FACTORS ASSOCIATED WITH MALNUTRITION OCCURRENCE AMONG CHILDREN UNDER 5 YEARS IN KIHENDA VILLAGE HOIMA DISTRICT. A CROSS-SECTIONAL STUDY.

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Abstract

Background
Malnutrition refers to deficiency, excess, or imbalance in a person's energy and/or nutrient intake). The study aims to assess the Factors associated with malnutrition occurrence among children under 5 years in Kihenda village Hoima district.

Methodology
A cross-sectional descriptive study where the Simple Random sampling method was used to select the 100 respondents from which quantitative data was collected.

Results
The majority 46(77%) reported that working long hours of parents contributed to malnutrition and the minority 14(23%) reported that it did not affect malnutrition. 48(80%) majority of teenage mothers reported that age contributed to malnutrition whereas the minority of 10(17%) and 02(03%) of adult mothers never agreed. Majority of children in families 78(78%) were found to be normal while the minority 07(07%) stunted, 06(06%) underweight and 09(09%) wasted. Majority of the respondents' families had children 64(64%) of 3 to 5 whereas 23(23%) of 0 to 2, 08(08%) of 6 to 8, and 05(05%) of 10 to 12 as the minority.The majority of the respondents 60(60%) had ever heard about malnutrition while the minority 40(40%) of them had not. The majority of the respondents 55(55%) did not know that the first breast milk was important to the child whereas the minority 45(45%) knew that the first breast milk was important.

Conclusion
A Variety of factors like age of caretakers, number of children in the household, long working hours of caretakers, insufficient Knowledge, and poor attitudes about proper nutrition were closely associated with Malnutrition.

Recommendation
There should be increased campaigns with feasible knowledge that is applicable in rural areas, and this could be through empowering the Village Health Teams in these areas by the government of Uganda and the Ministry of Health to improve the nutrition status of children below 5 years.

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Background of the study

Malnutrition refers to deficiency, excess, or imbalance in a person's energy and/or nutrient intake (WHO, 2020). Malnutrition is a worrying health factor worldwide; nearly half of all deaths in children under 5 years are attributed to undernutrition (UNICEF, 2021). Undernutrition puts children at a greater risk of dying from common infections, increases the frequency of severity of such infections, and delays recovery. Globally 149 million children under 5 years were estimated to be stunted (too short for age) and 38.9 million were overweight or obese Around 45% of deaths among children under 5 years of age are linked to undernutrition (Carolin, 2022). Those mainly occur in middle-income and low-income countries, at the same time in these countries the rate of child overweight and obesity are rising (WHO, 2021). More so, there are 178 million children that are malnourished and at any given moment, 20 million are suffering from the most severe form of malnutrition. The joint estimates published in March 2020 such as stunting, wasting, severe wasting, and overweight among children under five reveal insufficient progress to reach the World Health Assembly targets set for 2025 and the Sustainable Development Goals set for 2030 (WHO, 2017). Africa still experiences a malnutrition burden among children under 5 years. The average prevalence of overweight is 4.7% and the prevalence of stunting is 29.1% (Global Nutrition Report, 2021). The pooled prevalence of chronic undernutrition among under 5 years in East Africa is 33.3% ranging from 29.1% in Kenya to 53% in Burundi. In sub–Saharan Africa, there is a link between climate change, food insecurity, and undernutrition, particularly among vulnerable populations due to crop failures, reduced food production, and increased foodborne diseases where its impact on malnutrition is multifaceted. There is evidence that whereas severe food insecurity could lower obesity, on the other hand, mild to moderate food insecurity is associated with obesity. Anemia was

the most common form of household burden of malnutrition, affecting about seven out of ten households. The age of the household head, location of the household, access to improved toilet facilities, and household wealth status were found to be associated with various conditions of the household burden of malnutrition (Christian et al, 2022).

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In East Africa, pre-natal maternal factors were shown to increase the odds of developing under-nutrition where participants whose mothers did not attend an antenatal clinic (ANC) at least once participants whose mothers did not attend 4 ANC visits as recommended by WHO, and those whose mothers had an illness during pregnancy. Those who were born preterm and those with low birth weight had higher odds of undernutrition compared to term babies and those with normal birth weights. Post-natal factors such as failure to complete or not being up to date on immunizations as per the national immunization schedule and human immunodeficiency virus (HIV) sero-exposure and delayed developmental milestones increased the odds of developing under-nutrition (Gudu et al, 2020). A study in Rwanda shows 33.21% of the stunted children in the western province and 24.24% of the stunted children in the eastern province of the country (Habimana et al., 2022). A Study done in Uganda about malnutrition among children under five years concluded that 5% and 33.5% of the children were wasted and stunted respectively where risk factors associated with wasting were lack of maternal education, maternal underweight BMI < 18.5 kg/m2, and children aged 6-11 months. On the other hand, those risk factors associated with stunting included: the child`s very small size at birth, male children aged 24-35 months, maternal height <150cm, and lack of maternal education (Mawa et al, 2018). The study aims to assess the Factors associated with malnutrition occurrence among children under 5 years in Kihenda village Hoima district.

METHODOLOGY

Study design

A cross-sectional descriptive study and helped gain more information about characteristics within the particular field of study.

Study area

The study was conducted in the Kihenda village Hoima district near the Buhanika sub-county headquarters of the local government. It is located along Hoima Kampala road and neighboring villages such as Kwohairwe, wagesa, and Katereiga.

Study population

The study included all parents or guardians living with children under five years.

Sample Size Determination

To determine a sample size needed to find out factors influencing the nutrition status of children under 5 years in Kihenda Village Hoima district, the Kish and Leslie formula was used.

$$n = \frac{(Z^2pq)}{(e)^2}$$

Where:

n = The desired sample size

Z = The standard normal deviation usually set at 1.96 which correspond to 95% confidence level p = The proportion in the target population estimated to have a particular characteristic and, in this study, p was 79%.

q = 1-p

e = the degree of accuracy desired, usually set at 0.1 level

$$n = \frac{(1.96)^2 (0.79) (1-0.79)}{(0.08)^2}$$

$$n = \frac{(3.8416) (0.79) (0.21)}{0.0064}$$

N= 99.5 which is approximately equal to 100

Sampling technique

Simple Random sampling method was used to select the 100 respondents. This sampling method was used because the researcher wanted to give equal opportunity for every child under 5 years in Kihenda village Hoima district to participate in the study.

Sampling procedure

The study participants in kihenda village were selected randomly after identifying the households with children under 5 years of age.

Data collection method

Survey was conducted by carrying out anthropometric measurements like height, weight, head circumference, body mass index and questionnaires were given to obtain information from the sample population.

Data collection tools

A pre-tested semi-structured questionnaire was used in the English language. MUAC tapes were used to measure mid upper arm circumference, weighing scale was used to measure the weight of children, tape measure to measure head circumference and height of children to determine to determine the BMI.

Data collection procedure

To Clients who were able to read and write, printed self-administered questionnaires were given to them to fill in the required correct information and the researcher was available to guide were needed. To those who were not able to read and write the Researcher was available to read and translate the information and help them fill in the information required.

Piloting the study

The semi structured questionnaires were pretested randomly with the help of some mothers staying in kihenda village who voluntarily answered the questioners since it consisted of people of similar characteristics with those who participated in the study area which is kihenda village. A total of 10 respondents were interviewed to pretest the tools. The purpose of pretesting the tools was to ensure the accuracy of the data collected and minimize the errors as these checked for the validity of the data.

Quality control

The tools especially the questionnaires were pretested among a few Mothers living with children under five years in the neighboring community and errors were corrected if any before the final collection of Data. The questionnaires were printed in a convenient font size to allow easy reading and answering. The respondents were given enough time to answer the questionnaires to ensure the required data was collected. Every parent or guardian living in kihenda village and consented participated in the study and each household was recruited once. All the other parents without children below five years were not allowed in the study.

Data Analysis and presentation

Data was entered into SPSS version 20 for data analysis after which the analyzed data was transferred to Microsoft Excel version 2010 for presentation of results in graphs and tables.

Ethical considerations

Approval for the study was obtained from Medicare Health Professionals College (MHPC), from the LC 111 Hoima district, and informed consent from all participants. Confidentiality of information, the right to withdraw from the study, and privacy were maintained at all levels. The consent of the respondents was obtained after the purpose and objectives of the study were identified and well explained to the respondents. The study was intended purely for academic purposes and all the information given was treated with confidentiality and numbers instead of names were used to identify the respondents

Table 1: Showing the respondents' social demographic data.   (n=100)

FACTORS	Frequency	Percentage
Age (years)		
<18	20	20
18-24	43	43
25-35	27	27
Above 35	10	10
TRIBE		
Munyoro	50	50
Munyankole	26	26
Mukiga	16	16
Others	08	08
SEX		
Male	20	20
Female	80	80
LEVEL OF EDUCATION		
Primary	26	26
Secondary	50	50
Tertiary	16	16
University	08	08
MARITAL STATUS		

Married	36	36
Single	29	29
Widowed	10	10
Divorced	25	25
OCCUPATION		
Farmers	45	45
Government worker	05	05
Shopkeeper	20	20
Unemployed	20	20
Others	10	10
RELIGION		
Catholic	40	40
Protestant	25	25
Muslim	15	15
Others	20	20

Source: Primary data (2023)

RESULTS

Respondent's particulars data.

From table 1, out of the 100 respondents, most 43(43%) of the respondents were between age group 18-24 years. Majority 50(50%) of the respondents were Banyoro. Majority 80(80%) of the respondents were females. Majority 50 (50%) had stopped in secondary level of education. Most 36 (36%) were married, most 45(45%) were farmers and most 40(40%) were Catholics.

Prevalence of malnutrition among children below five years.

Table 2 shows that majority of children 78(78%) were normal and minority of 07(07%) were stunted 06(06%) underweight, and 09(09%) were wasted.

Table 3 shows that majority of families had children 64(64%) of 3 to 5 while minority 23(23%) of 0 to 2, 08(08%) of 6 to 8, and 05(05%) of 10 to 12.

Figure 1 showed majority 18(82%) prevalence of malnourished children was higher in Rural areas whereas the minority 04(18 %) resided in Urban areas.

Table 2: Showing the number of malnourished children. (n=100)

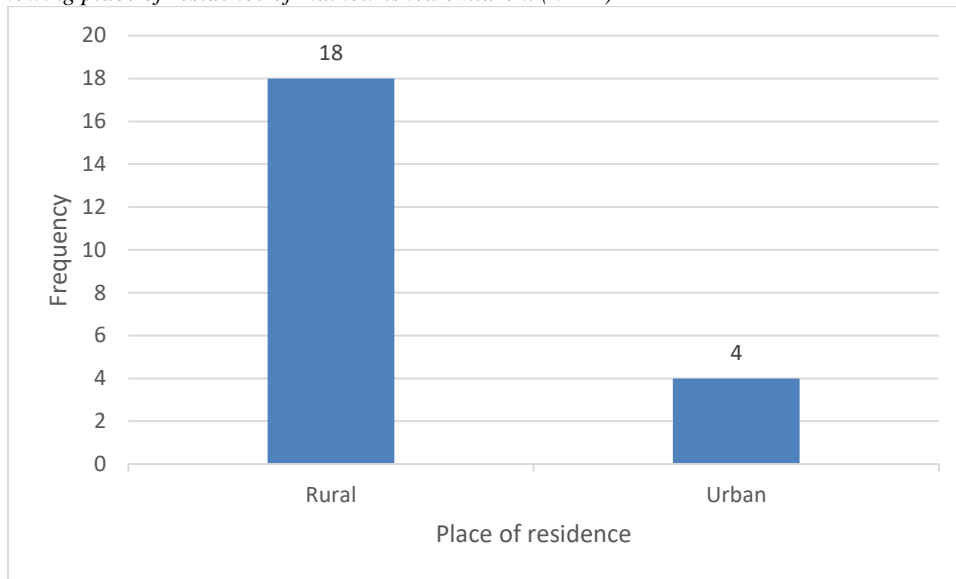| Children.	Number of children.
Stunting	07
Underweight	06
Wasting	09
Normal	78
TOTAL	100

Source: Primary data (2023)

Table 3: Showing the number of children per family (n=100)

Children.	Number of Children.
0 – 2	23
3 – 5	64
6 – 8	08
10 – 12	05
TOTAL	100

Source: primary Source (2023)

Figure 1: Showing place of residence of malnourished children. (n=22)
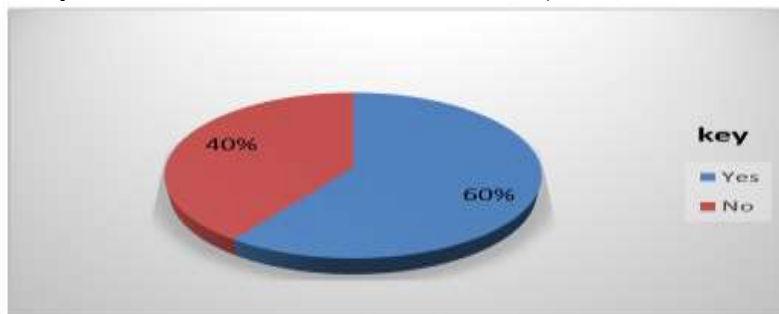
Source: Primary source (2023)

Knowledge of caretakers on factors associated with malnutrition among children below five years

From figure 2, majority of the respondents 60(60%) had ever heard about malnutrition while the minority 40(40%) of them had not.

From figure 3, majority of the respondents 55(55%) did not know that the first breast milk was important to the child whereas the minority 45(45%) knew that the first breast milk was important to the child.

The figure 4 shows that majority of respondents 86(86%) knew the importance of continuous Exclusive Breast Feeding (cEBF) whereas the minority 14(14%) did not know.

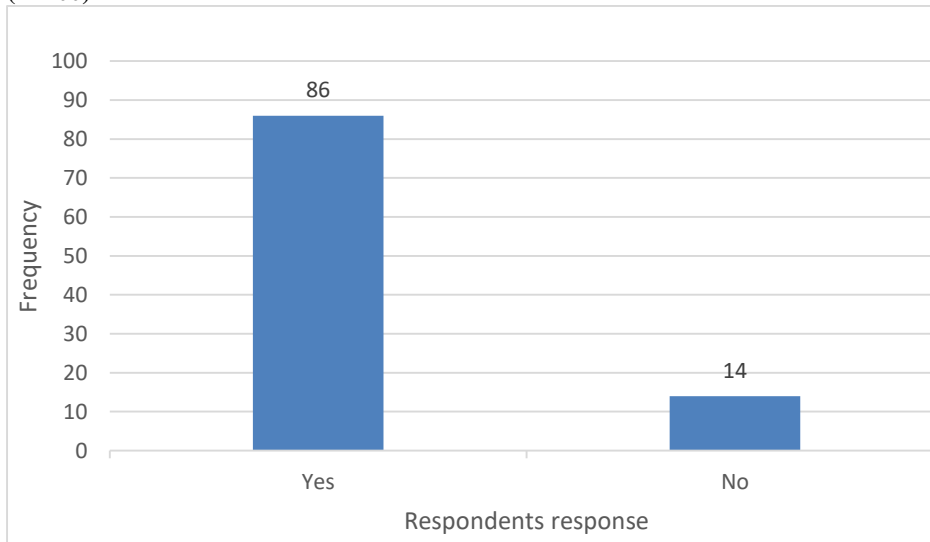**Figure 2: Showing if respondents' have ever had about malnutrition (n=100).**

Source: Primary Source (2023)

Figure 3: Showing respondents' knowledge on whether the first breast milk was important to the child (n=100).
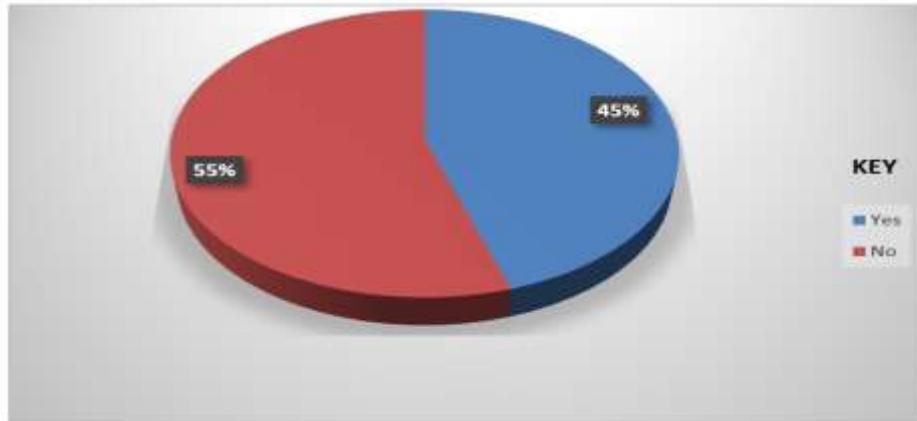
Source: Primary data (2023)

Figure 4: Showing respondents' knowledge on the importance of continuous Exclusive Breast Feeding (cEBF) (n=100)
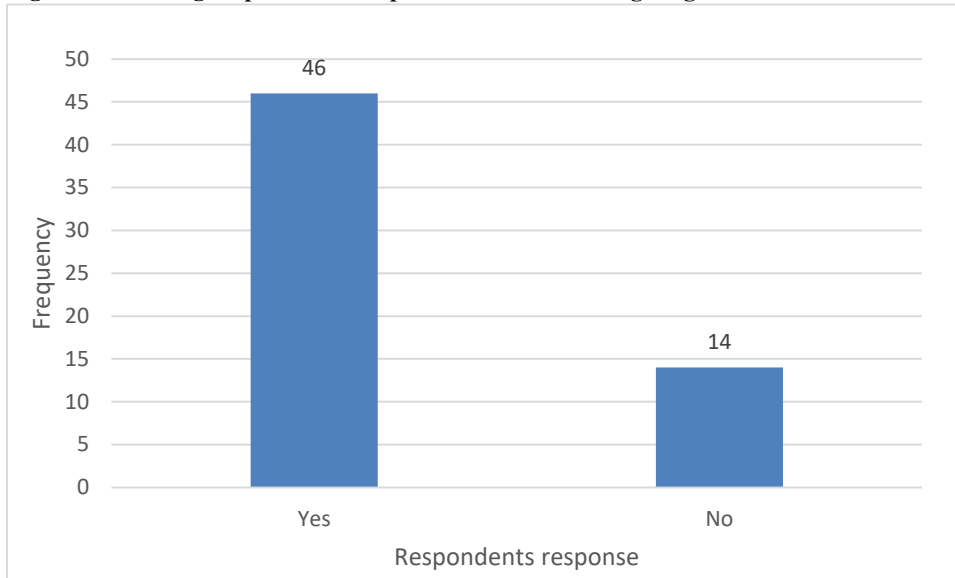

Source: Primary data (2023)

Table 3: Showing if age of mothers contributed to malnutrition (n=60)

Age of Mothers	Number
14 – 19 years	48
20 – 30 years	10
30 – 45 years	02
TOTAL	60

Source: Primary data (2023)

Figure 5: Showing respondents' response whether working long hours of mothers lead to malnutrition (n=60)

Source: Primary data (2023)

Factors associated with malnutrition among children below five years.

Table 4 shows that majority of the respondents 48(80%) teenage mothers reported that age was related to malnutrition whereas 10(17%) and 02(03%) adult mothers did not agree.

From figure 5 majority 46(77%) reported that working long hours of mothers lead to malnutrition and the minority 14(23%) reported that it had no effect on malnutrition.

Discussion

Prevalence of malnutrition among children below five years.

Majority of children in families 78(78%) were found to be normal while the minority 07(07%) stunted, 06(06%) underweight and 09(09%) wasted. This is because adequate food amounts and care by parents were provided to these children. This disagreed with the study done (Mulugeta *et al.*, 2019) in Ethiopia where 43% prevalence of children was stunted.

Majority of the respondent's families had children 64(64%) of 3 to 5 whereas 23(23%) of 0 to 2, 08(08%) of 6 to 8, and 05(05%) of 10 to 12 as the minority. This is because health workers emphasize family planning to a space of three years before giving birth to another baby. This agreed with the study done in Ethiopia *(Mulugeta et al. 2019)* where malnutrition was high in most families which had five children that were sampled.

A study revealed majority of 18(82%) malnourished children resided in rural areas with their parents while a minority 04(18%) resided in urban areas. This is because children ate every kind of food, they came across without close monitoring of parents hence exposing themselves to malnutrition. This study disagreed with a study done (by Muyonga, 2022) in Uganda where the stunting of children was only 37% higher in rural areas than in urban areas.

Knowledge of caretakers on factors associated with malnutrition among children below five years.

The majority of the respondents 60(60%) had ever heard about malnutrition while the minority 40(40%) of them had not. Some of the signs that guided those who knew were diarrheal diseases, and eating an unbalanced diet, among others. This was probably due to observation made in the change in the children's weight when they were suffering from diarrhea. This agrees with a study done in India (Nayak *et al.,*2018) where 65(65%) of mothers had average knowledge of malnutrition.

The majority of the respondents 55(55%) did not know that the first breast milk was important to the child whereas the minority 45(45%) knew that the first breast milk was important to the child. This is probably because most of the respondents were farmers and resided in rural areas where such information about the first breast milk (colostrum) is hard to access due to the few health facilities available. This is in line with a study done in Nigeria by Olusegun, (2019) about mothers' nutrition-related knowledge and child nutrition outcomes which showed that 38(38%) mothers knew the importance of colostrum to the newborn.

The majority of respondents 86(86%) knew that continuous Exclusive Breast Feeding (cEBF) was important after birth while the minority 14(14%) knew not. This was due to the variety of Village Health Teams (VHT) which moved through different families teaching mothers about the good health of their babies. Study results do not correspond with the (Tarkwen, 2020) study in Kenya where only 46.7% of mothers knew about continuous Exclusive Breastfeeding (cEBF) after birth.

Factors associated with the occurrence of malnutrition among children below five years

48(80%) majority of teenage mothers reported that age contributed to malnutrition whereas the minority of 10(17%) and 02(03%) of adult mothers never agreed. This is because teenage mothers explained that small children were always produced with less weight, some would be born before their time of maturity and some were born with birth injuries. This corresponds with a study done in Ghana by Wemakor, (2018) where in undernutrition, 59% stunting was higher in children of teenage mothers than those of adult mothers.

The majority 46(77%) reported that working of long hours of parents contributed to malnutrition and the minority 14(23%) reported that it did not affect malnutrition. This is probably due to the limited time given to the children since the main source of income for most families was working as agricultural workers on a day-to-day basis. This is in line with a study done in Uganda by Nakinga, (2019) about nutritional status where 56% of women were engaged in agricultural work which took much of their time than their children, and over half were self-employed.

Conclusions

Study results showed that 78(78%) children were normal of which 18(82%) of malnourished children resided in rural areas with their parents.

Study results revealed the majority of the respondents 60(60%) had never heard about malnutrition of which 45(45%) knew that the first breast milk was important to the child and 86(86%) of mothers knew that continuous Exclusive Breast Feeding (cEBF) was important after birth.

Study results established majority 48(80%) of teenage mothers reported that age contributed to malnutrition while 46(77%) of respondents reported that working long hours with parents contributed to malnutrition.

Recommendations

There should be increased campaigns with feasible knowledge that is applicable in rural areas and this could be through empowering the Village Health Teams in these areas by the government of Uganda and the Ministry of Health to improve the nutrition status of children below 5 years.

The Ministry of Health should provide clear guidelines about the management of undernutrition to health workers to equip them with more knowledge about the management of malnutrition.

The Ministry of Health should also assign enough health workers with the duty of monitoring the implementation programs of malnutrition prevention practices.

Channels of communication like televisions and radios should be intensely used by health workers with the help of the Ministry of Health to spread the message about malnutrition and nutrition services available so that the incidences of delayed seeking of treatment and severe forms of the disease are reduced.

The local government should ensure health education about malnutrition among children below five years of age through outreaches to enrich the community with more knowledge about the condition.

List of abbreviations

BMI: Basal metabolic index.

MUAC: Mid-upper arm circumference.

UNICEF: United Nations International Children's Fund.

WHO: World Health Organization.

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Conflict of interest

No Conflict of interest

Author Biography

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