

Maternal knowledge related to anemia during pregnancy among a sample of mothers attending Primary Health Care centers. Baghdad.

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ABSTRACT

Background: Anaemia is a major public health concern and is one of the most prevalent health issue in women within reproductive age group.

Objective: to assess maternal knowledge related to anaemia during pregnancy.

Type of the study: A cross-sectional study.

Method: The study including 200 mothers who attended selected primary health care centres, Baghdad during November and December 2015, they completed a previously prepared questionnaire coveringsocio-demographic characteristics and knowledge regarding anaemia in 4 main domains. The responses were analysed by using frequency, percentage and percent score for each statement and overall percent score for each domain and mean overall percent score for all the four domains.

Results: the main source of information of the participated mothers was health personal (59.5%).The overall percent score for the main domains was good 71% for aetiology of disease, excellent 91% for signs and symptoms of anaemia, good 75% for complications of anaemia and very good 75% regarding ways of prevention and treatment.

Conclusion: Satisfactory knowledge level of mothers regarding anaemia during pregnancy.

Key words: knowledge, mothers, anaemia, Baghdad.

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Anaemia in pregnancy is defined by World Health Organization (WHO) as haemoglobin concentration below 11 gm. /dl. ⁽¹⁾It remains one of the most intractable public health problems in developing countries. Worldwide, it is estimated that 58.2 million women are anaemic during pregnancy of whom 55.75 million (95.7%) live in developing countries ⁽²⁾Anaemia has multiple causes: failure to meet increased iron requirements during pregnancy. Inadequate intake of micronutrients (particularly iron) , closely spaced births allowing inadequate time for maternal repletion and infections that destroy red blood cells, interfere with red blood cells formation, increase blood loss and (or deplete nutrient up take e:g malaria, hook worm, HIV, diarrhoea and others ⁽³⁾.The deleterious effects of anaemia in pregnancy include increased risk of maternal and foetal morbidity and mortality and poor birth outcomes in developing countries ⁽⁴⁾.Higher incidence of preterm and low birth weight deliveries has been documented ⁽⁵⁾Symptoms of anaemia vary among women; the most common ones are weakness, shortness of birth, light headiness, pale and palpitations. In sever conditions, it is associated with dizziness, chest pain or heart attack, fainting and patient may experience circulation and tachycardia ⁽⁶⁾.

Objective of the study:To assess maternal knowledge related to anaemia during pregnancy.

Mmethods: A cross- sectional descriptive study including 200 mothers who attended PHCCs of Dahalik, Baghdad Al-GadidaAwal, during November and December 2015, each mother should have at least one child aged 24 months invited to participate after clarifying the purpose behind the study, assuring confidentiality and willing participants gave verbal consent and they completed a

comprehensive previously prepared self-studied close-ended questionnaire in designed area in the health centre under the supervision of the study staff.The questionnaire consists of demographic characteristic and different statements covering the subject of anaemia during pregnancy in four main domains (aetiology, signs and symptoms, complications and ways of prevention and treatment) of anaemia during pregnancy. The data was analysed by using tests of frequency, percentage for each question responses and a score of three(3) was given for each yes answer, two(2) for answering don't know and one(1) for an answering no and the percent score for mothers responses for each specific item was calculated by following equation: Total score for all participants in the same item where total scores for all participants in the item = no x 1+2x no of I don't know + no of yes x3 divided by the maximum possible score for all participants in the same item= no of total mothers x3 based on Triplelikert score⁽⁷⁾ and after approximation, the cut-off point of percent score of items categorized a less than 60 , considered a poor, 60-69% as fair, 70-79% a good ,80-89% as very good and 90 and over as excellent.

Results: The total number of the included mothers was 200, the highest proportion 49.5% in the age group 21-30 years, 34.5% had an average of 6-10 years marriage, 92.7% were married, 39% with secondary level of education and 51% were non vegetarian as shown in table 1.

Table (1): Socio demographic characteristic of the study sample

Socio - demographic characteristics	No	%
Age (years)		
≤20 years	15	7.5
21 - 30	99	49.5
31 - 40	68	34
>40	18	9
Years of marriage		
≤5	61	30.5
6 - 10	69	34.5
11 - 20	52	26
<20	18	9
Marital states		
Married	185	92.5
Divorced / separated	5	2.5
Widowed	10	5
Level of education		
Illiterates	7	3.5
Can read and write	13	6.5
Primary	60	30
Intermediate / secondary	78	39
College and more	42	21
Dietary pattern		
Vegetarian	98	49
Non - Vegetarian	102	51

Regarding antenatal history of the mothers, 48.5% had > 5 A-N visits during last pregnancy, 55% suffered from

anaemia and 81% had history of iron supplementation during pregnancy as shown in table (2).

Table (2):The antenatal history of participated mothers.

Antenatal history	No	%
No of A-N Visits		
≤5	103	51.5
>5	97	48.5
History of anemia		
Yes	110	55
No	90	45
History of iron supplementation		
Yes	162	81
No	38	19

The main source of information regarding anaemia was health personnel 59.9% followed by TV/Internet 17.5% as shown in table 3.

Table (3): The source of information regarding anaemia of the study sample

Source of Information	No	%
Health personal	119	59.5
Journals and magazines	18	9
TV and internet	35	17.5
Others	16	8
No source	12	6

Mothers knowledge responses regarding the aetiology of anaemia was with highest percentage of correct responses 75%, 64%, 60.5% with percent score 88%, 80% 79% regarding insufficient intake of iron rich foods , frequent pregnancies and deliveries and short birth

spacing while the lowest percentage of correct responses 25%, 29% and 41.5% with percent scores 59%, 53%, 69% for warm manifestations, some chronic diseases and vegetarian diet respectively. The overall percent score for this domain was equal to 71% as shown in table (4)

Table (4): knowledge responses of the study sample regarding aetiology of anaemia during pregnancy.

Aetiology of anaemia during pregnancy	Yes		No		Don't know		Per cent score
	N	%	N	%	N	%	
Inadequate intake of iron rich foods	150	75	24	12	26	13	88
Acute infections	85	42.5	76	38	39	19.5	68
Bleeding during pregnancy	116	58	59	29.5	25	12.5	76
Warm manifestation	58	29	92	46	50	25	53
Heavy physical work	85	42.5	88	44	27	13.5	66
Some chronic infections	50	25	96	48	54	27	59
Frequent pregnancies and deliveries	128	64	43	21.5	29	14.5	80
Short birth spacing	121	60.5	46	23	33	16.5	79
Vegetarian diet	83	41.5	72	36	45	22.5	69
Overall percent score=71							

There was more satisfactory knowledge responses regarding signs and symptoms of anaemia with highest percent of correct responses 87%, for either pallor of face, lips and nails and feeling headache with percent score 93% and 94% respectively while the lowest percent score for correct responses 13% with percent score 48% for dyspnoea and palpitation. The overall percent score for this domain was equal to 91% as shown in table (5) It was evident that the included mothers were less aware about the complications of anaemia. The highest percent of correct responses 30.5% with percent score 59% score for post labour bleeding while the lowest percent for correct responses 17% with percent score 48% for complicated labour. The overall percent score for this domain was 57% as shown in table 6.

Table 5: Mothers knowledge responses regarding signs and symptoms of anaemia.

Signs and symptoms of anemia during pregnancy	Yes		No		Don't know		percent score
	N	%	N	%	N	%	
Pallor of face, lips and nails	174	87	18	9	8	4	93
Feeling of rotation and fainting attacks	171	85.5	21	10.5	8	4	92
Anorexia and loss of appetite	170	85	18	9	12	6	92
Dyspnea and palpitation	26	13	139	69.5	35	17.5	48
Head ache	174	87	10	5	16	8	94
Chronic fatigue	140	70	25	12.5	35	17.5	86

Overall percent score = 91%

In respect to mothers knowledge responses regarding ways of prevention and treatment of anaemia during pregnancy showed highest percent of correct responses 97%, 92% with percent score 98% and 95% for intake of iron rich foods like meat, egg, iron and folic acid intake at 4th month of pregnancy while the lowest percent of correct responses 14% and 14.5% with percent score 46% and 48% for Intake of vitamin c and blood transfusion if necessary. The overall percent score for this domain was 75%. as shown in table 7. The mean overall percent score for all knowledge domains was equal to 73.5% which is considered as good.

Discussion: Anaemia is one of the most prevalent health issues among women within reproductive age group⁽⁸⁾. The socio- demographic characteristics of the study population showed highest proportion 49.5% at the age group 21-30 years, this is consistent with⁽⁹⁾ finding of in rural Punjab in which 52.5% of the participants were in the age group 15-25 years while the finding of^(6, 10) in rural Malawi and Hubei province in China respectively revealed that 35.4%, 88.1% of mothers at the age group 20-29 and 25-35 years respectively.

Table (6) Mothers knowledge regarding complications anaemia

Complications of anaemia during pregnancy	Yes		No		Don't know		percent score
	N	%					
Premature birth	55	27.5	101	50.5	44	22	59
Small for date baby	43	21.5	135	67.5	22	11	51
Exposure to infections	57	28.5	99	49.5	44	22	60
Abortion or intrauterine death	43	21.5	71	35.5	86	43	62
Complicated labor	34	17	124	67	32	16	48
Post labor bleeding	61	30.5	105	52.5	34	17	59
Overall percent score = 57%							

Education wise, 39% of the respondents had studied up to secondary level compared to 57.5% is rural Punjab⁽⁹⁾ and 25% of women of⁽⁴⁾ in Sebha, Libya in selected health care facilities had secondary level education. In this study 48.5% of mothers had > 5 antenatal visits in the last pregnancy which consistent with the finding of⁽¹¹⁾ in Nepal that 50% of the mothers attended four or more A-N visits during entire pregnancy. Results also showed that 55% of mothers with previous history of anaemia and 81% were taking iron supplementation at 4th months of pregnancy, in comparison 32.5% of⁽⁹⁾ in rural Punjab participants had previous history of anaemia and just 17.5% were taking iron supplements while 83.2% and 91% of mothers participated in Kathmonda, Nepal⁽¹²⁾ and Iran⁽¹³⁾ used supplementations containing iron after 4th month of pregnancy. It seems that the main source of information of 59.5% of mothers regarding anaemia was the health personal while 44.4% of the mothers in Nabulus⁽¹⁴⁾ reported to gain information from maternal health canterers. Mothers knowledge responses regarding the aetiology of anaemia was with highest percentage of correct responses 75% regarding insufficient intake of iron rich foods, in comparison the results of⁽⁶⁾ in Malawi was 66.2% for poor inadequate nutrition, while 98% of participants of⁽¹²⁾ in Kathmonda, Nepal knew inadequate iron containing diet as a cause of anaemia. Also 64%, 60.5% of the participants in the current study stated that anaemia is due to frequent gestations and deliveries and short birth spacing while in Nabulus⁽¹⁴⁾, 79.6% answered that anaemia is due to multiple gestations and short birth spacing;

There is quite high level of knowledge of the mothers included in the current study regarding the clinical presentation of anaemia with highest present of correct responses 87%, for either pallor of face, lips and nails and feeling headache while the lowest proportion for correct responses 13% for dyspnoea and palpitation. In comparison mothers in Bro Sanko community of Ghana⁽¹⁵⁾, 20% stated pale palm and conjunctiva, 3% for shortness of breath and 9% for palpitation while in Malawi⁽⁶⁾ 89.2% of women stated paleness around gums, dizziness, 22.7%, chronic fatigue 29.8%, and shortness of breath 15%. While in Nabulus,⁽¹⁴⁾ 75.6% stated pallor of face, lips and nail beds and headache. In respect to the complications of anaemia, 27.5%, 28.5%, 21.5%, 17%, 30.5% answered for premature birth., exposure to infections, abortions, complicated labour and post labour bleeding. While the perceived consequences of anemia in pregnancy reported by respondents of⁽¹⁵⁾ in Ghana are death 32%, low birth weight, 25.18% abortion, and preterm 11%. Unfortunately, some women (14%) claim no knowledge of any effects or consequences associated with anemia in pregnancy.

In the current study, mothers responses were in general high regarding ways of prevention and treatment of anaemia that showed highest percent of correct responses 97%, 92% for intake of iron rich food like meat, egg and iron and folic acid intake at 4th month of pregnancy while the lowest proportion of correct responses 14% and 14.5% regarding enough intake of vitamin c and blood transfusion if necessary. In Malawi⁽⁶⁾, 78.5% stated eating an adequate amounts of food and 65.3% stated iron supplementation and 63.2% for blood transfusion was spelt out as the main way of treatment.

The respondents of the Teaching hospital of Kathmandu⁽¹²⁾ answered by 76.2% that iron containing food should be taken, 72.1% stated the use of iron drugs, 21.8% for increase birth interval and 0.2% for treatment of warm manifestations while in Iran⁽¹³⁾ and Nepal⁽¹²⁾, 91% and 83.2% of mothers knew taking iron tablets after 4th month of pregnancy

Conclusions: The mean overall percent score for all knowledge domains was equal to 73.5% which is considered as good and it was assessed as:
A-Good for aetiology domain especially for inadequate intake of iron rich foods, frequent pregnancies and deliveries and short birth spacing.

Table 7: Mothers knowledge regarding ways of prevention and treatment of anaemia

Prevention and treatment of anaemia	Yes		No		Don't know		percent score
	N	%					
Iron and folic acid intake at 4 th month	184	92	14	7	2	1	95
Intake of iron rich foods like meat, egg, fruit	194	97	5	2.5	1	0.5	98
Decrease heavy physical load	96	48	70	35	34	17	71
Treatment of warm manifestation	103	51.5	66	33	31	15.5	73
Intake of vitamin c	28	14	150	75	22	11	46
Prevention against infection disease	126	68	40	20	34	17	81
Regular antenatal visits	166	83	18	9	16	8	91
Blood transfusion if necessary	29	14.5	143	71.5	28	14	48

B-Excellent for signs and symptoms of anaemia especially for pallor of face, lips and nails, headache.

C-Poor for complications of anaemia especially for preterm birth and complicated labour.

D-Good for ways of prevention and treatment especially for intake of iron rich foods, and iron supplementation from 4th month of pregnancy.

Recommendations

- 1 -Continues education and sensitization for subsequent studies should be attempted to establish real anaemia states of pregnant women, existence of any relationship with awareness level and practice. And further studies are needed among large sample of mothers in many Iraqi primary health care centers.

- 2- There is a need for continuous dieting counselling and nutritional education in antenatal clinics to take the issue of anaemia in pregnancy.
- 3- Education programme concerning anaemia during pregnancy in young women (secondary schools and colleges) should be warranted.

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