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PREVALENCE OF ANEMIA DURING PREGNANCY

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ABSTRACT

Background: Anemia is the most common medical disorder affecting the pregnant women .In developing countries like Pakistan, it is more common as compared to developed countries .This increased prevalence is due to malnutrition, short inter pregnancy interval and multiparity. Anemia is associated with increased maternal and perinatal morbidity as well as mortality.

Objective: To determine the prevalence of anemia in women admitted in labor room of Nishtar Hospital Multan, Pakistan.

Study design: Descriptive cross sectional study.

Place and Duration of Study: This study was conducted from 01-08-2019 to 31-07-2020 in the labor room of Nishtar Hospital, a tertiary care hospital in Multan**.**

Methodology: All Pregnant women admitted in labor room regardless of duration of pregnancy were enrolled for study. Data was collected for basic demographics (Age, parity) and duration of pregnancy. Patient Hb was checked. All the information were entered on a self-designed proforma. Data was analyzed using SPSS version 24 for calculation of Frequency and percentages of qualitative data like age groups, parity, residential and socioeconomic status and severity of anemia and mean (SD) for quantitative data such as age and hemoglobin levels.

Results: During the study period, total number of patients enrolled for the study were 359.Out of 359, a total of 250 patients were found to be anemic. Anemia was defined according to WHO criteria i.e. Hb less than 11g/dl.in this study, frequency of anemia was 70.8%. Mean hemoglobin of the patients was 10.314 ± 4.213 Patients with mild anemia (10 - 10.9g/dl) were 104/359 (30.3%), moderate anemia (7 - 9.9 g/dl) 138/359 (38.3%), severe anemia (4- 6.9 g/dl) 8/359 (2.2%). There was no patient of very severe anemia (Hb less than 4 g/dl.). Mean age of women enrolled in study was 27.5 years ± 5 years. Majority, 269/359 (75.0%) were between 21-30 years .Table 2 is showing the age distribution of patients. Regarding parity, 319 (88.6%) of the patients were from para 1 to para 5 while 40 patients (11.4%) were more than para 5. Regarding socioeconomic status, 348 patients (96.7%)were from low socioeconomic status (monthly income less than 30,000 PKR) and only 11 patients (3.3 %) were from middle socioeconomic status (monthly income more than 30,000 PKR). 200 /359 (55.6%) patients were from urban areas and 159/359 (44.4%) were from rural areas.

Conclusion: Our study revealed very high prevalence of anemia in our region. Therefore anemia should be recognized as a serious public health problem. This high prevalence can be decreased by awareness programmes, improving the dietary habits and status of the women and by counselling on birth spacing and regular antenatal care.

INTRODUCTION

Anemia is a condition in which there is decrease in hemoglobin level.[1] During pregnancy anemia is defined as: Hemoglobin less than 11g/dl during first trimester, less than 10.5g/dl during the second and third trimester[2].Anemia is the most common medical affecting the woman during pregnancy[3]. Its etiology and incidence varies according to ethnicity[4]. According to WHO Global database 1995-2011, the prevalence of anemia among women of reproductive age was 29.4%[5].In developing countries, incidence of anemia can be as high as 35 to 75 % as compared to 19% only in developed countries[2].

There are many causes that can cause anemia during pregnancy.[6]These are dietary deficiency such as deficiency of iron, folic acid and vitamin B12[7].Other causes include disorders of Hemoglobin synthesis like thalassemia and sickle cell anemia and acute & chronic infections.[8]Among these causes, dietary deficiency is the most common cause of anemia during pregnancy[9].Regardless of etiology, anemia during pregnancy is associated with both adverse maternal and perinatal outcome[10].

In a retrospective report from Pakistan, the prevalence of anemia during pregnancy was 37.5%[2]. But according to our observation, anemia seems to be more prevalent in our region i.e. Multan, Pakistan. Therefore the rationale of this study was to determine the prevalence of anemia in pregnant women admitted in labor room of Nishtar Hospital Multan to see the magnitude of problem in this region.

OBJECTIVE OF STUDY

To determine the prevalence of anemia in women admitted in labor room of Nishtar Hospital Multan, Pakistan.

MATERIALS AND METHODS

Study design: Descriptive cross sectional study
Setting: Labor room of Nishtar Hospital Multan, Pakistan.
Duration of study: 1 year after approval of study from ethical review board from 01-08-2019 to 31-07-2020.
Sample size: Sample size was359 using 95% confidence interval and 5% margin of error.
Sampling Technique: Non probability consecutive sampling.
Inclusion Criteria: All Pregnant women admitted in labor room regardless of duration of pregnancy
Exclusion Criteria: Non pregnant women admitted in labor room
Women with ectopic Pregnancy
Women who do not have laboratory evidence of Hb report or does not give consent to get her Hb checked by hemocue.

DATA COLLECTION PROCEDURE

Patients (n = 359) were selected from labor room of Nishtar hospital, Multan according to the inclusion and exclusion criteria. Hospital registration numbers were taken from all patients. The detailed history was taken and patients were examined thoroughly. All patients were assessed for symptoms and signs of anemia. Data was collected for basic demographics (Age, parity, and, residential and socioeconomic status.
The blood was taken from finger prick of the pregnant woman and the hemoglobin concentration was measured by using a HemoCue .
Anemia was classified as mild if Hb is 10 to 10.9g/dl, moderate if Hb 7 to 9.9 g/dl, severe if Hb is 4 to 6.9 and very severe if Hb less than 4 g/dl. Data was noted on specially designed proforma .

Data was analyzed using SPSS version 24 for calculation of Frequency and percentages of qualitative data like age groups, parity, residential and socioeconomic status and severity of anemia and mean (SD) for quantitative data such as age and hemoglobin levels.

RESULTS

During the study period, total number of patients enrolled for the study were 359.Out of 359, a total of 250 patients were found to be anemic. Anemia was

defined according to WHO criteria i.e. Hb less than 11g/dl.in this study, frequency of anemia was 70.8%. Mean hemoglobin of the patients was 10.314 ± 4.213 Patients with mild anemia (10 - 10.9g/dl) were 104/359 (30.3%), moderate anemia (7 - 9.9 g/dl) 138/359 (38.3%), severe anemia (4- 6.9 g/dl) 8/359 (2.2%). There was no patient of very severe anemia (Hb less than 4 g/dl.).

Table 1: Severity of Anemia.

Hemoglobin level(g/dl)	Severity of anemia	NO.of Patients	percentage
10 - 10.9g/dl	Mild anemia	104/359	30.3%
7 – 9.9 g/dl	Moderate anemia	138/359	38.3%
4- 6.9 g/dl	Severe anemia	8/359	2.2%
Less than 4 g /dl	Very severe anemia	0/359	0 %

Mean age of women enrolled in study was 27.5 years ± 5 years. Majority, 269/359 (75.0%) were between 21-30 years .Table 2 is showing the age distribution of patients

Table2: Age distribution of patients in years

Age (Years)	No,of patients	Percentage
Less than 20	32/359	8.9%
21-30	269/359	75%
31-40	58/359	16.1 %

Regarding parity, 319 (88.6%) of the patients were from para 1 to para 5 while 40 patients (11.4%) were more than para 5. Regarding socioeconomic status, 348 patients (96.7%)were from low socioeconomic status (monthly income less than 30,000 PKR) and only 11 patients (3.3 %) were from middle socioeconomic status (monthly income more than 30,000 PKR). 200 /359 (55.6%) patients were from urban areas and 159/359 (44.4%) were from rural areas.

DISCUSSION

Anemia is more prevalent in women than men, and prevalence of anemia worldwide is 21-80% according to the WHO.[11] Prevalence of anemia is 56% in low income countries as compared to 18% in high income countries according to United Nations.[12]In one study conducted in Pakistan, prevalence of anemia was 37.5% [2] but in our study, prevalence of anemia is 70.8% which is quite high.

One study was conducted in Lahore, Pakistan in which prevalence of anemia was 57.7% as compared to 70.8% in our study.[13]The overall prevalence of anemia was 23.5% in one study conducted in China which is very low as compared to Pakistan.[14] Low prevalence of anemia was also observed (33.9%)in one study conducted in our neighboring country,India.[15] The mean hemoglobin level of all the participants was 11.33 ± 1.460 g/dl in a study conducted in India[15] while in our study, mean hemoglobin level was 10.314± 4.2131.

With regard to severity of anemia, Percentage of mildly and moderately anemic patients in a study conducted at Lahore, Pakistan was 34.4% and 23.3 % respectively which is quite comparable with our study i.e. 30.3%% and 38.3%.[13] Severe anemia was noted in 8/359 (2.2%) in these patients, an Indian study has reported 7.9%[16] severe anemia, similar to our results. One study conducted in Bangladesh reported no case of severe anemia[17], similar to our findings.

The mean age of the patients in our study was 27. 5 years, similar to a study conducted in Abbottabad by Nuzhat et al [18]. Most of the patients in our study were between 21-30 years which matches with the study

conducted in Malaysia by Jamiyah Hanif et al in which mean age was 29 years[19].

The socioeconomic status of majority of women in our study was low. 348 patients (96.7%)were from low socioeconomic status (monthly income less than 30,000 PKR).In this regard ,our results match with the results of the studies done by Shehzadi et al[20] and many other studies[21,22,23]

It is a cross sectional hospital based study which revealed very high prevalence of anemia in our region. Therefore anemia should be recognized as a serious public health problem. This high prevalence can be decreased by awareness programmes, improving the dietary habits and status of the women and by counselling on birth spacing and regular antenatal care.

CONCLUSION

Our study revealed very high prevalence of anemia in our region. Therefore anemia should be recognized as a serious public health problem. This high prevalence can be decreased by awareness programmes, improving the dietary habits and status of the women and by counselling on birth spacing and regular antenatal care.

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