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Assessment of anemia among pregnant women at Al-Zahraa teaching hospital

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Abstract

Objectives: To assess anemia among pregnant women, and to find out the relationship between pregnant women anemia and their sociodemographic data.

Methodology: A descriptive study was carried out through the present study in order to achieve the early stated objectives. The study was began from May, 2021 to December, 2021.

Results: The finding of this study reveals that most of the pregnant women had anemia with type of iron deficiency in second trimester were live in rural areas and did not receive adequate education. Also our study show that there was relationship between anemia and demographic data such as education, socioeconomic status.

Conclusion: The present study show that most of pregnant women had anemia with the type of Iron Deficiency Anemia, also they had low educational level and insufficient socioeconomic status and they were live in rural area. Most of pregnant women were in second stage. The present study revealed that there was a relationship between anemia with, gestational age, educational level and socioeconomic status and residency.

Recommendations: It is important for pregnant women to eat foods that contain iron and adhere to a balanced diet and take iron supplements during pregnancy and also during breastfeeding.

Keywords: Assessment, anemia, pregnancy

Introduction

Anemia is one of the most prevalent medical conditions seen during pregnancy and is still a global health issue that affects both industrialized and developing nations^[1]. Pregnancy anemia is a significant public health issue, particularly in underdeveloped nations. 41.8% of pregnant women throughout the world are affected.

Pregnant women's anemia has detrimental effects on their children's health, development of society, and economy. Pregnant women who are anemic, especially those who are very anemic, run the risk of being inactive and having higher rates of maternal morbidity and death^[2].

Anemia in Pregnancy is regarded as a serious public health issue. It plays a crucial part in the lives and death of expectant mothers and their unborn infants, particularly in poor nations. The prevalence of anemia among pregnant women in Iraq is estimated to be close to 38% by the World Bank Group (WBG) and close to 31% by the World Health Organization (WHO)^[3]. A person has anemia when their hemoglobin level is lower than normal for their age, sex, and surroundings. As a result, their blood's ability to carry oxygen is impaired^[1]. The WHO recommends 11g/dl as the lower limit of the normal range concentration during pregnancy. Therefore, anemia should be diagnosed if a pregnant woman's hemoglobin level falls below 11 gm. After abortion, hemorrhage and hypertension, anemia is listed as the fourth most prevalent cause of maternal death^[4].

In developing nations, deprived populations frequently have low socioeconomic position, excessive parity, inadequate spacing, inadequate nutrition and a high prevalence of infectious illnesses. Furthermore, that demographic typically has limited access to medical treatment and preventative measures, which raises their risk of anemia and the consequences that might result from it. Iron, folic acid, vitamin A, and vitamin B12 deficiencies, parasite infestations, including malaria and hookworms, or chronic illnesses like TB and HIV are the primary causes of anemia during pregnancy in these nations. About 40 to 89% of women's anemias are caused by iron deficiency^[3, 2, 6].

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Iron deficiency is considered as the main etiology for anemia that occur usually due to deficiencies of nutrition and/or iron (Fe) store as a result of previously gestation or previously intensive menstrual bloody losses. It showed that physiological requirement to Fe during gestation can elevate 3 times more than of non-pregnant menstruating women and this need to Fe elevates as gestation advanced [5].

Statement of problem

Assessment of anemia among pregnant women at Al-Zahraa Teaching hospital.

Objectives of the study

1. To assess anemia among pregnant woman.
2. To find out relationship between anemia and sociodemographic data.

Study design: A descriptive study was carried out through the present study in order to achieve the early stated objectives. The study was began from May, 20, 2021 to December, 12, 2021.

Study Setting: The study was conducted in Al-Najaf City/Al-Najaf Al-Ashraf Health Directorate at Al-Zahraa teaching hospital.

Study sample: The study was conducted on 50 pregnant women who suffer from anemia after excluding those who declined to participate. Data were collected by face-to-face interviews.

The study instrument

An assessment tool used to assess anemia among pregnant women whom they have signs and symptoms of anemia. Complete information's were arranged in special questionnaire involve age, residency, educational level, socioeconomic status, occupation, gestational age, and chronic diseases were obtained by direct asking women. Concentration of hemoglobin (gm/dl) was obtained from case sheets & patient report files. A hemoglobin value of less than 11.0 g/dL was considered anemia

Data collection

The data was collected on structured performa designed especially for this study and using a structured interview approach with participants who were individually questioned in a same way, in the same area, using the same questionnaire for all people included in the study sample.

Validity of the instrument

A content validity of the study instrument is conducted through a group of experts who have more than ten years of experience in nursing field.

Statistical analysis

Data are analyzed through the use of SPSS (Statistical Package for Social Science) version (19) application. In this study used descriptive and inferential statistical approach to analyze and assess the results of the study.

Results

Table 1: Statistical distribution of pregnant women by their Socio-Demographic Data

Items	Sub-groups	Study group Total = 50	
		Frequency	Percentage
Age	≤ 18	9	18.0
	19-25	18	36.0
	26-30	11	22.0
	31-35	8	16.0
	≥ 36	4	8.0
Level of education	Illiterate	9	18.0
	Primary School	23	46.0
	Secondary School	8	16.0
	College	10	20.0
occupation	Public Sector	4	8.0
	Private Sector	4	8.0
	Housewife	34	68
	Student	8	16.0
Residence	Rural	36	72.0
	Urban	14	28.0
Socio economic states	Sufficient	3	6.0
	Somewhat Sufficient	13	26.0
	Insufficient	34	68.0

Table (1) shows statistical distribution of pregnant women by their socio-demographic data, it explains that the majority of the pregnant women are graduated from primary

school (46%), those who have insufficient economic level (68%); those who live in rural areas (72%), those who are housewives (68%) and those who are not employed (84%).

Table 2: Statistical distribution of pregnant by their clinical data

Items	Sub-groups	Study group Total = 50	
		Frequency	Percentage
Trimester	First	10	20.0
	Second	25	50.0
	Third	15	30.0
Cardiovascular Disease	Yes	2	4.0
	No	48	96.0
Diabetes Mellitus	Yes	8	16.0
	No	42	84.0
Renal Disease	Yes	6	12.0
	No	44	88.0
Other diseases	Yes	11	22.0
	No	39	78.0
Anemia	Yes	39	78.0
	No	11	22.0
Types of Anemia	None	11	22.0
	Iron Deficiency Anemia	32	64.0
	Folic Acid Deficiency	3	6.0
	Vitamin B Deficiency	4	8.0
Other Diseases	None	39	78.0
	Kidney Stone	1	2.0
	Bronchi Allergy	2	4.0
	Aortic valve prolapse	1	2.0
	Urinary Tract Infection	1	2.0
	Peptic Ulcer	1	2.0
	Hypertension	5	10.0

Table (2) shows statistical distribution of pregnant women by their clinical data, it explains that the majority of the pregnant women were in the second trimester, those who have no cardiovascular disease (96%), no renal diseases (88%), no diabetes mellitus (84%), those who have iron deficiency anemia (64%); those with no other diseases (78%).

Table 3: Descriptive statistics of hemoglobin level in the studied subjects

Marker	Mean	SD	Range (Min-Max)
Hb (mg\dl)	7.92	1.76	5-12

Table (3) shows descriptive statistics of hemoglobin level in the studied subjects, it explains the mean is (7.92 mg\dl).

Table 4: Differences in hemoglobin levels according to the socio-demographic data of the pregnant women

Items	Sub-groups	Mean	SD	F test P Value
Level of education	Illiterate	7.22	1.64	16.02 0.001
	Primary School	8.25	1.83	
	Intermediate School	8.64	1.29	
	Preparatory School	8.08	2.23	
	College	7.30	1.49	
Employment	Yes	7.38	1.92	0.91
	No	8.02	1.73	0.34
Job	Public Sector	7.00	1.83	0.3 0.58
	Private Sector	7.75	2.22	
	Housewife	8.02	1.73	
	Student	7.38	1.92	
Residence	Urban	8.14	2.03	0.3
	Rural	7.83	1.66	0.05
Economic Status	Sufficient	8.09	1.69	3.02 0.05
	Somewhat Sufficient	7.62	2.10	
	Insufficient	7.33	0.58	

Table (4) explains differences in hemoglobin levels according to the socio-demographic data of the pregnant women, it explains that there is a significant difference

($p < 0.05$) in hemoglobin level of pregnant women classified according to their demographic data such as economic status, residence and level of education.

Table 5: Differences in hemoglobin levels according to the clinical data of the pregnant women

Items	Sub-groups	Mean	SD	F test P value
Trimester	First	8.9	0.69	4.21 0.05
	Second	7.62	2.10	
	Third	7.12	0.58	
Cardiovascular Disease	Yes	8.50	0.71	0.22 0.63
	No	7.90	1.79	
Diabetes Mellitus	Yes	7.75	1.98	0.08 0.76
	No	7.95	1.74	
Renal Disease	Yes	8.67	1.86	1.32 0.27
	No	7.82	1.74	
Other diseases	Yes	8.64	1.86	1.42 0.24
	No	7.72	1.70	
Anemia	Yes	7.18	1.12	58.66 0.000
	No	10.55	0.82	
Types of Anemia	None	10.55	1.53	17.02 0.000
	Iron Deficiency Anemia	7.22	1.18	
	Folic Acid Deficiency	7.00	1.41	
	Vitamin B Deficiency	7.25	0.50	
Other Diseases	None	7.72	1.70	3.02 0.06
	Kidney Stone	11.00	.	
	Bronchi Allergy	6.50	0.71	
	Aortic valve prolapse	12.00	.	
	Urinary Tract Infection	8.00	.	
	Peptic Ulcer	8.00	.	
	Hypertension	8.60	1.34	

Table (5) explains differences in hemoglobin levels according to the clinical data of the pregnant women, it explains that there is a significant relationship at ($p < 0.05$) in hemoglobin level of pregnant women with the first trimester as compared to second and third trimester and type of anemia.

Discussion

Anemia is a common condition that affects many people. It is of particular interest to pregnant women because it has an impact on the pregnancy outcome. The present study show that the majority of pregnant women who were in the age range of (19-25) years that supported by (Jufar and Zewde, 2014) in their study that made about prevalence of anemia in Addis Ababa Ethiopia. Regards to Level of education most of the study members graduated from primary school, that similar to (Stephen *et al.*, 2018) in their study "Anemia in Pregnancy: Prevalence, Risk Factors and Adverse Perinatal Outcomes that conducted in Northern Tanzania.

Regards to occupational status, the study result indicate that high percentage of study participants were housewives this study supported by (Alene and Dohe, 2014) [7] in their study which conducted in Urban Area of Eastern Ethiopia (Prevalence of Anemia and Associated Factors among Pregnant Women in an Urban Area of Eastern Ethiopia.

Regarding the residency the present study results indicate that the majority of the study subjects were rural residents, these results are similar to other studies done by Abdul-Fatah *et al.*, 2018 [8] in their study which carried out in AL-Noaman Teaching Hospital (Iraq). Also Abdulridha, 2021 [5] in her study mentioned that most of pregnant women were live in rural area.

Regarding the Socio economic status most of pregnant women were had insufficient economic level, this result was supported by AlAbedi *et al.*, 2020 [9] who mentioned in their study that aimed To assess women's knowledge about pregnancy risks, the majority of participants does not have

enough monthly income which is due to the poor financial situation in the country or most of the women are housewives with a low educational level.

According to the clinical data of pregnant women the result showed that most of pregnant women were in the second trimester, this study similar to study carried in Azadi Teaching Hospital in Kirkuk City by (Khalaf *et al.*, 2020) [10] that show most of pregnant women were at second trimester. Also our study show that all of pregnant women did not have any serious diseases this result may be because of the majority of pregnant women were at young age.

The results of present study conducted show that most of pregnant women have anemia. Also showed that most common type of anemia among pregnant women was Iron Deficiency Anemia. This condition is similar to many studies conducted in different countries such as study done by Goswami *et al.*, 2014 [11] in India and study carried in Wasit, Iraq by Abdulridha, 2021 [5] which showed that most of pregnant women had anemia and the type was Iron Deficiency Anemia.

Regarding to the relationship between anemia with socio-demographic and clinical data. The present study show that Anemia in pregnant women have relationship with, gestational age, educational status and socioeconomic status, this result supported by many studies were made in Addis Ababa Ethiopia by Jufar and Zewde, 2014) [7] in their study that made about prevalence of anemia, Al-Shawi, 2019 [4] in his study which carried in Iraq. This result may be due to pregnant women with low education and low socioeconomic status do not know the important of eating a rich iron diet during pregnancy or they depended on a plant based food containing insufficient iron because of poverty. Meat is a good source of high quality protein, iron, zinc and of all the B-vitamins except folic acid. The explanation of relationship between anemia and gestational age may be due to increase demand of iron for fetus and placenta with progress of pregnancy.

Conclusion

The present study show that most of pregnant women had anemia with the type of Iron Deficiency Anemia, also they had low educational level and insufficient socioeconomic status and they were live in rural area. Most of pregnant women were in second stage.

The present study revealed that a relationship between anemia with, gestational age, educational level and socioeconomic status.

Recommendation

1. Eating a balanced diet rich in iron such as meat, fish, cabbage, broccoli, legumes before and during pregnancy and during breastfeeding.
2. Taking iron supplements starting from the second trimester of pregnancy.
3. Women suffering from anemia should continue to take the iron supplement for several months even after birth.
4. Educational programs about importance of good nutrition during pregnancy should be conducted especially for women who live in rural area.

Conflict of Interest

Not available

Financial Support

Not available

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