

Factors Contributing to Low Uptake of Health Information on Malnutrition Prevention and Control Methods among Household of Under 5 Children in Cyanika Sector, Rwanda 2025

¹Ms. Niwewanjye Yvette, ²Dr. Fisseh Berehe

¹Author, ²Co-author

¹(School of Health Sciences, Mount Kigali University)

²(School of Health Sciences, Mount Kigali University)

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Abstract: The study examined factors contributing to the low uptake of health information on malnutrition prevention and control among households with children under five in Cyanika Sector, Rwanda. Specifically, it assessed the extent of health information utilization, identified key barriers to its uptake, and explored the influence of socio-demographic characteristics on the application of nutrition-related information. A qualitative case study design was employed, utilizing semi-structured interviews with caregivers, local leaders, and health counsellors, alongside a review of relevant documents. The findings revealed that the utilization of health information on malnutrition prevention remained limited due to several interconnected factors. These included low levels of caregiver education, cultural beliefs and practices, inadequate access to media and communication channels, irregular visits by health workers, financial constraints, and weak community participation in nutrition-related initiatives. In addition, socio-demographic characteristics such as caregiver age, household headship, distance from health facilities, and household attitudes toward nutrition significantly influenced the extent to which health information was understood and applied. The study further established that households with educated caregivers, female-headed households, and those located closer to health facilities demonstrated better knowledge of nutrition practices and were more likely to consistently implement recommended malnutrition prevention measures. These findings highlight the importance of addressing not only information dissemination but also the broader socio-economic and structural conditions that affect health information utilization. The study concluded that improving the uptake of nutrition information requires a comprehensive and integrated approach. Effective interventions should combine nutrition education with economic empowerment initiatives, culturally sensitive communication strategies, improved access to food and health services, and strengthened community-based outreach programs. By addressing the underlying barriers to information utilization, stakeholders can enhance caregivers' capacity to adopt recommended nutrition practices and reduce malnutrition among children under five. The study recommends strengthening community nutrition education, promoting caregiver empowerment, integrating livelihood support into nutrition programs, improving healthcare accessibility, and developing culturally appropriate health education materials to support sustainable child nutrition outcomes in Cyanika Sector.

Keywords: Low Uptake, Health Information, Prevention, Malnutrition, Under 5 Children, Cyanika Sector.

1. INTRODUCTION

Malnutrition remains a major global public health challenge and one of the leading causes of morbidity and mortality among children under five years of age. According to the World Health Organization (WHO, 2021), an estimated 149 million children under five are stunted, while approximately 45 million suffer from wasting, with the greatest burden concentrated

in low- and middle-income countries. Malnutrition undermines children's physical growth, cognitive development, educational attainment, and immune function, thereby increasing their vulnerability to disease and premature death. Since the first five years of life constitute a critical period for growth and development, ensuring adequate nutrition during this stage is essential for achieving optimal health outcomes and sustainable human development.

In Sub-Saharan Africa, malnutrition continues to pose a significant public health concern despite numerous interventions aimed at improving child nutrition. Governments, development partners, and humanitarian organizations have invested substantially in nutrition education programs that promote appropriate Infant and Young Child Feeding (IYCF) practices, hygiene behaviors, immunization, micronutrient supplementation, and disease prevention measures (UNICEF, 2023). However, evidence suggests that the availability of health information alone does not guarantee its effective utilization. Various socio-economic, cultural, and structural barriers often limit the uptake and application of nutrition-related information among caregivers, particularly in rural communities (Habimana et al., 2022).

Rwanda has made notable progress in strengthening maternal and child health services and reducing child mortality through community-based health interventions and an extensive network of community health workers. Nevertheless, malnutrition among children under five remains a persistent challenge, particularly in rural areas where poverty, food insecurity, and limited access to health services continue to affect household nutritional practices (MINAGRI, 2021). Although nutrition information is disseminated through health facilities, community outreach programs, and mass media platforms, many caregivers encounter challenges in understanding, accessing, and implementing recommended nutrition practices.

Previous studies in Rwanda have identified several factors associated with the low uptake of health information on malnutrition prevention and control. These include low levels of caregiver education, household poverty, inadequate access to healthcare services, poor transportation infrastructure, and deeply rooted cultural beliefs that may conflict with modern nutrition recommendations (Nshimiyimana & Mukunzi, 2020). Additionally, socio-demographic characteristics such as caregiver age, gender, educational attainment, employment status, household structure, and decision-making power have been found to significantly influence the adoption of recommended child feeding and care practices (Uwizeye et al., 2021). Caregivers with limited education, for example, may face difficulties in interpreting health messages, attending nutrition education sessions, or appreciating the importance of dietary diversity, exclusive breastfeeding, and proper hygiene practices (Mukamana & Mbaraga, 2022).

Despite the implementation of various nutrition-sensitive and nutrition-specific interventions, the persistence of child malnutrition suggests that important barriers to the utilization of health information remain insufficiently understood. Existing studies have largely focused on the prevalence and determinants of malnutrition, with limited attention given to the factors influencing the uptake and practical application of nutrition-related health information at the household level. This gap is particularly evident in rural settings such as Cyanika Sector, where contextual factors may shape caregivers' responses to health messages differently from other regions.

Therefore, this study sought to examine the factors contributing to the low uptake of health information on malnutrition prevention and control among households with children under five years in Cyanika Sector, Rwanda. Specifically, the study assessed the extent of health information utilization, explored the socio-demographic and contextual factors influencing uptake, and generated evidence-based recommendations to enhance nutrition communication and intervention strategies. The findings are expected to contribute to the development of more effective, context-specific approaches for improving child nutrition outcomes and reducing the burden of malnutrition in rural Rwanda.

2. METHODOLOGY

2.1 Study Design

A descriptive cross-sectional study design with quantitative and qualitative approach were used for this research.

2.2 Study Area

Cyanika Sector is located in Burera District, in the Northern Province of Rwanda. The sector comprises both rural and semi-urban settings, with the majority of the population engaged in subsistence farming.

2.3 Study Population

The study population for this study consisted of households in Cyanika Sector with children under the age of five years.

2.4 Sample Design

2.4.1 Sample Size

The sample size was determined using single proportion formula for cross-sectional studies. It is commonly used to estimate the proportion of a population with a specific characteristic or outcome (Arifin, 2013). The formula for the sample size required to estimate a proportion with a given level of precision is:

$$n = \frac{Z^2 P (1-P)}{d^2}$$

Whereby;

n is required sample size

Z= Z-score (standard normal variate) corresponding to the desired confidence level (1.96) for 95% confidence

d= is the degree of precision (margin of error), which is 5%

P= Estimate prevalence of the problem under study as it has been suggested.

p = estimated proportion of stunting in the region (assumed to be 0.38 or 38%) (RDHS, 2020)

$$n = \frac{(1.96)^2 0.38(1-0.38)}{(0.05)^2} = \frac{(1.96)^2 0.38 \times 0.62}{(0.05)^2} = 362$$

Therefore, the required sample size is **362** participants

A - Adjusted sample using Finite Population Correction (FPC), as the target population is 1035 households.

$$n = \frac{no}{1 + \frac{no-1}{N}} = \frac{362}{1 + \frac{362}{1035}} = \frac{362}{1.3490} = \mathbf{268 \text{ Households}}$$

Adjustment for Non-Response Rate

To account for possible non-participation, a 10% non-response rate was considered. The formula used is:

$$n_{final} = n \div (1 - non \text{ reponse rate})$$

Where:

- n = adjusted sample size (from your calculation: 268 households)
- non-response rate = 10% = 0.10

Substituting:

$$n_{final} = 268 \div (1 - 0.10) = 268 \div 0.9 = 297.8 \approx 298$$

So, after adding 10% for non-response, the final sample size = **298 households**.

The study will employ a qualitative subsample derived from the quantitative estimate of 268 households. To account for possible non-participation, a 10% non-response rate was considered, increasing the total sample size to 298 households.

To capture in-depth and context-rich perspectives, a total of 28 households will be purposively selected as key informants for individual interviews, ensuring variation across categories such as mothers or caregivers of LBW infants, mothers of normal-weight infants, age, parity, education, socio-economic status, and proximity to health facilities. The remaining 240 households will be engaged through Focus Group Discussions (FGDs). Each FGD will consist of 12 participants, organised by role and characteristic such as young mothers, older mothers, fathers, community health workers, and mixed community members to reflect group norms and community perspectives. This structure yields a total of 20 FGDs, in addition to the 28 key informant interviews, thereby maintaining the original sample structure of 268 participants, while the additional households serve as a buffer for non-response.

2.4.2 Sampling Technique

The study employed purposive sampling, specifically criterion-based purposive sampling, to select participants.

2.5 Data Collection Methods

Data were collected through Focus Group Discussions (FGDs), key informant interviews, and document review to ensure comprehensive and reliable information. Twenty FGDs involving 240 participants were conducted to explore community perceptions, practices, and challenges related to malnutrition prevention. In addition, 28 purposively selected respondents participated in semi-structured interviews to provide in-depth insights on nutrition awareness, attitudes, and preventive practices. Relevant documents from the Ministry of Health, Rwanda Demographic and Health Survey (RDHS), and Cyanika Health Center were reviewed to supplement and validate the primary data.

3. RESULTS AND DISCUSSION

3.1 Demographic details

The observed patterns underscore the importance of tailoring health communication strategies to low-literacy, resource-constrained rural populations in order to improve child nutrition outcomes in Cyanika Sector, Burera District. The results are presented in table as follows:

Table 1: Socio-Demographic Characteristics of Respondents in Cyanika Sector (N = 268)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	98	36.6
	Female	170	63.4
Age category	15–25 years	74	27.6
	25–35 years	118	44.0
	35–45 years	57	21.3
	Over 45 years	19	7.1
	Parent / Caregiver	187	69.8
Role / Function	Local leader	39	14.6
	Community resident	42	15.6
Education level	No formal education	86	32.1
	Informal education	77	28.7
	A2 (Upper secondary)	58	21.6
	A1	26	9.7
	A0	16	6.0
	Master's degree	5	1.9
Occupation	Farmer	191	71.3
	Small-scale business	33	12.3
	Housewife	24	9.0
	Employed (government/private)	14	5.2
	Other	6	2.2
Number of children under five	One	154	57.5
	Two	70	26.1
	Three	26	9.7
	Four and above	18	6.7
Religious affiliation	Protestant	131	48.9
	Catholic	85	31.7
	Seventh Day Adventist	28	10.4
	Muslim	16	6.0
	Other	8	3.0

Source: Primary data (2026)

This section presents the key findings of the study conducted in Cyanika Sector, Burera District, focusing on factors contributing to the low uptake of health information on malnutrition prevention and control among households with children under five years. The results are organised in line with the study objectives to ensure a clear and logical. Subsequently, the section examines respondents' knowledge and awareness of health information related to malnutrition prevention and control, followed by an assessment of their attitudes and perceptions towards the information provided by health workers and community structures. The analysis then explores the actual practices of households in applying recommended nutrition and child-feeding guidelines, highlighting areas where information is either effectively utilised or poorly implemented.

To clearly illustrate the patterns and trends observed, the findings are presented using descriptive statistics, including frequencies and percentages. Where appropriate, tables are used to summarise the data and enhance clarity. This structured and systematic presentation of findings provides a solid basis for understanding the underlying factors influencing low uptake of health information on malnutrition prevention and control in Cyanika Sector, and it sets the stage for further interpretation and discussion in subsequent sections of the chapter.

3.2 The extent of low Uptake of Health Information on Malnutrition Prevention and Control among Households with Children under Five in Cyanika Sector, Rwanda

The findings from this study reveal several interrelated barriers that limit the effective uptake and use of health information on malnutrition prevention and control among households with children under five years in Cyanika Sector, Burera District. Drawing from responses provided by parents, caregivers, community members, and local leaders, the results demonstrate that although health and nutrition information is available, multiple socio-economic, knowledge-related, and contextual factors influence how this information is understood and applied at household level.

A major barrier identified by a large proportion of respondents relates to financial and economic limitations. Many caregivers reported that implementing recommended nutrition practices often requires financial capacity that they do not possess. Several households expressed the perception that advice provided by health workers such as preparing diversified diets or including animal-source foods is difficult to follow due to limited income. This concern was commonly raised among households dependent on subsistence farming and informal livelihoods, particularly those with multiple children under five. As a result, even when caregivers understand the information provided, economic hardship restricts their ability to fully translate knowledge into practice.

Another prominent barrier is partial understanding and inconsistent use of health information. Although the majority of respondents indicated that households generally receive nutrition-related information through community health workers, health facilities, and community meetings, about one-third of households were reported to either misunderstand or occasionally ignore the information provided. This challenge was particularly evident among caregivers with low levels of formal education or those who rely on informal sources of information. In such cases, key messages on child feeding frequency, dietary diversity, and age-appropriate nutrition were not always clearly understood, leading to inconsistent application.

Despite these challenges, the findings also show that a substantial proportion of households demonstrate positive practices, especially where enabling conditions exist. Respondents noted that households that rear livestock or have access to animal-source foods are better positioned to apply nutrition advice, particularly regarding protein intake for young children. This suggests that household resource availability plays a critical role in shaping the practical use of health information, reinforcing the link between livelihood activities and child nutrition outcomes. Geographical and access-related factors were also identified as barriers, though to a lesser extent. Some respondents highlighted that households located farther from health facilities or community outreach points experience delays in receiving timely health information. This distance limits regular interaction with health workers, growth monitoring services, and nutrition counselling sessions, reducing opportunities for clarification and follow-up. As a result, these households are more likely to rely on incomplete or outdated information.

In addition, attitudinal and perceptual barriers emerged from the findings. A number of respondents indicated that some caregivers perceive nutrition recommendations as demanding or unrealistic given their daily living conditions. This perception leads to selective adoption of advice, where households apply certain practices while disregarding others they consider impractical. Such attitudes were more common among households facing persistent poverty or food insecurity, where survival priorities outweigh long-term nutrition considerations.

Generally, the findings suggest that low uptake of health information on malnutrition prevention and control in Cyanika Sector is not solely due to lack of access to information. Rather, it results from a combination of economic constraints, limited comprehension, livelihood-related challenges, distance to health services, and caregiver perceptions. While many households demonstrate willingness and partial compliance evidenced by the relatively high proportion applying information the sustainability and completeness of these practices remain constrained by structural and socio-demographic factors. Addressing these barriers will therefore require not only improved information dissemination but also context-sensitive interventions that consider household realities and resource limitations.

Table 2: To access the prevalence of Uptake of Health Information on Malnutrition Prevention and Control Among Households with Children Under Five in Cyanika Sector (N = 268)

Barrier Identified	Response Category	Frequency (n)	Percent (%)
Financial constraints	Households feel unable to follow recommended practices due to limited income	90	32.0
Limited access to nutritious food	Inadequate availability of diversified and nutritious foods	71	25.3
Lack of knowledge on proper nutrition	Incomplete or insufficient understanding of malnutrition prevention information	68	24.2
Lack of access to healthcare services	Limited access to health facilities and nutrition services	23	8.2
Cultural beliefs and practices	Traditional beliefs influencing child feeding and care practices	22	7.8
Distance to health facilities	Long distance limiting regular access to nutrition information and services	4	1.4
Other barriers	Miscellaneous factors mentioned by respondents	3	1.1
Total responses		281	100.0

Source: Primary data (2026)

Note: Multiple responses were allowed; therefore, totals exceed the number of respondents (N = 268).

The findings presented in above table reveal that the uptake of health information on malnutrition prevention and control among households with children under five in Cyanika Sector is hindered by multiple and interrelated barriers. Since respondents were allowed to provide more than one response, the total number of responses (281) exceeds the total number of respondents (268), indicating that many households face several challenges simultaneously. Financial constraints emerged as the most frequently reported barrier, accounting for 32.0% of responses. This indicates that although households may receive appropriate nutrition information, their limited economic capacity prevents them from applying recommended practices such as providing balanced diets, animal-source foods, and diversified meals. One interviewee (Respondent C) explained, “We are taught to give children milk, eggs, and fruits, but with the little income we have, it becomes impossible to follow all these recommendations” (Interview conducted on 12 November 2025). Similarly, another participant (Respondent H) stated, “Health workers give us good advice, but without money, that information remains theoretical” (Interview conducted on 3 December 2025). These views demonstrate that poverty significantly limits the practical application of nutrition information.

Limited access to nutritious food was the second most reported barrier, accounting for 25.3% of responses. This challenge reflects not only financial limitations but also broader issues related to food availability and accessibility. Some households reported difficulties in accessing diversified and nutritious foods due to seasonal shortages and limited local markets. One respondent (Respondent M) noted, “Even when we try to follow what we are taught, some foods are not easily found in our area, especially fruits and animal proteins” (Interview conducted on 18 November 2025). Another interviewee (Respondent S) added, “Sometimes food availability depends on the season, so it is hard to feed children the way we are advised throughout the year” (Interview conducted on 7 January 2026).

These responses suggest that food insecurity and structural limitations within the local food system reduce the effectiveness of nutrition education.

Lack of knowledge on proper nutrition accounted for 24.2% of the responses, indicating that a notable proportion of households still have insufficient understanding of malnutrition prevention and control. This may be associated with low levels of formal education, limited exposure to repeated health messages, or challenges in understanding technical information provided during health education sessions. One interviewee (Respondent A) stated, “They talk about balanced diets, but some of us do not clearly understand what that really means for daily feeding” (Interview conducted on 5 November 2025). Another participant (Respondent T) reported, “Sometimes the information is given very quickly at the health center, and when we go back home, we forget or misunderstand it” (Interview conducted on 22 December 2025). These statements indicate the need for simplified and continuous nutrition education tailored to the community’s level of understanding.

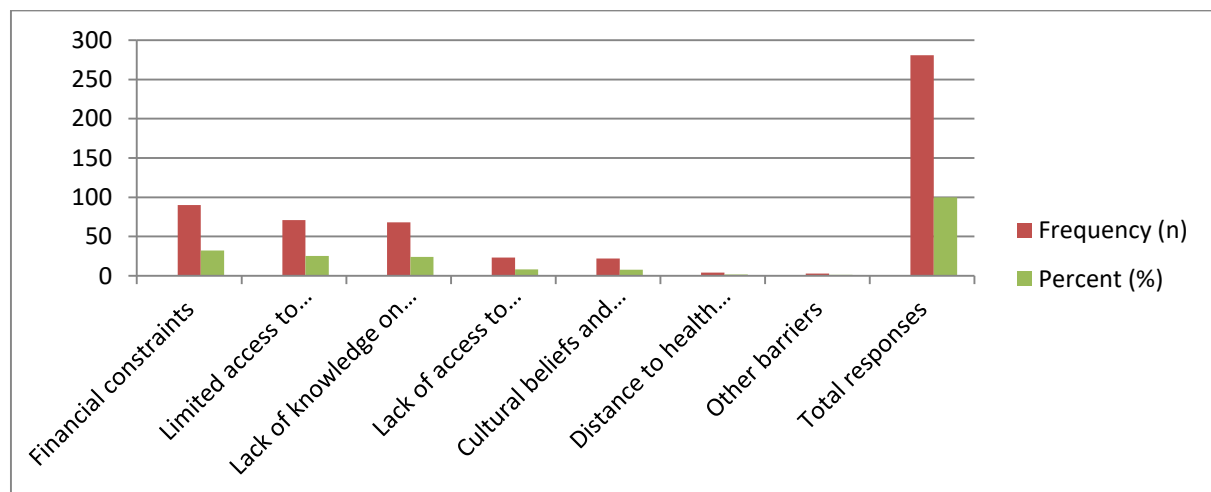
Limited access to healthcare services was mentioned in 8.2% of the responses, showing that some households have restricted opportunities to receive nutrition information. This barrier may be linked to infrequent visits to health facilities, limited outreach services, or competing household responsibilities. One respondent (Respondent F) explained, “We only receive nutrition advice when we go to the health center, and most of the time we go there only when the child is sick” (Interview conducted on 29 November 2025). This suggests that reliance on facility-based education alone may not adequately reach all households.

Cultural beliefs and practices accounted for 7.8% of the responses, indicating that traditional norms continue to influence child feeding practices in some households. Certain beliefs discourage caregivers from adopting recommended nutrition practices, even when they are aware of the information. One interviewee (Respondent K) stated, “In our community, elders say that giving eggs to young children is not good, so parents fear to follow what health workers advise” (Interview conducted on 14 December 2025). Another participant (Respondent R) added, “Sometimes cultural beliefs are stronger than the information we receive from health professionals” (Interview conducted on 9 January 2026). These responses highlight the need to address cultural perceptions when promoting nutrition interventions.

Distance to health facilities was the least reported barrier, accounting for 1.4% of responses, but it still poses a significant challenge for affected households. Long distances limit regular access to nutrition education sessions and follow-up services. One respondent (Respondent Y) explained, “The health centre is far from our home, and transport costs make it difficult to attend nutrition education regularly” (Interview conducted on 27 November 2025). Additionally, a small proportion of respondents identified other barriers such as heavy household workloads and limited male involvement in child nutrition matters. One interviewee (Respondent W) noted, “Men control most household resources, yet they are rarely involved in nutrition discussions, which affects decisions made at home” (Interview conducted on 10 January 2026).

Overall, the analysis shows that poor uptake of health information on malnutrition prevention and control in Cyanika Sector is not solely due to lack of information but is strongly influenced by socio-economic conditions, food availability, cultural beliefs, and access to health services. These findings emphasize the importance of adopting integrated strategies that combine nutrition education with economic empowerment, improved food access, culturally sensitive approaches, and strengthened community-based health outreach to enhance effective utilization of nutrition information among households with young children.

Figure 1: Barrier of Uptake of Health Information on Malnutrition Prevention and Control Among Households with Children Under Five in Cyanika Sector



Source: Primary data (2026)

3.3 The major factors contributing to low uptake of Health Information on Malnutrition Prevention and control methods among households with under five Children in Cyanika sector, Rwanda

This section presents findings related to the factors that hinder households with children under five from effectively receiving and applying information on the prevention and control of malnutrition in Cyanika Sector. The analysis draws on responses from 268 respondents and considers individual, household, community, and institutional dimensions influencing information uptake and utilization.

Concerning the reasons why some households fail to receive or apply nutrition-related information, distance to health facilities emerged as a major challenge. A considerable proportion of respondents explained that households living far from health centres or health posts often miss out on routine nutrition education sessions, growth monitoring services, and counselling opportunities. This geographical barrier limits regular interaction with health professionals, thereby reducing both exposure to accurate information and follow-up support.

With regard to the influence of individual and household factors, respondents indicated that access to information does not always translate into consistent application. Even among households that reported receiving nutrition-related messages, some parents did not fully implement the recommended practices. This inconsistency was frequently linked to limited understanding, competing household responsibilities, and low prioritization of child nutrition. As a result, several respondents noted that children from such households continued to experience signs of malnutrition despite the availability of information. This highlights the gap between knowledge acquisition and practical behaviour change.

The findings further revealed that the availability, accessibility, and clarity of information play a crucial role in determining its use. Respondents consistently observed that households, which regularly accessed clear and well-explained nutrition information, were more likely to apply it correctly, leading to improved child health outcomes. In contrast, households with limited or irregular access to information often struggled to follow appropriate feeding and care practices. This demonstrates that information alone is insufficient unless it is timely, understandable, and accompanied by supportive guidance.

In terms of information accessibility, respondents confirmed that although nutrition information exists within the community, it is not equally accessible to all households. Some information is disseminated through social media platforms, such as WhatsApp or Facebook, which are not accessible to families without smartphones, internet access, or digital literacy. Consequently, households in lower socio-economic categories or remote areas remain excluded from these channels, reinforcing existing inequalities in information access.

Household location was also identified as a significant determinant of information uptake. Respondents emphasized that families living far from health facilities face multiple challenges, including delayed access to healthcare services, missed clinic appointments, and reduced participation in community health education activities. These households often rely on occasional outreach services, which may not provide consistent or comprehensive nutrition counselling.

Despite the presence of nutrition and health education programs in Cyanika Sector, respondents reported that limited knowledge remains a key reason why some families do not follow the advice provided. In some cases, parents receive information but do not fully understand its importance or practical application, particularly regarding appropriate feeding frequency, dietary diversity, and hygiene practices. This lack of depth in understanding weakens adherence to recommended behaviours.

Finally, the study found that some households apply nutrition information only occasionally, such as during health campaigns, vaccination days, or clinic visits. Outside these periods, the information is not consistently practiced, suggesting that behaviour change is often event-driven rather than sustained. This pattern indicates the need for continuous engagement and reinforcement of nutrition messages at the household and community levels.

Table 3: The major factors contributing to low uptake of Health Information on Malnutrition Prevention and control methods among households with under five Children in Cyanika sector, Rwanda

Question	Response	Frequency (n)	Percent (%)
1. In your opinion, what are the main reasons why some households do not receive or apply nutrition-related information?	Households live far from health facilities	74	27.6
	Limited knowledge on nutrition	66	24.6
	Belief that recommended practices require financial capacity	58	21.6
	Limited access to information channels	45	16.8
	Other reasons	25	9.3

2. Considering individual, household, community, and institutional factors, how do these influence information uptake?	Information accessed but not consistently applied	149	55.6
	Information accessed and consistently applied	89	33.2
	Information rarely accessed or applied	30	11.2
3. How does the availability, accessibility, and clarity of information affect its use?	Leads to better child health outcomes	178	66.4
	Leads to partial improvement	56	20.9
	Has little or no effect	34	12.7
4. Are there cases where information exists but is unclear or inaccessible to everyone?	Yes	196	73.1
	No	72	26.9
5. Does household location or distance from health facilities affect access to and use of nutrition information?	Yes	204	76.1
	No	64	23.9
6. Can you give examples of challenges faced by households living far from health facilities?	Failure to access healthcare services on time	183	68.3
	Missed nutrition education sessions	59	22.0
	No major challenges reported	26	9.7
	Limited knowledge	171	63.8
7. Despite the existence of nutrition and health education programs, why do you think some families do not follow the advice provided?	Low motivation or interest	57	21.3
	Cultural beliefs and practices	40	14.9
	Yes	162	60.4
8. Are there households that use nutrition information only occasionally, such as during campaigns or clinic visits?	Yes	162	60.4
	No	106	39.6

Source: Primary data (2026)

The findings presented in above table show that several interrelated factors prevent households in Cyanika Sector from adequately receiving and applying information on the prevention and control of malnutrition. Regarding the main reasons why some households do not receive or apply nutrition-related information, distance from health facilities was the most frequently reported factor (27.6%). This indicates that geographical location significantly limits regular contact with health workers and participation in nutrition education activities. One interviewee (Respondent B) explained, “We live far from the health center, and going there frequently for nutrition education is difficult because of transport and time” (Interview conducted on 8 November 2025). Similarly, another participant (Respondent Y) noted, “Distance discourages many parents from attending sessions where nutrition information is given” (Interview conducted on 2 January 2026). These views demonstrate that physical access remains a major determinant of information uptake.

Limited knowledge on nutrition was the second most cited reason (24.6%), showing that even when information is available, some households lack sufficient understanding to apply it effectively. This finding aligns with qualitative evidence indicating gaps in comprehension of nutrition messages. One respondent (Respondent A) stated, “Some information is given, but many parents do not fully understand how to use it in feeding their children” (Interview conducted on 5 November 2025). Another interviewee (Respondent T) added, “Without clear understanding, people tend to ignore or forget the advice” (Interview conducted on 19 December 2025). This suggests that knowledge gaps reduce confidence in applying recommended practices.

The belief that recommended nutrition practices require financial capacity was reported by 21.6% of respondents, indicating that economic perceptions strongly influence behavior. Some households believe that proper child feeding is only possible for wealthier families. One participant (Respondent C) remarked, “We are told to prepare balanced diets, but many parents think this is only for families with money” (Interview conducted on 12 November 2025). Another respondent (Respondent

H) similarly stated, “People feel discouraged because they think nutrition advice is expensive to follow” (Interview conducted on 4 December 2025). This perception contributes to low motivation to implement nutrition information.

Limited access to information channels accounted for 16.8% of responses, suggesting that not all households are equally reached by communication platforms such as community meetings, radio programs, or health outreach services. One interviewee (Respondent F) explained, “Sometimes information is shared through meetings, but not everyone is informed or able to attend” (Interview conducted on 27 November 2025). Other reasons (9.3%) included household workload and lack of support from family members. One respondent (Respondent W) noted, “Some caregivers are too busy with daily work and miss opportunities to receive nutrition information” (Interview conducted on 10 January 2026).

When considering how individual, household, community, and institutional factors influence information uptake, more than half of the respondents (55.6%) indicated that information is accessed but not consistently applied. This suggests that access alone does not guarantee behavior change. One interviewee (Respondent M) stated, “We hear the information, but applying it every day is challenging because of our living conditions” (Interview conducted on 18 November 2025). Only 33.2% reported that information is accessed and consistently applied, while 11.2% rarely access or apply it, highlighting variability in uptake across households.

The availability, accessibility, and clarity of information were reported to have a strong influence on its use, with 66.4% of respondents indicating that clear and accessible information leads to better child health outcomes. This was supported by qualitative responses, as one participant (Respondent L) explained, “When information is well explained and repeated, it helps us improve how we feed our children” (Interview conducted on 21 November 2025). However, some respondents noted only partial improvement (20.9%) or little effect (12.7%), suggesting that information quality and follow-up matter.

A large majority of respondents (73.1%) acknowledged that there are cases where nutrition information exists but is unclear or inaccessible to everyone. This highlights communication gaps within nutrition education programs. One interviewee (Respondent S) remarked, “Sometimes information is available, but it is not explained in a way that everyone can understand” (Interview conducted on 6 January 2026). Another participant (Respondent R) added, “Some households are left out, especially those who do not attend clinics often” (Interview conducted on 9 January 2026).

Household location and distance from health facilities were reported by 76.1% of respondents as factors affecting access to and use of nutrition information. This reinforces the importance of proximity to health services in promoting information uptake. Respondents further explained that households living far from health facilities face specific challenges, including failure to access healthcare services on time (68.3%) and missing nutrition education sessions (22.0%). One interviewee (Respondent D) stated, “When you live far away, you only go to the health center when the child is very sick, not for education” (Interview conducted on 15 November 2025). Another respondent (Respondent G) noted, “Many parents miss nutrition sessions because they cannot travel frequently to the health center” (Interview conducted on 30 November 2025).

Despite the existence of nutrition and health education programs, many families still do not follow the advice provided. Limited knowledge was identified by 63.8% of respondents as the main reason, followed by low motivation or interest (21.3%) and cultural beliefs and practices (14.9%). One participant (Respondent K) explained, “Some parents are not motivated to change because they believe traditional practices are better” (Interview conducted on 14 December 2025). Another interviewee (Respondent E) added, “Even with information, some people are not interested unless they see immediate benefits” (Interview conducted on 20 November 2025).

Finally, the findings show that 60.4% of respondents acknowledged that some households use nutrition information only occasionally, such as during campaigns or clinic visits. This suggests that nutrition practices are not consistently sustained over time. One respondent (Respondent N) stated, “Many parents only follow nutrition advice when there is a campaign or when they visit the clinic” (Interview conducted on 25 November 2025). Overall, these findings indicate that inadequate uptake of nutrition information in Cyanika Sector is influenced by a combination of distance-related barriers, knowledge gaps, economic perceptions, motivational factors, and cultural practices, underscoring the need for continuous, community-based, and context-sensitive nutrition interventions.

3.4 The influence of socio-demographic characteristics on the low uptake of health information on malnutrition prevention and control methods among households with under-five children in Cyanika Sector, Rwanda

This section examines how household socio-demographic characteristics influence the reception, understanding, and application of nutrition-related information among households with children under five in Cyanika Sector. Drawing on responses from 268 participants, the findings highlight clear differences in information uptake based on education level, household leadership, caregiver age, socio-economic status, and proximity to health facilities.

Respondents consistently reported marked differences in how households receive and use nutrition information. Households with higher levels of education were frequently described as more receptive to nutrition messages, more capable of understanding technical guidance, and more willing to translate information into daily child-feeding practices. In contrast, less educated households were often perceived as undervaluing the information provided, with some caregivers viewing nutrition advice as unrealistic or irrelevant to their lived conditions. This disparity suggests that education plays a critical role not only in access to information but also in shaping attitudes toward its importance and feasibility.

When comparing educated and uneducated caregivers, as well as male-headed and female-headed households, respondents emphasized that educated caregivers regardless of gender were more proactive in seeking information from health facilities, community health workers, and outreach programs. Female-headed households were frequently cited as more engaged in child nutrition practices, largely because women tend to bear primary responsibility for childcare and feeding. Male-headed households, particularly where fathers were less involved in childcare, were reported to show weaker follow-through in applying nutrition advice. Additionally, younger caregivers were often described as more open to new information but less consistent in practice due to limited experience, while older caregivers demonstrated greater adherence to nutrition guidance, drawing on accumulated caregiving knowledge and life experience.

Regarding households that benefit most or least from nutrition information programs, respondents identified educated households, families living close to health facilities, female-headed households, and those led by older caregivers as the primary beneficiaries. These households were more likely to attend health education sessions, ask questions, and seek clarification when information was unclear. Conversely, households that benefited least included those with low literacy levels, those living in remote areas, and households facing severe economic hardship. Such households often struggled to prioritize nutrition practices when basic needs such as food availability and income generation were pressing concerns.

Participants attributed these differences largely to variations in socio-economic conditions across households. Households with stable livelihoods and better access to services were better positioned to act on nutrition information, while poorer households faced structural barriers that limited both access and application. In many cases, respondents noted that even when information was available, households with limited resources felt powerless to implement recommendations that appeared to require financial investment, such as dietary diversification or regular health facility visits.

Generally, the findings demonstrate that poor uptake of nutrition information in Cyanika Sector is not merely a matter of information availability but is deeply intertwined with household socio-demographic realities. Education, gender roles, age, economic status, and geographic location collectively shape how households interpret, value, and apply nutrition messages. These results underscore the importance of tailoring nutrition communication strategies to the socio-demographic context of households, ensuring that messages are practical, inclusive, and responsive to the lived experiences of caregivers in Cyanika Sector.

Table 4: The influence of socio-demographic characteristics on the low uptake of health information on malnutrition prevention and control methods among households with under-five children in Cyanika Sector, Rwanda

Socio-Demographic Characteristic	Category	Good Knowledge & Frequent Use of Nutrition Information (n, %)	Poor Knowledge / Rarely Use Nutrition Information (n, %)	Total (n)
Caregiver Education Level	Educated (primary & above)	160 (59.7%)	108 (40.3%)	268
	Uneducated (no formal education)	42 (15.7%)	226 (84.3%)	268
Household Headship	Female-headed	110 (41.0%)	158 (59.0%)	268
	Male-headed	92 (34.3%)	176 (65.7%)	268
Caregiver Age	Young (18–30 years)	75 (28.0%)	193 (72.0%)	268
	Older (31+ years)	127 (47.4%)	141 (52.6%)	268
Proximity to Health Facility	Near (<2 km)	145 (54.1%)	123 (45.9%)	268
	Far (≥2 km)	57 (21.3%)	211 (78.7%)	268
Attitude Towards Nutrition	Positive	130 (48.5%)	138 (51.5%)	268
	Negative / Indifferent	45 (16.8%)	223 (83.2%)	268

The findings presented in above table demonstrate a clear relationship between household socio-demographic characteristics and the uptake of nutrition information among households with children under five in Cyanika Sector. The results show that differences in education level, household headship, caregiver age, proximity to health facilities, and attitudes toward nutrition significantly influence whether households acquire good knowledge and frequently apply nutrition information or exhibit poor knowledge and rare utilization.

Caregiver education level emerged as one of the most influential factors affecting uptake of nutrition information. Educated caregivers (those with primary education and above) showed substantially higher levels of good knowledge and frequent use of nutrition information (59.7%) compared to uneducated caregivers, among whom only 15.7% demonstrated good knowledge and frequent use. This indicates that education enhances the ability to understand, interpret, and apply nutrition-related messages. Qualitative findings support this pattern, as one interviewee (Respondent A) stated, “Those who went to school understand health messages better and can easily follow the instructions given by health workers” (Interview conducted on 5 November 2025). In contrast, another participant (Respondent U) explained, “For parents who did not study, some information is difficult to understand, so they ignore it” (Interview conducted on 8 January 2026). This suggests that low literacy levels limit effective utilization of nutrition information.

Household headship also influenced the uptake of nutrition information. Female-headed households showed relatively better uptake, with 41.0% demonstrating good knowledge and frequent use, compared to 34.3% among male-headed households. This difference reflects the central role women play in child care and feeding decisions. One respondent (Respondent F) explained, “Mothers are more involved in feeding children, so they pay more attention to nutrition advice” (Interview conducted on 29 November 2025). Another interviewee (Respondent W) noted, “In male-headed households, men control resources but are less involved in nutrition matters, which affects implementation” (Interview conducted on 10 January 2026). These responses indicate that gender roles within households shape how nutrition information is used.

Caregiver age was another important determinant, as older caregivers (31 years and above) demonstrated higher levels of good knowledge and frequent use of nutrition information (47.4%) compared to younger caregivers aged 18–30 years (28.0%). Younger caregivers were more likely to show poor knowledge or rare use of nutrition information (72.0%). This may be attributed to limited experience, competing responsibilities, or lower confidence among younger caregivers. One interviewee (Respondent D) remarked, “Older parents have experience and are more careful with child feeding compared to younger ones” (Interview conducted on 15 November 2025). Similarly, another participant (Respondent N) stated, “Young mothers sometimes ignore advice because they rely on peers or social media instead of health workers” (Interview conducted on 25 November 2025). These findings suggest that experience plays a role in consistent application of nutrition information.

Proximity to health facilities strongly influenced uptake of nutrition information. Households located near health facilities (less than 2 km) reported higher levels of good knowledge and frequent use (54.1%) compared to those living farther away (21.3%). Conversely, a large proportion of households living far from health facilities (78.7%) exhibited poor knowledge or rare use of nutrition information. This indicates that physical access to health services enhances exposure to nutrition education and follow-up. One respondent (Respondent B) explained, “Living close to the health center helps us attend nutrition sessions regularly” (Interview conducted on 8 November 2025). Another interviewee (Respondent Y) added, “When you live far away, you only go to the health center when the child is sick, not for education” (Interview conducted on 2 January 2026). These responses confirm that distance remains a significant barrier to consistent information uptake.

Attitude toward nutrition was also a critical factor influencing utilization of nutrition information. Households with a positive attitude toward nutrition showed higher levels of good knowledge and frequent use (48.5%) compared to those with negative or indifferent attitudes, among whom only 16.8% demonstrated good uptake. A respondent (Respondent L) explained, “Parents who believe nutrition is important try to apply what they are taught, even with limited resources” (Interview conducted on 21 November 2025). In contrast, another interviewee (Respondent R) stated, “Some families do not take nutrition advice seriously because they do not see it as a priority” (Interview conducted on 9 January 2026). This highlights the role of perception and motivation in shaping behaviour.

Hence, the analysis indicates that uptake of nutrition information in Cyanika Sector is strongly shaped by socio-demographic and contextual factors. Educated caregivers, female-headed households, older caregivers, households located near health facilities, and those with positive attitudes toward nutrition are more likely to demonstrate good knowledge and frequent

use of nutrition information. Conversely, uneducated caregivers, younger caregivers, households located far from health facilities, and those with negative or indifferent attitudes face greater challenges in accessing and applying nutrition information. These findings underscore the need for targeted and inclusive nutrition interventions that address educational gaps, gender dynamics, geographical barriers, and household attitudes to improve effective utilization of nutrition information.

4. DISCUSSION

The study findings revealed a low uptake of health information on malnutrition prevention and control among households with children under five in Cyanika Sector. Although many caregivers were aware of recommended nutrition and child-feeding practices, their ability to implement this information was constrained by economic hardships, limited access to nutritious foods, low literacy levels, and competing household responsibilities. These findings are consistent with previous studies which indicate that the challenge often lies not in access to nutrition information but in translating knowledge into practice (UNICEF, 2022; FAO, 2020; WHO, 2021).

Economic constraints emerged as the most significant barrier to the utilization of nutrition information. Many caregivers perceived recommended feeding practices as unaffordable, confirming evidence that poverty and food insecurity undermine the adoption of healthy nutrition behaviours (Black et al., 2013; FAO, 2020). Distance to health facilities, limited understanding of technical nutrition messages, and irregular access to nutrition education further reduced effective uptake. Although cultural beliefs and traditional practices influenced some feeding decisions, their impact was less pronounced than structural and economic factors. In addition, inconsistencies in health information delivery and limited follow-up support weakened the effectiveness of nutrition interventions.

The study further established that socio-demographic characteristics significantly influenced the uptake of nutrition information. Caregivers with higher education levels demonstrated better understanding and application of nutrition messages, while female-headed households showed greater utilization of nutrition information than male-headed households. Older caregivers were also more likely to adopt recommended nutrition practices, possibly due to greater experience in childcare. Furthermore, households located closer to health facilities benefited from more frequent exposure to nutrition education, enhancing information uptake.

Overall, the findings suggest that improving nutrition outcomes in Cyanika Sector requires interventions that go beyond awareness creation. Strengthening household economic capacity, improving access to nutrition services, simplifying health messages, and ensuring continuous community-based nutrition education are essential for enhancing the utilization of nutrition information and reducing malnutrition among children under five.

5. CONCLUSION

This study examined the factors contributing to the low uptake of health information on malnutrition prevention and control among households with children under five in Cyanika Sector, Rwanda. The findings revealed that although many caregivers have access to nutrition information, its consistent application remains limited due to a combination of economic, socio-demographic, and structural challenges. Financial constraints, limited access to nutritious foods, inadequate understanding of nutrition messages, cultural practices, and poor access to health services were identified as the major barriers to effective utilization of nutrition information.

The study further established that caregiver education level, age, household headship, proximity to health facilities, and attitudes toward nutrition significantly influence the uptake of health information. Educated caregivers, older parents, female-headed households, and families residing closer to health facilities demonstrated better understanding and application of recommended nutrition practices than their counterparts. These findings indicate that both access to information and the capacity to implement it are shaped by household and community characteristics.

Overall, the study concludes that improving malnutrition prevention among children under five requires more than the dissemination of nutrition information. Effective interventions should integrate nutrition education with economic empowerment, improved access to nutritious foods, strengthened community-based outreach, and culturally appropriate behaviour-change strategies. Addressing these interconnected barriers will enhance the utilization of nutrition information and contribute to better nutritional and health outcomes among children in Cyanika Sector.

REFERENCES

- [1] Aker, J. C., & Mbiti, I. M. (2010). Mobile phones and economic development in Africa. *Journal of Economic Perspectives*, 24(3), 207–232.
- [2] Bhutta, Z. A., Ahmed, T., Black, R. E., Cousens, S., Dewey, K., Giugliani, E., ... Shekar, M. (2013). Evidence-based interventions for improvement of maternal and child nutrition: What can be done and at what cost? *The Lancet*, 382(9890), 452–477.
- [3] Black, R. E., Victora, C. G., Walker, S. P., Bhutta, Z. A., Christian, P., de Onis, M., ... Uauy, R. (2013). Maternal and child undernutrition and overweight in low-income and middle-income countries. *The Lancet*, 382(9890), 427–451.
- [4] Blaxter, L., Hughes, C., & Tight, M. (2010). *How to research* (4th ed.). Open University Press.
- [5] Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.
- [6] Campbell, O. M. R., & Graham, W. J. (2006). Strategies for reducing maternal mortality: Getting on with what works. *The Lancet*, 368(9543), 1284–1299.
- [7] Cohen, L., Manion, L., & Morrison, K. (2013). *Research methods in education* (7th ed.). Routledge.
- [8] Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Sage Publications.
- [9] Darmstadt, G. L., Bhutta, Z. A., Cousens, S., Adam, T., Walker, N., & de Bernis, L. (2008). Evidence-based, cost-effective interventions: How many newborn babies can we save? *The Lancet*, 365(9463), 977–988.
- [10] Friday, O., & Leah, J. (2024). *Principles of qualitative inquiry in social research*. East Africa Academic Press.
- [11] Gillespie, S., Haddad, L., Mannar, V., Menon, P., & Nisbett, N. (2013). The politics of reducing malnutrition: Building commitment and accelerating progress. *The Lancet*, 382(9891), 552–569.
- [12] Glanz, K., Rimer, B. K., & Viswanath, K. (2015). *Health behavior: Theory, research, and practice* (5th ed.). Jossey-Bass.
- [13] Habimana, J., Tuyisenge, L., & Musabyimana, D. (2022). Utilization of child nutrition information among mothers in rural Rwanda: A case of Gicumbi District. *Rwandan Journal of Health and Development*, 6(1), 34–49.
- [14] Kavle, J. A., Mehanna, S., Khan, G., Hassan, M., Saleh, G., Engmann, C., & Galloway, R. (2017). Cultural beliefs and practices that influence infant and young child feeding in Egypt: Results from a qualitative study. *Maternal & Child Nutrition*, 14(1), 1–14.
- [15] Kothari, C. R. (2004). *Research methodology: Methods and techniques* (2nd ed.). New Age International Publishers.
- [16] Kruk, M. E., Gage, A. D., Joseph, N. T., Danaei, G., García-Saiso, S., & Salomon, J. A. (2018). Mortality due to low-quality health systems in the universal health coverage era: A systematic analysis of amenable deaths in 137 countries. *The Lancet*, 392(10160), 2203–2212.
- [17] Latpate, R. (2021). *Qualitative research methodology: Theory and practice*. Sunrise Publications.
- [18] Lönnroth, K., Jaramillo, E., Williams, B. G., Dye, C., & Raviglione, M. (2010). Drivers of tuberculosis epidemics: The role of risk factors and social determinants. *Social Science & Medicine*, 68(12), 2240–2246.
- [19] Ministry of Agriculture and Animal Resources. (2021). *Annual report on food security and nutrition in Rwanda*. Government of Rwanda.
- [20] Ministry of Health Rwanda. (2020). *National strategy and costed action plan for integrated early childhood development 2020–2024*. Government of Rwanda.
- [21] Mukamana, A., & Mbaraga, R. (2022). Barriers to the uptake of nutritional health information among caregivers in rural Rwanda. *African Journal of Public Health*, 14(2), 117–128.
- [22] Noor, K. B. M. (2008). Case study: A strategic research methodology. *American Journal of Applied Sciences*, 5(11), 1602–1604.

- [23] Nutbeam, D., & Harris, E. (2004). *Theory in a nutshell: A practical guide to health promotion theories* (2nd ed.). McGraw-Hill.
- [24] Perry, H. B., & Zulliger, R. (2012). *How effective are community health workers? An overview of current evidence with recommendations for strengthening community health worker programs*. Johns Hopkins Bloomberg School of Public Health.
- [25] Perry, H. B., Rassekh, B. M., Gupta, S., Wilhelm, J., & Freeman, P. A. (2017). Comprehensive review of the evidence regarding the effectiveness of community-based primary health care in improving maternal, neonatal and child health. *Journal of Global Health*, 7(1), 010901.
- [26] Perry, H. B., Zulliger, R., & Rogers, M. M. (2014). Community health workers in low-, middle-, and high-income countries: An overview of their history, recent evolution, and current effectiveness. *Annual Review of Public Health*, 35, 399–421.
- [27] Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). Free Press.
- [28] Rosenstock, I. M. (1974). The Health Belief Model and preventive health behavior. *Health Education Monographs*, 2(4), 354–386.
- [29] Rosenstock, I. M., Strecher, V. J., & Becker, M. H. (1988). Social learning theory and the Health Belief Model. *Health Education Quarterly*, 15(2), 175–183.
- [30] UNICEF. (2023). *Nutrition: Overview and data*. UNICEF.
- [31] Uwizeye, D., Dusengimana, J. M. V., & Nkurunziza, J. (2021). Determinants of malnutrition among children under five in Rwanda: A community-based cross-sectional study. *East African Health Research Journal*, 5(2), 98–105.
- [32] Victora, C. G., Adair, L., Fall, C., Hallal, P. C., Martorell, R., Richter, L., & Sachdev, H. S. (2008). Maternal and child undernutrition: Consequences for adult health and human capital. *The Lancet*, 371(9609), 340–357.
- [33] World Health Organization. (2020). *Essential nutrition actions: Mainstreaming nutrition through the life-course*. WHO.
- [34] World Health Organization. (2021). *Malnutrition: Key facts*. WHO.