Original Article

Different Attributing Factors of Anemia among Pregnant Women

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ABSTRACT

OBJECTIVE: To determine the different attributing factors which are contributing to increase the frequency of anemia in pregnancy.

METHODOLOGY: This descriptive observational study conducted at Obstetrics and Gynecology unit II, Liaquat University of Medical & Health Sciences Jamshoro, from July to December 2017. Consent was taken. Samples were collected from all the pregnant women with anemia presented in second and third trimester; their recent reports of Hemoglobin percentages were checked. Women with singleton pregnancies whether primigravida or multigravida and before delivery were included, patients with medical problems leading to anemia like renal, cardiac, lung diseases and hemoglobinopathies were excluded. The variables were age, parity, education, antenatal status nutritional factors such as habit of chewing chalia (betal nuts), pan, pica of mud (multani miti), vegetarian or non vegetarian, consumption of type of meat red, white meat and inquired about worm infestation.

RESULTS: A total 131 pregnant women, 57 (43.5%) were between 26 to 33 years of age group, 58 (44.3%) uneducated, 70 (53.4%) were antenatally booked. Most of 54 (41.2%) were between 36- 41 weeks of gestation and 79 (60.3%) were multigravidas. The non-vegetarian 122 (93.1%) were taking meat, in which 67 (51.1%) were taking chicken. In 72 (60.5%) of women had habit of chewing chalia, pica of mud in 16 (12.2%) and worm infestation seen in 10 (7.6%) of pregnant women.

CONCLUSION: The pregnant women should be counseled for the risk of anemia with their dietary habits of non-nutritious substances, because these factors ultimately leads to iron deficiency anemia in pregnancy.

KEY WORDS: Anemia, Pregnancy, Attributing Factors.

This article may be cited as: Parveen N, Shaikh F, Siddiqui E, Abbasi M. Different Attributing Factors of Anemia among Pregnant Women. J Liaquat Uni Med Health Sci. 2019;18(04):262-5. doi: 10.22442/jlumhs.191840639

INTRODUCTION

The target of obstetrics is healthy safe motherhood and healthy baby. This could only be possible by timely identification and treatment of causative factors. Anemia in pregnancy is most common but preventable cause of maternal and fetal morbidity or mortality[1]. Worldwide about 1.62 billion peoples are anemic among them pregnant women the most endangered population contributes 24.8 %[2,3]. According to WHO high prevalence of anemia 51% is seen in developing countries whereas about 14% in developed world[4]. In Pakistan, the prevalence of anemia among ever-married women aged 15 to 44 is reported to be 26% in urban areas and 47% in rural areas[5].

The causes of anemia in pregnancy are multi factorial and prevalence varies accordingly[6]. Nutritional deficiency of key nutrients and also parasitic infestation are considered the causes of anemia in pregnancy, among these etiological factors iron deficiency is key factor responsible in approximately 75% of cases and folate deficiency is the second common which leads megaloblastic anemia[7,8], Consequences of anemia leads to serious maternal and fetal complications[9]. It is associated with spontaneous abortion, prematurity, low birth weight, intrauterine growth retardation, fetal anemia and fetal death. Sever form of anemia in pregnancy decreases the women's iron reserve and also tolerance to bleeding, so it increases the risk of hemorrhage during and after delivery and maternal mortality as well[10,11]. Globally 50% of maternal deaths due to anemia reported from Asian countries[12].

This study was conducted to observe the different attributing factors like dietary habits of non-nutritious substances which being commonly used by the pregnant women and also worm infestation, because these could be the causative factors of anemia during pregnancy.

METHODOLOGY

This descriptive observational study conducted at Obstetrics and Gynecology unit II, Liaquat University of Medical & Health Sciences Jamshoro, from July to December 2017. The samples collected from all the pregnant women with anemia presented in their second and third trimester from the antenatal out patient Department, admitted patients in concerned ward for correction of anemia. Recent reports were

checked, Hemoglobin % of <11gm/dl considered anemia according to WHO definitions. Informed written consent was taken from all participants before enroll in the study. A pre-design questionnaire filled to collect the data. All women with singleton pregnancies whether primigravida or multigravida in their second or third trimester and before delivery were included in this study. While participants with medical problems leading to anemia like renal, cardiac, lung diseases and hemoglobinopathies were excluded from the study. The variables which observed were age, parity, educational status, their antenatal booking status and Nutritional factors such as eating habits like: chewing of chalia (betal nuts), pan, pica of mud (multani miti) and were they vegetarian or non-vegetarian and consumption of type of meat whether red or white meat like (chicken, fish) and also, they were inquired about the worm infestation among pregnant women.

RESULTS

A total 131 anemic pregnant women of study were between the ages of 18-41 years, most of them 57 (43.5 %) were in 26 to 33 years, 54 (41.2 %) were in 18-25 years of age and 20 (15.3 %) were in between 34-41 years of age. As the level of education was assessed greater number 58 (44.3%) of women were uneducated and only 03 (2.3%) had above secondary education this data is shown in Table I.

TABLE I: DEMOGRAPHIC ATTRIBUTION

Factor	Group	Number	Percentage
Age in years			
	18-25	54	(41.2 %)
	26-33	57	(43.5 %)
	34-41	20	(15.3 %)
Education			
	Uneducated	58	(44.3%)
	Primary	39	29.8%
	Secondary	31	23.7%
	above	03	02.3%

Regarding the gestational age most of 54 (41.2%) of women were in their last trimester between 36- 41 weeks and 24.4% were in 25 – 30 weeks. Larger portion 79 (60.3%) were multipara and 21(16.0%) were primigravida. The booking status was observed in which 70 (53.4%) were booked and remaining 61 (46.6%) were un-booked, these figures are illustrated in Table II.

The different factors were assessed in these anemic pregnant ladies whom 122 (93.1%) were non vegetarian consumed red and white meat but the chicken was most common type observed in 67 (51.1%) of them, while 05 (3.8%) used fish and 09 (6.9%) were vegetarian. The pica of different non nutritious substances noted like habit of chalia or betal nuts in 72(60.5%), chewing of pan in 31(23.7%) and remaining 46(38.7%) were not using it, and pica of mud (multani miti) seen in 16 (12.2%) of pregnant women. All the women were asked for worms' infestation among them 10 (7.6%) were observed with passage of worms during pregnancy, mentioned in Table III.

TABLE II: PARITY, GESTATIONAL AGE AND ANTENATAL BOOKING STATUS

Factors	Group	Number	Percentage
Parity			
0	Primipara	21	16
1-5	Multipara	93	71
6-10	Grand multi	17	13
Gestational age in weeks			
	25- 30	32	24.4
	31-35	45	34.4
	36-41	54	41.2
Booking status			
	Booked	70	53.4
	Unbooked	61	46.6

TABLE III: DIFFERENT DIETARY FACTORS ASSOCIATED WITH ANEMIA IN PREGNANCY

Factors	Group	Number	Percentage
Non vegetarian	Taking meat	122	93.1
Vegetarian	Not taking meat	09	06.9
Type of meat			
White	Chicken	67	51.1
	Fish	05	03.8
Red	Mutton / Beef	50	38.2
Chalia		79	60.3
Pan		31	23.7
Pica of Mud (Multani mitti)	Yes	16	12.2
	No	115	87.8
Worm Infestation	Yes	10	7.6
	No	121	92.4

DISCUSSION

Pregnancy is the most vulnerable period where risk of anemia 4-5 times higher than the non-pregnant women and iron deficiency anemia more common due to greater iron requirments[13]. As this research is conducted to know the different attributing factors which affects the health of women like socio demographic factors dietary habits in that use of nutritious or non-nutritious substances and worm infestation, which ultimately leading anemia during pregnancy especially the iron deficiency anemia.

In our study mostly pregnant women with anemia presented between the age group of 26- 33 years (43.5%), nearly same age groups between 20-30 years were noted in study conducted in Ethiopia, but their number of study population was more[14]. The number of uneducated population was more as compared to educated women and similar to our results Mangla M 2016[9] reported most of women were illiterate in their study from rural India.

There are some studies showing anemia appears more in first pregnancy compared to subsequent ones[9,13], in contrast our study anemia was seen more in multigravidas. Similarly the Obse N 2013[15] observed multigravida and grand multigravida (more than four children) were more anemic, and also the study from Turkey reported by Taner CE et al[1] in which same results were seen. In this study when we were listing the attributing factors, 93% of women were non vegetarian taking any type of meat and only 7% were vegetarian, in spite that these women were observed anemic but mostly chicken was the type of meat taking by them, secondly red meat and rarely fish users. On the contrary, study from India in which they observed greater numbers of pregnant women were vegetarian and they coated this reason for iron deficiency anemia in pregnancy[9].

In our study consumption of type of meat were asked in which 51% were mostly taking chicken, secondary red meat and rarely fish but the question was how frequent they were taking so less frequent use of all type of meat were noted. Study from Woldia hospital Ethopia also reported high prevalence of anemia in women of less frequent meat eaters[14].

Regarding the use of dietary substances which have no nutritious value also could be the cause of anemia in pregnancy, like habit of chewing chalia (betal nuts) and pan was observed in 60% of study population, almost similar results in which 66% addiction of chewing betel nuts were seen from same region of Pakistan[16], also very high frequency 94% of chewing betel nuts in pregnant women was reported from new Guinea[17]. Chewing of pan which contain chalia sometimes tobacco and other substances which are harmful for mother and baby. The use of mud/clay during pregnancy is not uncommon it has effects on iron absorption as we observed some portion of these anemic women had pica of mud (multani miti) it was also assessed in study from the Agha khan Pakistan[18]. The women who are dealing with clay, mud are prone to acquire worm infestation, they widely co-exist with micronutrients deficiency and results iron deficiency anemia[1].

CONCLUSION

In our study young, uneducated or less educated, un-booked multiparas and in their last trimester of pregnancy were found more anemic. And the use of non nutritious substances, like chewing of betel nuts (Chalia), pan, pica of mud and non vegetarian but mostly using chicken as type of meat were anemic the worm infestation was also observed. This reveals that our general focus would be to strengthen the antenatal clinics in primary, secondary or tertiary health care systems, to give emphasis on detailed history especially about dietary habits of non nutricious substances and importance of antenatal booking, taking of iron and folic acid supplementation and deworming of such patients, because these factors ultimately leads to iron deficiency anemia which is an preventable condition.

There should be screening programs for anemia, awareness campaigns needs to be planned and implemented with active participation of locals.

Ethical permission: Letter No. LUMHS/Chair-Person. OBGYN/041/-19, Dated: 28-06-2019.

Conflict of interest: Author of the study have no conflict of interest to declare.

Funding: No any funding source.

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