

**Ministry of Higher Education
And Scientific Research
University of Babylon
College of Nursing**



Assessment the mother's knowledge about anemia during pregnancy in AL-Hilla city

**Graduation Project Submitted to the College of Nursing,
University of Babylon As a Partial Fulfillment of the
Requirements of B.S.C in Nursing Science to Council of the
College of Nursing**

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1444H – 2023M

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﴿وَإِذَا مَرِضْتُ فَهُوَ يَشْفِينِ﴾ * وَالَّذِي

يُمِيتُنِي ثُمَّ يُحْيِينِ ﴿﴾

Dedication

”To the Nation of Islam, which bears upon itself the word “Read
To the source of my pride, strength and pride.... My beloved country
To you, who taught me to give without waiting in return, who
Planted in my heart the highest meanings of the best, dear mother
To that great edifice who taught me the noble manners, and my father
is the owner of great merit
To my brother and sisters my support in my life, to all who have
that brotherhood is not only in the womb
To everyone who supported and encouraged me in my life and
gave me a push forward
With my love and respect

The researchers

Acknowledgements

Thank God, the Lord of the Worlds..... And prayers and peace be upon the ring of the prophets and messengers our prophet Mohamed Taha al-Amin and on his family and companions of the good and those who followed them with charity until the Day of Judgment, And after... I thank Allah for his bounty, as he allowed me to accomplish this work thanks to him, so he has the praise first and foremost.

I also thank the Deanship of the Faculty of Nursing and the Scientific Branch for their assistance in completing this study and then I owe thanks to all those who are pleased to continue learning from the teachers, staff and library of the Faculty of Nursing,

As well as thank my professor Dr. Naji Yasser, scientific supervisor of this study for helping me with his advice sought throughout the completion of this study, And I sincerely thank and appreciate all those who helped me in obtaining information and thank all those who supported me.

With his sincere prayers and sincere wishes Finally, "I pray to God almighty to make everyone good and God and me with success.

The researchers

Abstract

Background Anemia is one of the most frequent complications related to pregnancy, Normal physiologic changes in pregnancy affect the hemoglobin (Hb) , and there is a relative or absolute reduction in Hb concentration. The most common true anemia during pregnancy are iron deficiency anemia (approximately 75%) and folate deficiency megaloblastic anemia, which are more common in women who have inadequate diets and who are not receiving prenatal iron and folate supplements. Severe anemia may have adverse effects on the mother and the fetus. Anemia with hemoglobin levels less than 6 gr/dl is associated with poor pregnancy outcome. Prematurity, spontaneous abortions, low birth weight, and fetal deaths are complications of severe maternal anemia.

Nevertheless, a mild to moderate iron deficiency does not appear to cause a significant effect on fetal hemoglobin concentration. An Hb level of 11 gr/dl in the late first trimester and also of 10 gr/dl in the second and third trimesters are suggested as lower limits for Hb concentration. In an iron-deficient state, iron supplementation must be given and follow-up is indicated to diagnose iron unresponsive anemia

Method

A descriptive design was performed to Assessment women's knowledge in primary health care center, form the period (14 December to 29 December 2022/2023).

Key word

Anemia, knowledge, mothers, pregnancy.

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Chapter one

Introduction

Introduction

1-1- General

Anemia is a global public health problem affecting pregnant mothers resulting in maternal mortality and morbidity and poor birth outcome (WHO. 2017.2002).

Globally, anemia affects around two billion people and approximately half of all anemia can be attributed to iron-deficiency (WHO.2017.2001).

It is estimated that 38% of pregnant women worldwide are anemic with the highest in Africa followed by South East Asia which accounts for 62.3% and 53.8%, respectively (WHO.2017.2015) (Benoist Bd et al 2008).

According to the World Health Organization (WHO) report, 3.7% of maternal mortality in Africa is directly attributed to anemia (Khan KS et al. 2006).

Ethiopia, the prevalence of anemia in pregnant women is reported to be 29% which is a major public health problem (CSA, ICF et al .2017.2016), Different studies conducted in Ethiopia also showed that the prevalence of anemia among pregnant women was ranged from 20 to 60% (Getahun W et al .2017) (Lealem G et al .2015).

Iron supplementation is the most widely employed strategy to alleviate iron deficiency anemia both globally and nationally (FMOH .2004) (WHO.2017.2016) , World Health Organization and National guideline current recommendation on the treatment of anemia during pregnancy include improvements in dietary diversity; food fortification with iron, folic acid and other micronutrients; and daily supplementation of iron and folic acid to each pregnant women and control of infections (WHO.2017.2016) (FMOH .2004).

In Ethiopia, nationally only 5% of pregnant women took iron–folic acid supplementation (IFAS) for greater than 90 days, but 58% did not take any iron–folic acid tablets during their most recent pregnancy (CSA, ICF et al .2017.2016).

A study on the importance of antenatal use of iron and folic acid supplement showed that it can eliminate 50% of iron deficiency anemia in pregnant women (Rahmati S et al .2016)

Pregnant women in developing countries are at risk of anemia due to poverty, grand multiparity, too early pregnancies, too many and too frequent pregnancies spacing of < 1-year, low socioeconomic status, illiteracy and late booking of pregnant women at antenatal care units (Haider J.2010) (Getachew M et al 2012) (Jufar AH et al .2014).

Many of these risk factors can be minimized if the mother knowledge of the cause and prevention of anemia will be improved. Despite anemia having been identified as a global public health problem for several years, no rapid progress has been observed, and the prevalence of the disease is still high globally and locally. Very few researches (Keneni B et al .2018) (Duko B et al. 2017) are done in Ethiopia regarding knowledge of anemia and the benefit of iron–folic acid supplementation in pregnant mothers. Also, Anemia in Pregnancy considered a major public health problem and still has an important role in both mortality and morbidity of pregnant women, mainly in developing countries (WHO.2020). According to WHO reports, anemia affect (35-75) % of pregnant women in developing countries opposed by about 18% in developed ones (Seena NB.2017) (Suryaanarayana R.et al .2016). WHO defined Anemia in Pregnancy as a hemoglobin concentration of less 11 gm/dl which could be mild (10.0-10.9 gm/dl), moderate (7.0-9.9 gm/dl) or severe (under 7 gm/dl) (Jufar, H et al .2014) (Gedefaw, J, et al. 2015)?

In Developing countries, underprivileged citizens often have poor socioeconomic status, excess parity, inadequate spacing, poor alimentation, and high rate of infectious diseases (Shahar, S et al, 2019).

In addition, that population usually has poor access to medical care and preventive measures increasing their risk of developing Anemia with its subsequent complications (Srinivasa Rao P, et al 2013).

In such countries, the main cause of Anemia during Pregnancy is iron, folic acid, vitamin A and B12 deficiency or parasitic infestation mostly malaria and hookworms or chronic diseases as TB and HIV (Haidar J, 2010) (Balarajan Y, et al 2011).

Iron deficiency anemia account about 40-89% of Anemia among women (Stiller, C.K.et al 2020). Iron deficiency anemia tends to develop when there is inadequate dietary intake of iron, or not sufficiently absorbed, or upon increase body requirements or excessive losses (Gereklioglu C, et al 2016).

Anemia in Pregnancy is commonly associated with many consequences as low birth weight, premature delivery in addition to increased risk of maternal mortality and morbidity (Esmat B, et al 2010).

Socially, Anemia is also negatively impacted the general health of the women and their ability to work primarily in the reproductive years of life (Saydam BK et al 2017). Furthermore, children of anemic women often born with low iron stores and have a higher risk of developing Anemia during infancy accentuating the risk of mortality and morbidity (Elzahaf, et al 2016).

WHO classified Anemia as a public health significance when 5% of the population or higher are anemic but when this reaches 40% or higher of the community, the condition is classified as a severe public health problem (Challa S, et al 2016)?

The last report of the World Bank estimates the prevalence of Anemia among pregnant women in Iraq within 38% (World Bank 2019). and WHO report estimates it within 31% with Hemoglobin mean of 11.7g/dl (Geneva .2015).

Therefore, this study aims to highlight the prevalence of Anemia in Babylon governorate by exploring a sample from the four territories of this governorate. This study was conducted for the purpose of evaluating mothers' knowledge of anemia that occurs during pregnancy and their knowledge of its types, treatments, and its impact on the new born baby. In health centers in Hilla Governorate, Iraq.

1-2- Research importance

A study conducted in Egypt found that the prevalence of iron deficiency anemia amongst Egyptian pregnant women was 52.5%. Therefore, to study mother's knowledge and attitudes is a suitable instrument to assess and evaluate target group's current knowledge, and attitude towards a specific problem under investigation; and it gives an effective feedback upon needs, problems, and possible barriers among the target group". In addition, most pregnant women had dietary habits related to cultural issues (Abu Salem, 2016).

1-3- Research problem

- 1) Assessment mother's knowledge about anemia during pregnancy at AL - Hilla city.
- 2) Mothers should be aware of the implications of anemia because it is a common issue during pregnancy and has negative effects on both the expectant mother and fetus. Thus, this study evaluates mothers' knowledge about anemia during pregnancy.

1-4- Research questions

- 1) What is the level of knowledge and attitude towards anemia during pregnancy among those included in the study?
- 2) What is the relationship between knowledge, attitudes and personal data of the studied mothers?

1-5- Research aims

Assessment of mothers' knowledge about anemia during pregnancy in AI- Hila
research aims :

- 1) Assessment of mothers' knowledge about anemia during pregnancy in the city of Hilla 2- Knowing the relationship between mothers' knowledge of anemia during pregnancy with their demographic characteristics (such as age, educational level...) city .
- 2) Knowing the relationship between mothers' knowledge of anemia during pregnancy with their demographic characteristics (such as age, educational level...).

Chapter two

Methodology

This chapter demonstrates the research design and mother's knowledge about anemia during pregnancy in AL-Hilaa city .This part also includes the administrative arrangements, sitting of the study, study sample, data collection, the validity of the tool and pilot study.

2-1- Study Design

We conducted a descriptive study. All data were collected using an Arabic questionnaire designed by the authors and assistant supervisor Teachers. To assess the mothers' knowledge about anemia during pregnancy in the city of al-Hila.

2-2- Administrative arrangements

Official permissions were obtained from the relevant authorities before collecting study data as approval from the College of Nursing, University of Babylon, and official permissions were obtained from health centers to collect samples from mothers.

2-3- Sample & setting of the study

The data were collected through the utilization of the constructed Questionnaire ,and by means of structured interview technique with the women who were individually interviewed in the primary healthcare centers ,by using the Arabic version of the questionnaire, and they were Interviewed in a similar way ,by the same questionnaire for all those Women who were included in the study sample .The number of samples is 50 samples .The data collection process Has been performed during the first semester (14 December to 29 December) of the 2022/2023. Each Woman spends approximately (10-15) minutes to complete

the interview. Research study period during (15 October to 1 April) of the 2022/2023.

2-4- Sampling

probably simple random sampling

2-5- Instrumentation of the Study

Study instrument is constructed through review of Literature as a tool of data collection which includes the following :

- 1) This contains demographical data which includes (age, Income occupation, source) .
- 2) Part 1: The knowledge of mothers about anemia during pregnancy
Part 2: additional beliefs of mothers.

2-6- Statistical Analysis

Data were analyzed using the Statistical Package for Social Sciences (SPSS) version 26, through the application of descriptive statistical data Analysis including frequencies and percentages, arithmetic mean with standard Deviation, mean of score (MS) with their standard deviation (SD), inferential statistics.

2-7- The Stability Test of The Research Tool

In order to ensure the validity and accuracy of the questionnaire to measure the research variables, the questionnaire was subjected to multiple tests, as follows:

1) The stability and validity of the questionnaire:

the validity of the questionnaire means that it represents the well-studied community, that is, the answers that we get from the questionnaire

questions give us the information that was developed for it and due to the multiplicity of measures that were used in the prepared questionnaire, so it was necessary to conduct a measure of validity and reliability, which is It is necessary to build and test the scale before starting to extract and analyze the results, and it was relied on (Cronbach's Alpha) coefficient scale for internal consistency: Cronbach's alpha is used to calculate the reliability coefficients for survey tools that use response groups of the type of Likert scale, whether it is three or five. etc., Cronbach's alpha ranges from zero to one with higher values indicating that the items measure the same dimension. In contrast, if Cronbach's alpha is low (near 0), it means that some or all of the elements do not scale to the same dimension. It is possible that there will be negative numbers as well, as the negative number indicates that there is an error in the data. The acceptable values of Cronbach's alpha are 0.50 and above, if the resolution prepared for the current study reaches (0.61%). See Table No. (2-1)

Table No. (2-1) The validity of the questionnaire	
Cronbach's Alpha	0,71

And by taking the root of the stability coefficient, we get the honesty coefficient of (0.84), and so we say that the questionnaire is honest, that is, it represents the studied society in a very good way.

2) Data analysis methods

In order to measure and test the variables of the research hypotheses, a set of statistical methods were used, represented by Excel 2016 program in drawing tables and iterations, statistical programs, and the ready-made statistical program (SPSS.V.23).

A. Percentages: It is used to determine the percentage of answers to the research variables, as it represents the result of dividing the partial value by the total value multiplied by (100).

B. Cronbach-alpha scale: It is a scale or indicator used to measure the stability and consistency of the questionnaire items, to ensure the stability of the sample's answers.

C. Mean: The arithmetic mean is used to determine the level of response to the variables or dimensions researched in the questionnaire paragraphs, as well as knowing the level of the variables.

D. Standard Deviation: to measure the degree of dispersion or harmony in the answers of the sample.

3) Describe the characteristics of the research sample

This axis seeks to clarify the most important characteristics of the members of the research sample, which were distributed to mothers in health centers through the information included in the questionnaire that was distributed to them, and the following is a brief description of the members of the research sample.

Table (2-2) description of the questionnaires			
sample	The number of distributed forms	The number of received forms	Payback%
mothers in health centers	50	50	100%

Chapter three

The Study Results

3-1- The Study Results

Table 3-1: Distribution related to demographical characteristics

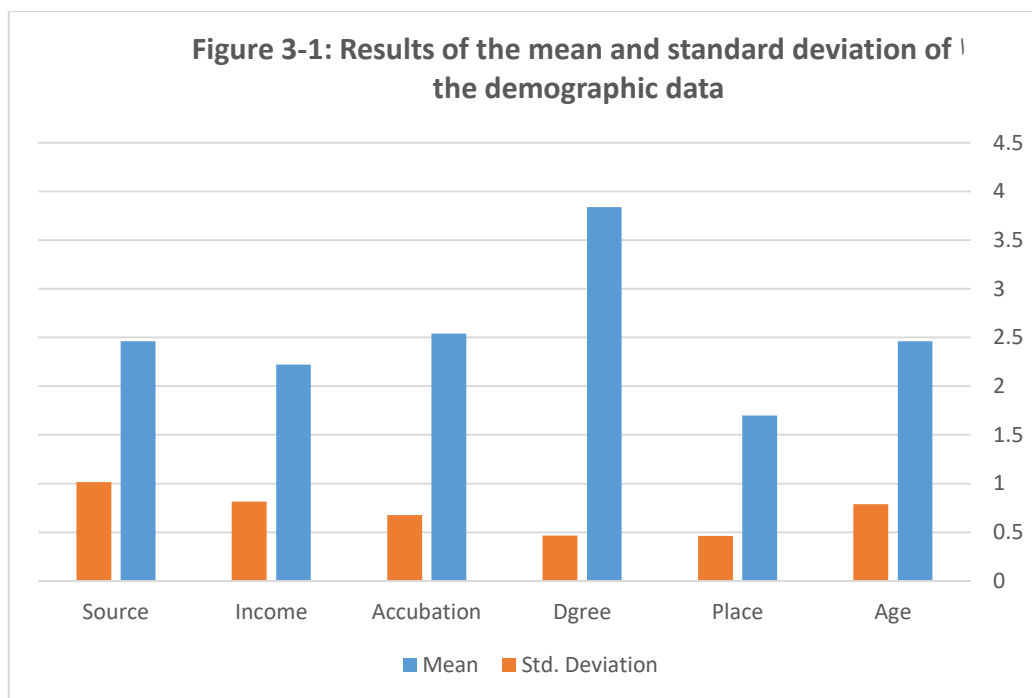
Variables		Frequency	Percent	Mean	Std. Deviation
Age	20>	2	%4	2.46	0.78792
	21-27	30	%60		
	28-30	11	%22		
	<35	7	%14		
	Total	50	%100		
Address	rural	15	%30	1.7	0.46291
	Urban	35	%70		
	Total	50	%100		
Academic degree	Primary	2	4	3.84	0.67643
	Intermediate school	4	8%		
	Secondary school	44	88%		
	Total	50	100%		
Occupation	Unemployed	5	10%	2.54	0.67643
	student	13	26%		
	employed	32	64%		
	Total	50	100%		
Income	Sufficient	12	24%	2.22	0.81541
	Not sufficient	15	30%		
	medium	23	46%		
	Total	50	100%		
Source	The Internet	7	14%	2.46	1.01439
	health institutions	25	50%		
	family and relatives	6	12%		
	Studies	12	24%		
	Total	50	100%		

❖ This table show

- 1) The results recorded that the higher percentage in the age group (21-27) study sample 30 (60%) as for the place of residence, most of the answers were from those who live in the countryside 35 (70%). As the table shows, the high percentage is 44 (88%). Those who have completed secondary

school as for the job, most of the women were not sample female employees for the study 32 (65%) as for income, the high percentage was recorded, as the average income of the study sample was 32 (46%). It was also explained that the source of information is in women health institutions study sample 25(%) .

2) Shows the level of response of the research sample members to the variables. Through the above table, the variable (educational level) ranked first in the arithmetic mean, where the arithmetic mean was (3.84), which is a high tendency for the research sample individuals with a standard deviation of (0.46), which it indicates the presence of homogeneity and harmony in the answers of the sample, followed by work with an average of (2.54) and a deviation of (0.67).



A. part one

Table 3-2: shows the arithmetic mean and standard deviation, for (mother knowledge about anemia during pregnancy)

Variables	Mean	Std. Deviation	Eva
1. Anemia during pregnancy	2.98	0.37742	M
2. Anemia?	3.94	0.31364	H
3. Types of anemia during pregnancy?	2.24	1.43655	L
4. Factors that lead to anemia during pregnancy	3.26	0.92162	M
5. Factors that increase the risk of anemia during pregnancy	1.42	0.9278	V.L
6. Symptoms resulting from anemia during pregnancy due to iron deficiency?	3.1	1.24949	M
7. Complications of anemia during pregnancy due to iron?	2.98	1.11557	M
8. Iron rich foods?	1.76	1.46469	V.L
9. Treatment of anemia during pregnancy due to iron deficiency	1.26	0.82833	V.L
10. What is the relationship of vitamin C to anemia during pregnancy	2.42	1.2304	L
11. Foods that help to absorb iron	3.28	0.75701	H
12. Symptoms resulting from anemia during pregnancy due to vitamin B12 deficiency	3.02	0.86873	H
13. Complications of anemia during pregnancy due to vitamin B12 deficiency	2.44	1.16339	M
14. Rich foods with vitamin B12	2.4	1.10657	L
15. Symptoms resulting from anemia during pregnancy due to folic acid deficiency	2.88	0.77301	M
16. Complications of anemia during pregnancy due to folic acid deficiency	2.8	1.29363	M
17. Foods's rich in folic acid?	2.54	1.29694	M
18. Treatment of anemia during pregnancy due to folic acid deficiency	2.44	1.23156	L
19. You should avoid A pregnant woman with anemia	1.4	0.98974	V.L
20. Routine test for anemia during pregnancy	2.3	0.78895	L

❖ This table show

- 1) The second paragraph of the first axis indicates (anemia affects pregnant women, children, and adolescents, or affects all ages), as it ranked first, as the arithmetic mean reached (3.94), where the response of individuals to it was that it affects all ages, which is the highest rate of (96%). This was

confirmed by the standard deviation, which was estimated at (0.31), and indicates the homogeneity of the answers.

- 2) The eleventh paragraph of this axis, which states that (foods that help the absorption of iron), where their answer was (48% oranges), as the paragraph came in second place, as the arithmetic mean reached (3.28), which is a high tendency for the answers of the research sample, and this This was confirmed by the standard deviation, which was estimated at (0.75), which is a low degree of dispersion
- 3) The fourth paragraph refers to the first axis, which states (factors that lead to anemia), as it came in the third rank, as the arithmetic mean reached (3.26), which is a high tendency for the answers of the research sample, and this was confirmed by the result of the standard deviation, which was estimated at (0.92) and indicates Tthehomogeneity of the answers of the sample
- 4) The nineteenth paragraph of the first axis, which states (Should a pregnant woman with anemia avoid tea, coffee, wheat grains, or pasta) and the answers of the research sample were (42 and 84% for the choice of tea and coffee) that she came in the last place with an arithmetic mean for the paragraph (1.4), which is a good tendency to single out the research sample.

Figure 3-2: Results of the mean and standard deviation for the first axis

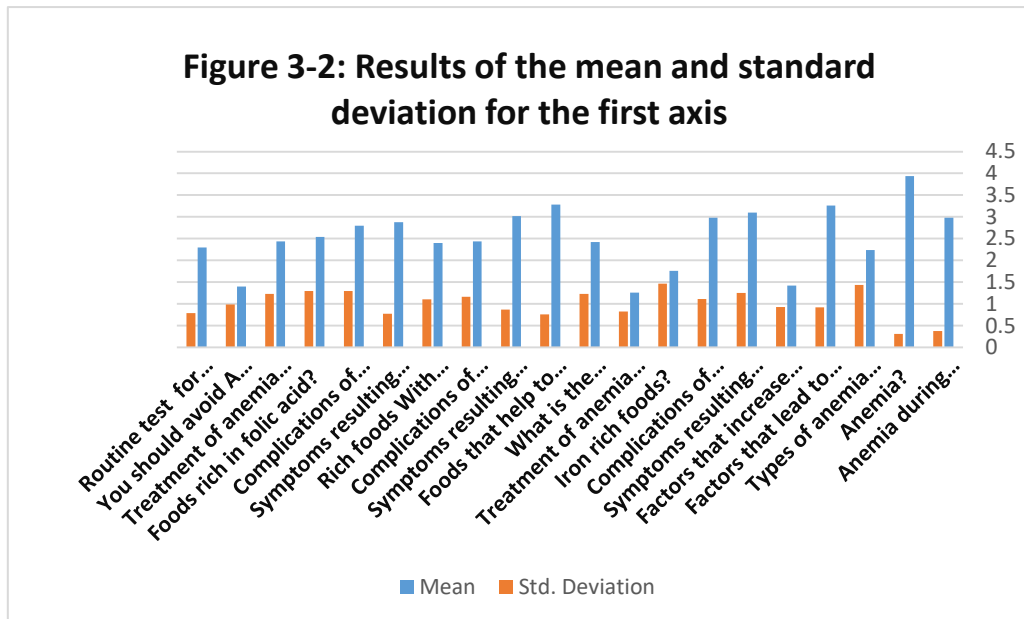


Table (3-3): The following are the frequencies and the percentage of the research sample's answers to the questionnaire prepared in below

paragraph	Answers			
Anemia during pregnancy	Hereditary disease	common disease	All of the above	
Frequency	4	43	3	
Percent	8	86	6	
Anemia?	children	adolescents	All ages	
Frequency	1	1	48	
Percent	2	2	96	
Types of anemia during pregnancy?	Due to iron deficiency	Due to vitamin B12 deficiency	Due to folic acid deficiency	All mentioned
Frequency	27	3	1	19
Percent	54	6	2	38
Factors that lead to anemia during pregnancy	Multiple pregnancy	B. The closeness of the time period between one pregnancy and another	Bleeding	All of the above
Frequency	3	7	14	26
Percent	6	14	28	52
Factors that increase the risk of anemia during pregnancy	Lack of vitamins in the nutrition system	Bowel disorder	Pregnancy with twins	All of the above
Frequency	40	3	3	4
Percent	80	6	6	8
Symptoms resulting from anemia during pregnancy due to iron deficiency?	Exhaustion	Pale skin	All of the above	
Frequency	9	9	32	
Percent	18	18	64	
Complications of anemia	premature	The birth of a	Bleeding during	All of the above

during pregnancy due to iron?	birth	baby with a low weight	pregnancy	
Frequency	6	13	7	24
Percent	12	26	14	48
Iron rich foods?	Red meat and poultry	leafy vegetables	legumes	Dried fruits
Frequency	24	22	3	1
Percent	48	44	6	2
Treatment of anemia during pregnancy due to iron deficiency	Take an iron supplement	Continue to eat citrus fruits	All of the above	
Frequency	45	1	4	
Percent	90	2	8	
What is the relationship of vitamin C to anemia during pregnancy	Helps iron absorption	. Maintains the number of red blood cells	. It is used as an alternative to iron supplements	All of the above
Frequency	17	9	10	14
Percent	34	18	20	28
Foods that help to absorb iron	tomato	pepper	orange	
Frequency	9	18	23	
Percent	18	36	46	
Symptoms resulting from anemia during pregnancy due to vitamin B12 deficiency	Dry skin	vomiting	All mentioned	
Frequency	18	13	19	
Percent	36	26	38	
Complications of anemia during pregnancy due to vitamin B12 deficiency	premature birth	Stomach acidity during pregnancy	Severe constipation during pregnancy	All mentioned
Frequency	13	16	7	14
Percent	26	32	14	28
Rich foods with vitamin B12	beef	milk	bread	. All of the above
Frequency	10	24	2	14
Percent	20	48	4	28
Symptoms resulting from anemia during pregnancy due to folic acid deficiency	Tongue infections	Heart palpitations	Anorexia	weight loss
Frequency	2	12	26	10
Percent	4	24	52	20
Complications of anemia during pregnancy due to folic acid deficiency	Increased risk of having a baby with a birth defect	Fetal death	Difficult premature labour	All of the above
Frequency	15	2	11	22
Percent	30	4	22	44
Foods's rich in folic acid?	Citrus fruits	Green leafy vegetables	cereals	All of the above
Frequency	16	10	5	19
Percent	32	20	10	38
Treatment of anemia during pregnancy due to folic acid	Taking a folic acid	Taking iron supplements in	Continue to eat foods rich in folic acid	All of the above

deficiency	supplement	addition to folic acid supplements		
Frequency	14	17	2	17
Percent	28	34	4	34
You should avoid A pregnant woman with anemia	Coffee and tea	wheat grain	All of the above	
Frequency	42	2	6	
Percent	84	4	12	
Routine test for anemia during pregnancy	Every week during pregnancy	Every month during pregnancy	When symptoms of anemia increase	only 3 times
Frequency	5	30	10	5
Percent	10	60	20	10

B. The second part:

The second part included ten paragraphs with answers (1 yes, 2 no)) and the following is a summary of the paragraphs, the average of the paragraphs and their standard deviation.

Table (3-4): shows the arithmetic mean and standard deviation, part two (additional belief of mothers)

paragraph	Mean	Std. Deviation	Eva
1. Treatment of anemia during pregnancy period due to deficiency Vitamin B12 Only in food supplements contain vitamin B12?	1.32	0.47121	M
2. Malaria cause anemia during pregnancy period?	1.56	0.50143	H
3. Blood donation causes anemia during pregnancy?	1.28	0.45356	M
4. Does anemia during pregnancy affect survival?	1.6	0.49487	H
5. Sleeping on the side during pregnancy leads to an increase in symptoms of anemia?	1.9	0.30305	H
6. Can anemia during pregnancy be treated with herbs?	1.64	0.48487	H
7. Regular sleep prevents anemia during pregnancy?	1.36	0.48487	M
8. Anemia during pregnancy cause miscarriage in the first months?	1.36	0.48487	M
9. Anemia during pregnancy leads to postpartum depression?	1.68	0.47121	H
10. Are you committed to treatment if you suffer from anemia during pregnancy?	1.02	0.14142	M

❖ This table show

- 1) The ninth paragraph of the second axis, which states (Anemia during pregnancy leads to postpartum depression), indicates that it ranked first, as the arithmetic mean was (1.68) and the result of the standard deviation was estimated at (0.47), which indicates the homogeneity of the answers.

- 2) The sixth paragraph of this axis, which states that (Can anemia during pregnancy be treated with herbs) ranked second, as the arithmetic mean reached (1.64), which is a high tendency for the answers of the research sample individuals, and this was confirmed by the result of the standard deviation, which was estimated at (0.48), which is Low degree of dispersion.
- 3) The second paragraph of the second axis, which states (malaria cause anemia during pregnancy period), as it ranked third, as the arithmetic mean reached (1.56), which is a high tendency for the answers of the research sample, and this was confirmed by the result of the standard deviation, which was estimated at (0.50) and indicates the homogeneity of the answers of the sample
- 4) The tenth paragraph of the second axis, which states (Are you committed to treatment if you suffer from anemia during pregnancy), came in last place with an arithmetic mean (1.02).

Table (3-5): The following are the frequencies and the percentage of the research sample's answers to the questionnaire prepared in below

paragraph	Answers	
Treatment of anemia during pregnancy period due to deficiency Vitamin B12 Only in food supplements contain vitamin B12?	yes	no
Frequency	34	16
Percent	68	32
Malaria cause anemia during pregnancy period?	yes	no
Frequency	22	28
Percent	44	56
Blood donation causes anemia during pregnancy?	yes	no
Frequency	36	14
Percent	72	28
Does anemia during pregnancy affect survival?	yes	no
Frequency	20	30
Percent	40	60
Sleeping on the side during pregnancy leads to an increase in symptoms of anemia?	yes	no

Frequency	5	45
Percent	10	90
Can anemia during pregnancy be treated with herbs?	yes	no
Frequency	18	32
Percent	36	64
Regular sleep prevents anemia during pregnancy?	yes	no
Frequency	32	18
Percent	64	36
Anemia during pregnancy cause miscarriage in the first months?	yes	no
Frequency	32	18
Percent	64	36
Anemia during pregnancy leads to postpartum depression?	yes	no
Frequency	16	34
Percent	32	68
Are you committed to treatment if you suffer from anemia during pregnancy?	yes	no
Frequency	49	1
Percent	98	2

3-2- Testing the correlation and influence hypotheses of the research sample:

This part focuses on testing the main correlation and influence hypotheses, which were the basis for launching this study, by finding correlations between the current variables of the study, by relying on the statistical analysis program (SPSSV.23) in order to extract correlation coefficients.

First: Testing the correlation between the variables:

To test these hypotheses, the Correlation Coefficient Pearson test was used to measure the correlation between the axes of the questionnaire prepared for this research.

Table (3-6) Determining the level of correlation			
relationship strength level	from	to	
Complete positive subtraction	—————	+1-	1
Strong positive directive	+0.60	+0.99	2
Medium positive	+0.35	+0.59	3
Weak positive subtractive	+0.1	+0.34	4
There is no link	—————	0-	5
Weak negative inverse	-0.34	-0.1	6
Medium negative inverse	-0.59	-0.35	7
Strong negative inverse	-0.99	-0.60	8
Completely negative inverse	—————	-1-	9

- 1) Null hypothesis: There is no statistically significant correlation between the axes of the study
- 2) Alternative hypothesis: There is a statistically significant correlation between the axes of the study.

Table (3-7) Determining the level of correlation between the first and second axis		
Demographic data	pointer	Pearson
mother knowledge of anemia during pregnancy	correlation coefficient	0.003
	Moral level	0.986

We note from the results shown in Table (3-7) that there is no statistical correlation between the factors of demographic data and mothers' knowledge about anemia during pregnancy in the study sample at the macro level, with a correlation coefficient of (0.003) at the level of significance (0.986), and this result confirms the validity of the null hypothesis, and thus the decision is not to reject the null hypothesis, which states (there is no statistically significant correlation between demographic data and mothers' knowledge of anemia during pregnancy).

Table (3-8): Determine the level of correlation between the first and third axis		
Demographic data	pointer	Pearson
additional belief of mothers	correlation coefficient	0.37
	Moral level	0.009

We note from the results shown in Table (3-8) that there is a statistically significant correlation between the demographic data factors and the third axis in the study sample at the macro level, with a correlation coefficient of (37%) at the level of significance (0.009), and this result confirms the invalidity The null hypothesis and thus the decision is to accept the alternative hypothesis which states (the existence of a statistically significant correlation between demographic data and other beliefs of mothers).

Table (3-9) Determining the level of correlation between the second and third axis		
mother knowledge of anemia during pregnancy	pointer	Pearson
additional belief of mothers	correlation coefficient	0.40-
	Moral level	0.783

We note from the results shown in Table (3-9) that there is no statistical correlation between the factors of the second and third axes in the study sample at the macro level, with a correlation coefficient of (-0.40%) at the level of significant significance (-0.783), and this result confirms the validity of the hypothesis Thus, the decision is not to reject the null hypothesis, which states (there is no statistically significant correlation between the second and third axis).

Chapter four
Discussion of the
Study Results

1) Age: Table (3-1) below shows that the age group (.20...years) numbered (2), i.e. (4%) of the total study sample, amounting to (50), which is the lowest percentage, followed by the highest The percentage of an age group (21-27 years), as it constituted (30) individuals, i.e. (60%), followed by the rest of the age groups according to the number and percentage, as we note that the opinions in the answers to the questionnaire are close, since the ages are at a similar level , supported by study conducted by (Yaser, A. A., 2015) recorded 81(36.8) were between 20-24 years old . Regarding to residency: Table (3-1) shows that the population of the city amounted to (15) individuals, i.e. (30%) of the total study sample amounting to (50), while the percentage of the rural population was (35), i.e. (70%) of the total population. The study sample supported by study conducted by (Yaser, A. A., 2015) recorded 134(60.9) .Regarding to educational level: Table (shows that the vast majority of the respondents are secondary school graduates, as their number reached (44) out of the total study sample, amounting to (50), i.e. (88%), which is the highest percentage, and this indicates that the majority Individuals who have sufficient ability to answer the questions of the questionnaire, which makes the answers close another study recorded by (Al-Sattam, Z.,2022) recorded 94(23.5) primary level. Regarding to Occupation: Table (6) below shows that the highest category obtained by employees was (32), i.e. (64%) of the total study sample, amounting to (50), which is the highest percentage, followed by the student's category with a percentage of (26%) with a number another study recorded by (Al-Sattam, Z.,2022) recorded (13) 324(81.0) were house wife.

Regarding to income: Table (3-1) below shows the income for all members of the research sample if the answers of a group of them on income were the average income if it reached the highest percentage (46%) with their number amounting to (23), while the second rank came the answers with insufficient income with a number of (15) percentage 30%, and the income was sufficient for a small percentage of them (12) and (24%), another study conducted by (AL Abedi, G. A.2020) In relation to the monthly income the majority were 273(71.8%) have less than (< 700000 Iraqi Dinar). Related to the source of information about anemia during pregnancy: We note from the results of Table (3-1) that the health institutions had the highest number of individuals (25) and the rate reached (50%), and the second place went to knowledge through the study by 24%, another study conducted by (AL Abedi, G. A.2020) in relation to sources of information concerning iron deficiency anemia the majority of pregnant women were 215(56.6%), they receive their information from health center / mother & child care.

- 2) The second paragraph of the first axis indicates (anemia affects pregnant women, children, and adolescents, or affects all ages), as it ranked first, as the arithmetic mean reached (3.94), where the response of individuals to it was that it affects all ages, which is the highest rate of 96%. This was confirmed by the standard deviation, which was estimated at (0.31), and indicates the homogeneity of the answers.
- 3) The eleventh paragraph of this axis, which states that (foods that help the absorption of iron), where their answer was (48% oranges), as the paragraph came in second place, as the arithmetic mean reached

(3.28), which is a high tendency for the answers of the research sample, and this This was confirmed by the standard deviation, which was estimated at (0.75), which is a low degree of dispersion.

- 4) The fourth paragraph refers to the first axis, which states (factors that lead to anemia), as it came in the third rank, as the arithmetic mean reached (3.26), which is a high tendency for the answers of the research sample, and this was confirmed by the result of the standard deviation, which was estimated at (0.92) and indicates the homogeneity of the answers of the sample.
- 5) The nineteenth paragraph of the first axis, which states (Should a pregnant woman with anemia avoid tea, coffee, wheat grains, or pasta) and the answers of the research sample were (42 and 84% for the choice of tea and coffee) that she came in the last place with an arithmetic mean for the paragraph (1.4), which is a good tendency to single out the research sample, Differently, Thabit in a study done in 2017, found that overall percent score for the main domains was good 71% for etiology of disease, excellent 91% for signs and symptoms of anemia, good 75% for complications of anemia, and also 75% regarding ways of prevention and treatment (**Thabit MF,2017**). The current finding is different from a study conducted among pregnant women by Sing et al. in 2014 (in which 406 persons were enrolled), which revealed that 56% of the women had insufficient knowledge of anemia (**Ratanasiri T, 2014**) Furthermore, Jiji and Rajagopal study in 2014 (including 50 women, included 30 pregnant women and 20 non-pregnant women as control group), which assesses the knowledge and risk factors of anemia among pregnant women in Libya revealed that all of the women had moderate knowledge about anemia.

knowledge questions in our study, most of the participants believe that anemia does affect pregnancy outcome, also most of them believe that decreased iron intake in diet causes anemia. The highest percentage of participants believe that iron supplement should be stopped without doctor's consultation if you experienced side effects such as nausea, while more than half of them believe that pregnant women should not take iron supplement if she is on healthy diet. In comparison to other studies, Senior and Najeeb in a study conducted on 100 Iraqi women in 2019, reported that the level of knowledge of pregnant women about anemia was poor about signs and symptoms in addition, Thabit, 2017's study (which included 200 mothers who attended selected PHCCs in Baghdad) reported that mothers' knowledge responses regarding the etiology of anemia were 75%, 64%, and 60.5% correct regarding insufficient iron-rich foods intake, frequent pregnancies and deliveries, and short birth spacing. While the lowest proportion of the right replies is 25%, 29.5%, and 41.55% for warm symptoms, some chronic conditions, and vegetarian diet, respectively (Thabit MF.2017).

- 6) regarding to correlation the results shown in Table (3-8) that there is a statistically significant correlation between the demographic data factors and the third axis in the study sample at the macro level, with a correlation coefficient of (37%) at the level of significance (0.009), and this result confirms the invalidity The null hypothesis and thus the decision is to accept the alternative hypothesis which states (the existence of a statistically significant correlation between demographic data and other beliefs of mothers). The results of the study indicate that there is significant association between the ANC services with maternal health history of pregnant women's their gravida, duration of pregnancy, health education, health provider and visits. While there is a non-significant relationship between the ANC

services and their maternal health history abortion and complication
(Ghaffar, A.;2012).

chapter five

Conclusions &

Recommendations

5-1- Conclusions:

According to findings and discussion of the study findings, it can be concluded that:

- 1) We noticed through statistical analysis that anemia affects all ages.
- 2) We also noticed that most of the answers were that oranges are foods that help iron absorption
- 3) Among the most important (factors that lead to anemia are frequent pregnancies, the close period of time between one pregnancy and another, and bleeding)
- 4) Most of the answers advised that anemic pregnant women should avoid tea and coffee
- 5) Through the results, we note that 68% of the incidence of anemia during pregnancy does not lead to depression after childbirth. Anemia can also be treated through herbs as well as vitamins designated for it.
- 6) Also, most of the answers were that malaria causes anemia
- 7) 98% of women adhere to treatment if they suffer from anemia during pregnancy, and this is a good percentage to know the extent of women's awareness of the risks of diseases during this period
- 8) 72% of the respondents said that blood donation causes anemia during pregnancy, and doctors are also prohibited from donating blood to pregnant women

5-2- Recommendations

- 1) Education should include antenatal care that focuses on intake of iron rich foods, on the importance of early booking when the woman becomes pregnant, iron supplementation
- 2) Increase awareness of pregnant women about anemia prevention through mass media .
- 3) Further investigation on anemic pregnant women to identify the etiology whenever it is possible
- 4) Counseling and health education are important for pregnant women with anemia, to improve their knowledge and awareness of how to maintain a healthy lifestyle during pregnancy .
- 5) Encourage pregnant women to take folic acid on a daily basis from imitating of pregnant for three months .
- 6) 6.Further researches concerning iron deficiency anemia should be conducted.

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Appendix

Appendix

مكان العمل	التخصص	اللقب العلمي	اسم الخبير	ت
جامعة بابل/ كلية التمريض	تمريض الصحة النفسية والصحة العقلية	مدرس	د. أمير صلاح الدين عبد الرزاق	١
جامعة بابل / كلية التمريض	تمريض الأم والتوليد	مدرس مساعد	زينب عبد الأمير عبد الرسول	٢
جامعة بابل/ كلية التمريض	تمريض الصحة النفسية والصحة العقلية	دكتور	علي أحمد كاظم الحطاب	٣
جامعة بابل/ كلية التمريض	تمريض الأم والتوليد	مدرس	مريم عبد الكريم	٤
جامعة بابل/ كلية التمريض	تمريض الأطفال	مدرس مساعد	مها أحمد كاظم	٥

Assessment of mothers' knowledge about anemia during pregnancy in the city of Hilla

The first// Demographic and general information:

1) Age : ←-----20 21-27 28-30 35-----→

2) address: rural Urban

3) Academic degree:

Illiterate Primary Intermediate school
 Secondary school Other studies

4) Job: unemployed student employed

5) Income: Sufficient Not sufficient

6) The source of your information about anemia during pregnancy?

The Internet health institutions family and relatives Studies

Second// Mothers' knowledge about anemia during pregnancy:

Part One//

1) Anemia during pregnancy?

- A. Chronic disease
- B. Hereditary disease
- C. common disease
- D. All of the above

2) Anemia?

- A. Pregnant women only
- B. children
- C. adolescents
- D. All ages

3) Types of anemia during pregnancy?

- A. Due to iron deficiency
- B. Due to vitamin B12 deficiency
- C. Due to folic acid deficiency

D. All mentioned

4) Factors that lead to anemia during pregnancy?

A. Multiple pregnancy

B. The closeness of the time period between one pregnancy and another

C. Bleeding

D. All of the above

5) Factors that increase the risk of anemia during pregnancy?

A. Lack of vitamins in the nutrition system

B. Bowel disorder

C. Pregnancy with twins

D. All of the above

6) Symptoms resulting from anemia during pregnancy due to iron deficiency?

A. Exhaustion

B. Pale skin

C. Nail Frailty

D. All of the above

7) Complications of anemia during pregnancy due to iron?

A. premature birth

B. The birth of a baby with a lightweight

C. Bleeding during pregnancy

D. All of the above

8) Iron rich foods?

A. Red meat and poultry

B. leafy vegetables

C. legumes

D. dried fruits

9) Treatment of anemia during pregnancy due to iron deficiency?

A. Take an iron supplement

- B. Continue to eat citrus fruits
- C. Taking an antacid only
- D. All of the above

10) What is the relationship of vitamin C to anemia during pregnancy?

- A. Helps iron absorption
- B. Maintains the number of red blood cells
- C. It is used as an alternative to iron supplements
- D. All of the above

11) Foods that help to absorb iron ?

- A. strawberry
- B. tomato
- C. pepper
- D. orange

12) Symptoms resulting from anemia during pregnancy due to vitamin B12 deficiency?

- A. Hypoesthesia
- B. Dry skin
- C. vomiting
- D. All mentioned

13) Complications of anemia during pregnancy due to vitamin B12 deficiency?

- A. premature birth
- B. Stomach acidity during pregnancy
- C. Severe constipation during pregnancy
- D. All mentioned

14) Rich foods With vitamin B12?

- A. beef
- B. milk
- C. bread
- D. All of the above

15) Symptoms resulting from anemia during pregnancy due to folic acid deficiency?

- A. Tongue infections
- B. Heart palpitations
- C. Anorexia
- D. weight loss

16) Complications of anemia during pregnancy due to folic acid deficiency?

- A. Increased risk of having a baby with a birth defect
- B. Fetal death
- C. Difficult premature labour
- D. All of the above

17) Foods rich in folic acid?

- A. Citrus fruits
- B. Green leafy vegetables
- C. cereals
- D. All of the above

18) Treatment of anemia during pregnancy due to folic acid deficiency?

- A. Taking a folic acid supplement
- B. Taking iron supplements in addition to folic acid supplements
- C. Continue to eat foods rich in folic acid
- D. All of the above

19) You should avoid A pregnant woman with anemia?

- A. Coffee and tea
- B. wheat grain
- C. Pasta
- D. All of the above

20) Routine test for anemia during pregnancy?

- A. Every week during pregnancy
- B. Every month during pregnancy
- C. When symptoms of anemia increase
- D. only 3 times

part two : additional belief of mothers

1	Question	Yes	No
2	Treatment of anemia during pregnancy period due to deficiency Vitamin B12 Only in food supplements contain vitamin B12?		
3	Malaria cause anemia during pregnancy period?		
4	Blood donation causes anemia during pregnancy?		
5	Does anemia during pregnancy affect survival?		
6	Sleeping on the side during pregnancy leads to an increase in symptoms of anemia?		
7	Can anemia during pregnancy be treated with herbs?		
8	Regular sleep prevents anemia during pregnancy?		
9	Anemia during pregnancy cause miscarriage in the first months?		
10	Anemia during pregnancy leads to postpartum depression?		
11	Are you committed to treatment if you suffer from anemia during pregnancy?		

خلاصة

الخلفية يعد فقر الدم من أكثر المضاعفات المرتبطة بالحمل شيوعًا. التغيرات الفسيولوجية الطبيعية أثناء الحمل تؤثر على الهيموجلوبين (Hb) ، وهناك انخفاض نسبي أو مطلق في تركيز الهيموغلوبين. أكثر فقر الدم الحقيقي الشائع أثناء الحمل هو فقر الدم الناجم عن نقص الحديد (تقريبًا ٧٥٪) وفقر الدم الضخم الأرومات الناجم عن نقص حمض الفوليك ، وهما أكثر شيوعًا في النساء اللواتي لديهن نظام غذائي غير كاف ولا يتلقين قبل الولادة مكملات الحديد والفولات. فقر الدم الشديد قد يكون له آثار سلبية على الأم والجنين ، يرتبط فقر الدم بمستويات الهيموجلوبين الأقل من ٦ جم / ديسيلتر مع نتائج الحمل السيئة. الخدج ، الإجهاض التلقائي ، انخفاض الوزن عند الولادة ووفيات الأجنة هي مضاعفات فقر الدم الحاد لدى الأمهات. ومع ذلك ، لا يبدو أن نقص الحديد الخفيف إلى المعتدل يسبب ارتفاعًا ملحوظًا التأثير على تركيز الهيموجلوبين الجنيني. مستوى Hb 11 gr / dl في أواخر الثلث الأول وكذلك ١٠ غرام / ديسيلتر في الثلث الثاني والثالث من الحمل اقترح كحدود منخفضة لتركيز الهيموغلوبين. في حالة نقص الحديد يجب إعطاء المكملات والمتابعة موصحة لتشخيص الحديد غير المستجيب فقر الدم

منهجية البحث: تم إجراء تصميم وصفي لتقييم معرفة المرأة في مركز الرعاية الصحية الأولية، من الفترة (14 ديسمبر إلى 29 ديسمبر 2022-2023م).

الكلمات الرئيسية: فقر الدم، المعرفة، الأمهات، الحمل.



جمهورية العراق

وزارة التعليم العالي والبحث العلمي

جامعة بابل / كلية التمريض

تقييم معرفة الأمهات حول فقر الدم أثناء الحمل

في مدينة الحلة

مشروع تخرج مقدم الى كلية التمريض جامعة بابل ضمن
متطلبات الحصول على درجة البكالوريوس في التمريض

بواسطة

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بإشراف الدكتور

أ.د. ناجي ياسر المياحي

١٤٤٤ هـ - ٢٠٢٣ م