

PREVALENCE OF ANEMIA AMONG CHILDREN UNDER 5 YEARS

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ABSTRACT

Background: Anemia is one of the most common diseases affecting children in general. **Aims:** to identify the prevalence of anemia cases among children under 5 years old and, the factors are associated with anemia under 5 years. **Method:** A cross-sectional health facility-based study was conducted among children aged under five years attending at primary health center from November 2018 to end of February 2019. Convenient random sampling technique was used to select the study participants. Pretested and structured questionnaires were used to collect socioeconomic and demographic characteristics of the family and child, feeding practice and other risk factors by interviewing mother/caregivers of the child. Data were entered in computer by using SPSS statistical software (statistic package of social scientific) version 14.01 to obtain frequency tables and cross tabulation with figures to illustrate the results and X(chi-squares) for analytic and with p value .05 has indicator for significant. **Results:** The highest frequency of anemic cases 24% still in the age groups 1 years, followed by 22% in the ages 2-3 years and the lowest frequency 13% in the 4 years old. 22% of samples had a weight range from 0 to 9 kg, 54% of mothers had using the food for child eating, 77% of mothers had a normal delivery, 52% of mothers had not complication during the pregnancy stage. Highly significant relationship has been found between the mothers age groups and complication $p=0.000$. **Conclusion:** Higher rate of children with anemia still in the age 1 year old. Eating foods to child is common. Type of delivery were normal are common. Education to parents and health education to the community are also important strategies to reduce the burden of anaemia. Consumer education is also recommended to encourage the use of diversified diets including iron-rich foods and fruits that contain vitamin C that enhances iron absorption.

KEYWORD: Anemia, children, age, under 5, identify, delivery.

INTRODUCTION

Anemia is one of the most common diseases affecting children in general.^[1] The most common is iron deficiency anemia in the child's body.^[2] It is widespread in the world and in our region as well.^[3] Iron deficiency anemia is a disease that is directly related to nutrition and food diversity, and other types of deficiency in other nutrients, such as folic acid and vitamin B.^[4] Some are also linked to genetic diseases, which cause an imbalance in the production or functioning of red blood cells.^[5] Among the most famous in our disease sickle cell anemia, thalassemia.^[5] Anemia means there are fewer red blood cells or smaller than normal, iron is an essential part of hemoglobin, which is part of red blood cells that carry oxygen from the lungs to the rest of the body, children can develop iron deficiency anemia when there is not enough of iron in their diet to make a normal amount of hemoglobin in their blood.^[6] Iron deficiency anemia can cause fatigue and delay normal development or mental problems, or behavior problems in infants and young children, these problems can always be long even after treatment to repair anemia and prevent iron deficiency anemia is important for a healthy child.^[7]

Although iron supplementation can often correct anemia, in some circumstances, iron deficiency can protect against common infectious agents, and giving iron can, on occasion, increase the severity of infectious disease in some children.^[8] Focusing on the treatment and prevention of infectious diseases that cause anemia, therefore an important alternative strategy in the treatment of anemia. Most cases of anemia are mild, including those that occur as a result of chronic disease.^[9] Nevertheless, even mild anemia can reduce oxygen transport in the blood, causing fatigue and a diminished physical capacity.^[10] Moderate-to-severe iron-deficiency anemia is known to reduce endurance.^[11] Aimed of this study to identify the prevalence of anemia disease among children under 5 years old and, the factors are associated with anemia.

METHOD

Study design, period and setting: a cross-sectional health facility-based study was conducted to assess the prevalence and associated risk factors of anemia among children aged under five years attending at primary health center from November 2018 to February 2019.

Sampling and sample size: a total of 100 under-five children were included from the children's outpatient department of primary health center. Convenient random sampling technique was used to select the study participants.

Data collection procedure: Pretested and structured questionnaires were used to collect socioeconomic and demographic characteristics of the family and child, feeding practice and other risk factors by interviewing mother/caregivers of the child. The questionnaire was adapted from previous similar literatures. Data on nutritional status were collected by measuring the weight and height of children under age 5 during the health center visit based on WHO recommendations. The weight of the children was measured by a Salter scale. Based on WHO cut-off values, Children with Hb level <110 g/L were considered anemic. Anemic children were further categorized as children with mild anemia, moderate anemia and severe anemia which corresponds to Hb value 100–109 g/l, 70–99 g/l, and lower than 70 g/l respectively.

Data analysis procedures: - Data were entered in computer by using SPSS statistical software (statistic package of social scientific) version 14.01 to obtain frequency tables and cross tabulation with figures to illustrate the results and X(chi-squares) for analytic and with p value .05 has indicator for significant.

Ethical considerations: Ethical approval was obtained from MOH before conducting the study. The study participant's parent or guardian was informed about the purpose of the study and written informed consent was obtained before the questionnaire was administered and blood and stool samples were collected from the participant.

RESULTS

One hundred cases were recruited in this study, 56(56%) were male and 44(44%) were female. The highest frequency was 24% among both of cases in the age groups 1 years, followed by 22% in the ages 2-3 years and the lowest frequency 13% in the 4 years old. Significant relationship has been found between the age

groups and gender $p=0.01$ as shown in table 1. Regard the table 2 show that the highest frequency 22% of samples had a weight range from 0 to 9 kg, followed by 21% with the weight 11-12 kg and the lowest frequency 11% with the weight 13-14, ≥ 19 kg. Highly significant relationship has been found between the age groups and weight groups $p=0.000$.

Also, the highest frequency of mothers 54% had using the food for child eating, followed by 17% had using the breastfeeding and the lowest frequency 14% had using the artificial feeding. Highly significant relationship has been found between the age groups and type of feeding with the P. value =0.000 as shown in table 3.

In table 4 show that the highest frequencies 77% of mothers had a normal delivery and the lowest frequency 23% had a caesarean section. Not significant relationship has been found between the mothers age groups and type of birth $p=0.07$. In table 5, show that the highest frequencies 52% of mothers had not complication during the pregnancy stage and the lowest frequency 9% had a cardiac and hypertension complication. Highly significant relationship has been found between the mothers age groups and complication $p=0.000$.

Table 1: Distribution of studied sample according to age groups & gender.

Age child		Gender		Total
		Female	Male	
1 Year	No.	14	10	24
	%	14%	10%	24%
2 Years	No.	9	13	22
	%	9%	13%	22%
3 Years	No.	3	19	22
	%	3%	19%	22%
4 Years	No.	6	7	13
	%	6%	7%	13%
5 Years	No.	12	7	19
	%	12%	7%	19%
Total	No.	44	56	100
	%	44%	56%	100%
Test		MCP=0.01		MCP ≤ 0.05 (S)

Table 2: Distribution of studied sample according to age groups & weight groups.

Age child		Weight Groups						Total
		9-0kg	11-12kg	13-14kg	15-16kg	17-18kg	≥ 19 kg	
1 Year	No.	21	1	0	0	2	0	24
	%	21%	1%	0%	0%	2%	0%	24%
2 Years	No.	0	19	3	0	0	0	22
	%	0%	19%	3%	0%	0%	0%	22%
3 Years	No.	1	1	8	5	3	4	22
	%	1%	1%	8%	5%	3%	4%	22%
4 Years	No.	0	0	0	7	6	0	13
	%	0%	0%	0%	7%	6%	0%	13%
5 Years	No.	0	0	0	3	9	7	19
	%	0%	0%	0%	3%	9%	7%	19%
Total	No.	22	21	11	15	20	11	100
	%	22%	21%	11%	15%	20%	11%	100%
Test		MCP=0.000			MCP < 0.01 (HS)			

Table 3: Distribution of studied sample according to age groups & type of feeding.

Age child			Type of feeding				Total
			Artificial	Breast feeding	Food	Mixed	
1 Year	No.		7	17	0	0	24
	%		7%	17%	0%	0%	24%
2 Years	No.		7	0	0	15	22
	%		7%	0%	0%	15%	22%
3 Years	No.		0	0	22	0	22
	%		0%	0%	22%	0%	22%
4 Years	No.		0	0	13	0	13
	%		0%	0%	13%	0%	13%
5 Years	No.		0	0	19	0	19
	%		0%	0%	19%	0%	19%
Total	No.		14	17	54	15	100
	%		14%	17%	54%	15%	100%

Test	MCP=0.000	MCP < 0.01 (HS)
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Table 4: Distribution of Studied Sample According to Mothers Age Groups & Type Of Birth.

Age mother groups			Type of birth		Total
			Caesarea	normal	
20-24 Years	No.		2	3	5
	%		2%	3%	5%
25-29 Years	No.		8	15	23
	%		8%	15%	23%
30-34 Years	No.		7	20	27
	%		7%	20%	27%
35-39 Years	No.		1	26	27
	%		1%	26%	27%
40-44 Years	No.		5	13	18
	%		5%	13%	18%
Total	No.		23	77	100
	%		23%	77%	100%

Test	MCP=0.07	MCP > 0.05 (NS)
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Table 5: Distribution of Studied Sample According to Mothers Age Groups & Complication

Age mother groups			Pregnancy complication					Total
			Cardiac	Diabetic	Hypertension	Nothing	Toxoplasma	
20-24 Years	No.		0	0	3	2	0	5
	%		0%	0%	3%	2%	0%	5%
25-29 Years	No.		2	4	2	15	0	23
	%		2%	4%	2%	15%	0%	23%
30-34 Years	No.		4	6	0	12	5	27
	%		4%	6%	0%	12%	5%	27%
35-39 Years	No.		3	0	4	14	6	27
	%		3%	0%	4%	14%	6%	27%
40-44 Years	No.		0	0	0	9	9	18
	%		0%	0%	0%	9%	9%	18%
Total	No.		9	10	9	52	20	100
	%		9%	10%	9%	52%	20%	100%

Test	MCP=0.000	MCP < 0.01 (HS)
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DISCUSSION

Anemia is a global health issue that has significant consequences for individual health and socioeconomic development.^[12] In our study 24% of children anemic in

the age 1 year; compared with the other results found in West Africa 29.3%^[13], South Africa 44%^[14], this may differ of tradition and habits. Nutrition policies aimed at ensuring optimal child and maternal micronutrient status

and addressing the underlying risk factors for anemia are likely to result in improved health outcomes and a reduction in anemia.^[15] In this study 54% of children were eating food; compared with the other results found in Tunisia 49.9%^[16], this may be similar habits of nutritional foods between the countries. In this study 22% of children with the range weight between the 0-9 kg. Compared with the other results found in Brazil 9.1%^[17], in china 4.7%^[18], in Bengal 6%.^[19] This explains that the children in the growth stage needs good nutrition and care by parents and meet all requirements

Mother's age, high parity, history of previous abortion, history of prenatal mortality, short inter-birth interval and pregnancy are maternal risk factors responsible for anemia among children.^[14] In the study 27% of mothers in the age 30-39; compare with other results found in Brazil 44.9%^[20], This refers to the difference in the habits and requirements of life and also the poor level of living and the wars that passed out of the country led to leave the education and stay at home to care for children and meet their needs. In our study, 77% of mothers were the types of delivery are normal; other results found in Bangladesh.^[21] This is due to the awareness programs that promote natural birth and its importance for the expectant mother. Over half a million women die due to complications of pregnancy and childbirth each year.^[22] In the study, 9% were hypertension is complicated; compared with other results found in India 23%.^[23] This explains the different physical structure of women's and vulnerability to complications. Obstetrical factors (gravidity, parity, history of previous preterm or small for gestational-age deliveries, plurality of pregnancy multiple or singleton.^[57] In the study 29% of mothers had the number of pregnancies is 2; other results found in India 13.5%.^[23] This may be due to the lack of awareness about family planning programs.

CONCLUSION

Higher rate of children anemic in the 1 year old. Eating foods to child is common. Type of delivery were normal are common. Education to parents and health education to the community are also important strategies to reduce the burden of anaemia. Consumer education is also recommended to encourage the use of diversified diets including iron-rich foods and fruits that contain vitamin C that enhances iron absorption. Get regular check-ups with knowledgeable healthcare providers.

Conflicts of Interests

No potential conflicts of interest with respect to the research, authorship.

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