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Original Research Article

Types, Experience and Associated Factors of Anemia among Pregnant Women - 2018

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Background: **Anemia during pregnancy is a commonly encountered public health problem mainly in developing countries including Sudan. It causes serious concern besides adverse symptoms to exaggerate the problem. Moderate and severe anemia is associated with an increased maternal and fetal morbidity and mortality. This study aimed to determine types, experience and associated factors of anemia among pregnant women.** ***Methods:*** **A descriptive hospital-based study conducted at Omdurman Military Hospital among 177 anemic pregnant women admitted to antenatal wards. Data were collected by a structured interview questionnaire, and analyzed with suitable statistical methods.** ***Result:*** **Predominant age group was 20-40 years. Their educational level varies from no regular education, elementary or secondary school and university levels (33%, 42%, and 25%) respectively. Majority in the third trimester 87%.Types of anemia based on WHO criteria were moderate and severe (86% and 14%) respectively. UTI, malaria, and bleeding found among (76%, 44%, and 42%) respectively. Lack of adequate intake and bad nutritional habits found among 72% of them. More than75% multi and grand multiparous, approximately half of them experience cesarean section and 10% had preterm labor. History of previous anemia, malaria, and use of family planning methods were (41%, 36%, and 36%) respectively. There is a significant association between anemia and multiparous and low income with p-value = (0.002 and 0.009) respectively. Pregnant women have agood level of knowledge about sign and symptoms of anemia but have poor knowledge about the risk of pregnancy and prevention.** ***Conclusion:*** **Moderate and severe anemia during pregnancy significantly founded among woman with high- parity beside low income.**

Keywords: Pregnant woman, Multiparity, Moderate, Severe, Prevention.

INTRODUCTION

Pregnancy is a crucial part of a woman's life but carries greater risks and complications for mother and fetus. (Khatana & Yadav, 2017). Definition of anemia was based on serum hemoglobin (Hb) concentration below 11g/dl or packed cell volume PCV of less than 33% as stated by WHO **(**Sharma & Meenakshi Shankar, 2010). Anemia can be classified according to severity as, mild anemia HB (10.0 - 10.9 g/dl) Moderate anemia HB (7.0-9.0 g/dl) and sever HB less than (7.0-4.0 g/dl), very severe less than 4.0 g/dl respectively. **(**Goonewardene & Hamad, 2012). Pregnant women are particularly considered to be the most vulnerable group to anemia, because of the additional demands that are made during pregnancy.

The average global prevalence of anemia in pregnancy is reported to be 56% in developing countries with variation range from 35% -100% **(**Khatana & Yadav, 2017). In Sudan, the prevalence of anemia among pregnant women **is** about 53% (Ishag Adam et al., 2018). The causes of anemia in pregnancy are often multifactorial such as malaria infection, which is a leading cause of anemia in the tropics, and more profound in pregnancy. Symptoms of anemia range from fatigue, feeling tired or weak, progressive paleness of the skin, rapid heartbeat, shortness of breath, trouble concentrating and weakness to reduced cognitive performance (Brunner & Wuillemin, 2010). The prevalence of anemia is very high especially in the third trimester and have a very significant adverse impact on maternal health during pregnancy and fetal outcome **(**Rizwan et al., 2010). Iron-deficiency anemia has been found to increase the likelihood of pre-term labor, abnormally low birth weight, and maternal mortality when severe (Klebanoff et al, 1991).

Risk factors contribute to anemia in pregnancy including iron deficiency which is considered the main cause of anemia. Besides lack of intake, education, income, grand multipara, multiple pregnancies, lack of spacing, malaria, urinary tract infection, worm ingestion and bleeding (Levy et al.,2005). Anemia remains a major contributing factor to maternal morbidity, and it is also associated with high perinatal mortality rates. (Salwa Mahmoud Bardisi, 2015).A study about the effect of high-parity on occurrence of anemia in pregnancy showed

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that high parity of more or equal to 5 accounts for 48.7% of total pregnancy. High parity pregnancies havehigher risk of anemia compared to those had fewer pregnancy (risk ratio= 2.92; 95cl 2.02, 4.59) (Yahya et al., 2011). Other study revealed that, moderate anemia found among most pregnant women, 83% of them multiparous their age 26-32 years with gestational age 35-41 weeks. Moderate to severe anemia found after gestational age 20-41weeks was 42%,and 17% of women had severe anemia, majority were primigravidas 18-25 years presented in the late third trimester (Nazia Hashim et al., 2014).

A study in Turkey revealed that anemia was higher in women with high parity (Ebru Celik kavak & Salih Burcin Kavak, 2017). Another study in Ethiopia revealed that 26.7% of women had moderate anemia, 28.9% had mild anemia, and 1.2% had severe anemia but, 80.7% of them multiparas 2or more. Pregnant mothers in the second and third trimester were more affected with anemia than of the first trimester. A pregnant woman who had 3-5 pregnancies were two times more likely to be anemic compared to women with less than three pregnancies (Kefyalew Addis Alene & Abdulahi Mohamed Dohe, 2014). Physiological change of pregnancy makes early detection of anemia during pregnancy (Sifakis & Pharmakides, 2006). This study aims: To determine experience and types of anemia during pregnancy and its associated factors from July to September 2018.

MATERIALS AND METHODS

A descriptive cross-sectional study carried out at Omdurman Military Hospital on a convenience sample of hundred seventy-seven pregnant women suffering from anemia (according to WHO criteria based on HB level) with gestational age (26 -39) were recruited for the study. Demographic information, knowledge, medical and obstetric data were collected by a structured interview questionnaire. Data were analyzed and suitable statistical methods were used.

RESULTS

Table 1: Socio-demographic characteristics of the participants (n=177)

Study variable	Frequency	Percent %
Age		
< 20	38	21
20-40	115	65
>40	24	14
Education Level		
No regular education	59	33
Elementary	26	15
Secondary	48	27
University	44	25
Income		
Sufficient	18	10
Not sufficient	159	90

Table 2: Previous obstetric and gynecological information of the participants (n=177)

Study variable	Frequency	Percent%
Abortion	83	47
Primi-gravida	17	10
Multigravida	74	42
Grand-multi	86	48
Primi para	26	14.7
Multiparas	89	50.3
Grand multiparas	45	25.6
History of c/s	86	49
History of pre-term labor	19	11
Anemia in previous pregnancy	73	41
Malaria in previous pregnancy	64	36
Uses of family planning	64	36
Space between children		
Less than 1 year	12	7
2 years and more than	86	49

Table 3: Obstetric and gynecological information of participants in current pregnancy (n=177)

Study variable	Frequency	Percent%
Single tone pregnancy	115	65
Multiple pregnancy	62	35
In second trimester	23	13
In third trimester	154	87
Antenatal follow-up	120	68
Uses of tonic during pregnancy	117	66
Eating Pica during pregnancy	104	59
Moderate anemia(7.0-9.0 g/dl)	153	86
Severe anemia (6.0 g/dl)	24	14
Women with sickle cell anemia	9	5
UTI	134	76
Malaria	77	44
worms	24	14
bleeding	75	42
Treatment of anemia		
Iron tabs	57	32
Iron injection	98	55
Blood transfusion	73	41
Patterns of nutrition during pregnancy		
Receive nutrition contain iron	143	81
Receive adequate nutrition	53	30
Bad nutritional habits	128	72

Table 4: Knowledge of the participants about Anemia (n=177)

Study variable	Frequency	Percent %
Knowledge of women about anemia		
Definition & sign and symptom	156	88
Pregnancy is risk for anemia known by	84	48
Prevention of anemia known by	104	58
Average		**64.7**

DISCUSSION

Although many control programs of anemia have been implemented for many years, the magnitude of the problem remains, even after folic acid and iron supplements. Regarding income,90% of participants have no sufficient income, which have significant statistical relation with anemia (P=.009). This is supported by the study that illustrates that anemia is common in low-income country. (Zubina Adnanet al., 2018). In this study, majority of women had moderate anemia and premature birth was experience by10.7%, and history of perinatal mortality found among 21.5%of them, this support by thestudy that found preterm delivery more common among women with moderate and severe anemia and perinatal morbidity of 6.5 % (Juvvadi Srilatha, 2017).

In this study all women presented with anemia and more common in their third trimester. But this disagrees with the study that stated, pregnant mother in second and third trimester were more affected with anemia than of the first trimester (Kefyalew Addis Alene & Abdulahi Mohamed Dohe, 2014). Regarding multiparty in this study half, 50% of participants were multiparas which have significant relations between it and anemia with (P =.002). This result is similar to a study that considers multiparit to be a factor responsible for the severity of anemia during pregnancy (Nazia Hashim, 2014). And consistent with a study that revealswoman who had 3-5 pregnancies were two times more likely to be anemic compared to women with less than three pregnancies (Kefyalew Addis Alene & Abdulahi Mohamed Dohe, 2014). Also similar with study that reports high light parity of more or equal to 5 accounts for 48.7% of total pregnancy. High parity pregnancies have a higher risk of anemia compare to those had fewer pregnancies (Juvvadi Srilatha, 2017). Parasite mainly malaria consider one of the strong cause of anemia during pregnancy in this study 44% of women had malaria. This supported by the study that found 33% of anemic women had malaria (Fekede Weldekidan, 2018).

CONCLUSION

Moderate and severe anemia during pregnancy significantly founded among women with high parity beside history of anemia, malaria and lack of space which increase the chance of a history of adverse perinatal and maternal outcome inform of abortion, preterm labor and cesarean section.

RECOMMENDATIONS

Anemia remains a health problem requiring a more comprehensive understanding, by counseling on birth spacing and proper preconception and antenatal care.

CONFLICT OF INTEREST

There are no conflicts of interest.

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