Evaluation of Anemia among Lactating Mothers and their Children Under Two Years of Age

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المستخلص:

الهدف: ان هدف هذه الدراسة هو تقييم فقر الدم لدى النساء المرضعات واطفالهن تحت عمر ٢ سنة.

المنهجية: اجريت هذه الدراسة على (١٤٨) من الأمهات المرضعات واطفالهن تحت ٢ سنة من العمر في مركز الرعاية الصحية الاولية في بغداد/ حي السلام للفترة من ٢٠٠٩/١٠/١ الى ٢٠١٠/١٠/١

النتائج: توصلت الى ان هناك علاقة كبيرة بين الامهات المصابات بفقر الدم واطفالهن. حيث كشفت الدراسة ان هناك (٧٧,٨%) من الأمهات المرضعات للفئة العمرية (٢٥-٢٩) يعانين من فقر الدم، في حين (٣٢,١%) للفئة العمرية لا يعانين من فقر الدم.

التوصيات: تشجيع الأمهات على استخدام حليب الثدي فقط او حليب الأطفال المدعم بالحديد او اي جزء يعتمد على الحليب في النظام الغذائي (مثلا الحبوب للرضع) وعدم استخدام الحليب المنخفض الحديد (مثل حليب البقر، حليب الماعز وحليب الصويا) لحد سن ١٢ شهرا.

Abstract:

Objective: The aim of this study is to evaluate anemia among lactating women and their children less than 2 years of age.

Methodology: The study was done on (148) lactating mothers and their children under 2 years of age in the primary health care center at AL-Salam Quarter/Baghdad from l/10/2009 to 15/10/2010.

Result: This study recommends that there is a significant relationship between anemic mothers and their children. The study also revealed that there is (77.8%) from nursing mothers in the age groups (25-29) who suffered from anemia, while (23.1%) for the age group (20-24) did not have anemia

Recommendation: We encourage the use of breast milk or iron-fortified infant formula only for any milk-based part of the diet (e.g., in infant cereal) and discourage the use of low-iron milks (e.g., cow's milk, goat's milk, and soy milk) until age 12 months.

Keywords: Evaluation, Anemia, Lactating mothers, Children.

Introduction:

The World Health Organization classifies hemoglobin thresholds used to define anemia. Age or gender group Hb threshold (g/dl) Hb threshold Children (0.5–5.0 yrs.) 11.0, Children (5–12 yrs.) 11.5, Teens (12–15 yrs.) 12.0 Women, non-pregnant (>15 yrs.) 12.0 Women, pregnant 11.0 [1]. Nutrition is the most important factor in child health promotion, growth and development especially during the first two years of life, when the speed of neuropsychomotor growth and development is greatest [2]. The health and nutrition of mothers and their children are intimately related. The effects of nutrition begin even before conception, promoting intrauterine growth and development, physical growth and mental development, with repercussions for adulthood [3]. The most common reason for lactating and pregnant women is iron deficiency [4]. Anemia is the most prevalent type of food deprivation in the world and it particularly affects expectant mothers and infants in developing countries [5]. Pregnant (and consequently lactating) women are amongst the highest groups at risk for iron deficiency. Women become anemic due to the excessive blood losses of menstruation and delivery, increased iron requirements, diminished intake, diminished iron absorption or utilization, or a combination of these factors [6].

Methodology:

A descriptive cross sectional study was performed on (148) lactating mothers and their children under 2 years of age.

For the purpose of the study, a question-aire form was used including the order of child, number of gravida and number of abortions. Blood samples were obtained from mothers and children to detect the hemoglobin concentration by the cyanomehemoglobin method. Mothers who suffered from any disease were excluded from this study, and depending on the normal values of whose thresholds.

The study was carried out at the health care center at AL-Salam Quarter/ Baghdad from 1/10/2009 to 15/10/2010.

Frequency and percentage were used as descriptive statistic of fisher exact probability test (F.E.P.T)

Result:

Table 1. Distribution of age group of mothers according to type of Hb (normal abnormal)

Age groups of mothers	Hb* of mother				Total	
	normal		abnormal			
	F	%	F	%	F	%
15-19	6	15.38	9	60	15	10.1
20-24	17	43.5	36	67.9	53	35.8
25-29	8	20.5	28	77.8	36	24.3
30-34	4	10.25	21	84	25	16.9
35-39	4	10.25	13	76.5	17	11.5
40-44	0	0	2	1.8	2	1.4
total	39	26.4	109	73.6	148	100

Hb*= hemoglobin; %= Percentage

This table revealed that the highest percentage (43.5%) of normal Hb was between the age group of (20-24) years old and the highest percentage (77.8%) abnormal Hb was between the age group of (25-29) years old.

Table 2. Frequency and percentage of age mothers group according type of Hb

Age groups of mothers	Hb of child				Total	
	normal		abnormal			
	F	%	F	%	F	%
15-19	0	0.00	6	18.2	6	15.4
20-24	3	17.6	14	82.4	17	43.6
25-29	1	12.5	17	87.5	8	20.5
30-34	2	50.0	2	50.0	4	10.3
35-39	0	00.0	4	12.1	4	10.3
40-44	0	00.0	0	00.0	0	100.0

total	6	15.3	33	84.6	39	100.0

Hb*= hemoglobin; %= Percentage

The highest percentage (50%) of normal hemoglobin of children is among (30-34) years old mothers and (87%) of abnormal hemoglobin. of children is among (25-29) years old mothers.

Table 3. Distribution of mothers No. of pregnancy according to Hb mother (normal and abnormal)

Number of pregnancy	Hb in mother				total	
	normal		abnormal			
	F	%	F	%	F	%
1	9	19.1	32	31.6	41	27.7
2	10	21.2	35	34.6	45	30.4
3	4	8.5	29	28.7	33	22.3
4	11	23.48	8	7.9	19	12.8
5	3	6.3	7	6.9	10	6.7
Total	47	100.0	101	100.0	10	100.0

F= frequency, % = percent

This table indicates that the highest percentage (23.6%) of normal Hb is within mothers who have four pregnancies the highest percentage (34.6%) of abnormal Hb is within mothers who have two pregnancies.

Table 4. Distribution of hemoglobin level in mothers according to number of previous abortions

Number of previous abortion	Hb in mother				total	
	normal		abnormal			
	F*	%*	F	%	F	%
0	6	12.7	9	8.9	15	10.2
1	19	40.4	29	28.7	48	32.4
2	21	44.6	56	55.5	77	52.0
3	1	2.3	7	6.9	8	5.4
total	47	100.0	101	100.0	148	100.0

F= frequency, % = percent

This table presents that the highest percentage (44.6%, 55.5%) of normal and abnormal Hb is within mothers who have two previous abortions respectively.

Table 5. Contingency table of testing the coincidence of Hb (Normal and Abnormal) between mothers and their children

HB IN MOTHER	Hb in children				TOTAL	
	Normal		Abnormal			
ABNORMAL	F	%*	F	%	F	%
	18	16.5	91	83.5	109	73.6
NORMAL	6	15.4	33	84.6	39	26.4
TOTAL	24	16.2	124	83.8	148	100
*F.E.P.T (fisher exact probability test)			* P> 0.01			

F= frequency; % = percent; F.E.P.T = fisher exact probability test; p=probability level

This table indicates that there is significant relationship between Hb of mothers and their children regarding the types of Hb (normal and abnormal) represent contingency of testing the coincidence of Hb (normal and abnormal) between mothers and their children by using (F.E, P.T), the percentage of anemic mothers is (83.8%) and the non-anemic mothers is (16.2%), the number percentage of anemic children is (84.6 %), while the percentage of non-anemic child is (15.4%). The percentage of anemic mothers is (26.4%), and there is (84.6%) non anemic children are only (15.4%). Statistically there is a significant difference at (p>0.01).

Discussion:

Nutrition is the key factor in the relationship between the mother and infant. This study showed three quarters of anemic mothers between (25-29) years of age and this study agrees with study in women from developing countries it was found that 43% of them anemic and were 12% of women from wealthier regions[7]. In a study conducted on a group of children whose ages ranged between (12-24) months found that (48.9%) of them were anemic [8].This result supports the findings of our study. Another study performed in Bangladesh revealed that over (60%) of children less than 2years suffered from anemia, while (64%) of children between (12-23) months were anemic. However, this number goes as High as (80%) among infants whose ages were under one year [9]. The result of our study indicated that (87%) of children was suffering from anemia, which agreed with the results of the studies mentioned above. Finally Hb reading, found that women with at least one previous birth or pregnancy were more likely to have anemia than women without any. This suggests that the behaviors and attitudes of pregnant women with children may differ significantly from those of nulliparous women with respect to the current pregnancy [10].Pregnancy were more likely to have anemia than women without any. This suggests that the behaviors and attitudes of pregnant women with children may differ significantly from those of nulliparous women with respect to the current pregnancy [10]. The social stigma attached to abortion may have limited the number and/or types of abortions reported. Despite this, there was a positive correlation between the number of spontaneous abortions and the likelihood of developing anemia at final Hb reading.

Recommendations:

1. We recommended ethencourage use of only breast milk or iron-fortified infant formula for any milk-based part of the diet (e.g., in infant cereal) and discourage the use of low-iron milks (e.g., cow's milk, the goat's milk, and soy milk) until age12 months.
2. Primary prevention of pregnant women with iron deficiency anemia.
3. Health education of mothers.

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