MOTHERS' KNOWLEDGE, ATTITUDES, BELIEFS AND PRATICES RELATED TO CHILDHOOD ANAEMIA IN THE KINTAMPO DISTRICT

BY

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DECLARATION.

I declare that this dissertation has been the result of my own fieldwork, except where specific references have been made; and that, it has never been previously published, nor has it been presented anywhere for a degree.

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LIST OF ABBREVIATIONS

DHA	District Health Administration
DHMT	District Health Management Team
EPI	Expanded Programme on Immunization
FM	Frequency Modulation
G/DL	Grammes per decilitre
HB	Haemoglobin
K.A.B.P	Knowledge, Attitudes, Beliefs and Practices
KAP	Knowledge, Attitudes and Practice
KHRC	Kintampo Health Research Centre
N	Number
Sq/Km	Square Kilometre

ABSTRACT

The prevalence of childhood anaemia remains high in the Kintampo district despite various intervention programs adopted in the past to reduce it. A cross-sectional study investigating knowledge, attitudes, beliefs and practices was carried out among seventy randomly selected mothers to find out why childhood anaemia is still a major problem in the district. Data were also collected from six traditional healers who specialize in treating childhood diseases including anaemia. Analysis of the results collected revealed that 21% of mothers recognized anaemia in their children compared to 83.1% in an earlier study. Mothers were aware of the major signs and symptoms of anaemia and they possessed good attitudes towards management and prevention of anaemia in their children. However, other childhood conditions including malaria, diarrhoeal diseases worm infestations and measles tend to predispose children to develop anaemia. A drastic reduction of childhood anaemia could be achieved if the Kintampo District Health Management Team in collaboration with the District Assembly design measures that will tackle all major childhood diseases in a package.

CHAPTER ONE

1.1 INTRODUCTION

1.1.1 Background

Childhood anaemia carries with it a high morbidity among children in developing countries including Ghana. [1] The effects of anaemia on children are serious. These include debilitating fatigue, failure of child to grow well and develop physically and mentally. Once the child suffers the above serious effects his/her performance in future physical and intellectual activities lag behind those children who have never suffered from anaemia.

In Ghana, studies conducted at Berekum [2] and the EPI plus studies in Kintampo [3] found 82.2% of 250 children and 83.1% of 716 infants and young children were moderately anaemic [Hb<11g/dl] [4]. The prevalence rate is very high if compared to 30 – 60% in many parts of Africa and to just about 30% in the rest of the world. [5]

1.1.2 Study Setting

This study was carried out in the Kintampo district of the Brong Ahafo region of Ghana. (See map in Appendices A and B). The population of the district was estimated to be 164,839 people (based on 1984 census). The percentage of children under five-years is not known exactly, however, the national figure of 20% of the total population is used to apply to this group. This percentage though, may be higher in the Kintampo district, which as pointed out earlier is made up of mainly rural settlements. There are about 174 scattered settlements, which are mostly rural. The district has a land area of 7162sq Km [3,6].

Kintampo is geographically located almost in the centre of Ghana and separates the northern savannah from the southern forest belt The town of Kintampo began as a truck stop between Kumasi, the capital of Ashanti and Tamale, an important Dagomba trading centre in the northern region of Ghana. With time, various people mainly from the northern ethnic groups such as the Dagarti, Konkomba, Gonja, Dagomba, Mamprusi, Frafra, Sisala, Wala etc moved to provide labour on the farms of the Akan speaking Bono

and Mo people. In most areas in the district, the migrants are integrated in the communities where they live as "guests" [7]

Most people in the district are engaged in subsistence agriculture and grow guinea corn (sorghum), maize, millet, yam, cocoyam, cassava, cowpeas, bambara beans and groundnuts. Commercial agriculture is limited to tobacco, sheep, goats and poultry are kept in most compounds. Cattle are maintained by Fulani herdsmen for the local population, but milk is used only by the Fulanis either for drinking or in making cheese. Livestock especially cattle roam about in the villages and towns and destroy farm produce. This has important implication for women's time, work and childcare. Formal education especially for females in the district is low. In a study of health seeking behaviour in selected villages in the district (N=332) only 1.8% of female attained an educational level of senior secondary school or higher and as much as 45.2% of respondents had no formal education [7].

It is known that in the Kintampo district, there is a high rate of malnutrition related to poor feeding practices especially during the lean season (March – July) when prices of foodstuffs become too expensive for the family to buy. For example, out of the 9100

children weighed in 1997, 17% were malnourished, while in 1998, 21.3% of the children weighed were found to be malnourished. It is also known that diseases like malaria and diarrhoeal conditions are major contributory factors to childhood anaemia. In 1998 alone, 27.4% of client reporting to the hospital with malaria were children under- five years [6].

The nutrition rehabilitation unit at Kintampo in an attempt to address the situation of malnutrition intensified its effort both at static and at outreach clinics to rehabilitate anaemic children and to teach mothers how to prepare balanced diet for their children. The Kintampo Health Research Centre (KHRC), after series of studies on prevalence of anaemia in the district, provided some education and other interventions to reduce the incidence of childhood anaemia. The problem of childhood anaemia still persists despite the input of the nutrition rehabilitation officers and the KHRC. This raises many questions about the effectiveness of the intervention in the community setting.

1.1.3 Problem Statement

There has been regular nutrition education mounted by nutrition rehabilitation officers in the Kintampo district to reduce the high incidence of childhood anaemia. The KHRC has also sensitised mothers on anaemia prevention among their children. However, there seems to be no reduction in the incidence of childhood anaemia in the Kintampo district. What else needs to be known, is whether mothers actually know what causes childhood anaemia. What belief system influences their attitudes towards the child with anaemia, what they tend to do when the child develops anaemia and what they do to prevent the child from developing anaemia.

1.1.4 Aim Of The Study

The aim of the study is to find among other things; what mothers know and believe can cause childhood anaemia. Whether they are aware of the harmful effect anaemia has on the health of the child. How they manage their children with anaemia, measures they adopt to prevent their children developing anaemia and whether they do all what they claim to know.

1.1.5 Significance Of The Study

Children are the society's investment for the future and must be well catered for so as to remain in good health.

The findings of this study will serve as a guide for the DHMT and the District Assembly to adopt new and more effective strategies in combating childhood anaemia in the district.

CHAPTER TWO

2.1 LITERATURE REVIEW

2.1.1 Causes Of Anaemia

Several studies have been carried out on causes of anaemia in Ghana and in other third world countries. Malnutrition, malaria, deficiencies of micronutrients (especially iron, vitamin A and iodine), hookworm infestation and haemoglobinopathies have been identified as the major causes of childhood anaemia [1-5,7-11].

Nutrient interactions with respect to iron use are an important cause of anaemia. The presence of folates and vitamin A and B_{12} however enhances iron use [9].

Malaria is considered to be the primary cause of severe anaemia (Hb < 7g /dL) in at least 50% of subjects living in malaria – endemic areas. A study in Tanzania has confirmed the role of malaria as the largest contributor to the cause of severe anaemia in infants in

highly endemic areas, accounting for about 60% of all cases, compared with iron deficiency which accounted for about 30% of severe anaemia episode. [8].

In the context of a poor diet, hookworm – related blood loss contributes significantly to anaemia. Rates of anaemia among children with heavy hookworm infection in Zanzibar were as high as 80% compare with 49% among non-infected children. [9].

2.1.2 Prevalence Of Anaemia

Prevalence of childhood anaemia varies from country to country. It is influenced by feeding practices, mother's education, age of child, poverty and place of residence among others. In a study using 716 children aged 4-36 weeks in the Kintampo district moderate anaemia was estimated to be 83.1%. Muhilal et al [12] using 2170 Indonesian pre-school children were surprised to find that, the most rural district, Java, recorded the lowest prevalence of anaemia of 35.8% whilst the national prevalence of anaemia was 55.5%. They however found out that in areas where rice was the only staple food, the prevalence of anaemia was 77% compared to only 46% in rural communities where cassava and rice were both staple foods.

Unfortunately there was no available information on the causes of the difference in the prevalence among areas with other staple foods.

Akinkugbe [13] studying 701 children (aged 1-10 years) in a rural population in Nigeria found the prevalence of anaemia fell gradually with age from 63% in years 1 and 2 to 4.3% in years 9-10 (Hb-11g/dl).

2.1.3. Effects Of Anaemia On Child's Health

Various studies suggest that the anaemic child is at risk of not performing well academically and also not growing strong physically. [4,14]. Once a child develops anaemia, it is difficult to reverse the mental and motor effects later. In Costa Rica, Lozoff et al, after re-testing children at 5 years who had been anaemic as infants, found that they still scored significantly lower on intelligence tests than those who had not been anaemic, even though the associated anaemia had been entirely corrected. [14]. Iron deficiency also results in increased morbidity from infectious diseases, particularly diarrhoeal and respiratory conditions. According to West, the body's defense mechanism is also

compromised. This includes less response to lymphocyte stimulation, depressed delayed cutaneous hypersensitivity, and ineffective phagocyte killing power. (15).

2.1.4. Beliefs Regarding Childhood Anaemia

Traditional views of causes of illness influence health care acceptability. Oduro using in-depth interview found that herbalists and mothers that witchcraft can cause childhood anaemia. Both mothers and herbalists further believe that, a pregnant woman who eats mangoes and pawpaw is at risk of delivering a child with anaemia. [16].

Similarly, Foster mentioned angry deities who punish wrong doers and witches who may work for hire among others. By contrast, explanations of illness may be in terms of natural causes, for example, fever, refusal of food by child, intestinal worm infestations. (e.g. malaria) [5,16-20].

2.1.5. Attitudes Related To Anaemia.

Cultural practices and socio-economic status of parents influence decision-making as to the type of health care to utilise when children become anaemic. Child feeding practices are equally influenced by the same beliefs and cultural practices as regards the types of food the child should eat to stay healthy or develop anaemia. [5].

Maternal education can have a critical role in the health improvement of children in developing countries. Chung et al, in a knowledge, attitude and practice (KAP) study of adult women aged 18-55 years in an urban (N=1004) and a rural (N=506) communities in West China found that different methods of education are required for both groups in order to obtain good results. The researchers came to the conclusion that although both groups possessed good attitudes toward nutrition and nutrition education, the rural diet was generally more monotonous than the urban one [18].

2.1.6. Management Practices

In instances of poor growth, different types of foods, medicines and herbs are given to children by their mothers to help them grow well, improve their appetite and protect the children from witchcraft. Some mothers consult traditional healers with lean children for advice and treatment [18]. By contrast most mothers in the Kintampo district seek hospital care for their children much more often than expected.

CHAPTER THREE

3.1 METHODS

3.1.1 Study design:

This was a cross-sectional study investigating knowledge, attitudes, beliefs and practices (K.A.P.B.) of mothers in relation to childhood anaemia. The target population was 32,968 mothers with children less than five years. Mothers were chosen for this study because in the Ghanaian culture they normally take care of the child's health needs.

3.1.2 Variables:

The dependent variable for the study was mothers' K.A.B.P. related to childhood anaemia, and the independent variables were mothers' knowledge, beliefs and attitudes, management and preventive practices related to childhood anaemia. (See Appendix G).

3.1.3. The Sample Size:

Seventy mothers and six traditional healers were recruited for the study. The sample size was calculated based on the prevalence rate of anaemia reported in the district as 83.1% [3]. An error margin of -+10 was allowed; and using a confidence interval of 95% [21], the least sample required for the study was 54.

3.2. SAMPLING METHODS

3.2.1 Sub-Districts

The seventy mothers were randomly selected from three sub-districts for this study. The eight- (8) sub-districts were stratified into northern, central and southern zones for the purpose of comparing geographical variations if any. One sub-district in each zone was selected using a simple random sampling technique. These were Dawadawa in the north, Kintampo in the central and Jema in the south.

3.2.2. Communities

The sub-district capitals were purposively selected for their heterogeneous population characteristics. This was done to include as many ethnic groupings as possible present in the district in the study. Dawadawa was divided into two clusters, Kintampo into three and Jema into two clusters.

3.2.3 Households:

The centre of each community was located. A pencil was spun, and whichever direction it pointed to, all houses along the line were numbered. A starting household was selected using the last number from a currency note. In cases where there was zero, a fresh currency note was picked from the pocket at random.

One mother with a child less than five years was selected from each household and interviewed. In cases where the mother had more than one child under five, one of the children was taken at random.

The next household was usually the one whose door faced the previous one, or nearest to it. In situations where the number of respondents interviewed were less than the number required, the nearest community was selected. The same procedure described above was used to select the respondents.

3.2.4. TRADITIONAL HEALERS

Community health nurses in each of the three-sub districts selected identified two traditional healers who specialize in childhood diseases. They were made up of three men and three women. A prepared interview guideline was used to interview them. (See appendix D).

3.3. DATA ANALYSIS PROCEDURE

The data collected from mothers were coded and analysed using the EPI INFO version 6. The main statistical technique used was percentages for the categorical variables. Data from traditional healers were also coded but analysed manually.

3.4. ETHICAL CONSIDERATION

Confidentiality of all respondents was assured and maintained. In many cases, permission was sought from husbands before the interviews were conducted.

3.5. DATA COLLECTION TECHNIQUES

The tool for data collection was the questionnaire. A structured questionnaire prepared using all the relevant variables of the study was used to gather information from the target groups. Five (5) research assistants were recruited and trained for data collection. Permission to conduct the survey was sought from the chiefs, and assemblymen of the chosen communities.

3.6. PRE-TESTING AND REVIEW OF INSTRUMENTS

The questionnaire was pre-tested using ten (10) respondents at Grumakrom- a suburb of Kintampo township. This was necessary to determine the respondents' understanding of the questions and also determine the efficiency of the research assistants. It also served as a means of identifying and solving unforeseen problems

in the administration of the instruments. Based on the results of the pre-testing, the wording of a few items was modified.

3.7 LIMITATIONS OF THE STUDY

The following factors may place limitation on the conclusions of the study and their general application to other situations.

Firstly, since most of the items were close-ended, the respondents did not come out with their own ideas.

Secondly, due to the multi-ethnicity of the communities, the interviewers at some instances had to engage the services of local interpreters. These could have altered the intended meaning of some of the items.

CHAPTER FOUR

4.1 PRESENTATION OF RESULTS

INTRODUCTION

The first part of this chapter presents the characteristics of respondents. The second part however deals with responses to questions raised in respect of the objectives of the study. The third part presents the views expressed by traditional healers about childhood anaemia.

4.1.1 Characteristics Of Respondents

TABLE 1. AGE DISTRIBUTION OF CHILDREN WHOSE MOTHERS WERE INTERVIEWED

Age group (in months)	Frequency	Percentage
0-11	17	24.3
12-23	14	20.0
24-35	12	17.1
26-47	17	24.3
48-59	10	14.2
Total	**70**	**100.0**

From the table overleaf, the age distribution is almost evenly spread out with children under 12 months and those from 36- 47 months constituting 48.6%.

Table 2. SEX DISTRIBUTION OF THE CHILDREN WHOSE MOTHERS WERE INTERVIEWED

Sex	Frequency	Percentage
Male	36	51.4
Female	34	48.6
Total	**70**	**100**

From the table above, a total of 70 children were studied. They were made up of 34 female and 36 males.

Table 3. AGE DISTRIBUTION OF MOTHERS (RESPONDENTS)

Age	Frequency	Percentage
15 – 19	4	5.7
20 –24	9	12.9
25 –29	16	22.9
30 – 34	17	24.3
35 – 39	11	15.7
40 – 44	7	10
45+	6	8.6
Total	**70**	**100.0**

The table above indicates that majority (75.8%) of respondents was aged between 20 and 39 years

Table 4. ETHINICITY OF RESPONDENTS

Ethnic Group	Frequency	Percentages
Akan	42	60
Frafra /Wala/ Kusasi	3	4.3
Mo	3	4.3
Dagomba / Kokomba	12	17.1
Others	9	12.9
Total	**70**	**100.0**

The table above shows that the majority (60%) of respondents was of the Akan group, which is made up of Bonos, Ashantis, Fantis, Kwawus, Akwampims and Nzemas.

Table 5. RELIGIOUS BACKGROUND OF RESPONDENTS

RELIGION	FREQUENCY	PERCENTAGES
Catholics	12	17.1
Pentecostal	18	25.7
Islam	12	17.1
Methodist	6	8.6
Presbyterian	5	7.1
SDA	6	8.6
Anglican	2	2.9
Traditional	2	2.9
No Religion	1	1.4
Others	6	8.6
Total	**70**	**100**

The above table reveals that almost all (98.6%) respondents belong to organised religious groupings.

Table 6. NUMBER OF SCHOOLING YEARS OF RESPONDENTS

Years Of Schooling	Frequency	Percentages
None	32	45.7
1 –3	3	4.3
4 –6	5	7.1
7 – 9	16	22.9
10 – 12	9	12.9
13+	5	7.1
Total	**70**	**100.0%**

From the table above, only 20% of respondents had ten or more years of formal schooling, and as high as 45.7 % of respondents did not attend any school at all.

Table 7. OCCUPATION OF RESPONDENTS

Type	Frequency	Percentages
Farming	21	30
Trading	31	44.3
Artisan	8	11.4
Civil Servants	3	4.3
Housewife	4	5.7
Others	3	4.3
Total	**70**	**100.0%**

According to the table above, the majority (90%) of respondents was engaged in some form of occupation.

4.2 RESPONSES OF MOTHERS

This section present the responses mothers gave on knowledge, attitudes, beliefs and practices related to childhood anaemia.

Table 8. WHAT CAN GO WRONG WITH A CHILD'S BLOOD?

Response	Frequency	Percentage
'shortage of blood'	64	91.4
Dirty blood	36	51.4
Too much blood	14	20.0
Sickle cell disease	13	18.6
Disease	12	17.2
Fatty food	1	1.4
Loss of water	1	1.4
Don't know	2	2.9
TOTAL	**142***	**204.3***

*Multiple response

From Table 8 above, majority (97%) of respondents were aware that 'something' could go wrong with a child's blood. As high as 91% of them mentioned "shortage of blood".

CHILDREN WHO EVER HAD "SHORTAGE OF BLOOD"

Twenty one percent (21%) of respondents admitted that their children ever had "shortage of blood".

AGE (IN MONTHS) AT WHICH THE CHILDREN HAD 'SHORTAGE OF BLOOD'.

Majority (73.3 %) of the children (N=15) were said to have developed 'shortage of blood' in their second or third years of life. No child was reported to have developed 'shortage of blood' in the fifth year of life.

Table 9. RESPONDENTS' PERCEPTION OF SIGNS AND SYMPTOMS OF 'SHORTAGE OF BLOOD'.

Response	Frequency	Percentage
Pale eye lids	13	86.7
Difficulty in breathing	1	6.7
Child inactive	9	60.0
Loss of appetite	13	86.7
Loss of weight	9	60.0
Refusal to eat	11	73.3
Fever	9	60.0
Puffy face	4	26.7
Nose bleeding	1	6.7
Sleeplessness	1	6.7
TOTAL	**71***	**473.5***

*Multiple response

From the above table, pale eyelids and loss of appetite were mostly mentioned (86.7%) as the main signs of 'shortage of blood'. Refusal to eat (73.3%), fever, and child becoming inactive (60%), followed in that order.

Table 10. PERSON WHO DECIDES PLACE OF TREATMENT OF CHILD WITH 'SHORTAGE OF BLOOD'

Response	Frequency	Percentage
Mother	8	53.3
Father	3	20.0
Mothers' mother	3	20.0
Hospital staff	2	13.3
Druggist	1	6.7
TOTAL	**17***	**113.3***

*Multiple response

From Table 10 above, mothers normally take the decision as to where the child should be sent for treatment.

Table 11. WHERE MOTHERS SEND THEIR CHILDREN FOR TREATMENT

Response	Frequency	Percentage
Hospital / clinic	11	73.3
Bought drugs from drug store	4	26.7
Home remedies	1	6.7
TOTAL	**16***	**106.7***

*Multiple response

Table 11 above shows that the majority (73.3%) of mothers sent their children to hospital for treatment of 'shortage of blood'.

Table 12. TYPE OF DRUGS USED AT HOME

Type	Frequency	Percentage
Blood tonic	3	60
Vitamin B complex syrup	2	40
Herbal preparation	1	20
Multivite	2	40
Paracetamol syrup	2	40
Chloroquine syrup	2	40
Special food (weanimix)	3	60
Vegetables	1	20
TOTAL	**16***	**320***

*Multiple response

As shown in Table 12 above, mothers to treat their children with 'shortage of blood' purchase different types of drugs and food.

Table 14. HOW 'SHORTAGE OF BLOOD' AFFECTS CHILDREN LATER IN LIFE

Response	Frequency	Percentage
Increased tiredness	47	67.1
Reduced capacity to learn	35	50.0
Poor growth	57	81.4
Loss of weight	57	81.4
Illness / death	9	12.9
Sickler	3	4.3
Apathy	1	1.4
Convulsion	1	1.4
Kwashiorkor	1	1.4
Child won't be strong	1	1.4
Don't know	1	1.4
TOTAL	**213***	**298.5***

*Multiple response

Table 14 indicates that, eighty-one percent of mothers were aware that poor growth and loss of weight could both affect their children. They also mentioned tiredness (67.1%) and reduced capacity to learn (50 %).

Table 15. SOURCES OF INFORMATION ON 'SHORTAGE OF BLOOD'

Source	Frequency	Percentage
Health staff	57	81.4
Staff of drug store	5	7.1
Drug peddlers	9	12.9
Friends	20	28.6
Husband	11	15.7
Mother-in-law	6	8.6
Woman's mother	22	31.4
Radio / TV	16	22.9
Own experience	13	18.6
School	2	2.9
Church leaders	1	1.4
Women's fellowship	1	1.4
Relative	1	1.4
TOTAL	164*	234.3*

*Multiple response

Table 15 above indicates that, mothers rely on health staff (81.4 %) for information on "shortage of blood". Other sources include maternal grandmother (31.4%), friends (28.6%) and own experience (18.6%). Only 1.4 % of respondents mentioned school and church leaders respectively.

Table 16. TYPES OF FOOD THAT SHOULD BE GIVEN TO CHILDREN WITH 'SHORTAGE OF BLOOD'

Type of food	Frequency	Percentage
Meat	45	64.3
Fish	58	82.9
Legumes	60	85.7
Green leafy vegetables	68	97.7
Fruits	33	47.7
Eggs	53	75.7
Red palm oil	60	85.7
Staples	9	12.9
Weanimix	5	7.1
Liver	4	5.7
Milk	4	5.7
Beverage	1	1.4
Dawadawa	1	1.4
Mashed yam with eggs	1	1.4
Soup	1	1.4
Don't know	1	1.4
TOTAL	**404***	**578.1***

*Multiple response

The above table shows that, green leafy vegetables (97.1 %), red palm oil (85.7 %), legumes (85.7) fish (82.9) and meat (64.3 %) were mentioned as 'good food' by mothers that should be given to children with "shortage of blood". Only one person said she does not know of any type of food that is good enough to correct 'shortage of blood'.

Table 17. TYPES OF FOOD THAT **SHOULD NOT** BE GIVEN TO CHILDREN WITH 'SHORTAGE OF BLOOD'

Type of food	frequency	Percentage
Starchy food	59	84.3
Fruits	4	5.7
Fats and oils	21	30
Meat	2	2.9
Legumes	1	1.4
Eggs	1	1.4
Cereals	3	4.3
Cold food	1	1.4
Raw food	1	1.4
Raw mangoes	2	2.9
Salt / pepper	3	4.3
'Fufu'	1	1.4
Don't know	8	11.4
TOTAL	**107***	**152.8***

*Multiple response

Majority (84.3 %) of mothers according to the above table, mentioned starchy foods as ***not*** good to be given to children with "shortage of blood".

Table 18. HOW "SHORTAGE OF BLOOD" COULD BE PREVENTED

Method	Frequency	Percentage
Give child enough meat	49	74.2
Give child enough fish	62	93.9
Give child enough legumes	57	86.4
Give child enough green leafy vegetables	42	63.6
Give child enough fruits	41	62.1
Give child enough red palm oil	56	84.8
Deworm child regularly	34	51.5
Prevent mosquito bite	35	53
Take child to child welfare clinic regularly	38	57.6
Don't know	4	5.7
TOTAL	**418***	**632.8***

*Multiple response

From Table 18 above, the majority (94.3%) of mothers were aware of some measures that can be taken to prevent 'shortage of blood' in their children.

Table 19. WHY CHILD SUFFERED "SHORTAGE OF BLOOD"

Reasons	Frequency	Percentage
Child was sick and refused to eat	2	13.3
No money to buy food	1	6.7
Too many children to feed	1	6.7
Child was left under care of helper most times	2	13.3
Child suffered from fever	2	13.3
Child suffered from diarrhoea	3	20.0
Child suffered from measles	2	13.3
Total	**15***	**100***

*Multiple response

From Table 19 above, it is clear that the majority (60%) of children who suffered from 'shortage of blood' suffered other childhood conditions like measles, diarrhoeal diseases and malaria (fever).

4.3 PRESENTATION OF VIEWS ON CHILDHOOD ANAEMIA BY TRADITIONAL HEALERS IN THREE SUBDISTRICTS IN KINTAMPO

Views of six traditional healers who specialised in childhood diseases have been collected and analyzed.

Convulsions, asram, fever, diarrhoea and shortage of blood were mentioned as common childhood diseases in the community. The healers understood anaemia as 'shortage of blood.'

Almost all the healers said they could recognize childhood anaemia. Sickness, inability of child to eat properly and exposure of the pregnant woman's abdomen to 'evil eyes' were considered the main causes of childhood anaemia.

Almost all the respondents give herbal preparations to treat their clients, and clients who do not respond well to treatment are sometimes referred to hospital/ clinic.

Types of food considered' good' and prescribed for anaemic children include red palm oil, fish, fruits, egg and mashed yam.

Finally, the healers believe that childhood anaemia could be prevented when pregnant women dress properly, pray for guidance from the gods and give good diet to their children.(See appendix G).

CHAPTER FIVE

5.1 DISCUSSION

The understanding of the causes of "shortage of blood" in children by mothers was closely linked to their understanding of health in general. Malnutrition including taking of 'bad' food was thought to interfere with proper blood formation. Infections (e.g. malaria) and worm infestations were also thought to interfere with the child blood and health in general. Responses from mothers tended to be knowledge-based as against those from traditional healers, which were mainly rooted in spirituality. The mention of raw mangoes and dirty stomach by mothers might be due to the close relationship between eating of unripe mangoes – abdominal upset and diarrhoea that may result in the child becoming weak, sick and lose weight.

Most mothers recognised 'shortage of blood' in their children by the pallor in eyelids, loss of appetite, refusal to eat and loss of weight. The prevalence reported by mothers, although tallies with the 21.3% malnutrition observed in 1998, cannot be compared with the prevalence of 82.2% and 83.1% reported by Koomson [2] and Akor

et al [5] respectively because of methodological differences. However, the gradual fall in prevalence from 40% in age [2] down to 20% in age [4] tend to support the findings of Akinkugbe [13] that, the prevalence of anaemia fall gradually with age.

When mothers were prompted, the majority of them mentioned poor growth, loss of weight, reduced capacity to learn, increase tiredness as possible effect 'shortage of blood' can have on the child's health. These responses support the findings of Ross and Horton [4] and Lozoff et al [14] reported in the literature. Other possible effects mentioned include illness, death and 'sickling'. On the other hand the majority (67%) of traditional healers were not aware of the effects "shortage of blood" can have on a child's health. The only traditional healer who mentioned that the child will become weak and will not grow well was a woman and mother as well. Surprisingly, mothers did not mention the traditional beliefs systems firmly held by traditional healers. The possible explanation of these might be that, mothers were receiving modern ideas from health workers or do not believe in the traditional ways of explaining issues because of their 'new' religious affiliations. It could also be that they recognised the interviewers as health workers and therefore told them what they think they would like to hear.

The traditional healers were as expected, very firm with their belief. The general belief that cut across all the three sub-districts was 'the pregnant woman should not expose her abdomen for evil eyes to see'. The only traditional healer who did not hold that belief was a woman from the Kintampo sub district.

Formal education for mothers may have a critical role health improvement among children in developing countries as observed by Chung et al (1993). Mothers in the current study stated health staff, radio / television as the main sources of their information on "shortage of blood" in children and on other health matters in general.

The majority (73%) of mothers claimed they send their children to hospital /clinic while the remainder bought drugs from drug stores and / or render home remedies. No mother mentioned that she consulted traditional any healer with her child with 'shortage of blood'.

Traditional healers on the other hand claimed that, they treat children with 'shortage of blood' spiritually and refer some children to the hospital when the child looks too pale. The disparity noted in

the responses of mothers and the healers needs more investigation.

Most mothers seem to be aware of effective preventive measures against 'shortage of blood' in their children however, their children continue to experience the shortage blood. This situation is attributable to complications of other childhood conditions like malaria (which is the commonest cause of morbidity and mortality in the area) worm infestations, measles, diarrhoea and inability to procure nutritious food for their children especially during the lean seasons spanning from March to July of every year

The belief held by the traditional healers that pregnant women should dress well in order to prevent their unborn children later suffering from 'shortage of blood' seemed harmless on the surface. This belief can become harmful only if in the instance of scarce resources, mothers will make efforts to getting new clothing for dressing at the expense of taking measures to improve their children's health.

CHAPTER SIX

6.1 CONCLUSION

Anaemia is a common condition in children in developing countries including Ghana. The results presented in this study indicate that mothers' understanding of childhood anaemia are linked with their understanding of the health of the child, in general.

Mothers normally decide the place of treatment for the sick child (which is normally at the hospital or clinic). They also believe that factors including infections caused by malaria parasites and worms and also malnutrition are responsible for childhood anaemia.

Mothers are aware of the damaging effects anaemia has on children later in life. It has however been observed that, although mothers possessed positive attitudes towards promotive and preventive care for their children, childhood anaemia still persists. The factors (infections and malnutrition) that mothers are aware of to be responsible for childhood anaemia continue to predispose their children to experience "shortage of blood".

6.2 RECOMMENDATIONS

Based on the finding of the study, the following recommendations are offered for implementation by the DHMT and the district assembly for the Kintampo district.

The DHMT and the district assembly should:

1. Draw a Programme and use the media of FM radio, churches and mosques, durbars, festivals and outreach services to create awareness about anaemia as an important cause of morbidity and mortality in children. The target groups should be school children, teachers, men, mothers, traditional healers and religious healers.

   Attract more qualified health workers to the district through incentives like free housing, especially in the sub-districts, and sponsorships to health workers to pursue courses relevant to the needs of the service and the people in the district.

2. Intensify nutrition education in all parts of the district. The targeted groups should include mothers, men and children.

3. Take measures to increase immunization coverage against childhood diseases. E.g. Measles, tetanus, tuberculosis, poliomyelitis, diphtheria and pertussis.

4. Take measures to decrease malaria infection in children. This will include encouraging the use of chemical impregnated bed nets to reduce mosquito bites and encouraging and assisting communities to drain stagnant waters and clear bushes in order to discourage breeding of mosquitoes.
5. Assist the communities in the provision of potable water and appropriate waste management facilities to reduce the high incidence of diarrhoeal diseases as well as worm infestations and finally.
6. Regularly monitor and evaluate all health promotive programs that effect women and children for example, growth monitoring, oral rehydration therapy, breast-feeding, immunization, family planning, female education and food supplementation. Corrective measures should be taken there are lapses or weaknesses in these programs.

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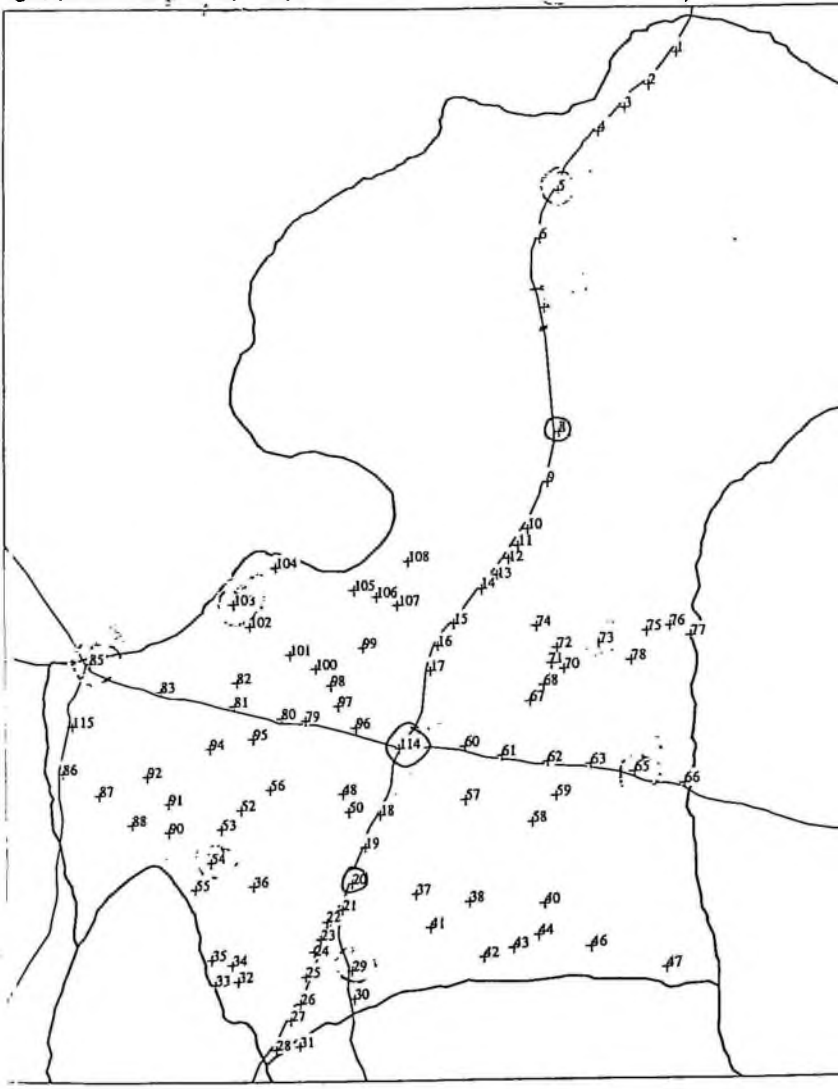
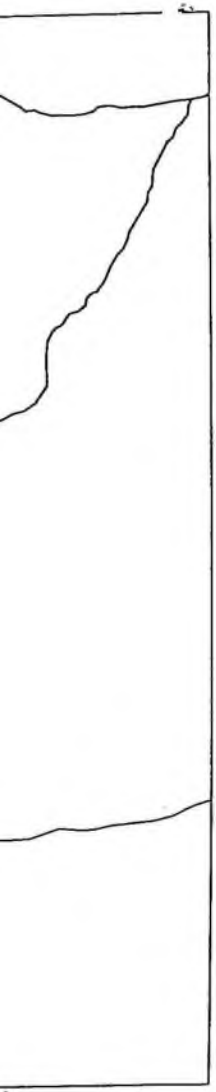
DISTRICT MAP OF GHANA

APPENDIX B

DISTRICT MAP OF KINTAMPO: SHOWING STUDY AREAS





Kintampo Villages

1 BENKROM
2 KORAWURAKROM
3 ALHASSANKROM
4 KADELSO
5 POTOR
6 GULUMPE
7 KAWUMPE
8 DAWADAWA
9 ATTAKURA
10 CHIRANDA
11 JATO AKURA
12 MAHAMA AKURA
13 TAHIRU AKURA
14 MACHIRI
15 SORONUASE
16 BABATOKUMA
17 PUMPUANO
18 NANTE-ZONGO
19 NANTE
20 JEMA
21 JEMA NKWANTA
22 BEPOSO
23 PANINAMISA
24 PAMDU
25 KRUTAKYI
26 AMOMA NKWANTA
27 PRAMPOSO
28 DWENEWOHO
29 KOKUMA
30 TANFIANO NO.2
31 HOWARA
32 AMOMA
33 ABITASU
34 OYOKO
35 AJINA
36 AMPOMA
37 CHIREHI
38 DUMSO NO.1
39 DUMSO NO.2
40 HINOKROM
41 CHIREHI DUM
42 BREDI
43 GASPER
44 DAGOMBA MORO
45 AYABA KROM
46 NIPANEKURO
47 SIKANE BARIMA
48 AKRUMA
49 NANTEANO
50 KRABONSO
51 AMANTEN
52 HYIRESO
53 BOADI
54 ANYIMA
55 NANSOANO
56 ADEMBRA
57 PUMPUMATIFI
58 SUAMIRE
59 YEPEMSO
60 NTANKRO
61 OFORIKROM
62 KWABIA
63 AKORA
64 AKORA NKWANTA
65 APESIKA
66 ANOKYEKROM
67 BADUAKURA
68 NYAME BEKYERE NO.1
69 NYAME BEKYERE NO.2
70 ASUOGYA
71 MOSHI AKURA
72 KYINYA
73 KUNSO
74 KAAKA
75 URUKWAIN
76 DABAA NO.1
77 DABAA NO.2
78 MIAWANI
79 YABRASO
80 ASANTEKWAA
81 NYABIA
82 BASABASA
83 WEILA
84 KONKOMBA NO.2
85 NEW LONGORO
86 AYORYA
87 CHARA
88 GOLEMYA NKWANTA
89 BABUKROM
90 MANSIE
91 SORO
92 SABULE
93 NKWANTA
94 TANGNI
95 BABILDOR
96 TECHIRA NO.1
97 TECHIRA NO.2
98 SOLIGBOI
99 BANIANTWE
100 AHENAKROM
101 MANSRA
102 OLD LONGORO
103 KANDIGE
104 BUSUAMA
105 YARA
106 TEFFOBOI
107 NTARIBAN
108 BEWELE
109 KINTAMPO 1
110 KINTAMPO 2
111 KINTAMPO 3
112 KINTAMPO 4
113 KINTAMPO 5
114 KINTAMPO 6
115 CHINGAKROM
116 AGYEGYEAMAKUNU
117 BAWAKURA
118 FOKUOKROM

APPENDIX C

QUESTIONNAIRE

SCHOOL OF PUBLIC HEALTH, UNIVERSITY OF GHANA

LEGON

KNOWLEDGE, ATTITUDES, BELIEFS AND PRACTICES RELATED TO CHILDHOOD ANAEMIA

The Kintampo District Health Administration in collaboration with the school of Public Health, University of Ghana, Legon, is conducting a research into childhood anaemia.

Your effective contribution will lead to the success of study. You are kindly requested to answer these questions as objectively as you can. Information provided will be treated as CONFIDENTIAL.

THANK YOU FOR YOUR CO-OPERATION AND PARTICIPATION

SUB-DISTRICT .....
COMMUNITY.....
DATE.....
NAME OF INTERVIEWER.....

(A) BACKGROUND INFORMATION OF RESPONDENT

1. Mother's Name.....
2. House Number.....
3. What is the actual age of your child (in months)?

1. 0 - 11	2. 12 – 23	3. 24 – 35	4. 36 – 47	5. 48 – 59

4. What is the sex of your child? [M] [F]

5. Mothers age

1. 15 -19	2. 20- 24	3. 25- 29	4. 30 -34	5. 35-39	6. 40-44	7. 45+

6. Marital status

1. Never married	2. Married	3. Separated	4.Divorced	5. Widowed

USE CODES

- 77 = other
- 88 = Don't
- 99 = Not applicable (NA)

7. To which ethnic group do you belong?

1. Akan	2. Mo	3. Ga / Ewe	4. Mamprusi
5.Dagomba/ Komba	6.Frafra/Grushie/ Kusasi	7.Dagarti/Wala/ Sisala	77. Others, specify

8 What is your religious denomination?

1. Catholic	2. Anglican	3. Pentecostal	4. Spiritual
5.Islam	6. Traditional	No Religion	77. others specify

9 No. of years of schooling

1. None	2. 1 –3 years	3. 4- 6years
4. 7- 9 years	5. 10- 12 years	6. 13 years and above

10. Occupation

1. Farmer	2. Trader	3. Civil Servant
4. Housewife	5. Artisan	77. Others specify

B. KABP RELATED TO ANAEMIA:

11 What can go wrong with a child's blood? (PROMPT)

1. Short Of Blood [Yes] [No]
2. Dirty Blood [Yes] [No]
3. Too Much Blood [Yes] [No]
77 Others Specify .....
.....
99 Not Applicable .....

12 Has your child ever had "shortage of blood"?
[Yes] [No] [Don't Know]
if no, skip to Question 19

13. At which age did your child have "shortage of blood"?

1. 0 –11 months	2. 12 – 23 months	3. 24 – 35 months
4. 36- 47 months	5. 48 – 59 months	NA

14 What are the important signs and symptoms of 'shortage of blood' in children?(PROMPT)

I.	Pale Eyelids /Palms	[Yes]	[No]
II.	Difficult Breathing	[Yes]	[No]
III.	Child Inactive Or Dull	[Yes]	[No]
IV.	Loss Of Appetite	[Yes]	[No]
V.	Loss Of Weight	[Yes]	[No]
VI.	Refusal To Eat	[Yes]	[No]
VII.	Fever	[Yes]	[No]
VIII.	Puffy Face	[Yes]	[No]
77	Others Specify	.....	
	.....		
99	Not Applicable	[Yes]	[No]

15 When your child had 'shortage of blood', who decided where to send the child for treatment?

i.	Mother	[Yes]	[No]
ii.	Mother- In -Law	[Yes]	[No]
iii.	Father	[Yes]	[No]
iv.	Mother's Mother	[Yes]	[No]
v.	Community Leader	[Yes]	[No]
77	Others Specify	.....	
	.....		
99	Not Applicable	.....	

16 Where did you send your child for treatment?

i.	Hospital / Health Centre	[Yes]	[No]
ii.	Traditional Healer	[Yes]	[No]
iii.	For Prayers	[Yes]	[No]
iv.	Bought Drug From Drug Store	[Yes]	[No]
v.	Home Remedies	[Yes]	[No]
77	Others Specify	.....	
	.....		
99	Not Applicable	.....	

17. If you treated your child at home or bought drugs from the stores, what treatment did you give? (PROMPT)

i.	Blood Tonic	[Yes]	[No]
ii.	Bco Syrup	[Yes]	[No]
iii.	Herbal Preparation	[Yes]	[No]
iv.	Multi Vitamin	[Yes]	[No]
v.	Paracetamol Syrup	[Yes]	[No]
vi.	Chloroquine Syrup	[Yes]	[No]
vii.	Special Food (Specify)	[Yes]	[No]
77	Others Specify		.....
		.....	
99	Not Applicable		.....

18. What was the outcome of the home treatment?

1. Child get better	2. Child did not get better	77.Others	99. NA

19. What can cause 'shortage of blood' in children? (PROMPT)

	1) Malnutrition	[Yes]	[No]
	2) Sickle Cell Disease	[Yes]	[No]
	3) Malaria	[Yes]	[No]
	4) Worms	[Yes]	[No]
	5) Eating Mangoes	[Yes]	[No]
	6) Dirty Stomach	[Yes]	[No]
	7) Witchcraft /Evil Spirit	[Yes]	[No]
77	Others Specify		.....
		.....	
99	Not Applicable		.....

20 How can 'shortage of blood' affect children later in life? (PROMPT)

i.	Increase Tiredness	[Yes]	[No]
ii.	Reduced Capacity To Learn	[Yes]	[No]
iii.	Poor Growth	[Yes]	[No]
iv.	Loss Of Weight	[Yes]	[No]
77	Others Specify		.....
		.....	
99	Not Applicable		.....

21 What are your sources of your information on blood shortage?

i.	Staff At Health Facilities	[Yes]	[No]
ii.	Staff At Drug Store	[Yes]	[No]
iii.	Drug Peddler	[Yes]	[No]
iv.	Friends	[Yes]	[No]

v.	Husband	[Yes]	[No]
vi.	Mother- In – Law	[Yes]	[No]
vii.	Woman's Mother	[Yes]	[No]
viii.	Radio / TV	[Yes]	[No]
77	Others Specify		.....
		.....	
99	Not Applicable		.....

22 Are there some type of food that should be given to a child who has 'shortage of blood'? [Yes] [No]

IF NO, SKIP TO QUE 24.

22 Mention the types of food that could be given to a child who is short of blood

i.	Meat	[Yes]	[No]
ii.	Fish	[Yes]	[No]
iii.	Legumes	[Yes]	[No]
iv.	Green Leafy Vegetables	[Yes]	[No]
v.	Fruits	[Yes]	[No]
vi.	Eggs	[Yes]	[No]
vii.	Red Palm Oil	[Yes]	[No]
viii.	Staples	[Yes]	[No]
77	Others Specify		.....
		.....	
99	Not Applicable		.....

24. Mention any 2 types of food that should not be given to a child with 'shortage of blood'

i.	Starchy foods	[Yes]	[No]
ii.	Fruits	[Yes]	[No]
iii.	Fats /Oils	[Yes]	[No]
iv.	Meat	[Yes]	[No]
v.	Fish	[Yes]	[No]
vi.	Legumes	[Yes]	[No]
vii.	Eggs	[Yes]	[No]
77	Others Specify		.....
		.....	
99	Not Applicable		.....

25 Can "shortage of blood" be prevented?

1. Yes	2. No	3. Don't Know

IF NO OR DON'T KNOW END INTERVIEW.

26. In what ways do you think "shortage of blood" in children be prevented? (PROMPT)

i.	Give child enough meat	[Yes]	[No]
ii.	Give child enough fish	[Yes]	[No]
iii.	Give child enough legumes	[Yes]	[No]
iv.	Give child enough G.L.V	[Yes]	[No]
v.	Give child enough fruits	[Yes]	[No]
vi.	Give child enough red palm oil	[Yes]	[No]
vii.	Deworm child regularly	[Yes]	[No]
viii.	Prevent mosquito bite	[Yes]	[No]
ix.	Take child to C.W.C. regularly	[Yes]	[No]
77	Others Specify	.....	
	.....		
99	Not Applicable	.....	

*For mothers whose children suffered "shortage of blood" and who are aware of measures that can prevent the condition. Refer to items 12 and 25.

26 Why do you think your child suffered from "shortage of blood"?

i.	Child Refused To Eat	[Yes]	[No]
ii.	Frequently Get Sick	[Yes]	[No]
iii.	No Money To Buy Nutritious Food	[Yes]	[No]
iv.	Child Had Mosquito Bites (Fever)	[Yes]	[No]
v.	There Were Too Many Children To Feed	[Yes]	[No]
vi.	Child Was Left In The Care Of Maid	[Yes]	[No]
vii.	Child Was Bewitched	[Yes]	[No]
77	Others Specify	.....	
	.....		

APPENDIX D

GUIDELINES FOR IN-DEPTH INTERVIEW

TOWN / VILLAGE.....

Traditional healer / herbalist

Age ..... Sex.....

Educational level..... Occupation.....

1. What are the most common diseases among children in this community?

.....

2. what are the most diseases among children in this community in order of important

3. what is anaemia.....

4. a. Do you consider anaemia in children a problem in this community.

b. Give reasons.....

5. What local names / words are used to describe anaemia.....

How would you recognise a child with anaemia.....

6. What are the causes of anaemia.....

.....

7. What do you do when a child is brought to you with anaemia?

.....

8. What are the types of food that should be given to a child with anaemia.

.....

9. Are there any socio-cultural beliefs and practices related to childhood anaemia

[Yes] [No] [I don't know]

10. If your respond to item 10 above is yes, state the most important one

.....

12 How may childhood anaemia be prevented in the community

.....

.....

.....

.....

APPENDIX E

Nutritional status of children under five-year (1997 and 1998) in the Kintampo District.

	Normal		Mild Malnutrition		Moderate Malnutrition		Severe malnutrition	
	Weight/Age		Weight/Age		Weight/Age		Weight/Age	
Age in months	1997	1998	1997	1998	1997	1998	1997	1998
0 –11	2711	5979	1379	3484	747	1949	115	524
12 – 23	1323	3482	662	2239	271	1187	97	506
24 – 35	593	1725	271	802	143	484	31	227
35 – 47	224	965	119	394	63	213	18	80
48 – 59	117	566	70	431	35	225	12	53
TOTAL	4968	12717	12501	7350	1259	4058	273	1390

APPENDIX F

VARIABLES AND THEIR INDICATORS

No	Type	Variable	Indicator	Scale of measurement	Specific objective covered
1	Dependent	Mother's K.A.B.P. related to childhood anaemia	Any child from birth to four years considered to have suffered and treated for anaemia 'shortage of blood'	Nominal	1,2,3,4,5
2	Independent	Knowledge and believes of causes of anaemia	Mention of adequate(2 or more) causes of childhood anaemia e.g. malnutrition, blood disease(sickle cell) worms, mosquito bites	Ordinal	1
3	Independent	Effect of anaemia on children	Mention of adequate(2 or more) risks the anaemia child is exposed to e.g. poor growth, loss of weight, reduced capacity to learn, increased tiredness	Ordinal	2
4	Independent	Attitudes of mothers towards anaemic children	Mention of at least an effort made by mother towards management of the child with anaemia	Nominal	3
5	Independent	Practices by mothers	Mention of types of treatment/management mother sought for child	Nominal	1,4
6	Independent	Prevention of childhood anaemia	Mention of measures taken by mothers to prevent child developing anaemia	Nominal	5

APPENDIX G

Table 22. Views Of Traditional Healers About Childhood Anaemia

	COMMUNITY			
TOPIC / THEME	DAWADAWA	JEMA	KINTAMPO	TOTAL
Common childhood diseases in community				
Convulsion	* *	*		3
Asram	* *	*	*	4
Fever			* *	2
Diarrhoea		*	* *	3
Kwashiorkor		*	*	2
Yellow Stool		*		1
Cholera		*		1
Concept of Anaemia				
'shortage of blood'	*		* *	3
Asram		*		1
Paleness of nail bed eyes and body		*		1
Don't know	*			1
Reasons why anaemia is a problem in children				
Makes children not grow well			*	1
makes children weak		*		1
Don't know	* *	*	*	4
How anaemia can be recognised in children				
Pale skin	*		* *	3
Pale eyelids	*	* *	* *	5
Child does not eat well			*	1
Child does not grow well		*		1
Cannot detect anaemia	*			1
What causes anaemia?				
Exposure of pregnant abdomen to evil eyes	**		*	3
Sore in the stomach	*			1
Sickness			* *	2

Inability of child to eat		*	*	2
Hernia			*	1
Sore in anus, vagina		*		1
How childhood anaemia is Manage				
Give herbal concoction to child Drink	*	* *	*	4
Give herbal concoction to mother if child cannot drink	*			1
Give herbal bath to child		*		1
Refer child to hospital /clinic	*		*	2
Types of food an anaemic child should eat				
Red palm oil		*	*	2
Nkotomire		*	* *	3
Fish			*	1
Fruits			*	1
Beans		*		1
Rice		*		1
Egg		* *		2
Milk		*		1
Mashed yam		*		1
Plantain		*		1
Don't know	* *			2
Socio-cultural beliefs related to Childhood anaemia				
Pregnant women expose their abdomen for evil eyes to see	* *	* *	*	5
Don't know			*	1
Prevention of childhood anaemia				
Proper dressing of pregnant women	* *	*	*	4
Pray for guidance from spirits/gods		*		1
Good diet for the child			*	1

APPENDIX H

DEFINITION OF CONCEPTS / TERMS

In this study

1 A child is any person below five years of age.

2 A mother is any woman aged fifteen years and above who has and caters for a child.

3 A traditional healer is any man or woman who treats children with herbs, prayers or with a special food in the house.

4 Anaemia refers to a physiological condition in the child characterized by a reduction in the quantity and / or quality of blood noticeable to the mother as 'shortage of blood'.

5 Asram refers to a group of signs and symptoms in which the child fails to thrive well, is pale, weak, and irritable, has big stomach, divided head with sunken fontanel and has pale eyelids.