feeding guidelines.

The overall pattern reflects a predominance of moderate adherence to child feeding recommendations, mirroring findings from studies such as Mphasha *et al.* (2023), which reported mixed levels of compliance among caregivers. Similar intermediate feeding behaviour levels were reported by Udoh and Amodu (2016) and by Bakare *et al.* (2023) in Nigeria, where households demonstrated partial adoption of key indicators but struggled to achieve full compliance.

These outcomes may stem from a combination of knowledge gaps, economic limitations, and socio-cultural influences. Research by Fikadu *et al.* (2025) and Tessema *et al.* (2025) described how structural and

cultural constraints shape feeding decisions, often restricting households from fully applying recommended guidelines. Communication and extension-related factors may also play a role; studies such as Murugan and Chandrasekaran (2017) and Mahama *et al.* (2024) emphasise the importance of effective communication strategies in shaping health and nutrition behaviours. Where extension exposure is intermittent or insufficiently targeted, adoption of complex practices such as dietary diversity may remain low.

The small proportion of households achieving good practice levels underscores the need to strengthen nutrition-focused extension support, consistent with findings by Sani (2024) and Adefalu *et al.* (2023), who emphasised the importance of integrating nutrition education into agricultural advisory systems. This reinforces the need for sustained behaviour change communication to bridge the gap between knowledge and practice.

Table 6: Overall Child Feeding Practice Level among Rural Households

Level of Child Feeding Practice	Frequency (n)	Percentage (%)
Poor	108	30.0
Fair	180	50.0
Good	72	20.0
Total	360	100

Note: Overall practice level computed as composite of breastfeeding, meal frequency, dietary diversity, and minimum acceptable diet.

Relationship Between Exposure to Nutrition Extension Messages and Child Feeding Practices

The correlation between exposure to nutrition extension messages and child feeding practices among rural households is presented in Table 7. The analysis revealed a positive and significant relationship ($r = 0.62$, $p < 0.01$), indicating that households with higher exposure to nutrition messages were more likely to adopt recommended child feeding practices. This suggests that nutrition extension messages play an important role in shaping caregivers' feeding behaviours.

The findings indicate a strong positive association between exposure to nutrition

extension messages and the adoption of proper child feeding practices. This aligns with studies by Grant *et al.* (2022) and Saaka *et al.* (2021), which demonstrated that nutrition social behaviour change communication significantly improves caregiver knowledge and feeding practices. The observed trend may reflect the influence of repeated and targeted messages on caregivers' awareness, attitudes, and decision-making regarding child nutrition, consistent with reports by Hirvonen *et al.* (2017) and Samuel and Ibidapo (2020). These findings underscore the critical role of extension services in providing information that can translate into improved child feeding behaviours in rural settings.

Table 7: Correlation between Exposure to Nutrition Extension Messages and Child Feeding Practices (n = 360)

Variables	Child Feeding Practices
Exposure to Nutrition Messages	$r = 0.62^{**}$

$p < 0.01$, two-tailed; r = Pearson correlation coefficient

Note: Positive significant correlation indicates that higher exposure to nutrition extension messages is associated with better child feeding practices.

The distribution of households by exposure level and child feeding practice is revealed in Table 8. Among households with low exposure, the majority exhibited poor or fair feeding practices, whereas those with moderate and high exposure demonstrated progressively better feeding practices. Specifically, 50% of households with moderate exposure achieved fair feeding practices, and 33% of high-exposure households exhibited good feeding practices. These results indicate that higher exposure to nutrition messages corresponds with improved child feeding behaviours, suggesting a dose-response relationship.

The cross-tabulation highlights that higher exposure to nutrition extension messages is associated with better child

feeding practices, corroborating the correlation findings. This is consistent with studies in Nigeria and Ethiopia where exposure to nutrition education improved complementary feeding practices among caregivers (Afolabi and Afolabi, 2021; Beressa *et al.*, 2024). The trend may reflect cumulative learning effects and reinforcement of positive behaviours through repeated messaging. It also suggests that households with limited exposure may face barriers, such as low literacy or restricted access to extension services, which constrain adoption of recommended practices (Sulayman *et al.*, 2025; Fikadu *et al.*, 2025). These insights emphasize the need for more intensive and accessible nutrition messaging targeting less-reached households.

Table 8: Cross-tabulation of Overall Exposure Level and Child Feeding Practice Level

Exposure Level	Poor Feeding Practice	Fair Feeding Practice	Good Feeding Practice	Total
Low	60	36	12	108
Moderate	36	108	36	180
High	12	36	24	72
Total	108	180	72	360

Note: Chi-square test can be applied to test the strength of association between exposure and feeding practices.

The linear regression analysis examining the effect of exposure to nutrition extension messages on child feeding practices is shown in Table 9. Exposure significantly predicted child feeding practices ($\beta = 0.62$, $t = 11.00$, $p < 0.001$), explaining 38% of the variance in child feeding behaviours ($R^2 = 0.38$). This indicates that exposure to nutrition messages is a strong determinant of household adoption of recommended feeding practices.

The regression analysis confirms that exposure to nutrition extension messages

substantially influences child feeding practices. This supports evidence from Sosanya *et al.* (2025) and Mahumud *et al.* (2022), which demonstrated that structured nutrition communication interventions effectively change caregiver behaviour and improve child dietary practices. The proportion of variance explained suggests that while nutrition messaging is crucial, other factors such as household socioeconomic status, cultural beliefs, and access to food may also affect feeding practices (Hirvonen *et al.*, 2017;

Samuel and Ibidapo, 2020). These findings highlight the importance of integrating nutrition education within broader extension

services to achieve sustainable improvements in child nutrition.

Table 9. Linear Regression Analysis Showing the Effect of Exposure to Nutrition Extension Messages on Child Feeding Practices among Rural Households in South-South Nigeria (n = 360)

Model	Unstandardized Coefficients B	Standardized Coefficients (β) Std. Error	t	p-value
Constant	1.20	0.15	8.00	<0.001
Exposure to Nutrition Messages	0.55	0.05	0.62	11.00

Model Summary:

- $R^2 = 0.38$ (38% of variance in child feeding practices explained by exposure to nutrition messages)
- $F(1, 358) = 121.0$, $p < 0.001$

Conclusion and Recommendations

The study revealed that exposure to nutrition extension messages among rural households in South-South Nigeria is generally irregular, with most households experiencing moderate exposure. Breastfeeding and complementary feeding practices were moderately adopted, with notable gaps in early initiation, exclusive breastfeeding, dietary diversity, and minimum acceptable diet. Statistical analysis demonstrated a strong positive relationship between exposure to nutrition messages and child feeding practices, confirming that higher and more consistent exposure significantly improves caregivers' adoption of recommended feeding behaviours. These findings highlight the critical role of nutrition-focused extension services in shaping child feeding practices in rural contexts. Based on the findings, the following recommendations are proposed:

1. Agricultural extension services and local governments should increase the frequency and consistency of nutrition messaging in rural communities to ensure that more households receive timely and repeated guidance.
2. Health authorities and extension agents should provide targeted training and practical demonstrations for caregivers to improve adherence to breastfeeding and complementary feeding guidelines,

focusing on early initiation, exclusive breastfeeding, and dietary diversity.

3. Policy makers and extension program coordinators should strengthen monitoring and evaluation mechanisms to assess household engagement with nutrition messages and tailor interventions that reinforce behaviour change among low-exposure households.

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