

**Evaluation of Mothers Knowledge towards Prevention of Anaemia among Children under five years of age in Kitagata Hospital, Sheema District
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ABSTRACT

Globally childhood anaemia poses a big health problem to less than five years of age. Anaemia affects nearly 2 billion people worldwide and about 50% of all children less than 5 years old. The prevalence of anaemia in children less than 5 years is 67% in Africa, about, 28% anaemia is found in sub-Saharan Africa. Purpose of the study was to establish knowledge and practices of mothers towards prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema District. The researcher used a quantitative design and the study was carried out in Paediatric ward in Kitagata Hospital. Purposive sampling method was used. Only 45 respondents/mothers/caretakers of children under five years of age diagnosed by clinicians/doctors as having anaemia and admitted on pediatric ward of Kitagata hospital were enrolled. Results revealed that 89% (40) said Yes have ever heard of. out of 40 respondents who have ever heard of anaemia according to the table 4 above show most respondents' source of information with 42.2% got from health workers, 35.0% others (radio, village members), 12.5% older person at home, 10.0% from friends. Nearly 86% (38) of the respondents reported yes that their children have ever suffered from disease causing anaemia while 16% (7) No they never suffered. The study revealed many respondents ever heard of anaemia but few never heard of and their sources of information were got from health workers, others (radio, village members), older person at home, and friends. Health education programs to be done.

Keywords: Children, Mothers, Anaemia, Information, Kitagata Hospital.

INTRODUCTION

The World Health Organization defined anaemia as a state in which there are an insufficient number of red blood cells to cater for the body's physiologic demands and prevention of anaemia as action to stop anaemia from happening or occurring [1]. Anaemia can be mild, moderate and severe based on the Haemoglobin (Hb) level and a combination of clinical signs and symptoms where Hb is the oxygen-carrying protein in red blood cells; generally it is used to quantify the level of anaemia [1]. Globally childhood anaemia poses a big health problem to less than five years of age. The 2008 WHO estimate of anaemia in Europe found was 16.4% higher than that in North America which had 3.4% [2]. In the same report WHO expects all children below five years of age to have a haemoglobin level of 11.3 g/dl or more in order to be considered anaemia free but due to number of factors, different practices by mothers, haemoglobin levels have continued to reduce below the

optimum range for age in children under five years of age putting anaemia on rise [2]. The prevalence of anaemia in children less than 5 years is 67% and anaemia is classified as a severe health problem in most parts of African continent like Malawi, Sudan excerpter [1]. About 83 million are found in sub-Saharan Africa, representing about 67.6% of the total population of children of this age group [3]. In Somalia, more than 70% of agro-pastoral mothers children suffers from anaemia due to believe that there is no milk in the breast in the first three days and that the nipples are still blocked unable to produce milk (www.fsasomali.org). According to [4], reported that East Africa still register about 75% of children under five years old who are suffering from anaemia. Anaemia is responsible for a diverse range of effects on growth, work capacity, cognitive and behavioral development and contributes significantly to maternal and child

mortality [5]. In Uganda, an estimate showed that prevalence of severe anaemia varies greatly ranging from a high of 9.0% among children living in east-central region to a low of less than 1.0% in the South-west region [6]. According to Kitagata Hospital (2016), report showed that out of 420 children admitted on pediatric ward, 14.3% children under five

years of age were diagnosed and admitted, 6.2% presented cases of anaemia despite other conditions with 1.2% morbidity and mortality of this aggressive anaemia in the age group. This study had established knowledge and practices of mothers towards prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema district.

Statement of Problem

Anaemia affects nearly 2 billion people worldwide and about 50% of all children less than 5 years old [7]. The prevalence of anaemia in children less than 5 years is 67% in Africa [1]. About, 28% of childhood anaemia is found in sub-Saharan Africa [8]. The Tanzania Demographic Health Survey reported the prevalence of anaemia in children under five years of age was 55% in the Lake zone which carter for about eight regions [4]. According to [6], reveal 5.0% children age 6-59 months old are severely anaemic in Uganda, 13% of young children 6-8 months are much more likely to be severely anaemic than older children. A study done eight years back by [9], on

anaemia and associated factors among under-fives and their mothers in Bushenyi district did not tell any results about the knowledge or practices of mothers towards prevention of anaemia. However, no clear survey has yet been done in Kitagata Hospital elucidating clear information on knowledge and practice of mothers towards prevention of anaemia, these could be the reasons of continuous suffering because of anaemia. This study was needed to establish knowledge and practices of mothers towards prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema district.

Aim

The study purpose was to establish knowledge and practices of mothers towards prevention of anaemia among

children under five years of age in Kitagata Hospital, Sheema District.

Specific objectives

- i. To assess the level of knowledge of mothers towards prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema District.
- ii. To find out the practice of mothers towards prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema District.

Research questions

- What do mothers know about prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema District?
- What were the practices of mothers towards prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema District?

Justification of the study

Mothers are usually the primary care providers for their children, their ability to recognize anaemia preventive measures early determine the success of controlling childhood morbidity and mortality [8]. Given the mothers' essential role in home-based treatment, education programmes need to ensure that they still seek appropriate medical care immediately for

children with signs of anaemia, broadly need to understand the importance of prevention of the anaemia. It was therefore, very necessary to assess the knowledge and practices of mothers towards prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema District. The findings alerted health workers to improve on

health education be view as a pillar to successful reduction of micronutrient conditions. The results also help the Uganda MoH, SDHT, Kitagata Hospital authorities and other organization to

identify policies that are crucial in prevention of anaemia. It can as well be used as study references by other researcher in the similar field.

METHODOLOGY

Study design and rationale

A descriptive cross sectional study employed quantitative method of data collection was used. This design was considered because it develop

explanations about social phenomena that aimed at helping the researcher why things were the way they were.

Area of Study

The study was carried out in Paediatric ward in Kitagata Hospital. Kitagata Hospital is located in Kitagata business town of Sheema District in Ankole sub-region, western Uganda. The hospital is about 62km south west of Mbarara and about 17km south of Ishaka town, Ishaka - Bushenyi municipality on Rukungiri highway. Kitagata hospital is a government, public institute with a bed capacity of about 120 (www.Globefeed.com). The hospital offers health services like orthopedic services, out-patient and inpatient departments

such as medical, surgical, gynaecological, obstetrics, paediatrics and child health, family planning, laboratory, x-ray, HIV/AIDS related services. The hospital has about 4 health workers in the department offering paediatrics services. The paediatric ward has a capacity of 70 admission beds. The study area was selected because of its strategic location and status, in a rural district and being a government facility where many patients are believed to be getting health services from.

Study population

The target population was mothers/caretakers of children under five years of age diagnosed by clinicians/doctors as having anaemia and

admitted on pediatric ward of Kitagata hospital. This group was considered for being frontline care of the child.

Sample size determination

My sample sizes of the study respondents were determined using Kish and Leslie's formula of 1965 which state that; $n = \left(\frac{Z^2 p q}{d^2}\right)$

Where; n=Desired sample size,
Z = Standard deviation at desired degree of accuracy which was 95%, the standard deviation was 1.96.

p = Proportion of Mothers/caretakers of children under five years of age diagnosed

$$n = \left(\frac{1.96^2 \times 0.5 \times 0.5}{0.05^2}\right)$$

$$n = 384$$

In this case, the sample size for them others/caretakers of children under five years of age diagnosed by clinicians/doctors as having anaemia on pediatric ward of Kitagata hospital were

$$nf = \left(\frac{n}{1 + \frac{n}{N}}\right)$$

with anaemia. Since no survey were done to establish knowledge and practices of mothers towards prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema District. p was estimated at 50% = 0.5 thus, p =0.5

$$q = 1 - p, (1 - 0.5) = 0.5$$

d = the marginal error to be allowed at 5%,
d = 0.05

384. But this was too big for my study population since they were less than (<) 10,000. The sample size estimation of the study population less than 10,000

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N= Population size of mothers/caretakers of children under five years of age on pediatric ward of Kitagata hospital in the last 3 months of year 2016 (December, November and October) = 51.

n = calculated sample size above = 384

$$nf = \left(\frac{384}{1 + \frac{384}{51}} \right)$$

$nf = 45$ respondents

Basing on the calculations above, the study used sample size of 45 respondents.

nf = target population < 10,000 (mothers/caretakers of children under five years of age diagnosed by clinicians/doctors as having anaemia on pediatric ward of Kitagata hospital).

Sampling procedure

The researcher used purposive sampling method because every member of the population who had a known chance but not necessary equal of being selected in the sample. Mothers/caretakers of

children under five years of age suffering from anaemia were interviewed in the study until a required respondents is reached.

Inclusion criteria

The study considered mothers/caretakers of children under five years of age of both sex who would come with their children presenting with any form of anaemia whether mild, moderate or severe,

diagnosed at outpatient by clinicians/doctors, and admitted because of anaemia on pediatric ward of Kitagata hospital, they responded on behalf of their children at the time of interviews.

Dependent variable

Prevention of anaemia among children under five years of age in

Kitagata Hospital, Sheema District.

Independent variables

Knowledge of mothers towards prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema District. Practices of mothers towards

prevention of anaemia among children under five years of age in Kitagata Hospital, Sheema District.

Confounding variables

Confounding variables were used in order to give the true picture of the possible effects of mothers'/caretakers' knowledge and practice towards prevention of

anaemia among children under five years. These included; age of the respondents, tribe, education level, marital status, religion and occupation.

Research instruments

The research instrument were semi-structured questionnaire written in English consisting of open and close ended questions to interview with the

respondents. It was translated to Runyankore language for those who did not understand English.

Data collection procedures

The self-administered questionnaire was used to obtain information from mothers/caretakers of children under five years of age. However, those who did not understand English were interviewed with

the help of Researcher so that they were translated the questions into local Language (Runyankore). Data was collected in the morning from 9:00am up to mid-day until the required members were reached.

Data management

The study participants received a unique participant identification number that were recorded on the questionnaire.

Collected data from the study were thoroughly checked and validated for accuracy and completeness. Data on the

questionnaire would be kept by only the Researcher to avoid access by unauthorized person.

Data analysis and presentation

The data was collected using a questionnaire were compiled, coded by using Microsoft excel and analyzed using Statistical Package for Social Sciences (SPSS) version 17.0. Descriptive statistics including mean, standard deviations, cross

tabulation and frequencies were performed. Data were presented in form of tables, pie-charts and graphs. This formed the basis for the interpretation and conclusion.

Ethical considerations

When this project was approved by the research committee of KIU-WC, School of nursing sciences and the Supervisors, an introductory letter from the Research coordinator of the school of Nursing Science was addressed to the Principal Nursing Officer of Kitagata hospital that introduced the researcher to start data

collection. Verbal and written consents during the study process were sought from respondents by explaining and reading the purpose of study. Client's rights, and privacy were respected and the information that were got from the respondents were not shared by any unauthorized person.

RESULTS

Only 45 respondents/mothers/caretakers of children under five years of age diagnosed by clinicians/doctors as having anaemia and admitted on pediatric ward of

Kitagata hospital freely consented to participate in this study, their responses were collected and presented as seen below.

Socio-demographic characteristics respondents.

Table 1: Show the distribution of respondents according to the age range.

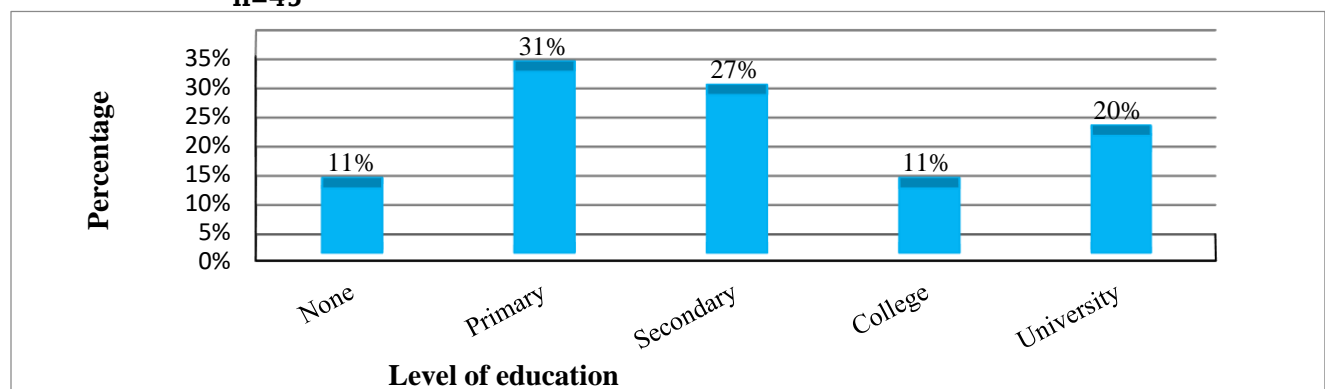
Age range of the respondents	Frequency (n)
15-24 years	17
25-34 years	17
35 years and above	11
Total	45

Source of data: field data, 2017.

Table 1 above show, 17 (38%) of respondents were age range 25-34 years, age range 15-24 years were 17 (38%) and

only 11 (24%) were age range 35 years and above.

Figure 1: A graph showing respondent's level of education. n=45



Source of data: field data, 2017.

Figure 1 showed, majority of the respondents 31% had primary education,

followed by 27%secondary, 20%went to university, 11% college and also 11%none.

Table 2: Show distribution of respondent according to their marital status.

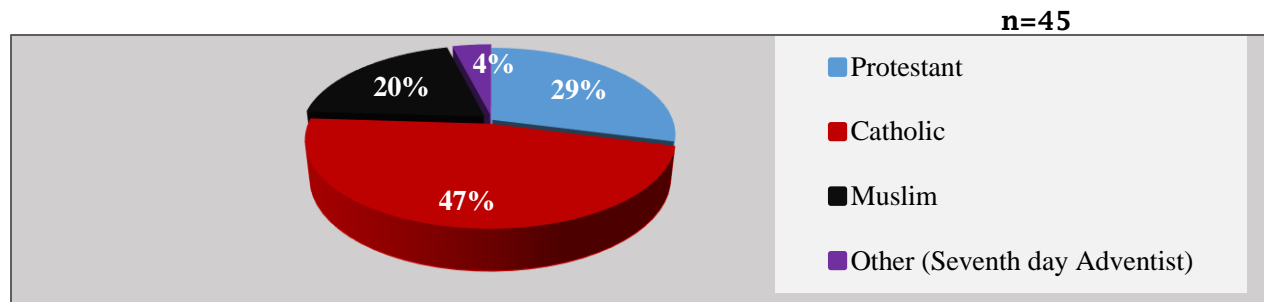
Marital status	Frequency (n)	Percentage
Married	30	67%
Separated	12	27%
Divorced	2	4%
Widow	1	2%
Total	45	100%

Source of data: field data, 2017

Table 2 results of respondent's show, majority 67%were married followed by 27%

separated, 4% divorced and 1% widow mother.

Figure 2: A pie chart showing the distribution of the respondent's religion.



Source of data: field data, 2017.

Majority of the respondents 47% were Catholics followed by 29% Protestant, 20%

were Muslim and least were 4% other (Seventh day Adventist).

Table 3: Show distribution of respondents according to occupation.

Occupation	Frequency (n)	Percentage
Peasant	17	38%
Businessperson	7	16%
Housewife	5	11%
Civil servant	14	31%
Others (students)	2	4%
Total	45	100%

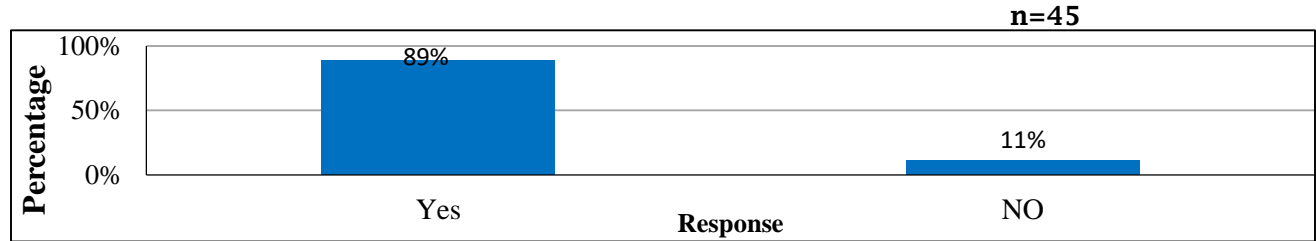
Source of data: field data, 2017.

Tables 3 above, out of 45 respondents, 38% were peasants followed by 31% civil

servants while businessperson was 16%, housewife 11% and 4% others (students).

Knowledge of mothers towards prevention of anaemia among children under five years

Figure 3: A graph showing the respondents who have ever heard of anaemia.



Source of data: field data, 2017.

Most respondents 89% (40) said Yes have ever heard of anaemia while few 11% No.

Table 4: Show distribution of respondent's source of information on anaemia.

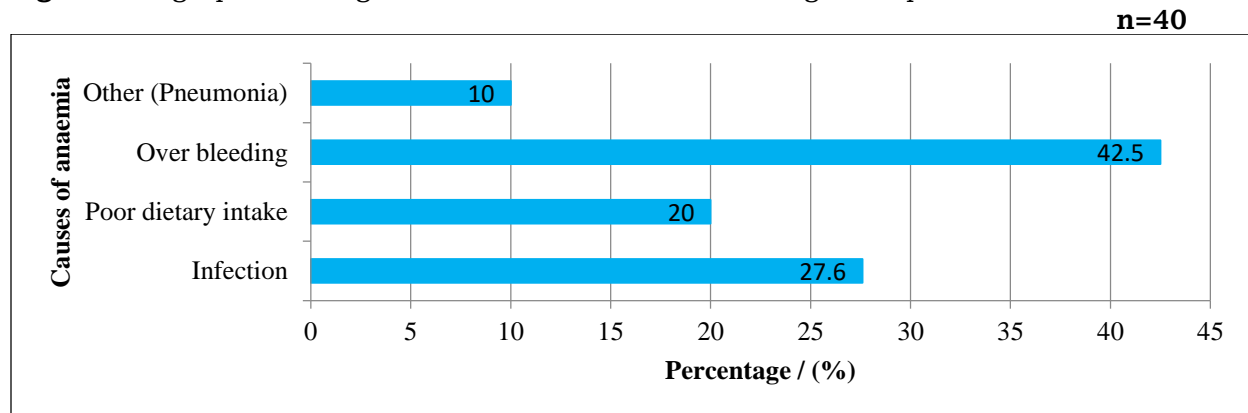
Source of information	Frequency (n)	Percentage
Health worker	17	42.5%
Older person at home	5	12.5%
Friend	4	10.0%
Others (radio, village members)	14	35.0%
Total	40	100.0%

Source of data: field data, 2017

Table 4 above show most respondents' source of information with 42.2% got from health workers, 35.0% others (radio, village

members), 12.5%older person at home, 10.0% from friends.

Figure 4: A graph showing the causes of anaemia according to respondent



Source: field data, 2017

Figure 4 shows majority of 40respondents, 42.5% over bleeding followed by 27.6%

infection, 20% poor dietary intake and only 10% were other (pneumonia).

Table 5: Show respondents anaemia affect children while still breast feeding

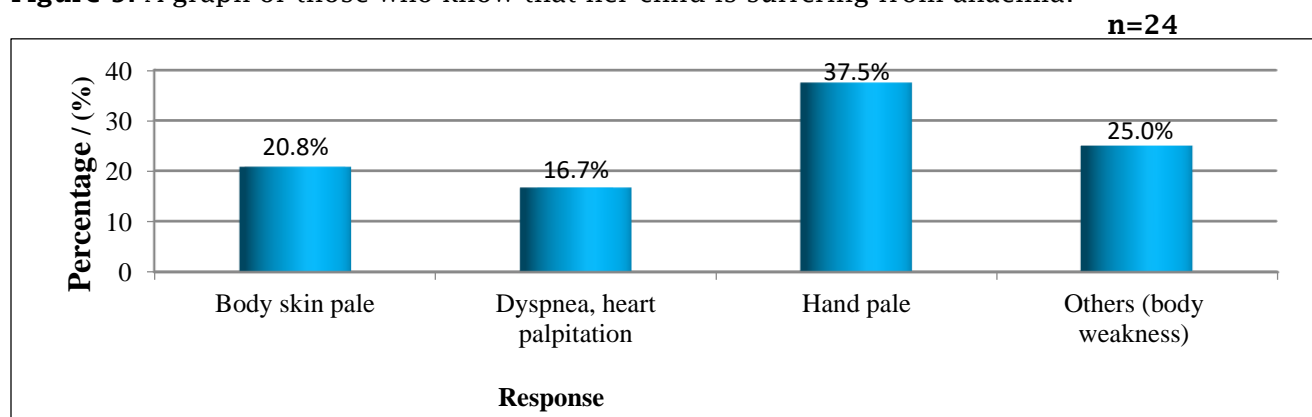
Variables	Frequency (n)	Percentage
Yes	24	60%
No	2	5%
I don't know	14	35%
Total	40	100%

Source of data: field data, 2017

Majority, of 40 respondents 60% 'Yes' that anaemia affect children while breast feeding followed 35% I don't know and 5%

'No' only that anaemia do not affect children while breast feeding.

Figure 5: A graph of those who know that her child is suffering from anaemia.



Source of data: field data, 2017.

Most mothers reported 37.5% that hand pale followed by 25.0% others (body

weakness, 20.8% said body skin pale and few 16.7% said dyspnea, heart palpitation.

Table 6: Show the effect of anaemia in children.

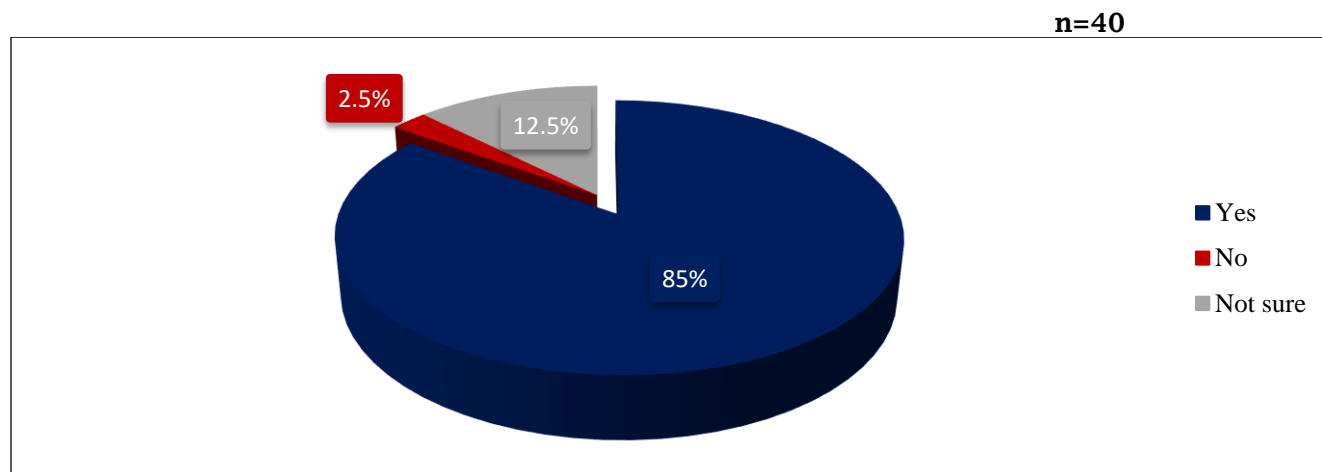
VARIABLES	FREQUENCY (N)	PERCENTAGE
LACK OF BLOOD	10	25%
POOR GROWTH AND DEVELOPMENT	13	33%
MENTAL RETARDATION	7	18%
I DON'T KNOW	10	25%
TOTAL	40	100%

Source: field data, 2017.

Majority, 33% reported poor growth and development followed 25% lack of blood,

25% I don't know and least with 18% mental retardation.

Figure 6: A pie chart show whether anaemia can be treated.



Source: field data, 2017.

Majority, 85% (42) said 'Yes' respondent that anaemia can be treated followed by

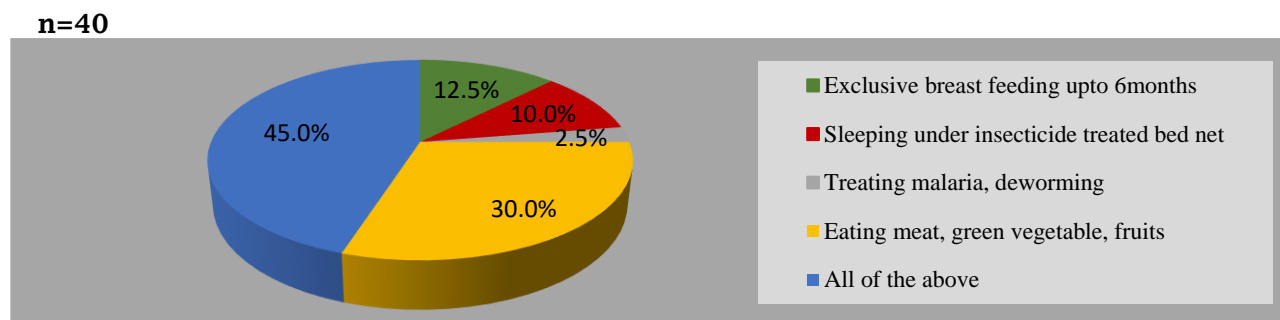
12.5% who were not sure and 2.5% said No.

Table 7: Show respondents' view how anaemia can be treated.

Variables	Frequency (n)	Percentage
Using hospital treatment	26	76%
Using traditional healer	2	6%
Other (feed rich in iron)	6	18%
Total	34	100%

Source of data: field data, 2017.

Most respondents 76% that anaemia can be treated using hospital



Source of data: field data, 2017.

Majority, 45% of the respondents said all of the above, 30% said eating meat, green vegetables, fruits while 12.5% said exclusive breast feeding up to 6 months,

10% that sleeping under insecticide treated bed net and 2.5% treating malaria, deworming.

The practice of mothers towards prevention of anaemia among under five years

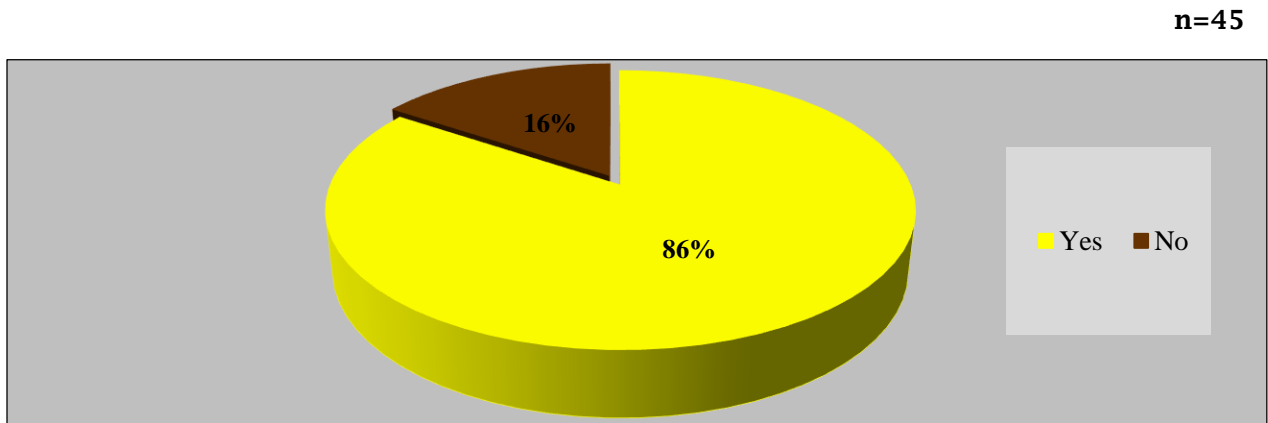
Table 8: Show respondents who ever checked anaemic status of her child before.

Variables	Frequency (n)	Percentage
Yes	20	44%
No	25	56%
Total	45	100%

Source of data: field data, 2017.

Out of 45, most 56% of respondents said No (never checked anaemic status of her child) while 44% said Yes (ever check anaemic status of her child).

Figure 7: A pie chart showing children who ever suffered from disease causing anaemia like malaria.



Source of data: field data, 2017.

The figure 8 above, 86% (38) of the respondents reported yes that their children have ever suffered from disease causing anaemia while 16% (7) No they never suffered.

Table 9: Show place where the child were taken for treatment.

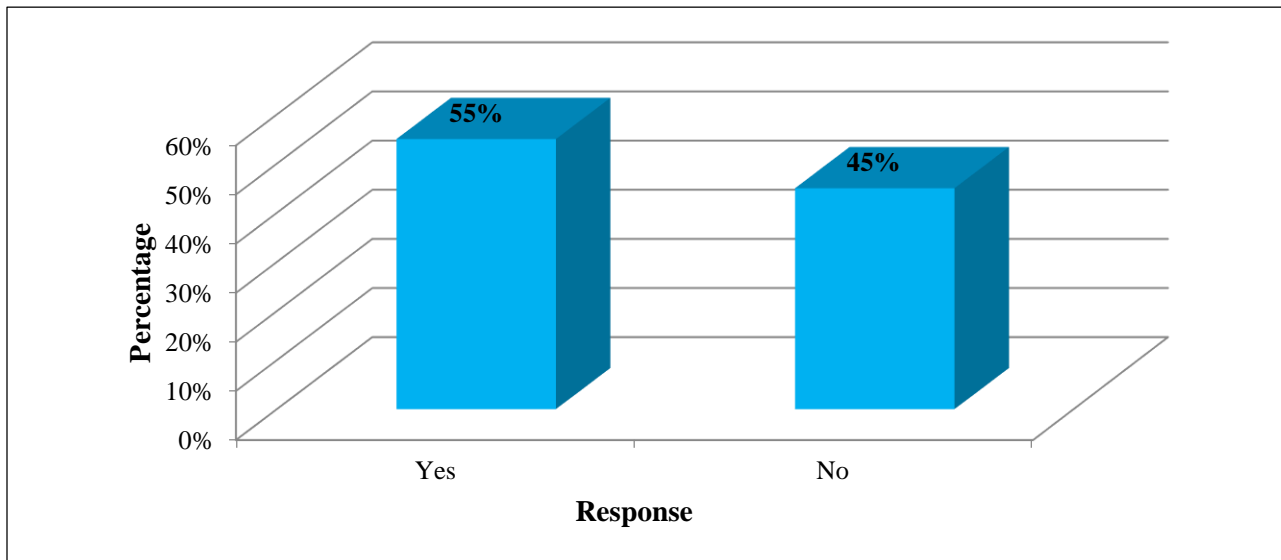
Place	Frequency (n)	Percentage / (%)
Health institution	21	55.3
Traditional healer	4	10.5
Other (private clinic, home)	6	34.2
Total	38	100.0%

Source of data: field data, 2017

Table 9 above show, majority 21 (55.3%) of respondents reported health institution 6 (34.2%) other (private clinic, home) and least 4 (10.5%) traditional healer.

Figure 8: A graph showing whether using insecticide treated bed net.

n=38



Source of data: field data, 2017.

Figure 9 above, out of 38 respondents, majority 55% (21) Yes had been using insecticides treated bed nets meanwhile 45% (17) No have not been using it.

Table 10: Show whether respondents were breast feeding their children.

n=45

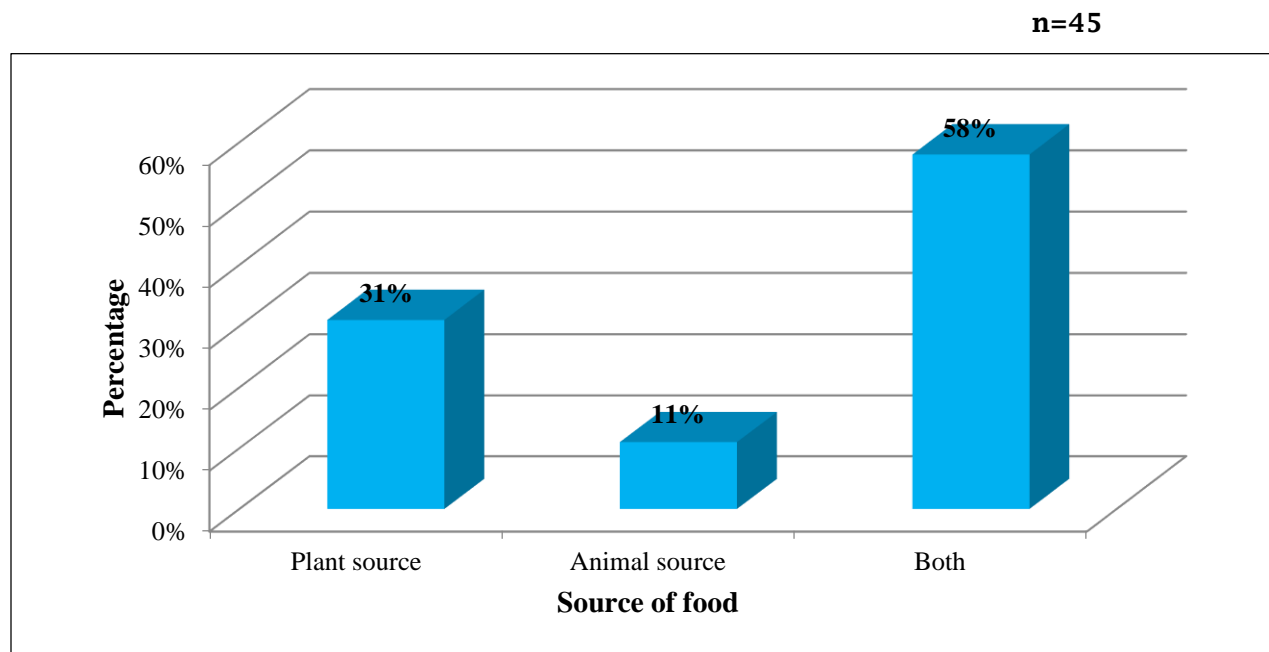
Variables	Frequency (n)	Percentage / (%)
Yes	21	47
No	24	53
Total	45	100

Source of data: field data, 2017

Table 10 above shows 53% (24) No

(respondents who were not breast feeding their children) while 47% (21) Yes (those who were breast feeding their children).

Figure 9: A graph showing the source of food the respondents give to their children.



Source of data: field data, 2017.

Results above in figure 10 shows that out of 45 participant's majority of respondents with 58% (26) their source of food is both from the plant and animal

followed by 31% (14) from plant source and least 11% (5) source of food is from animal sources.

DISCUSSION

Socio-demographic characteristics respondents

The study findings showed that only 45 respondents/mothers/caretakers of children under five years of age diagnosed by clinicians/doctors as having anaemia and admitted on pediatric ward of Kitagata hospital freely consented to participate in this study. According to the table 1 above show, 17 (38%) of respondents were age range 25-34 years, age range 15-24 years were 17 (38%) and only 11 (24%) were age range 35 years and above, majority of the respondents with 31% had undergone primary education, followed by 27% secondary, 20% went to university, 11% college and also 11% none (did not go to school). Education is the determinant in prevention of anaemia in children under five years. On the table 2 results of

respondent's show, majority 67% were married followed by 27% separated, 4% divorced and 1% widow mother. Married parent care for their very well and therefore recognized early problem affecting their children hence seeking medical care early. Forty seven percent (47%) were Catholics followed by 29% Protestant, 20% were Muslim and least were 4% other (Seventh day Adventist). Meanwhile on tables 3 above, out of 45 respondents, 38% were peasants followed by 31% civil servants while businessperson was 16%, housewife 11% and 4% others (students). Occupation of the parents also play greater role in children's care especially when it comes to financial support.

Knowledge of mothers towards prevention of anaemia among children under five years

Anaemia is a global public health problem affecting both developed and developing countries with more prevalent in children under five years and pregnant women [10]. It is important for the caretaker to know

this aggressive condition however in this study most respondents on figure 3 above 89% (40) said have ever heard of anaemia (Yes) while few 11% (5) never heard of anaemia (No). Furthermore, out of 40

respondents who have ever heard of anaemia according to the table 4 above show most respondents' source of information with 42.2% who obtained information from health workers, 35.0% others (radio, village members), 12.5% older person at home, 10.0% from friends. These results contradict with [11], whom they found out that the poor access to information about enriching a child's food also contributed significantly to anaemia among the children because most respondents got information from the health workers.

Figure 4 shows suggestion by the mothers/caretakers on the causes of anaemias majority of 40 respondents nearly 42.5% said due over bleeding followed by 27.6% that the cause of anaemia is due infection like malaria, 20% reported that poor dietary intake and only 10% were other (said pneumonia). In agreement with [12], who reported that anaemia can be caused by a variety of etiological factors and this, should be kept in mind when planning for interventions and the findings is also in similarity with [2] report. Results showed that out of 40 respondents 60% 'Yes' that anaemia affect children while breast feeding followed 35% I don't know and 5% 'No' only that anaemia do not affect children while breast feeding. In addition most mothers/caretakers reported that they can know when their

The practice of mothers towards prevention of anaemia among under five years

Out of 45 mothers/caretakers, most 56% of respondents said No (never checked anaemic status of her child) while 44% said Yes (ever check anaemic status of her child) and on the figure 8 above, 86% (38) of the respondents reported Yes that their children have ever suffered from disease causing anaemia while 16% (7) No they never suffered. This is similar to [14], statement revealed that Centres for Disease Control and Prevention (CDC) recommend screening for anaemia in pregnant women and universal iron supplementation to meet the iron requirements in pregnancy. According to Figure 9 above, out of 38 respondents, majority 55% (21) 'Yes' had been using insecticides treated bed nets meanwhile 45% (17) 'No' have not been using, it

children is suffering from anaemia with 37.5% who said that when hand is pale followed by 25.0% others (body weakness), 20.8% said body skin pale and few 16.7% said when child is having dyspnea, heart palpitation. This coincides with the study done by [13], found out that the clinical signs and symptoms of anaemia vary among children under five; the most common ones are weakness, the skin appear pallor, and paleness of the conjunctiva and palm, shortness of breath and heart palpitations. On table 6 above revealed effect of anaemia in children nearly 33% reported poor growth and development followed 25% lack of blood, 25% I don't know and least with 18% mental retardation similar to [5], study findings. Majority, 85% (42) said 'Yes' respondent that anaemia can be treated followed by 12.5% who were not sure and 2.5% said No. in addition most respondents 76% reported that anaemia can be treated using hospital treatment, 18% that can be treated using traditional healer and 6% other (feed rich in iron). Where 45% of the respondents when asked on protection of child from getting anaemia said all of the above, 30% said eating meat, green vegetables, fruits while 12.5% said exclusive breast feeding up to 6 months, 10% that sleeping under insecticide treated bed net and 2.5% treating malaria, deworming. These results concur with [11].

concur with [15], report however nearly 45% of the respondents were not using insecticides treated bed net, this was very big gaps from the study. Table 9 above show place where mothers/caretaker takes the child with anaemia for treatment, majority 21 (55.3%) of respondents reported health institution 6 (34.2%) other (private clinic, home) and least 4 (10.5%) traditional healer. Results above in figure 10 shows that out of 45 participant's majority of respondents with 58% (26) their source of food is both from the plant and animal followed by 31% (14) from plant source and least 11% (5) source of food is from animal sources slightly agreed with [1], because some plant diets contain natural iron nutrients as well as animal diet too.

CONCLUSION

Basing on the knowledge of mothers/caretaker towards prevention of anaemia in children under five years of age in Kitagata hospital results from the study revealed that have ever heard of anaemia while few never heard of anaemia. Those respondents who have ever heard of anaemia according their source of information were got from health workers, others (radio, village members), older

person at home, and friends. According to mothers/caretakers practices towards prevention of anaemia in children under five years of age in Kitagata hospital nearly most of the respondents reported that their children have ever suffered from disease causing anaemia. Majority respondents had been using insecticides treated bed nets meanwhile very have not been using it.

Recommendations

The anaemia control and prevention approach should be revised so that the preventive strategies are put in place targeting all children under five years irrespective to their clinical status. Among the preventive strategies include continuous use of insecticides treated bed nets, iron supplements to low birth weight

infants and all other children, counseling on the type of feeding and weaning. Continuous health education programs should be maintained after accessing the mothers/caretakers' knowledge and practice or belief on anaemia in children particularly under five years of age.

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