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Retrospective study on prevalence of anaemia among pregnant women at booking in a health care centre in Udairamsar, Bikaner, Rajasthan, India

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ABSTRACT

Background: Anaemia in pregnancy is one of the major risk among them. This is associated with abortions, premature births, postpartum haemorrhage and low birth weight. Thus anaemia is considered as one of the most frequent complications of pregnancy and there is need of early detection.

Methods: Retrospective record based study conducted at Rural Health Training Centre Udairamsar, Bikaner, Rajasthan. Data regarding pregnancy are collected from 1April 2015 to31 March 2016 by referring the records maintained at RHTC. Data was analysed using SPSS 20.

Results: A total of 135 pregnant women were registered for ANC care during this one year period. Majority (64.44%) belonged to the age group of 20-25 years and 94.8% were Hindu by religion. 48.18% of pregnant women were registered during first trimester followed by 28.88% who had registered during second trimester and rest at third trimester. Prevalence of anaemia in the present study was found to be 89.26% with 121 cases among which 92 cases were mild form, 28 cases were moderate form and only 1 case was of severe form with Haemoglobin level below 7g/dl. The study didn't show any significant association between anaemia and booking trimester.

Conclusions: There is high prevalence (85.2%) of anemia among pregnant women. It was also noted that 45.1% of the pregnant women registered after first trimester of pregnancy. Hence leading to late acceptance of antenatal care and iron and folic acid supplementation which is given to reduce the cases of anemia in pregnancy.

Keywords: Antenatal care, Birth interval, Parity, Registration

INTRODUCTION

Pregnancy for most women is a time of great happiness and fulfillment. However during pregnancy both the women and her developing child face various health risks. Anemia in pregnancy is one of the major risk among them.

Anemia in pregnancy is defined by WHO as a condition where Hemoglobin concentration in blood is below 11g/dl and is said to be mild when hemoglobin level is

between 10 to10.9g/dl; moderate when it is between 7 to 7.9g/dl and severe when it is less than 7g/dl.¹

Surveys in different parts of India indicate that about 50-60% of women belonging to low socio-economic group are anemic in the last trimester of pregnancy which increases the risk of maternal and fetal mortality with it causing about 19% of maternal mortality. Studies have also shown an increased association of anemia with conditions such as abortions, premature births, postpartum hemorrhage (PPH) and low birth weight

(LBW). Thus anemia is considered as one of the most frequent complications of pregnancy and visit to health care facilities for early detection of these cases. Hence present study was undertaken with an objective of finding the prevalence of anemia and to study the factors associated with anaemia among pregnant women at registration visiting RHTC of Sardar Patel Medical College, Bikaner, Rajasthan, India.

METHODS

Study setting

Study was conducted at Rural Health Training Centre, Department of Community Medicine, Sardar Patel Medical College, Bikaner, Rajasthan, India.

Study period

Data regarding pregnancy collected and analyzed from April 2015- March 2016 over 15 days period from 5 May to 20 May, 2016.

Study design

It is a retrospective record based study.

Sample size

Cases registered from April 2015 to March 2016 were collected which constituted to 135 cases.

Data collection

Permission for conducting the study was taken from concerned authorities. Data for ANC cases registered during April 2015 to March 2016 were taken from ANC register. Data regarding age, religion, gestational age at time of registration, gravida, para, birth interval between pregnancies were taken. Hemoglobin level was taken from the case record and was classified as mild, moderate and severe based on WHO classification.

Data analysis

Data was analyzed using SPSS software version 20. Descriptive statistics was calculated using frequencies and percentages. Association was calculated using Chisquare test and Yates correction was used wherever required.

RESULTS

A total of 135 pregnant women were registered for ANC care for the first time 1April 2015 to 31 March 2016 in RHTC, Udairamsar, Bikaner, India. In the present study majority of the pregnant women belonged to the age group of 20-25 years (64.44%) followed by age group of 26-30 years. 20.74% of the pregnant women belonged to

age group of less than 20 years and more than 30 years each (Table 1).

Table 1: Age wise distribution of pregnant women.

Age in groups	Frequency	Percentage
<19 years	4	2.96%
20-25 years	87	64.44%
26-30 years	28	20.74%
>30 years	16	11.85%
Total	135	100%

Majority (94.81%) of the study participants belonged to Hindu religion and rest (5.19%) belonged to Muslim religion. 65 (48.18%) of pregnant women registered during first trimester of pregnant followed by 39 (28.88%) women during second trimester and 31 (22.96%)women registered during third trimester of pregnancy (Figure 1).

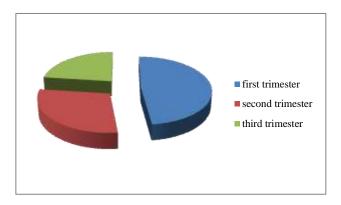


Figure 1: Distribution of pregnant women according to gestational age at registration/booking.

In the present study 41 (30.37%) women were registered for first pregnancy and 63 (46.66%) belonged to parity 1 and 2. Rest belonged to more than two parity (Table 2).

Table 2: Distribution of pregnant women according to their parity.

Parity	Number	Percentage
0	41	30.37%
1-2	63	46.66%
More than 2	31	22.96%
Total	135	100%

36 (26.66%) of the women were pregnant for the first time. Among the women were previously pregnant; only 16 women followed birth spacing of 3 years or more. Rest had inadequate birth spacing of less than 3 years.

Prevalence of anaemia in the present study was found to be 89.62% with 121 cases among which 92 cases were mild form, 28 cases were moderate form and only 1 case was of severe form with Haemoglobin level below 7g/dl. (Figure 2 and Table 3).

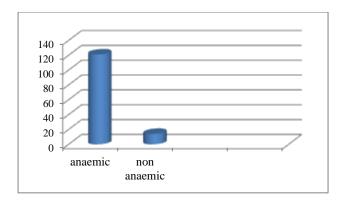


Figure 2: Prevalence of anaemia among the pregnant women.

Table 3: Distribution of pregnant women according to degree of anaemia.

Classification of anaemia	Frequencies	Percentage
Mild	92	76.03%
Moderate	28	20.74%
Severe	1	0.74%
Total	121	100%

Table 4 shows that the prevalence of anemia increased with booking trimester but the relationship was not statistically significant (P=0.979).

Table 4: Prevalence of Anemia by Trimester.

Trimester	Anemia present	Anemia absent	Total
First	57	8	65
Second	35	4	39
Third	29	2	31
Total	121	14	135

Chisquare value -0.42; degree of freedom -2; P-value-0.979.

DISCUSSION

The study was a retrospective record based study conducted in rural health training centre, Bikaner. The study noted that a higher proportion of pregnant registered after first trimester (48.8%) with 29.96% registering in the third trimester. This was comparatively better than studies done in Saraswati Institute of Medical College, Hapur, Ghaziabad were majority of pregnant women registered during third trimester (49.7%) and only 35.8% of the pregnant women registered during first trimester.³

The present study revealed high proportion of anemia cases (89.62%). This was comparable to study done in Government Lady Goschen hospital, Kasturba Medical College, Mangalore (80.6%) and Saraswati Institute of Medical College, Hapur, Ghaziabad (78.4%).^{3,4}

Most cases of anemia were of mild degree (76.03%) followed by moderate degree (20.74%). This was similar

to the study done in Mangalore were 83.3% of the anemia cases were mild and rest were moderate degree.³ This was in contrast with NFHS 3 reports and study done by Agarwal et al where most common type of anemia was of moderate degree.^{5,6}

The present study did not show any significant association of anemia with time of registration for pregnancy in terms of trimester pregnancies. This was similar to study done by Cyril C et al in Enugu, South Eastern Nigeria.⁷

CONCLUSION

The prevalence of anemia in pregnancy at booking is still high in Rajasthan. Preconception care, including iron and folic acid supplementation, is advocated to reduce this problem. Early antenatal booking and improved antenatal care are also necessary for early diagnosis and treatment of the condition. All would ensure safe motherhood.

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Ethical approval: The study was approved by the

Institutional Ethics Committee

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