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Prevalence and Associated Factors of Anaemia among Children Aged 6 to 59 Months: A Study at Kampala International University-Teaching Hospital

Mugisha Ruth
Faculty of Clinical Medicine and Dentistry, Kampala International University Western Campus Uganda

ABSTRACT

The study aimed to investigate the prevalence and associated factors of anaemia among children aged 6 to 59 months attending Kampala International University-Teaching Hospital (KIU-TH). Anaemia remains a significant global public health concern, particularly in low- and middle-income countries. This study contributes to understanding the incidence of anaemia and its contributing factors in this specific population. The prevalence of anaemia among the studied children was found to be 29.6%, with 4.5% experiencing severe anaemia. This underscores the ongoing burden of anaemia in young children, despite efforts to address it. The study revealed various socio-demographic factors associated with anaemia. Children living in rural areas were twice as likely to develop anaemia compared to those in urban areas. Similarly, children whose caretakers were business operators had a higher likelihood of anaemia. Furthermore, medical and nutritional factors were strongly associated with anaemia. Children with a history of febrile illness or current chronic illnesses were more likely to develop anaemia. Additionally, malnutrition, particularly severe acute malnutrition (SAM) and moderate acute malnutrition (MAM), significantly increased the risk of anaemia. On the contrary, children with normal weight for height had a lower likelihood of developing anaemia. These findings highlight the multifactorial nature of anaemia in young children and the importance of addressing various determinants to mitigate its prevalence. Interventions should focus on improving access to healthcare services, including immunization and deworming programs, as well as addressing malnutrition through nutrition education and supplementation initiatives. Additionally, socioeconomic factors such as rural residence and caregiver occupation should be considered in developing targeted interventions. In conclusion, anaemia remains a prevalent issue among children attending KIU-TH, with various socio-demographic, medical, and nutritional factors influencing its occurrence. Comprehensive intervention strategies addressing these factors are essential to reduce the burden of anaemia and improve the health outcomes of young children in this setting. Further research and ongoing monitoring are necessary to assess the effectiveness of interventions and track changes in anaemia prevalence over time.

Keywords: Children's anaemia, public health, and low- and middle-income nations

INTRODUCTION

Anaemia refers to a condition in which the number of red blood cells or the concentration of haemoglobin (and consequently their oxygen-carrying capacity) is insufficient to meet the body's physiologic needs [1, 2]. This condition remains the most prevalent blood disorder and a public health threat, affecting about a third of the global population [3, 4], with shocking preventable and treatable causes, and yet in its severe state, it leads to life-threatening complications and claims lives, especially for children under five years old, year in and year out. Globally, the overall prevalence of anaemia was about 32.9% and accounted for 8.8% of the total disability from all conditions in 2010 [5].

Iron deficiency anaemia is the most common form of anaemia, affecting nearly 1 billion people globally [6]. In 2013, it resulted in 183,000 deaths, down from 213,000 deaths in 1990 [7]. Although iron-deficiency anaemia is the most common aetiology globally, other leading causes of anaemia, including infections, chronic diseases, hemorrhagic and genetic disorders, vary widely by geography (from one region to another), age (highest in children under age 5), and sex (females (9.9%) than males (7.8%) [7]. In Sub-Saharan Africa (SSA), the overall prevalence of anaemia among children aged 6–59 months was 64.1%, attributable to poor maternal education, lower household wealth status, large

family size, being a male child, multiparity, history of febrile illness in the previous two weeks, having diarrhoea in the last two weeks, intestinal worms, higher-order birth, maternal anaemia, maternal age, being underweight, being wasted, and stunting [8]. This was in agreement with earlier studies conducted in SAA on risk factors of anaemia in children under five years old [9, 10]; similarly, the prevalence of anaemia in children under five years old was as high as 49.4% in Somaliland, associated with household wealth, child age, weaning age, deworming, diarrhoea, underweight, and maternal literacy [11–13]. In East Africa, the trend was not different; Kenya had an overall prevalence of anaemia among children estimated to be 28.8%, attributable to child age and sex, maternal education, and childhood infections led by malaria [14, 15]. Recently, a study in Southern Tanzania indicated that about 53.9% of children had anaemia, with varying geographical distribution of the burden [16, 17]. In Uganda, the overall prevalence of anaemia remains varying geographically, with existing literature revealing highs of 58.8% [12] 56.3% (in Rakai, Southern Uganda) [18] through 30.6% (in Rubirizi, Western Uganda), to lows of 17.4% (in Tororo, Eastern Uganda), and in 11.8% (in North-western Uganda) in children under five years [19]. In these areas and the Ankole subregion, anaemia in children under five years was found to be strongly ($P<0.005$) associated with child age, parasitic infections, and maternal, and household demographic factors [20-24]. Finally, anaemia remains prevalent, and shockingly, much remains unknown about the prevalence and associated factors of anaemia in children under five years to inform decisions and health policy in prevention and control of the burden of anaemia in this age group in Uganda [25-28]. Therefore, the purpose of this study is to determine the prevalence and associated factors of anaemia in children under five years attending KIU-Teaching Hospital to inform evidence-based prevention and control of anaemia in children under five years [29-34].

Globally, about 32.9% of children under five years of age are affected [21], and Sub-Saharan Africa is home to the greatest burden of anaemia amongst children under five years, with an overall prevalence of 64.1% [8]. In Uganda, although the trends of anaemia in children under five years declined between 2006 (73%) and 2011 (50%), the overall prevalence remains high at 53% [20]. In 2016, anaemia in children under five years in Western and Southwestern Uganda vacillated around 49.6 and 31.9% [19]. Despite being referred to as "the food basket" of Uganda, Bushenyi has persistently registered high levels of under-five undernutrition, including micronutrient deficiency like iron deficiency anaemia. Generally, due to small land holdings, the amount of food produced does not adequately fulfil the population's annual food needs. In a study done by Maniragaba et al. [22], 46% of under-five children living in the Bushenyi district were found to be stunted. It was estimated that 26.2% of children living in the Bushenyi district had iron deficiency anaemia [22]. However, this study was conducted many years ago, therefore it may not reflect the current trend of anaemia in the Bushenyi district. Moreover, since this was a community-based study, the prevalence of anaemia may be lower when compared to the in-hospital prevalence. Therefore, a study was conducted to determine the prevalence and associated factors of anaemia in children under five years attending KIU-Teaching Hospital. The study was to determine the prevalence and factors associated with anaemia among children aged 6 to 59 months attending Kampala International University-Teaching Hospital.

METHODOLOGY

Study Design

This was a cross-sectional, descriptive, and analytical study design.

Area of Study

The study was conducted at KIU-Teaching Hospital, a 700-bed capacity hospital located in the Ishaka division of Bushenyi municipality, Bushenyi District, Ankole Sub-Region of western Uganda. This is about 59.6 km from Mbarara Regional Referral Hospital, in Mbarara City, along Mbarara-Kasese Road. It lies at latitude -0.54° or 0°32'24" south and longitude 30.1465o or 30° 8'47" east. Bushenyi district is bordered by Rubirizi district in the west, Sheema in the east, Buhweju in the north, and Mitooma in the south. It is a specialised hospital with the following departments: paediatrics, internal medicine, surgery, obstetrics and gynaecology, and other specialised clinics with a bed capacity of 700 and a fully functional laboratory (level III) with microbiology, chemistry, haematology, and pathology unit departments. The paediatric department is managed by a paediatrics specialist, a senior house officer, an intern doctor, and a nurse daily. It is organised into a paediatric ward, a neonatal intensive care unit, and a paediatric outpatient department. This study was conducted in both the paediatric ward and the paediatric outpatient department. The paediatric ward has a capacity of 50 beds and receives approximately 100 patients monthly. The paediatric outpatient

department receives an average of 350 patients monthly.

Study population

The study will enrol children under five years old in KIU-Teaching during the period of study. Caretakers of these children were used to collect data for the study.

Inclusion criteria

Clinically stable children under five years of age attending KIU-Teaching during the period of study and their caretakers who will consent to this study were included in the study.

Exclusion criteria

Children on iron supplementation and those who received blood transfusions within the last 3 months were excluded from the study.

Sample size

For objective number one, the sample size was calculated using the Kish Leslie formula [23]:

$z^2p\,(1-p)$

n = estimated minimum sample size required

p: proportion of a characteristic in a sample;

e: The acceptable margin of error is set at 5%.

z: 1.96 (for a 95% confidence interval).

A cross-sectional study conducted by Legason et al. (2017) reported a prevalence of anaemia of 37.2% among under-five children. Therefore, the sample size will be:

$(1.96)^2 \times 0.37 \times (1-0.37)$.

Sampling technique

$n = (0.05)^2$

$= 358$

Consecutive enrollment of study participants was done, and the desired sample size was reached.

Study procedure

The following flow chart was used to guide participant flow during the study.

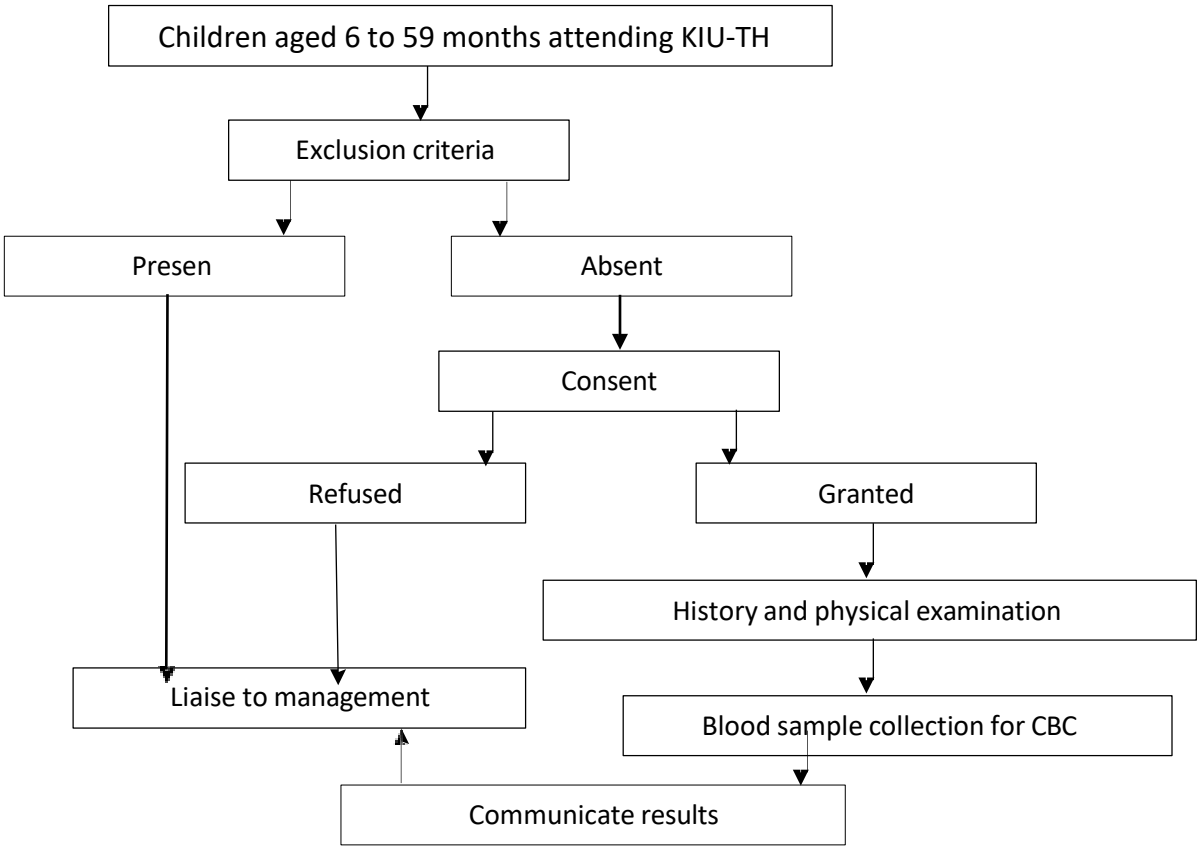

Figure 1: Flow chart

Data collection tools

The investigator will administer a structured questionnaire in both English and Runyankole. Sociodemographic data, dietary data, and some medical data were extracted from the patient's medical records. Body weight was measured using a digital weighing scale (Seca 869, GMBH&Co., designed in German and made in China, 874.1021658, maximum capacity 150 kg; d = 0.1 kg), and a stadiometer was used for measuring length. The mid-upper arm circumference (MUAC) was taken using a non-stretchable tape specifically designed for this purpose by UNICEF. The child's weight and length measurements were plotted against the WHO Child Growth Standards. A complete blood count was analysed using the Sysmex Automated Haematology Analyzer.

Validity of data collection tools

The data collection tools were pretested by using a content validity index. The principal investigator will get ten (10) respondents who will not be part of the sample population, give them the questionnaire, and measure the inter-respondent agreement. The agreement of more than 75% was a measure that the items of the questionnaire can give us a true impression of the factors associated with anaemia.

Reliability of data collection tools

Data was obtained by a pre-determined questionnaire, and by using Cronbach's alpha of more than 0.8, the principal investigator will consider that the items of the questionnaire are reproducible and consistent.

Data collection

Socio-demographic variables, including age, sex, education level, residence, religion, monthly income, and family size, were obtained using a structured questionnaire and medical records. Medical information, including immunisation, co-morbidities, HIV status, and deworming status. Structure the questionnaire via interview. Nutritional factors such as exclusive breastfeeding, age at weaning, minimum meal frequency, and minimum dietary diversity were collected using interviews or the patient's medical records.

Laboratory data

The blood sample collection procedure was fully explained. After getting consent from the carer and assent from the study participant, the site of the venous puncture was cleaned with an alcohol swab. Two ml of venous blood were collected from each study participant. The blood was transferred to a vacutainer containing EDTA with a dilution effect of 1-2% to prevent clotting before laboratory analysis. A complete blood count was analysed using the Sysmex Automated Haematology Analyzer.

Diagnosis of anaemia

Anaemia was defined by a haemoglobin level of less than 11 g/dL (World Health Organisation, 2011a). It was classified according to WHO (2011a) as mild (10.0–10.9 g/dL), moderate (7.0–9.9 g/dL), and severe (<7.0 g/dL).

Diagnosis of iron deficiency anaemia

In this study, iron deficiency anaemia was defined by hypochromic, microcytic, and red cell distribution width > 14 and microcytosis on a complete blood count.

Data quality control

The questionnaire was pre-tested at Ishaka Adventist Hospital using ten (10) questionnaires. This will check if the questions are accurate and easily understandable by the respondents. The pre-test questionnaires were not included in the data analysis. Each filled-out questionnaire was cross-checked for inconsistencies and incompleteness before the end of the interview. The weighing scale was calibrated before each measurement. To minimise error, the child was weighed with minimal clothes. The operating procedures for a complete blood count were followed strictly.

Data analysis

Data was analysed using IBM SPSS 27.0 statistics for Windows (Armonk, NY: IBM Corp.). The prevalence of anaemia among under-five children was calculated as a fraction of under-five children with anaemia over the children enrolled in the study. It was expressed as a percentage with a corresponding 95% confidence interval (CI). The results were presented using a table **of** factors associated with anaemia among under-five children. To achieve this objective, for binary data, the strength of association between the independent variables presumed to be associated with anaemia among under-five children will be determined by cross-tabulation and the Chi-square (X^2) test. These independent variables will be analysed using bivariate and multivariate methods. A p-value of ≤ 0.2 with a confidence interval of 80% will be considered at the bivariable level. All factors with a p-value <0.2 will be moved to multivariable analysis to control for cofounders. The factors in the final multivariable model were then reported together with their adjusted odds ratios and 95% confidence intervals. A $p<0.05$ was used at the multivariable level. These were presented in tables. The proportion of iron deficiency anaemia among under-five children with anaemia was presented as a proportion of under-five children with iron deficiency anaemia overall under-five children with

anaemia enrolled in the study. It was expressed in percentages and presented in a table.

Data Quality Control

The quality of the data was controlled to ensure reliability and validity. Questionnaires were pretested at Ishaka-Adventist Hospital before being administered to the final respondents at KIU-TH. Questionnaires were filled out correctly by allowing enough time for response and filling. Unfamiliar technical terms were explained to the participants consistently. For data completeness, the questionnaires were checked just after filling them out before they were taken for data entry and analysis.

Ethical consideration

The research was conducted after the approval of the research dissertation by the institutional research ethics committee of Kampala International University campus, and an introductory letter from the Faculty of Clinical Medicine and Dentistry was given to the researcher. Permission to collect data was obtained from the hospital administration before the execution of the research. Only respondents with informed consent were enrolled voluntarily. We shall ensure the privacy of all participants by interviewing them one at a time. Participants will be kept anonymous, and information about them will be kept confidential.

RESULTS

Socio-Demographic Characteristics of Study Participants

The study enrolled 382 children. The majority (64.1%) of caretakers were mothers of enrolled children, with a mean age of 29 ± 8 years and mostly (62%) Banyankole/Bakiga. About 48.2% of caretakers were of primary level, the majority (65.4%) resided in rural areas, 43.1% were peasant farmers, and 48.7% of them earned between 150,000 and 500,000 UGX monthly *(***see Tab. 1 below***)*.

Table 1: Socio-demographic characteristics of study participants

Variable	Frequency	%
Caregiver's relationship		
Mother	245	64.1
Father	63	16.5
Others	74	19.4
Age of the caregiver(years)		
15-19	22	5.8
20-39	318	83.2
40-59	40	10.5
60 and above	**2**	**0.5**
Education level		
None	112	29.3
Primary	184	48.2
Secondary	59	15.4
Tertiary	**27**	**7.1**
Occupation		
Farmer	165	43.2
Business	134	35.1
Employee	62	16.2
Others	**21**	5.5
Income level (UGX)		
<150,000	152	39.8
150,000-500,000	186	48.7
>500,000	44	11.5
Tribe		
Munyankole	236	61.8
Mufumbira	43	11.3
Munyoro	48	12.6
Muganda	42	11.0
Others	13	3.4
Religion		
Islam	103	27.0
Catholic	136	35.6
Protestant	95	24.9
Pentecostal	42	11.0
Others	6	1.6
Residence		**0.0**
Urban	132	34.6
Rural	250	65.4
Child's age(month)		
12-23	65	17.0
24-47	20	5.2
48-59	257	67.3
6-11	40	10.5
Child's sex		
Male		
Female	248	64.9

Prevalence of anaemia among children aged 6 to 59 months

Of the 382 participants, 113 (29.6%) had anaemia *(***see Figure 2 below***)*. The mean Hb level was estimated at 11.4 ± 1.9 g/dL with a range of 2.7 to 14.2 g/dL. About 4.5% of study participants had severe anaemia.

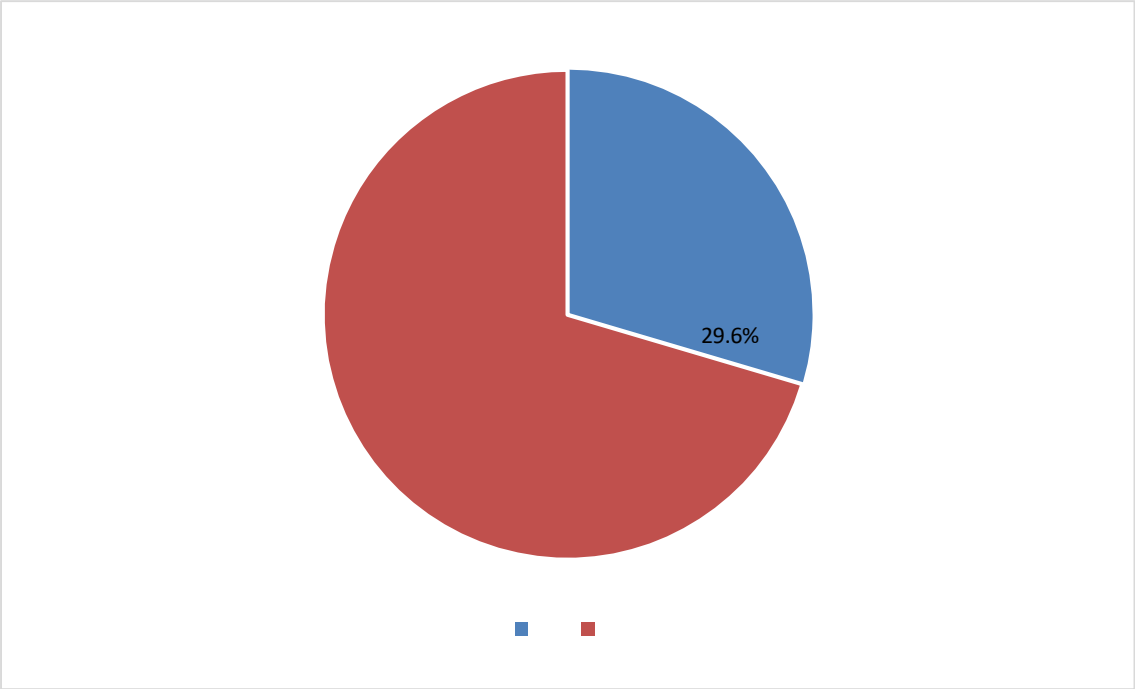

Figure 2: Prevalence of Anemia among children Aged 6 to 59 months

Socio-demographic factors associated with anaemia among children aged 6 to 59 months

Logistic regression analysis indicated that children in rural areas were two times more likely to develop anaemia compared to their urban counterparts (OR = 2.04, 95% CI: 1.241–3.352) (P =0.05). Also, children whose caretakers were business operators were about threefold more likely to develop anaemia compared to counterparts (OR = 2.95, 95% CI: 1.068–8.163) (P = 0.037) (see Table 2).

Table 2: Bivariate analysis of socio-demographic factors associated with anaemia among children aged 6 to 59 months

Variable	Anemia		P – Value
	Yes	No	
Caretaker's relationship with child			
Mother	72	173	0.944
Father	18	45	
Others	23	51	
Caretaker's Age (Years)			
15 – 19	7	15	0.804
20 – 39	95	223	
40 – 59	11	29	
60 and above	0	2	
Child Age			
6 – 11months	13	27	0.537
12 – 23	23	42	
24 – 47	70	187	
48 – 59months	7	13	
Child Sex			
Male	37	97	0.535
Female	76	172	
Caretaker's Education level			
None	38	74	0.630
Primary	53	131	
Secondary	15	44	
Tertiary	7	20	
Occupation			
Farmer	49	116	0.222
Business	33	101	
Employee	22	40	
Others	9	12	
Monthly income (UGX)			
< 150,000	40	112	0.175
150,000 – 500,000	55	131	
>500,000	18	26	
Tribe			

Munyankole/Mukiga	66	170	0.092
Rwandese/Mufumbira	20	23	
Mutoro/Munyoro	12	36	
Muganda	13	29	
Others	2	11	
Religion			
Islam	29	74	0.773
Catholic	44	92	
Protestant	29	66	
Pentecostal	10	32	
Others	1	5	
Residence			
Urban	27	105	**0.005**
Rural	86	164	
Number of Household members			
1 – 4	39	87	0.671
5 – 10	53	121	
Above 10	21	61	

Table 3: Logistic Regression Analysis of social demographic factors Associated with Anemia among children aged 6 to 59 months attending KIU-TH

Variable	OR	95% CI	P-value
Caregiver's relationship			
Mother	1.16	(0.616 – 2.181)	0.648
Father	1.26	(0.558 – 2.860)	0.576
Others	1	Ref.	Ref.
Age of the caregiver(years)			
15-19	2.14	(0.874 – 5.256)	0.813
20-39	1.63	(0.359 – 3.635)	0.78
40-59	0.89	(0.121 – 3.012)	0.761
60 and above	1	Ref	Ref
Education level			
None	0.82	(0.286 – 2.380)	0.721
Primary	0.97	(0.351 – 2.675)	0.952
Secondary	1.19	(0.381 – 3.692)	0.768
Tertiary	1	Ref	Ref.
Occupation			
Farmer	2.16	(0.800 – 5.806)	0.129
Business	2.95	(1.068 – 8.163)	0.037
Employee	1.58	(0.539 – 4.653)	0.402
Others	1	Ref	
Income level (ugx)			
<150,000	1.99	(0.922 – 4.292)	0.079
150,000-500,000	1.51	(0.701 – 3.233)	0.294
>500,000	1	Ref.	Ref.
Tribe			
Munyankole	0.45	(0.092 – 2.204)	0.324
Mufumbira	0.21	(0.039 – 1.126)	0.068
Munyoro	0.61	(0.110 – 3.405)	0.574
Muganda	0.36	(0.066 – 1.999)	0.244
Others	1	Ref.	Ref.
Religion			
Islam	0.75	(0.078 – 7.202)	0.801
Catholic	0.64	(0.067 – 6.052)	0.694
Protestant	0.56	(0.058 – 5.454)	0.619
Pentecostal	0.92	(0.085 – 9.917)	0.945
Others	1	Ref.	Ref.
Residence			
Urban	2.04	(1.241 – 3.352)	0.02
Rural	1	Ref.	Ref.
Child's age(month)			
06-11	0.82	(0.21-1.82)	0.21
12-23	0.87	(0.35-2.35)	0.23
24-47	0.23	(0.11-1.02)	0.31
48-59	1	Ref.	Ref.
Child's sex			
Male	0.23	(0.12-2.31)	0.31
Female	1	Ref.	Ref.

Medical and nutritional factors associated with anaemia among children aged 6 to 59 months

The study showed that history of febrile illness within 2 weeks, history or current chronic illnesses, and nutrition status of a child were strongly ($P < 0.05$) associated with anaemia in children aged 6 to 59 months (see Table 4 below). In a logistic region analysis, a child with a history of febrile illness was 1.3 times more likely (OR = 1.26, 95% CI: 1.099–1.451), a child with a history of a current chronic illness was 1.5 times more likely (OR = 1.47, 95% CI: 1.056–2.057), and malnutrition (SAM or MAM) was about 2 times more likely to develop anaemia compared to counterparts (see Table 07 below). However, a child with normal weight for height (normal nutritional status) was about 50% less likely to develop anaemia compared to counterparts (OR = 0.51; 95% CI: 0.286–0.912).

Table 4: Medical & Nutritional factors associated with Anemia among children aged 6 to 59 months attending KIU-TH

Variable	Anemia		P – Value
	Yes	No	
Age at Weaning (months)			
< 6	39	83	0.431
6-11	63	143	
>12	11	39	
Immunization status			
Unimmunized	10	21	0.546
Immunization up to date	57	120	
Due to next dose	36	107	
Complete immunization	10	21	
Deworming status			
Never Dewormed	22	62	0.488
Dewormed ≤ 3mo ago	60	125	
Dewormed > 3months	31	82	
Fever			
Yes	87	164	0.003
No	26	105	
History/current Chronic Illnesses			
Yes	39	63	0.025
No	74	206	
Nutrition Status			
SAM	2	9	0.005
MAM	16	11	
Normal	92	242	
Overweight/ Obese	3	7	

Table 5: Logistic Regression Analysis of Medical & Nutritional Factors Associated with Anemia among children under five years attending KIU-TH

Variable	Level of Association		P – Value
	OR	**95% CI**	
Age at weaning(months)			
< 6	0.73	(0.313 – 1.720)	0.476
6-12	0.70	(0.310 – 1.558)	0.377
>12	1.0	Ref.	Ref.
Immunization status			
Unimmunized	1.33	(0.404 – 4.410)	0.637
Immunization up to date	1.07	(0.441 – 2.583)	0.885
Due to the next dose	1.38	(0.556 – 3.411)	0.490
Complete immunization	1.0	Ref.	Ref.
Deworming status			
Never Dewormed	1.15	(0.557 – 2.384)	0.702
Dewormed ≤ 3mo ago	0.85	(0.470 – 1.535)	0.589
Dewormed > 3months	1.0	Ref.	Ref.
History of Illness (<2 weeks)			
Yes	1.26	(1.099 – 1.451)	**0.003**
No	1.0	Ref.	Ref.
History of Illnesses Yes	1.47	(1.056 – 2.057)	**0.025**
No Nutrition Status	1.0	Ref.	
SAM	2.12	(1.013 – 5.124)	**0.041**
MAM	1.74	(1.112 – 4.732)	**<0.001**
Overweight/ Obese	0.51	(0.286 – 0.912)	**0.021**
Normal	1.0	Ref.	Ref.

DISCUSSION

Prevalence of Anemia among Children aged 6 to 59 months

This study showed that the prevalence of anaemia among children under five years of age attending KIU-TH was 29.6%. This was way below the National and Regional (southwestern Uganda) burden of anaemia among under-fives oscillating at 53% & 31.9% respectively [20]. Still, this is lower than the burden of anaemia amongst children under five years in Sub-Saharan Africa (64.1%) [8] and Globally (32.9%) [24].

Prevalence of Iron Deficiency Anemia among Children aged 6 to 59 months

The study indicated that the prevalence of Iron Deficiency Anemia (IDA) among children aged 6 to 59 months was 44% at KIU-TH. This was higher than the overall prevalence of childhood iron deficiency in Sub-Saharan Africa (22%) [25].

Socio-demographic Factors associated with Anemia in Children aged 6 to 59 months

The study indicated that Anemia among children less than five years was strongly associated (P < 0.05) with residence. Logistic regression analysis

indicated that children in rural areas were 2 times more likely to develop anaemia compared to their urban counterparts. This was in agreement with earlier findings by Kuziga et al., [12] and Ocan et al., [15] where residence was found to be significantly associated with anaemia in children. Besides, this study revealed that children whose caretakers were business operators were about 3folds more likely to develop anaemia compared to their counterparts. There is a paucity of published data to relate to earlier findings. This may be supposedly linked to the limited time given to nutritional care for children by caretakers who are never engaged in business.

Maternal & Child factors associated with Anemia in Children under five years

The study showed that a History of Febrile Illness within 2 weeks, History/current Chronic Illnesses and Nutrition status of a child were strongly ($P < 0.05$) associated with anemia in children 23 under five years. In a logistic region analysis, children with a history of febrile illness were 1.3 times more likely to develop anaemia compared to their counterparts. This was in agreement with earlier studies where anaemia in children was significantly associated with a history of fever in the previous two 2weeks before the study [20] or current infections [8]. Still, it indicated that a child with a history or current chronic illness was 1.5 times more likely to develop anaemia compared to counterparts. This concurred with earlier studies where chronic conditions (such as HIV/AIDS, Chronic kidney disease, cancer, chronic haemorrhage/blood loss, and such as sickle cell disease) were strongly associated with anaemia in children [26] Besides, the study showed that children with malnutrition (SAM or MAM) were about 2 times more likely to develop anaemia compared to their counterparts. This was in agreement with studies in Sub-Saharan Africa where malnutrition (Wasting, Stunting, SAM & MAM) were key predictors of anaemia in children [8]. However, the study indicated that a child with normal weight for height (Normal Nutrition status) was about 50% less likely to develop anaemia compared to counterparts.

CONCLUSION

The study indicated that the prevalence of anaemia in children aged 6 to 59 months remains high at 29.6% in the study area and the prevalence of Iron deficiency anaemia (IDA) among in this aged group was 15.4%. Anaemia in children under five years is associated with residence (more rural than urban), history of febrile illnesses, history or current chronic illness and nutritional status of the children.

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