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Original Research Article

A Cross-Sectional Hospital Based Study on Socio-Demographic Factors Associated with Anaemia among Pregnant Women Attending Labour Room in a Tertiary Care Hospital of South India

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ABSTRACT

Introduction: Nutritional anaemia in pregnant women is one of the India's major public health problems despite the fact that this problem is largely preventable and is easily treatable. In India over 95% of maternal deaths occur among women who have never had antenatal care. In India, anaemia is related to 16% of maternal deaths. Ideally every pregnant woman at the end of pregnancy must have received at least 100 IFA tablets which would prevent anaemia due to nutritional causes. But unfortunately in India this is not the picture. To assess this magnitude and the factors associated with anaemia at this particular stage needs to be investigated to find the exact scenario behind this. Here lies the need of study.

Materials and methods: The present descriptive cross sectional study was undertaken among all pregnant women admitted for the delivery in a tertiary care hospital in south India. Clearance for the study was obtained from College Ethical Committee. From all the pregnant women interviewed, verbal informed consent was taken. Total 174 mothers participated in the study. Information was collected from pregnant women or accompanying responsible person attending labour room for delivery by using pre-designed, pre-tested, structured questionnaire. Using Sahli's method, haemoglobin estimation was done before delivery.

Results: The average age of the pregnant women was 23.63 years. 69(39.66%) women were in third gravid followed by 52(29.89%) primigravida .Most of the pregnant women belong to joint family i.e. 11(63.79%) followed by 63(36.21%) women belonging to nuclear family. Among the pregnant women 143(82.18%) were anaemic. Most of the pregnant women i.e. 145(83.33%) were belonging to SES class I, II and III. The magnitude of anaemia was not found to be statistically significant with no of ANC visits and type of family and education status.

Conclusion: Along with number of ANC visits, quality of health communication needs to be improved. For correct and early diagnosis of cause of anemia, early registration of pregnancy is to be stressed. Regularity of ANC visits and adherence to IFA should be emphasized.

***Key words**: Anaemia, pregnant women, ANC visits*

INTRODUCTION

Worldwide anaemia is present in 41.8% of pregnant women. [1] Most of this anaemia is due to iron and folic acid deficiency. Worldwide one fifth of maternal deaths are due to anaemia in pregnancy and it is a major factor responsible for low birth weight. [2] Nutritional anaemia in pregnant women is one of the India's major public health problems despite the fact that this problem is largely preventable and is easily treatable. In India over 95% of maternal deaths occur among women who have never had antenatal care. [3] In India, anaemia is related to 16% of maternal deaths. [2]

In view of the high prevalence of anaemia and its adverse health consequences, India became the first developing country to take up a National Nutritional Anaemia prophylaxis Program (NNAP) to prevent anaemia among pregnant women. With the aim of reducing the prevalence of anaemia to 25%, NNAP was initiated in 1970 during fourth 5-year health plan .Under this programme, every pregnant women should be given a minimum 100 iron and folic acid tablets. [3] But still the prevalence of anaemia remained as high as 62%-88 % in pregnant women as the programme has remained ineffective in improving the anaemic status of the pregnant women. [4,5] Anaemia has adverse effects on health of mother and child. With introduction of Reproductive and Child Health (RCH) programme in 1997 and later integration and improved access of all programmes under National Rural Health Mission (NRHM, 2005), there has been improvement in supply and distribution of iron-folic acid tablets to pregnant women. But a lot is yet to be achieved as anaemia continues to be a formidable problem. The prevalence of anaemia among pregnant women during the third round of National Family Health Survey (NFHS: 2005 - 06) was found to be 58.7% worsening from 50% in the second round of NFHS in 1998-99. [6]

Thus ideally every pregnant woman at the end of pregnancy must have received at least 100 IFA tablets which would prevent anaemia due to nutritional causes. But unfortunately in India this is not the picture. To assess this magnitude and the factors associated with anaemia at this particular stage needs to be investigated to find the exact scenario behind this. Here lies the need of study.

MATERIALS AND METHODS

The present descriptive cross sectional study was undertaken among all pregnant women admitted for the delivery in a tertiary care hospital, Katuri Medical College & Hospital, Guntur (A.P.) from 1st July 2010 to 31st December 2010. Clearance for the study was obtained from College Ethical Committee. From all the pregnant women interviewed, verbal informed consent was taken. Total 174 mothers participated in the study. Information was collected from pregnant women or accompanying responsible person attending labour room for delivery by using pre-designed, pre-tested, structured questionnaire. Using Sahli's method, haemoglobin estimation was done before delivery. According to WHO criteria, anaemia was classified. The association between various socio-demographic characteristics and anaemia was found out using percentages, proportions and Chi square test.

RESULTS

Total 174 pregnant women interviewed. The average age of the pregnant women was 23.63 years. 69(39.66%) women were in third gravid followed by 52 (29.89%) primigravida 7 (4.01%) women were in fourth gravida. Most of the pregnant women belong to joint

family i.e. 11(63.79%) followed by 63(36.21%) women belonging to nuclear family. Among the pregnant women 143(82.18%) were anaemic. (Table 1)

Table 1: Socio-demographic profile of the study population (n=174)

Socio-demographic variables	No. (%)
Age group(Yrs)	
< 20	14(8.05%)
20-24	81(46.55%)
25-29	58(33.33%)
> 30	21(12.07%)
Type of family	
Nuclear	63(36.21%)
Joint	111(63.79%)
Order of pregnancy	
1	52(29.89%)
2	46(26.44%)
3	69(39.66%)
4	7(4.01%)
Anaemic status	
Mild	117(67.24%)
Severe	26(14.94%)
No anaemia	31(17.82%)

The magnitude of anemia among literate women was 83.44% as compared to 73.91% in illiterate women. But this was not found to be statistically significant. The magnitude of anemia among women of birth order 2 or less than 2 was 92.93 % as compared to 68 % in women of birth order more than 2.This was found to be statistically significant. But this was not found to be statistically significant. Most of the pregnant women i.e. 145(83.33%) were belonging to SES class I, II and III. Magnitude of anemia was more among the women of class I, II and III as compared with women belonging to SES class-IV and V (83.45% Vs 75.86%). But this was not found to be statistically significant. Anemia is more commonly found in the women who consumed few (< 100) iron and folic acid tablet (IFA)(93.70%) as compared with women who consumed at least 100 IFA tab or more (51.065).This was found to be statistically significant. The magnitude of anaemia was not found to be statistically significant with no of ANC visits and type of family. (Table 2)

Table 2: Relationship between anaemic status and various factors among pregnant women

Factors	Anaemic No. (%)	Non Anaemic No. (%)	Total No. (%)	X^2 value
Education				
Illiterate	17(73.91%)	6(26.09%)	23(13.22%)	1.238
Literate	126(83.44%)	25(16.56%)	151(86.78%)	P=0.26 NS
Birth order				
≤ 2	92(92.93%)	7(7.07%)	99(56.90%)	18.112
>2	51(68%)	24(32%)	75(43.10%)	P < 0.0001 S
Socio-economic status				
I,II ,III	121(83.45%)	24(16.555)	145(83.33%)	0.95
IV,V	22(75.86%)	7(24.14%)	29(16.67%)	P=0.3298 NS
IFA				
≤ 100 tablets	119(93.70%)	8(6.30%)	127(72.99%)	42.592
>100 tablets	24(51.065)	23(48.94%)	47(27.01%)	P< 0.0001 S
Type of family				
Nuclear	51(80.95%)	12(19.05%)	63(36.21%)	0.102
Joint	92(82.88%)	19(17.12%)	111(63.79%)	P=0.7491 NS

DISCUSSION

The present study was carried out to find out the magnitude of anemia among pregnant women admitted in a tertiary care hospital and to find out the various socio-demographic factors associated with it. It was found that 82.18% pregnant women were anaemic. The overall prevalence of anemia as 84% among pregnant women was found out in a study carried out among 7 states by Nutrition Foundation of India. [(7)] While 'Indian Council of Medical Research (ICMR) Task Force Multicenter Study' observed the overall prevalence of anaemia among pregnant women from 16 districts was 84.9% (range 61.0%-96.8%). [(8)]

Comparable results were also found in study by Pathak P et al [9] in Delhi (85.4%), Lokare PO in Aurangabad (87.2%) [10] and by Wadgave HV [11] in his study of rural area (92.38%). The study result is significantly more as compare to NFHS II (50%) & NFHS III (58%) survey report [6] and study done by S Sarkar et al [12] (47.2%)and Umesh Kapil et al [13] (78.8%). As this is a hospital based study, the high magnitude of anaemia among the study subjects may be due to higher number of referred patients for complications related to anaemia.

The consumption rate of IFA in the present study (27.01 %) was higher than existing data (22.4%) available for India according to DLHS III (District Level Household Survey). [14] In similar studies, conducted by Shilpi Sharma in Matigara Block, a rural area of Siliguri subdivision, Darjeeling and by Satyajit Bhattacharya in Rajasthan, the consumption rate was found to be 62% & 42% respectively. [14]

The consumption rate is more amongst the mother who had 3 or more of ANC visits this implies that the health workers play a pivotal role in building cognizance in the society. In the present study, the magnitude of anaemia among educated pregnant women was 83.44 % as compared to 73.91 % in illiterate women . This is in contrast with the findings by Erli Amel Ivan et al [16] in their hospital based study in Pondicherry, India which showed that Anaemia was significantly higher (100%) in illiterates and in those who had primary education only.

This finding could be due to the composition of the different study population and different education level of them in these two different types of studies. Anemia in SES Class IV & V in the present study is 75.86 %. This is comparable with the study done by Erli Amel Ivan et al [16] in Pondicherry who found that 88 % of anaemia cases were seen in Class V and Class IV. As the proportion of anemia was more among educated pregnant women as compared to illiterate pregnant women. This shows that mere formal education is not enough for compliance or adherence to IFA consumption. Activities more than formal education such as motivation, persuasion, counselling during health communication is required to improve the compliance of IFA.

CONCLUSION AND RECOMMENDATIONS

Along with number of ANC visits, quality of health communication needs to be improved. For correct and early diagnosis of cause of anemia, early registration of pregnancy is to be stressed. Regularity of ANC visits and adherence to IFA should be emphasized. IFA consumption should be verified during follow up visits of ANC. Further research is needed to find out non-nutritional causes of anemia among pregnant women.

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