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# FACTORS CONTRIBUTING TO THE PREVALENCE OF WASTING AMONG CHILDREN BELOW FIVE YEARS RECEIVING HEALTHCARE SERVICES AT KAYUNGA REGIONAL HOSPITAL, KAYUNGA DISTRICT. A CROSS-SECTIONAL STUDY.

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## ABSTRACT

### Objectives of the study

The main purpose of this study was to determine the factors contributing to the prevalence of wasting among children below five years receiving health care services at Kayunga Regional Referral Hospital; the study focused on three objectives that are to determine the prevalence of wasting as well as to assess the childhood factors and maternal factors contributing to wasting.

### Method

A hospital-based descriptive cross-sectional study was conducted between June 2023 and July 2023 at Kayunga Regional Referral Hospital in Kayunga District. Data was collected using questionnaires & simple random sampling technique was employed to select 100 study participants. Data was analyzed using Microsoft Excel version 2016 and a scientific calculator.

### Results

Data analysis and interpretation showed that 9% of the children below five years who received health care services at Kayunga Regional Referral Hospital during the time of data collection were wasted. The findings of this study further showed that 77.8% of the study participants who were wasted had severe wasting while 22.2% of them were moderately wasted. The study results reflected that 41.7% of the study participants who had a birth weight < 2.5kg were wasted while 6% of those who had a birth weight of 2.5-4.0kg were wasted. The study findings indicated that 11.8% of the children who had early initiation of complementary feeding were wasted as compared to the 7.7% and 7.1% who had timely as well as late initiation of complementary feeding respectively.

### Conclusion

Wasting is still a national, medical, and public health concern among children below five years old in several districts of the country including Kayunga District.

### Recommendations

The study recommends combined efforts from different stakeholders like the government, Ministry of Health, health practitioners, Village Health Teams, and local leaders to curb malnutrition, particularly wasting in the country.

***Keywords:*** *Wasting, Children below 5yrs, Healthcare services, Kayunga Regional Hospital*
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## INTRODUCTION

Malnutrition is a condition in which an individual's physical function is damaged to the degree that an individual is unable to sustain appropriate body performance processes such as growth, physical work, illness resistance, recovery, and many more (Ewune *et al.*, 2022). Malnutrition comprises both overnutrition which is associated with obesity and overweight as well as undernutrition which refers to multiple conditions including acute malnutrition, chronic malnutrition, underweight, and micro-nutrient deficiencies (IMAM, 2020). A marked decline has been made over the past few decades in the burden of childhood undernutrition worldwide; however, children below five years are still suffering from undernutrition in developing countries and 99% of this burden is found in Sub-Saharan Africa and South Asian countries (Derso *et al.*, 2017).

Acute malnutrition (wasting) is the most serious form of malnutrition in children under five years of age and it is associated with a sudden decrease in food consumption/diet quality and/or illness resulting in sudden weight loss and/or bilateral pitting edema. Wasting is defined as Mid-Upper Arm Circumference (MUAC) less than 12.5 cm and/or WFH/L < -2 z-score SD from the median of the WHO child growth standards (IMAM, 2020). Acute malnutrition takes two different forms that are severe acute malnutrition/SAM or severe wasting and moderate acute malnutrition/MAM or moderate wasting (IMAM, 2020).

Globally in the year 2020, 45.4 million children under five years of age were wasted and 13.6 million were severely

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wasted; the highest prevalence of wasting is found in Asia (69%) followed by Africa with 27% cases of wasting among children below 5 years of age (Anato, 2022). The prevalence of wasting in Niger is at 18.0%, 15.5% in Burkina Faso, 12.7% in Comoros, 8.7% in Ethiopia, and 13.0% in Chad (Abdiwali *et al.*, 2022). It is estimated that 10.5 million child deaths that occur globally are related to undernutrition annually in 98% of these mortalities are reported in developing countries (Derso *et al.*, 2017).

Wasting alone is estimated to contribute to about 800,000 deaths per year in children younger than 5 years of age with 60% of these deaths being attributable to severe wasting in low and middle-income countries (Anato, 2022). In East Africa, 6.5% of children under the age of 5 years were reported to be wasted in the year 2017; in Kenya the prevalence of wasting was at 4% according to the country's DHS, in Tanzania wasting was at 4% according the Tanzania National Nutrition Survey and 4 % in Uganda according to the Uganda DHS (Mohamed & Nyaruhucha, 2023).

The consequences of wasting are serious as well as life-threatening and this condition results from an interplay among poverty, diseases, caring practices, maternal education, living conditions, and sanitation (Harding *et al.*, 2018). Despite several studies indicating that acute malnutrition is still an area of public health concern in developing countries, a few periodic studies have been conducted in several districts of Uganda to establish the magnitude of the condition as well as the factors contributing to its occurrence, especially in Kayunga District. Therefore, this study was aimed at determining the factors contributing to the prevalence of wasting among children below five years receiving health care services at Kayunga Regional Referral Hospital which is situated in Kayunga District.

To determine the factors contributing to the prevalence of wasting among children below five years receiving health care services at Kayunga Regional Referral Hospital, Kayunga District.

## METHODOLOGY

### Study design

The study employed a descriptive cross-sectional design involving mainly quantitative methods of data collection to obtain data on both the outcome (dependent variable) and exposure (independent variable) at the same time. This study design was employed to utilize the short time in which the study was to be conducted.

### Study area

The study was carried out at KRRH in the town of Kayunga which is located in Kayunga District, Buganda region 74 kilometers east of Kampala district. It is found in Kayunga municipality. The hospital is approximately 51 kilometers Northeast of Mukono town which is the nearest large city. This is about 67.5 kilometers Northeast of Mulago National Referral Hospital, the nation's largest referral hospital in Kampala. The coordinates of KRRH are 0°42'12.0'' N, 32°54'14.0" E (Latitude: 0.703329; Longitude: 32.903886). The study was conducted within one month between June 2023 and July 2023.

### Study population

The study involved children below five years who were brought by their mothers at KRRH to receive different healthcare services offered at the hospital during the time of data collection.

### Inclusion criteria

The study involved children below five years aged 6-59 months who were brought by their mothers at KRRH to receive different health care services offered at the hospital during the time of data collection.

### Exclusion criteria

Children below five years aged 0-6 months, children above five years, those who were brought to the facility by other people (not their biological mothers). In case of any emergency or if the participant's mother chose to withdraw from the study due to personal reasons, exclusion from the study was considered. Children who were crippled or had any disability that hindered weight and height measurements as well as those who were critically ill for anthropometric measurements to be taken were excluded from the study.

### Sample size determination

The sample size for the study was determined using the Kish Leslie formula of 1965 for descriptive studies and the sample size was calculated as:

From the formula N =

Where;

N = represents the sample size required for the study.

Z is the statistical certainty = 1.96 at a 95% confidence interval.

p = Assumed true prevalence of wasting in Uganda = 4% (0.04) adapted from IMAM guidelines (IMAM, 2020).

d = Absolute precision or error allowed = 5% (0.05).

q is the difference between 1 and p = 1 – P.

N =

N =

N =

= 59.006976 ~ **59**

However, a sample size of **100** mother-child pairs during the study.

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## Sampling technique

A simple random sampling technique was used to provide each participant who met the inclusion criteria with an equal chance or opportunity of being part of this study. The technique was also aimed at eliminating individual bias and improving the validity of the study.

## Sampling procedure

To obtain a sample of 100 study respondents, 10 respondents were randomly selected on each day for 10 consecutive working days. This was done by assigning a random sequential number to all mothers who had brought their children below five years but aged 6-59 months at KRRH to receive the different health care services offered at the hospital.

This was done by providing a box containing papers on which numbers 1 to 30 were written. Individuals who picked numbers 10 to 20 were then recruited for the study. This was done for ten (10) consecutive working days until the sample size of 100 respondents was obtained.

## Data collection method

The study employed a questionnaire as the data collection tool to obtain primary data from 100 mother-child pairs. Questionnaires contained structured questions along with the choice of answers depending on how the different variables were measured. Interviews were conducted using either local languages or English depending on the language the study participants understood best.

This method was adopted because it provided an opportunity to participate in data collection. This also helped obtain clarification or explanations where needed to collect relevant and accurate data.

## Data collection tool(s)

A standard semi-structured questionnaire was used in data collection and it was designed based on the study objectives.

The questions that were included in the questionnaire were aimed at capturing data related to the factors contributing to the prevalence of wasting among children below five years receiving health care services at KRRH. The questionnaire was divided into four sections; section A captured data on the socio-demographic data of study respondents, section B captured data on the prevalence of wasting, section C captured data on the childhood factors, and lastly, section D captured data on the maternal factors.

A digital (Seca) or Salter weighing scale was used for taking the weight of the participants during the study. A height/ or length board was used for measuring the height or the recumbent length of the participants during the study. Standard reference growth charts of WHO (WFH Z-score charts) were used to obtain the nutrition status of the study participants.

## Data collection procedure

A pilot study was carried out at Sama Medical Centre and pretesting of the data collection tool was also conducted. The study data collection tool was first pretested among twenty (20) mother-child pairs under the specified study inclusion criteria at Sama Medical Centre located in Mengo, Kampala District before it was used to collect data at the planned time.

During the pilot study, a suitable sample of respondents meeting the study inclusion criteria were interviewed and the questionnaire was checked to establish whether it was effective, simple, and easy to understand. It was also checked for the relevancy and reliability of the questions. Errors and any gaps in the data collection tool that was used in the final study were also checked. Content validity was established by seeking the expertise of the study supervisor to ensure that the correct variables and questions relevant to the study were the ones included in the study data collection tool.

## Dependent variable

The dependent variable of this study was wasting which is defined as WFH/L < -2 z-score SD from the median of the WHO child growth standards.

## Independent variable

These influence the dependent variable; childhood factors that were considered during this study included birth weight, time of initiation of complementary foods, immunization status, and recurrent illnesses. Maternal factors that were considered during this study included age bracket, education status of the mothers, antenatal care (ANC) follow-up, and decision-making of the woman/mother on family income.

## Quality control

The data collection tool to be used in the study was pretested, trained research assistants on how to assess the factors contributing to the prevalence of wasting among children below five years piloted the study, ample time was set aside for data collection and ensured that clear inclusion criterion was followed to attain accurate and reliable results.

## Data management, analysis, and presentation

Upon completing data collection, each questionnaire was checked for completeness and any gaps were filled immediately before the study participants left the hospital. Data was stored on computers and a record book that was accessible to only the researcher, research assistants, and supervisor. Data was processed as well as analyzed in

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Microsoft Excel version 2016 with the help of a scientific calculator. Results are presented in the form of tables, pie charts, and bar graphs.

### Ethical considerations

An introductory letter obtained from the Medicare Health Professionals College research committee was taken to the management of KRRH through the District Health Officer (DHO) of Kayunga District to grant permission to conduct the study. The purpose of the study was explained to all participants and informed consent was obtained from all mothers of study participants who accepted to participate in the study. Furthermore, all information that was obtained from the study participants was kept confidential. To ensure anonymity, the names of the respondents weren't captured on the questionnaires.



## RESULTS

### Socio-demographic characteristics of study participants

**Table 1: Showing the socio-demographic data of study respondents**

| Socio-demographic characteristic | Category | Frequency (n) | Percentage (%) |
|---|---|---|---|
| Maternal marital status | Married | 82 | 82 |
| | Single | 15 | 15 |
| | Divorced | 3 | 3 |
| **Total** | | **100** | **100** |
| Employment status | Self-employed | 30 | 30 |
| | Government/public worker | 13 | 13 |
| | Not employed/housewife | 31 | 31 |
| | Others | 26 | 26 |
| **Total** | | **100** | **100** |
| Religion | Anglican | 26 | 26 |
| | Catholic | 16 | 16 |
| | Pentecostal | 36 | 36 |
| | Muslim | 22 | 22 |
| **Total** | | **100** | **100** |
| Sex/gender of the child | Male | 54 | 54 |
| | Female | 46 | 46 |
| **Total** | | **100** | **100** |
| The age bracket of the child | 6-23 months | 38 | 38 |
| | 24-40 months | 26 | 26 |
| | 41-59 months | 36 | 36 |
| **Total** | | **100** | **100** |
| Gestational age of the infant at birth | < 37 weeks | 16 | 16 |
| | 37-42 weeks | 77 | 77 |
| | > 42 weeks | 7 | 7 |
| **Total** | | **100** | **100** |

***(Source: primary data 2023)***

In Table 1, out of the 100 mothers with children below five years that were involved in this study, 82(82%) were married, 15(15%) were single and 3(3%) of them were divorced. When it came to employment status, 30(30%) were self-employed and 26(26%) of them reported other employment statuses like being farmers.

When it came to the socio-demographic characteristics of the children that were involved in this study, 54(54%) belonged to the male sex and 46(46%) of them belonged to the female sex. Furthermore, 38(38%) of the children belonged to the age bracket of 6-23 months, 26(26%) belonged to the age bracket of 24-40 months and 36(36%) of them belonged to the age bracket of 41-59 months.

### Prevalence of wasting among children below five years receiving health care services at Kayunga Regional Referral Hospital

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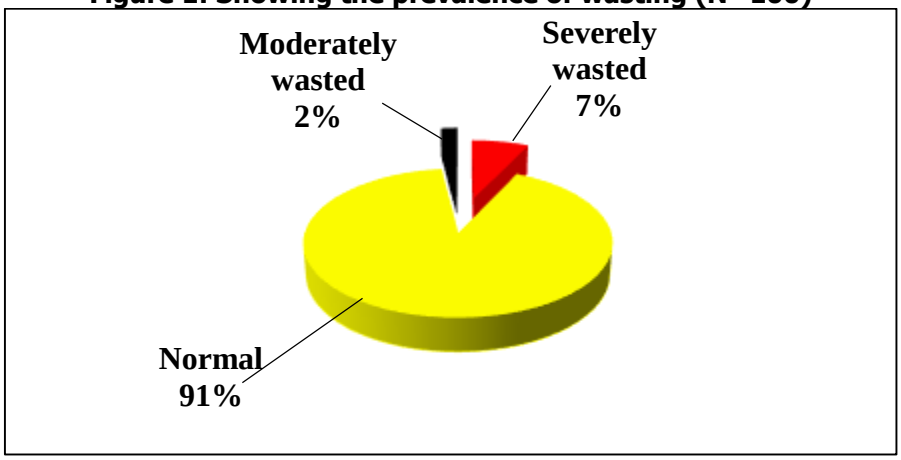
**Figure 1: Showing the prevalence of wasting (N=100)**




***(Source: primary data 2023)***

Figure 1 shows that out of the 100 children that were involved in the field study, it was revealed that 9(9%) were wasted and 91(91%) of them had a normal nutritional status. Of the 9 children who were wasted, 7(77.8%) were severely wasted and 2(22.2%) of them were moderately wasted.

## Childhood factors contributing to wasting among children below five years receiving health care services at Kayunga Regional Referral Hospital

**Table 2: Showing the distribution of wasting among children according to birth weight(N=100)**

| Variable | Category | Frequency (n) | Nutritional status | |
|---|---|---|---|---|
| | | | Wasted | Normal |
| **Birth weight of the child** | < 2.5kg | 12(12%) | 5(41.7%) | 7(58.3%) |
| | 2.5-4.0kg | 67(67%) | 4(6%) | 63(94%) |
| | > 4.0kg | 21(21%) | 0(0.0%) | 21(100%) |

***(Source: primary data 2023)***

In Table 2, out of the 100 children, 12(12%) were born with < 2.5kg, 67(67%) were born with 2.5-4.0kg and 21(21%) of them were born with > 4.0kg. Of those who were born with < 2.5kg, 5(41.7%) were wasted and 7(58.3%) of them were normal. For those who were born with 2.5-4.0kg, 4(6%) were wasted and 63(94%) of them had a normal nutrition status. When it came to those who were born with > 4.0kg, all (100%) of them were normal.

**Table 3: Showing the distribution of wasting among children according to time of initiation of complementary feeding (N=100)**

| Variable | Category | Frequency (n) | Nutritional status | |
|---|---|---|---|---|
| | | | Wasted | Normal |
| **Age of initiation of complementary feeding** | Before 6 months of age | 34(34%) | 4(11.8%) | 30(88.2%) |
| | At 6 months of age | 52(52%) | 4(7.7%) | 48(92.3%) |
| | Beyond 6 months of age | 14(14%) | 1(7.1%) | 13(92.9%) |

***(Source: primary data 2023)***

In Table 3, out of the 100 children, 34(34%) had complementary feeding initiated before 6 months, 52(52%) had complementary feeding initiated at 6 months and 14(14%) of them had complementary feeding initiated

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beyond 6 months of age. Of those who had complementary feeding initiated before 6 months of age, 4(11.8%) were wasted and 30(88.2%) of them were normal. When it came to those who had complementary feeding initiated at 6 months of age, 4(7.7%) were wasted and 48(92.3%) of them were normal. Of those who had complementary feeding initiated beyond 6 months of age, 1(7.1%) was wasted and 13(92.9%) of them were normal.

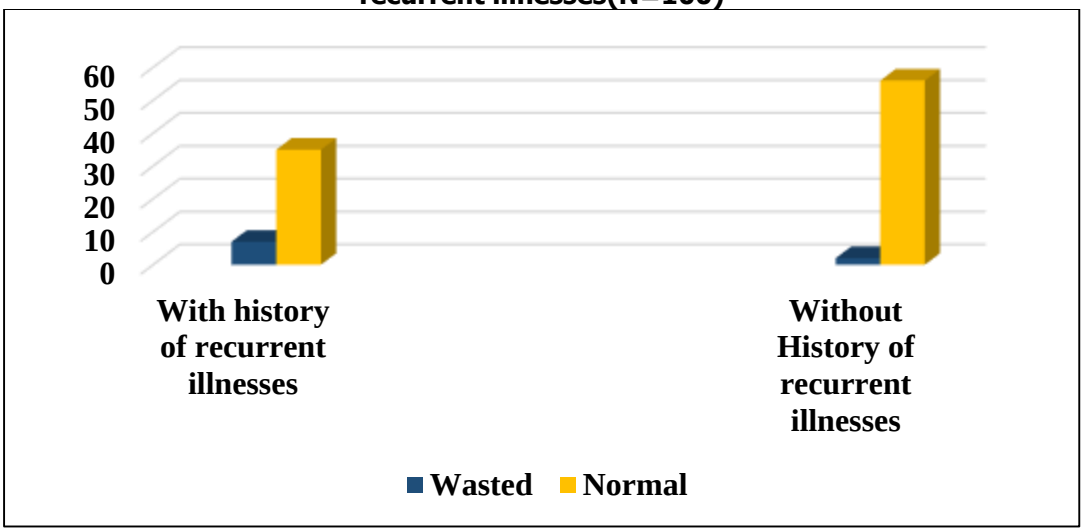
**Table 4: Showing the distribution of wasting among children according to immunization status (N=100)**

| Variable | Category | Frequency (n) | Nutritional status | |
|---|---|---|---|---|
| | | | Wasted | Normal |
| **Child's immunization status** | Not immunized at all | 00(0.0%) | 0(0.0%) | 0(0.0%) |
| | Partially immunized | 27(27%) | 6(22.2%) | 21(77.8%) |
| | Fully immunized | 73(73%) | 3(4.1%) | 70(95.9%) |

***(Source: primary data 2023)***

In Table 4, when it came to immunization status, none of the children weren't immunized at all, 27(27%) were partially immunized and 73(73%) of them were fully immunized. For those who were partially immunized, 6(22.2%) were wasted and 21(77.8%) of them were normal. Of those who were fully immunized, 3(4.1%) were wasted and 70(95.9%) of them were normal.

**Figure 2: Showing the distribution of wasting among children according to the history of recurrent illnesses(N=100)**




***(Source: primary data 2023)***

Figure 2 illustrates, that out of the 42(42%) children who had a history of recurrent illnesses, 7(16.7%) were wasted and 35(83.3%) of them were normal. Of the 52(52%) of the children who never had any history of recurrent illnesses, 2(3.8%) were wasted and 50(96.2%) of them had a normal nutrition status.

**Maternal factors contributing to wasting among children below five years receiving health care services at Kayunga Regional Referral Hospital**

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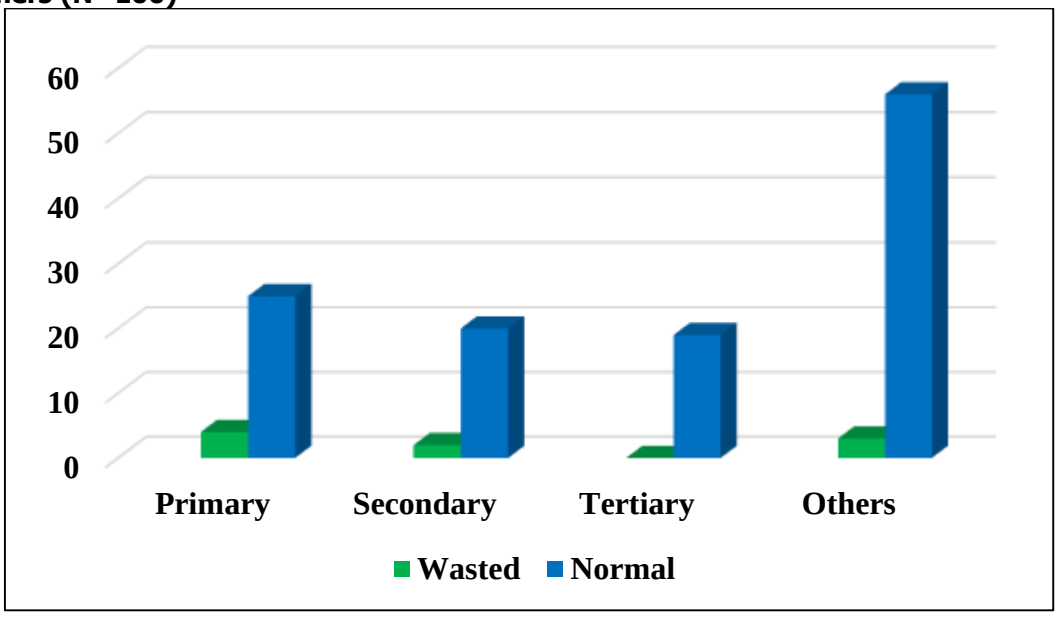
**Table 5: Showing the distribution of wasting among children according to mother's/maternal age bracket (N=100)**

| Variable | Category | Frequency (n) | Nutritional status | |
|---|---|---|---|---|
| | | | Wasted | Normal |
| **Mother's age bracket** | < 19 years | 15(15%) | 3(20%) | 12(80%) |
| | 19-45 years | 81(81%) | 5(6.2%) | 76(93.8%) |
| | > 45 years | 4(4.0%) | 1(25%) | 3(75%) |

***(Source: primary data 2023)***

In Table 5, out of the 100 mothers with children below five years that were involved in this study, 15(15%) belonged to the age bracket of < 19 years, 81(81%) belonged to the age bracket of 19-45 years and 4(4%) of them belonged to the age bracket of > 45 years. For those who belonged to the age bracket of < 19 years, 3(20%) of their children were wasted and 12(80%) of them had a normal nutrition status. When it came to those who belonged to the age bracket of 19-45 years, 5(6.2%) of their children were wasted and 76(93.8%) of them were normal. Of those who belonged to the age bracket of > 45 years, 1(25%) of their children were wasted and 3(75%) of them were normal.

**Figure 3: Showing the distribution of waste among children according to the education status of mothers (N=100)**




***(Source: primary data 2023)***

Figure 3 shows, that out of the 29(29%) mothers who reported primary as their highest level of education, 4(13.8%) of their children were wasted and 25(86.2%) of them were normal. Of the 22(22%) mothers who reported secondary as their highest level of education, 2(9.1%) of their children were wasted and 20(90.9%) of them were normal. When it came to the 19(19%) mothers who reported tertiary as their highest level of education, none of their children was wasted. Out of the 30(30%) mothers who reported other levels of education, 3(10%) of their children were wasted and 27(90%) of them were normal.

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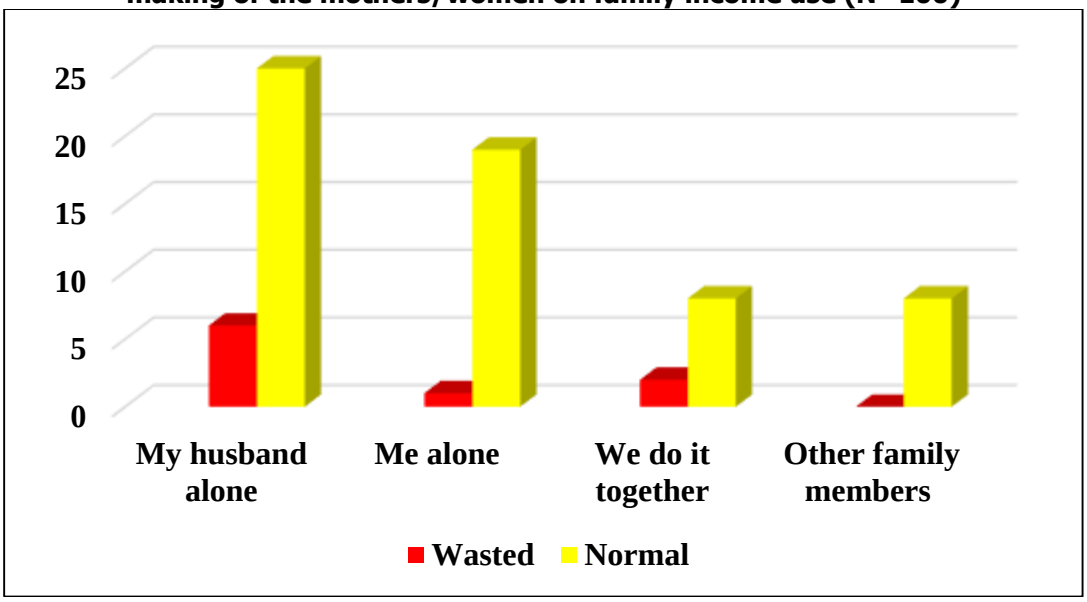
**Figure 4: Showing the distribution of waste among children according to the decision-making of the mothers/women on family income use (N=100)**




*(Source: primary data 2023)*

In Figure 4, out of the 62(62%) mothers who reported that decision-making on family income use was done by their husbands alone, 6(9.7%) of their children were wasted and 56(90.3%) of them were normal. Of the 20(20%) mothers who reported that decision-making on family income use was done by them alone, 1(5%) of their children were wasted and 19(95%) were normal. When it came to the 10(10%) mothers who reported that decision-making on family income was done by them together with their husbands, 2(20%) of their children were wasted and 8(80%) of them were normal. Out of the 8(8%) mothers who reported who reported that decision-making on family income was done by other family members, none of their children was wasted.

**Table 6: Showing the distribution of wasting among children according to antenatal care follow-up (N=100)**

| Variable | Category | Frequency (n) | Nutritional status | |
|---|---|---|---|---|
| | | | Wasted | Normal |
| **Number of antenatal care visits** | None | 0(0.0%) | 0(0.0%) | 0(0.0%) |
| | 1-3 | 26(26%) | 5(19.2%) | 21(80.8%) |
| | 4-6 | 27(27%) | 3(11.1%) | 24(88.9%) |
| | Others | 47(47%) | 1(2.1%) | 46(97.9%) |

*(Source: primary data 2023)*

In Table 6, out of the 100 mothers with children below five years that were involved in this study, none of them didn't attend antenatal care follow-up during their previous pregnancy, 26(26%) reported 1-3 antenatal care visits during their previous pregnancy, 27(27%) reported 4-6 antenatal care visits during their previous pregnancy and 47(47%) of them reported other numbers of antenatal care visits during their previous pregnancy.

For those who had 1-3 antenatal care visits during their previous pregnancy, 5(19.2%) of their children were wasted and 21(80.8%) of them had a normal nutrition status. When it came to those who reported 4-6 antenatal care visits during their previous pregnancy, 3(11.1%) of their children were wasted and 24(88.9%) of them were normal. Of those who reported other numbers of antenatal care visits during their previous pregnancy, 1(2.1%) of their children was wasted and 46(97.9%) of them were normal

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## DISCUSSION

### Prevalence of wasting among children under five years

This study revealed that 9% of the children below five years who received health care services at Kayunga Regional Referral Hospital during the time of data collection were wasted whereas 91% of them had a normal nutritional status. The findings of this study further showed that the majority (77.8%) of the children below five years who were wasted had severe wasting while 22.2% of them were moderately wasted. The probable reason for this low prevalence of wasting among the study participants is that the majority (52%) of the study respondents had timely initiation of complementary feeding that is at 6 months of age. Furthermore, the majority of the study participants were born with a normal birth weight (67%), were fully immunized (73%), and had no history of recurrent illnesses (52%).

The above findings of this study are in agreement with the findings of a study that was conducted by Singh *et al.* (2022), which showed that wasting was prevalent at 9% among the study participants. The study results are also contrary to the results of a study that was done by Dukuzimana *et al.,* (2021), which established that 3.6% of the study subjects were wasted. Lastly, the findings of this study aren't in line with the findings of a cohort study which showed that wasting was prevalent at 3.6% among the study participants (Nahalomo *et al.,* 2020).

### Childhood factors contributing to wasting among children below five years

In this study, the majority (41.7%) of the study participants who had a birth weight < 2.5kg were wasted and 6% of those who had a birth weight of 2.5-4.0kg were wasted. The probable reason for this is that infants born with a low birth weight (< 2.5kg) have weak bodies and experience difficulties in feeding, gaining weight, and fighting infections which puts them at a greater risk of acquiring several nutritional deficiencies. This is in line with a quintile regression analysis that was done by Shiddiqa *et al.* (2022), which showed that children who had a low birth weight were more likely to be wasted.

The study findings indicated that the majority (11.8%) of the children who had early initiation of complementary feeding were wasted as compared to the 7.7% and 7.1% who had timely as well as late initiation of complementary feeding respectively. The probable reason for this is that early initiation of complementary feeding results in the displacement of breast milk and increases the risk of infections, which further contributes to weight loss and wasting. This is in total agreement with a household-based cross-sectional study which showed that wasting was significantly associated with early initiation of complementary feeding (Mohamed & Nyaruhucha, 2022).

The study results revealed that 22.2% of the children who were partially immunized were wasted while only 4.1% of those who were fully immunized were wasted. The probable reason for this is that children who are partially immunized usually experience immuno-compromization which puts them at an increased risk of acquiring several infectious diseases like measles yet there is a direct relationship between wasting and such diseases. This is in agreement with the results of a community-based cross-sectional study that was done by Abdiwali *et al.* (2022), which indicated that wasting among children below five years was significantly associated with immunization.

In this study, the majority (16.7%) of the study participants who had a history of recurrent illnesses were wasted while only 2.8% of those who never had any history of recurrent illnesses were wasted. The probable reason for this is that diseases or infections can lead to reduced appetite, vomiting, and consequently low dietary intake which is an immediate determinant of undernutrition that also encompasses wasting.

Furthermore, diseases alone are immediate determinants of undernutrition, and also some diseases like diarrhea compound nutritional losses and hence wasting. The above study finding is consistent with the findings of a community-based case-control study which indicated that the odds of being wasted were high among children who had infections like acute respiratory infections and diarrhea in the previous two weeks before the survey (Chekol *et al.,* 2021).

### Maternal factors contributing to wasting among children below five years

In this study, the majority (25%) of the children who belonged to mothers aged > 45 years were wasted whereas 6.2% of those who belonged to mothers aged 19-45 years were wasted. The probable reason for this is that mothers aged > 45 years are more likely to have low birth weight infants and infants born with low birth weights are more likely to be wasted due to weak bodies as well as difficulties in feeding, gaining weight, or fighting infections. This is in line with a household-based cross-sectional study that was done by Mohamed & Nyaruhucha (2022), which showed that wasting was significantly associated with maternal age.

The study results indicated that the majority (13.8%) of the children who belonged to mothers with primary as their highest level of education were wasted while 9.1% of those who belonged to mothers with secondary as their highest level of education were wasted. The probable reason for this is that higher levels of maternal formal education directly transfer health knowledge to mothers, enhance their ability to recognize illnesses or seek treatment for their children, and make mothers able to read medical instructions for the treatment of childhood illnesses as well as apply the

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treatment. This is in agreement with a hospital-based cross-sectional study which indicated that low maternal education was one of the factors associated with wasting among children below five years of age (Sambo *et al.*, 2022).

The study results revealed that 9.7% of the children who belonged to mothers who didn't participate in decision-making on family income use were wasted whereas 5% of those who belonged to mothers who participated in decision-making on family income use were wasted. The probable reason for this is maternal decision-making power on family resources positively promotes survival, child growth, and nutrition. This is in agreement with a study that showed that the odds of being wasted were high among children who belonged to mothers who never made any decision on the use of household income (Chekol *et al.*, 2021).

The study results indicated that the majority (19.2%) of the children belonging to mothers who had 1-3 antenatal care visits during their previous pregnancy were wasted while 2.1 % of those belonging to mothers who had more than six antenatal care visits during their previous pregnancy were wasted. The probable reason for this is that antenatal care visits enable mothers to be aware of the right feeding choices for their children depending on their age and also lead to improved or better pregnancy outcomes. This is in line with a study that indicated that the absence of maternal antenatal care is one of the many maternal factors associated with wasting among children below five years old (Menalu *et al.*, 2021).

## CONCLUSION

This study established that wasting is still a national medical and public health concern among children below five years as some cases of wasting were recorded among children in this age category who received health care services at Kayunga Regional Referral Hospital during the time of conduction of the study with most cases being severe.

This study showed a high prevalence of wasting among children who were born with low birth weights, those who had early initiation of complementary feeding, those who were partially immunized, and those who had recurrent illnesses

This study revealed that children belonging to mothers > 45 years of age, those with low levels of literacy or formal education, those with no decision-making power on the use of family income, and those belonging to mothers who had few antenatal care visits during their previous pregnancy were more likely to be wasted.

## LIMITATIONS

The long-distance between the training institute and the study area posed a challenge during the time of data collection.

The study was confined within KRRH only so this made it impossible to generalize the findings to the entire community. Moreover, the inadequate financial support to facilitate the entire study was a challenge.

## RECOMMENDATIONS

***To the government and health practitioners*;** The government through the Ministry of Health should continue to educate the population using different media platforms on the dangers of childhood wasting and the simple preventive measures that can be used to solve the problem. Health practitioners should share information with mothers/caretakers of children regarding the need for good infant and young child feeding practices at all times to prevent wasting as well as its compounded effects in children below five years.

Health practitioners should also ensure that they carry out nutrition assessments on all children below five years that present at their health facilities as this will ensure that cases of wasting are detected as early as possible to prevent permanent disability or death in children falling under this age bracket.

***To the Village Health Teams and local leaders;*** The Village Health Teams should continuously educate and sensitize the population on the importance of good infant and young child feeding practices like exclusive breastfeeding and some simple preventive measures for common childhood illnesses such as diarrhea.

Village Health Teams and local leaders should also educate the masses on the importance of immunization, antenatal care and the importance of having the health of their children tracked all the time by trained health practitioners.

***For further studies;*** There is a need for more analytical research studies on the factors contributing to the prevalence of wasting among children below five years in different parts of the country as this will give policy-makers a more holistic view of the relationship between different factors and wasting in the country. This may help them devise more appropriate measures or approaches to decrease waste in children below five years of this great nation.

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## LIST OF ABBREVIATIONS

**DHS -** Demographic and Health Survey

**IMAM -** Integrated Management of Acute Malnutrition
**KRRH -** Kayunga Regional Referral Hospital
**MUAC - Mid-Upper** Arm Circumference
**SD -** Standard Deviation
**WFH/L -** Weight-For-Height/Length
**WHO -** World Health Organization



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There was no source of funding

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