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A CROSS SECTIONAL STUDY TO ASSESS CERTAIN DETERMINANTS CO-RELATED WITH ANAEMIA IN PREGNANT WOMEN ATTENDING ANTENATAL CLINIC AT RURAL HEALTH TRAINING CENTRE IN WESTERN MAHARASHTRA

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ABSTRACT

Context: In India, anaemia is a common cause of maternal morbidity and mortality and a key factor related to low birth weight. As per NFHS-3 (2005-6) survey in rural Maharashtra 58% pregnant women are anaemic. It indicates the problem of anaemia among pregnant women in rural area and need of research in this context.

Aim: To assess certain determinants co-related with anaemia in pregnant women.

Settings and Design: It was a cross sectional study conducted at Rural Health Training Centre in Western Maharashtra, India.

Methods and Material: A total of 213 pregnant women registered during 1st Jan 2010 to 30th June 2010 were included in present study. Hemoglobin estimation was done by Sahli's method during her first antenatal visit in 12-20 weeks of gestational age. Data was collected using pre-designed, pretested proforma.

Statistical analysis used: The results were analyzed using the SPSS v16. Statistical methods used were mean and chi square test.

Results: The overall prevalence of anaemia was found to be 88.26%. The prevalence of anaemia was 59.05% among antenatal women who were in the age group of 20-25 years. Higher prevalence of anaemia was seen among women who had high parity, spacing less than 1 year and from low socioeconomic status.

Conclusions: Anaemia continues to be a problem with the existing health care resources. Socio-economic status, literacy of women, parity and spacing of children are the major determinants that contribute to the problem of anaemia.

Key-words: Anaemia, determinants, socio-economic status, parity, spacing of children.

INTRODUCTION

Pregnancy is not just a matter of waiting to give birth but a joyful and a fulfilling period in a woman's life. It can also be one of the experiences of misery and suffering when complications or adverse circumstances compromise the pregnancy, causing ill health or even death[1]. Anaemia is a major public health problem throughout the world, particularly for women of reproductive age in developing countries. Forty

percent of all maternal perinatal deaths are linked to anaemia. In India, anaemia is a common cause of maternal morbidity and mortality and a key factor related to low birth weight.[2] As per NFHS-3 (2005-6) survey in rural Maharashtra 56.4% pregnant women are anaemic.[3] It indicates the problem of anaemia among pregnant women in rural area and need of research in this context. Hence present study was conducted to assess certain determinants co-related with anaemia in pregnant women.

SUBJECT AND METHODS

A cross sectional study was conducted at Rural Health training Centre in Western Maharashtra, India. A total of 213 pregnant women who attended antenatal clinic during 1st Jan 2010 to 30th June 2010 constituted the sample size. Data was collected using pre-designed, pretested proforma. Hemoglobin estimation of every pregnant woman was done by Sahli's method during her first antenatal visit in 12-20 weeks of gestational age.Anaemia is the term used to describe the condition in which there is a reduction in the concentration of haemoglobin in the blood stream to a level below 11gm/dl for pregnant women.[4]

RESULTS

The study population consisted of 213 antenatal women. The demographic characteristics of the study population are shown in Table 1. The average age of the pregnant women was 23.05 ± 3.47 years. 56.81% of the pregnant women were between 20-25 years of age. Around 77% of pregnant women had education below 10th standard. Majority (49.77%) belonged to lower socio-economic class (According to Kuppuswamy's Classification). Most of them (70.89%) belonged to joint family.

The overall prevalence of anaemia among study population was found to be 88.26%. Among the total 188 anemic women 57 (30.3%) were mild anaemic, 125 (66.5%) were moderate anaemic and 6 (3.2%) were severe anaemic. The mean hemoglobin concentration was 9.29 ± 1.23 g/dl. Prevalence of anaemia was analyzed in terms of age, age at first childbirth, education, socioeconomic status, type of family. The findings are presented in Table No. 2.

Table 1: Demographic characteristics of the subjects

Characteristics	Frequency (%)
Age in years	
<20	38 (17.84)
20-25	121 (56.81)
>25	54 (25.35)
Age at first childbirth	
<20	36 (16.90)
20-25	126 (59.15)
>25	51 (23.95)
Education	
Illiterate	23 (10.80)
Below 10th	141 (66.20)
10th to below graduation	30 (14.08)
Graduate and Post-Graduate	19 (8.92)
Socio-economic status (Kuppuswamy's Classification)	
Upper	7 (3.29)
Middle	100 (46.94)
Lower	106 (49.77)
Type of family	
Nuclear	62 (29.11)
Joint	151 (70.89)

Table 2: Prevalence of anaemia according to socio-demograplic variables

Socio-demographic determinants	Anaemic (%)	Non-anaemic (%)	P value
Age in years			
<20	34 (89.47)	4 (10.53)	0.022
20-25	111 (91.73)	10 (8.27)	
>25	43 (79.63)	11 (20.37)	
Education			
Illiterate	21 (91.30)	2 (8.70)	
Below 10th	132 (93.62)	9 (6.38)	(<0.001
10th to below graduation	23 (76.67)	7 (23.33)	
Graduate & Post-Graduate	12 (63.16)	7 (36.84)	
Socio-economic status			
Upper	2 (28.57)	5 (71.43)	
Middle	89 (89.00)	11 (11.00)	(<0.001
Lower	97 (91.51)	9 (8.49)	
Type of family			
Nuclear	52 (83.87)	10 (16.1)	(0.202
Joint	136 (90.07)	15 (9.9)	
Age at first childbirth			
<20	30 (83.33)	6 (16.67)	
20-25	121 (96.03)	5 (3.97)	(<0.001
>25	37 (72.55)	14 (27.45)	
Parity			
1-2 (Low)	31 (81.58)	7 (18.42)	0.049
3 or more (High)	122 (92.42)	10 (7.58)	
Spacing			
<1yr	74 (96.10)	3 (3.90)	(<0.001
1-2yrs	63 (88.73)	8 (11.27)	
>2yrs	16 (72.73)	6 (27.27)	

The prevalence of anaemia was 59.05% among antenatal women who were in the age group of 20-25 years. Similarly prevalence was more in those whose age at first childbirth was between 20-25 years. Higher prevalence of anaemia was seen among women with education below 10th standard. The prevalence of anaemia was 51.60% among women who belonged to low socio-economic status. There was no difference in the status of prevalence of anaemia among the women between joint and nuclear family. The prevalence of anaemia was 79.74% among women who had high parity with more than two children. Higher prevalence was found among those who had spacing less than 1 year.

DISCUSSION

Anaemia in pregnancy continues to be a health problem. The anemia prevalence in the present study was very high i.e. 88.26% as compared with the studies of Umesh Kapil et al [5] (78.8%) in Delhi slum area and Toteja GS et al [6] (84.9%) in 16 districts study of India were anemic. It has been observed in the present study that the prevalence of anaemia was high among younger age group of pregnant women which indicates that the nutritional status of girl child is poor and attention should be paid to the correction of anaemia in the pre-pregnancy period. In the present study, young age, illiteracy, low socioeconomic status, high parity contributed significantly to the higher prevalence of anaemia in pregnancy. These findings are similar to other studies conducted by Judith Noronha et al[7] and Virender Gautam et al.[8]

CONCLUSION

Anaemia continues to be a problem with the existing health care resources. Socio-economic status, literacy of women, parity and spacing of children are the major determinants that contribute to the problem of anaemia. High prevalence of anaemia observed in the present study suggests implementing various preventive strategies, especially to broaden the coverage of iron and folic acid distribution and its consumption.

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