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ANEMIA IN PREGNANT WOMEN;
PREVALENCE IN IBN-E-SIENA HOSPITAL MULTAN.

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ABSTRACT… Objectives: To detect the prevalence of anemia in pregnant women in Multan in order to decrease the maternal and fetal morbidity and mortality associated with this condition. **Study designs:** A retrospective descriptive study was conducted among pregnant women attending Ibn-e-Siena Hospital. A total no. of 405 women were enrolled in this study. **Study setting:** Study was conducted at Ibn-e-Siena Hospital Multan, Gynae department. It's a teaching hospital draining Multan district and surrounding areas. **Period:** 1 year from May 2013 to June 2014. **Material Methods:** All the pregnant ladies coming to Ibn-e-Siena Hospital in Obstetrics outpatient department or through emergency and full filling the inclusion criteria were included in this study. Hemoglobin %age estimation was performed at the time of admission and the ladies were included in study as per inclusion and exclusion criteria. **Results:** A total no. of 405 pregnant women were included study. Among them 71.35% were found to be anemic and 28.65% were non anemic. **Conclusion:** Anemia is highly prevalent among pregnant ladies in Multan Region. Prompt measures should be taken at local and higher levels to prevent and treat this problem in order to reduce its associated morbidity and mortality.

Key words: Anemia during pregnancy, anemia hemoglobin, severe anemia

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INTRODUCTION

Physiological changes can lead to a state of anemia during pregnancy. Due to hormonal changes plasma volume is increased which results in fall in hemoglobin level. Hematocrit and red cell count also decreases. Serum iron and ferritin concentration also fall. Pregnancy is a state of increased iron demand which rises from 2.5mg/day in earlier weeks to 6.6mg/day in third trimester. If demand and supply balance is not met, the women will develop anemia.

Anemia is one of the most prevalence medical disorders seen during pregnancy. Nearly 30-50 percent ladies get their iron stores depleted during pregnancy.

Anemia is a medical condition defined as low hemoglobin level in blood. It is condition in which the hemoglobin content of the blood is lower than normal for a person's age, gender and environment resulting in oxygen carrying capacity of the blood being reduced.[1,2] According to World Health Organization (WHO), anemia during pregnancy is defined as the hemoglobin concentration <11 g/dl, and in case of severe anemia hemoglobin concentration is less than 7 g/dl.[3] Commonest type is iron deficiency anemia about 90% is iron deficiency anemia and 5% folic acid deficiency.

This condition is especially aggravated during pregnancy. Because the women are already anemic and their iron stores are further depleted due to consumption by the growing fetus. Prevalence is especially high in developing countries. Due to several factors anemia is very common in our part of the world. K. Kalaivani et al also stated that prevalence of anemia in South Asian countries is among the highest in the world.[4]

Different factors play an important role in development of anemia. The high prevalence in developing countries is due to low socio-economic status, lack of education, poor hygiene, eating habits and other cultural demographic factors. In

Pakistan maternal mortality is high and leading cause of death is maternal haemorrhage. Anemic women who get antepartum haemorrhage and postpartum haemorrhage are especially at risk of being compromised. These women do not compete well with the complications of pregnancy and delivery. Anemic in pregnant ladin may inturn be responsible for initiations of certain problems. Which can increase maternal and fetal morbidity and mortality.

Anemia not only affects the mother but can also adversely affect the baby. Association of anemia with adverse maternal outcome such as puerperal sepsis, ante-partum haemorrhage, post-partum haemorrhage and maternal mortality is no longer a debatable subject.[5] In addition previous studies have also found that maternal anemia is associated with conditions like ante partum haemorrhage, placenta praevia, placental abruption, preterm birth and low birth weight.[6,7] Usually women do not get regular antenatal visits. Those who come near term and are severely anemic get blood transfusion, and there is also greater need of blood transfusion in anemic women encountering hemorrhage. Blood transfusion, itself is not free of risks. According to Ehranthol & Rouse et al laboring women who are anemic they are at risk and have highest potential to encounter complications related to anemia and transfusion.[8,9] Women with normal hemoglobin level are less likely to encounter serious consequences as compared to anemic women. Adebess OY, Jansen & Al-Ziqi et al also found that the average blood loss that occurs at delivery will not affect a women with normal hemoglobin levels. But may be too hazardous for anemic women.[10,11,12]

Country	Prevalence of anaemia in pregnant women %	Maternal deaths from anaemia
Afghanistan	-	-
Bangladesh	74	2600
Bhutan	68	<100
India	87	22,000
Nepal	63	760
S. Asia Region Total		25,560

Table. Prevalence of anaemia and its contribution to maternal Mortality.

Apart from the risk to the mother, it is also responsible for increased incidence of premature births, low birth weight babies and high perinatal mortality.[13,14] Maternal morbidity rates are higher in women with Hb below 8gm/dl. They are more susceptible to infections and recovery from infections may be prolonged. Premature births are more common in women with moderate anaemia. They deliver infants with lower birth weight and perinatal mortality is higher in these babies.[15] Anemia is both direct and indirect cause of maternal death. Anaemia directly causes 20 percent of maternal deaths in India and indirectly accounts for another 20 per cent of maternal deaths.[16] Most of the studies suggest that a fall in maternal haemoglobin below 11.0 g/d1 is associated with a significant rise in perinatal mortality rate18,19,25. Severity of anemia also affects the outcome. The lower the concentration of hemoglobin the more is the chance of complications both in mother and baby. Severe anemia that is hemoglobin level below 7gm/dl can lead to life threatening situation in mother. A significant fall in birth weight due to increase in prematurity rate and intrauterine growth retardation has been reported when maternal haemoglobin levels were below 8.0 g/dl.[15,17]

Previous studies have shown that anemia has a variety of converging contributing factors including nutritional, genetic, and infectious disease factors, however iron deficiency is the cause of 75% of anemia cases.[18,19,20,21]

CAUSES

Anemia in pregnancy most commonly results from nutritional deficiency either iron or folic acid. Other types during pregnancy include anemia of chronic disease, hemoglobinopathies, hereditary spherocytosis or paroxysmal, nocturnal hemoglubinuria, drug induced, and aplastic anemia.

There are about 35 billion cases of anemia in developing countries. Common signs and symptoms of anemia in pregnancy are fatigue, lethargy reduced mental alertness Pallor, dyspnea. Related morbidities include preterm birth, intrauterine fetal retardation and post-

partum heamorrhage. Risks of infectious morbidity is also increased. Decrease iron level affect the body number of ways. According to Finch et al iron deficiency also leads to alternation is neurotransmitter activity and epithelial changes throughout the body.[22]

MATERIAL METHODS

All the pregnant ladies coming to Ibn-e-Siena Hospital in Obstetrics Outpatient department or through emergency and full filling the inclusion criteria were included in study. Pregnant women of all trimesters were included. On the other hand pregnant women receiving therapy for anemia, or with history of massive hemorrhage and recent blood transfusion chronic medical illness e.g. Thalasemia, chronic renal disease, liver cirrohsis, chronic inflammatory diseases like rheumatoid arthritis were excluded from the study.

Data collection

Women were advised hemoglobin levels and reports were obtained from the patients. Data on sociodemographic, obstetric and medical history of pregnant women were collected using structured questionnaire. Hb estimation was done at Ibn-e-Siena pathology lab. Keeping in mind the WHO criteria anemia in pregnant women defined Hb <11g/dl. And mild moderate and severe anemia as 10-10.9g/dl, 7-9.9d/dl and less than 7g/dl respectively.

RESULTS

The Study was carried for a period of 1 year from May 2013 to June 2014. The age of study subjects varied for 18 to 42 years. According to hemoglobin levels 72.99% of women were found to be anemic and 27.01% were non anemic.

Out of 405 patients. 3.2% were severely anemic, 77.7% moderately anemic, 52.09% were mildly anemic.

Hemoglobin level	(no) of patient	% age
>7	13	3.2%
7-8.9	72	17.7%
9-10.9	211	52.09%
<11	109	27.01%
Total No. of Patients (n): 405		

Pregnant ladies were further divided into groups according to age, parity and severity of anemia.

Hemoglobin level	(no) of patient	% age
>7	3	3.03%
7-8.9	14	14.14%
9-10.9	54	54.54%
<11	28	28.28%
Total No. of Primigravida (n): 99		

Hemoglobin level	(no) of patient	% age
>7	7	3.08%
7-8.9	30	13.21%
9-10.9	127	55.94%
<11	63	27.7%
Total No. of Gravida2 to Gravida4 (n): 227		

>7	3	3.7%
7-8.9	28	35.4%
9-10.9	30	37.97%
<11	18	22.78%
Total No. of Gravida5 & above (n): 79		

Among Primigravida 3.03% were found to be severely anemic, 14% moderately anemic and 54.5% mildly anemic. Regarding women in their 2nd to 4th pregnancy 3.08% were severely anemic, 13.2% moderately anemic and 55.9% mildly anemic. Among grand multiparas 3.7% were severely anemic, 35.4% moderately anemic and 37.9% mildly anemic. This study shows that most of Primigravidas and Multigravidas had mild anemia. Whereas proportion of severe and moderate anemia is higher in Grand Multiparas.

Pregnant ladies were also divided into groups according to age and severity of anemia was also category in age group.

Age	Hemoglobin level			
	Less than 7g/dl	7-8.9g/dl	9-10.9g/dl	11 and above
18-24	1	17	66	34
25-30	2	41	132	69
31 and above	2	6	23	12
Hb level According to age				

DISCUSSION

The present study demonstrates prevalence of

anemia 72.99% in pregnant women. Prevalence rate ranges from 35 to 75% in different countries of third world. In our part of the world maternal morbidity and mortality is high, and anemia is an important contributing factor. According to previous studies in (India) have reported the prevalence of anaemia to be between 33 and 100%.[23] In India, anaemia is the second most common cause of maternal deaths, accounting for 20% of total maternal deaths.[24] Pathological anaemia of pregnancy is mainly due to iron deficiency. Which inturn is due to several factors like poor economical status, chronic diseases, eating diets that are deficient in protein and iron content, low educational status of our public they do not the importance of hygiene like hand washing etc. Worm infestation is also quite common in our community. Proper antenatal care lacks in our rural areas they do not take routine iron supplementation. As a result when a already iron store deplated lady enters the state of pregnancy the gravidity of anemia is increased. As already discussed the anemic state increases the maternal and fetal morbidity and mortality which is a serious issue to look into at this time.

CONCLUSION

As a consequence of poor diet and hygience, anemia is commonly seen among our pregnant women. Adequate antenatal care should focus on screening of anemia with proper education of the women help to increase the awareness about the causes of anaemia. Health education by the midwife regarding diet and hygiene is very important.[25] For prophylaxis of anemia low cost iron and folic acid supplement should be given to them as a routine. Iron deficiency and anemia should be diagnosed before delivery. The eatilogy should be sort out and anemia should be corrected in order to reduce the maternal and fetal morbidity and mortality and sure safe motherhood in our country.

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PREVIOUS RELATED STUDY

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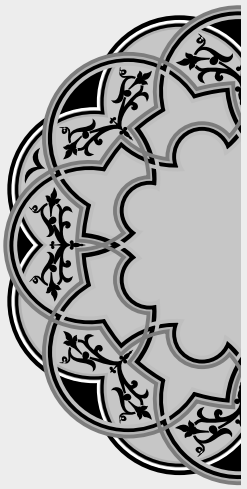

"Delay in justice is injustice."

Walter Savage Landor

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