Volume 16 (1), 2014

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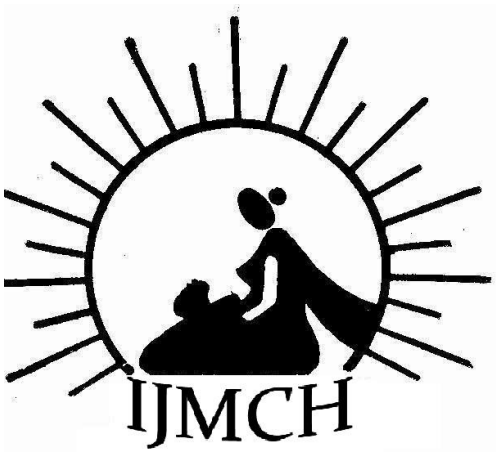

INDIAN JOURNAL OF MATERNAL AND CHILD HEALTH

What is the magnitude of anemia among pregnant women attending labour room in a tertiary care hospital?

Missed Opportunities of Anemia Treatment among Pregnant Women Attending Labour Room in a Tertiary Care Hospital of Western Maharashtra

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ABSTRACT

Research question: 1.What is the magnitude of anemia among pregnant women attending labour room in a tertiary care hospital?

Setting: Labour room and PNC ward in a tertiary care hospital in Western Maharashtra.

Study design: A descriptive cross-sectional study.

Participants: All pregnant women attending for delivery in Govt. Medical College & Hospital, Miraj, from 1 November to 31 December 2012.

Methodology: By using pre-designed, pre-tested and structured questionnaire, information was collected from pregnant women or accompanying responsible person attending labour room for delivery in the tertiary care government hospital. Haemoglobin estimation before delivery was done by Sahli's method and anemia was graded according to WHO criteria.

Results: Out of 206 pregnant women admitted for delivery, 187 (90.77%) were anaemic. Age of them ranged from 20 to 27years with a mean age of 22.84years. The mean Hb level of pregnant women was 8.487 g/dl (±1.373, range 6 and 11.5). Education level of pregnant women, number of ANC visits and number of IFA tablets consumed were found significantly associated with the anaemic status of the pregnant women.

Key words: ***Anemia, pregnant women, haemoglobin, labour room, ANC visits***

INTRODUCTION

Globally 41.8% of pregnant women are anaemic. [(1)]Most of this anaemia burden is assumed to be due to nutritional deficiency of iron and folic acid. Anaemia in pregnancy accounts for one fifth of maternal deaths worldwide and 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. It is unfortunate that, in India over 95% of maternal deaths occur among women who have never had antenatal care. [(3)] In India, 16% of maternal deaths are attributed to anaemia. [(2)] In view of the low dietary intake of iron and folic acid, 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. NNAP was initiated in 1970 during fourth 5-year health plan with the aim

of reducing the prevalence of anaemia to 25%. The Government of India recommends a minimum dose of total 100 iron and folic acid tablets to be prescribed during pregnancy. [4]But still the programme has remained ineffective in improving the anaemic status of the pregnant women as the prevalence of anaemia remained as high as 62%-88 %.[5, 6]

Iron deficiency 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. [7]

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

A descriptive cross sectional study was undertaken among all pregnant women admitted for the delivery in a tertiary care hospital i.e. Government Medical College & Hospital, Miraj under the Department of Obstetrics and Gynecology from 1st Nov 2012 to 31st Dec 2012. Prior permission from the concerned authority was obtained and verbal informed consent was taken from all the pregnant women interviewed. A total 206 mothers were interviewed. Postnatal mothers who were sick and not willing to participate were excluded from the study. Care was taken to avoid any duplication.

By using pre-designed, pre-tested, structured questionnaire, information was collected from pregnant women or accompanying responsible person attending labour room for delivery in the tertiary care government hospital. Haemoglobin estimation before delivery was done by Sahli's method and anemia was graded according to WHO criteria. The association between anaemic status of the pregnant women with socio-demographic characteristics &various factors was studied. Statistical analysis was done by percentages, proportions and Chi-square test.

RESULTS

There are total 206 women interviewed before delivery or after delivery in the PNC ward. The average age of the pregnant women was 22.84±1.238years.Among these women 80(38.83%) were primigravida followed by 37(17.96%) second and 81 (39.32%) in third gravida while 8(3.89%) women were in fourth gravida. There were 118 (57.28%) & 88 (42.72%) pregnant women from joint and nuclear families respectively. The average age at marriage of pregnant women was 20.14±1.216years. Among these pregnant women 187 (90.77%) were anemic. The mean haemoglobin level of the study population was 8.487±1.373gm%. (Table 1)

The magnitude of anemia among literate women was significantly more as compared to illiterate women (92.47% Vs 75%; p= 0.03). Most of the pregnant women 180 (87.38%) 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 (92.78% Vs 76.72%;

p=0.02). Anemia is more commonly found in the women who consumed few (< 100) iron and folic acid tablet (IFA) as compared with women who consumed at least 100 IFA tab or more. The IFA tablet was adequately consumed by 72 (34.95%) pregnant women. (Table 2)

Table I: Socio-demographic profile of the study population

Socio-demographic variables (n=206)		Number	Percentages
Age Group(years)	20-22	26	12.62
	22-24	118	57.28
	24-27	62	30.1
Type of family	Joint	118	57.28
	Nuclear	88	42.72
Age at marriage	18-20	41	19.9
	20-22	133	64.56
	>22	32	15.54
Order of Pregnancy	1	80	38.83
	2	37	17.96
	3	81	39.32
	4	8	3.89
Anaemic status	No anemia	19	9.22
	Mild anemia	35	17
	Moderate anemia	123	59.7
	Severe anemia	29	14.08

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

Characteristics / Factors		Anaemic		Non-anaemic		Total		X^2 ,p value	Significance level
		No.	%	No.	%	No.	%		
Education	Illiterate	15	75.00	5	25.00	20	9.71	4.663, 0.0308	Significant
	Literate	172	92.47	14	7.53	186	90.29		
Birth order	≤2	109	93.16	8	6.84	117	56.80	1.240, 0.2	Not significant
	>2	78	87.64	11	12.36	89	43.20		
SES	I,II,III	167	92.78	13	7.22	180	87.38	5.059, 0.0245	Significant
	IV,V	20	76.92	6	23.08	26	12.62		
IFA Consumption	≤100	128	95.52	6	4.48	134	65.05	8.75, 0.003	Significant
	>100	59	81.94	13	18.06	72	34.95		
ANC visits	0	12	100.00	0	0.00	12	5.83	NA*	--
	< 3	76	100.00	0	0.00	76	36.89		
	3 or more	99	83.90	19	16.10	118	57.28		
Type of Family	Nuclear	83	94.32	5	5.68	88	42.72	1.66, 0.2	Not Significant
	Joint	104	88.14	14	11.86	118	57.28		

*χ^2 test not applied as more than 20 % cells have value less 5.

Table No. III Relationship between number of IFA consumed and number of ANC visits

No of ANC visits	No of IFA consumed ≤100		>100		Total	
	No.	%	No.	%	No.	%
0 ANC visits	12	100.00	0	0.00	12	5.83
< 3 ANC Visits	71	93.42	5	6.58	76	36.89
≥3ANC visits	51	43.22	67	56.78	118	57.28
Total	134	65.05	72	34.95	206	100.00

Note: χ^2=55.664, p<0.0001 df=1 (Row 1 & 2 clubbed

Table 3 shows the relation between number of antenatal visits and consumption of IFA tablet. It was found that the consumption of IFA among women who attended at least three ANC visits or more was significantly more as compared to the women who attended less than three ANC visits i.e. 2.42% Vs 32.52% (p=0.0001). Surprisingly 5.83% women who had not attended a single ANC visit were not consumed a single IFA tablet.

DISCUSSION

The present study describes the magnitude of anemia among pregnant women attending labour room in a tertiary care hospital and tries to find out the factors associated with it. It was found that 90.77% pregnant women were anaemic. A study carried out among 7 states by Nutrition Foundation of India had observed the overall prevalence of anemia as 84% among pregnant women which is similar to the present study.[8] 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%).[9]Also similar results (60%-77%) were reported from studies conducted amongst pregnant women at Dar es Salaam-Tanzania,[10-12]Sudan,[13,14] and Nigeria[15].Comparable results were also found in study by Pathak P et al [16] in Delhi (85.4%), Lokare P.O. in Aurangabad (87.2%)[17] and by Wadgave HV [18] 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[7] and study done by S Sarkar et al[19] (47.2%)and Umesh Kapil et al [20] (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 adequate consumption rate of IFA in the present study (34.95 %) was higher than existing data (22.4%) available for India according to DLHS III (District Level Household Survey).[21] 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.[22] In another study, Usha Malagi and her colleagues concluded with 59% consumption from the 16% population who had received tablets properly,[23] whereas in a study placed by A. K. Agarwal and his colleagues, the compliance was found to be 67%.[24] 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 92 % is more as compared to illiterate women 75%. This is in contrast with the findings by Erli Amel Ivan et al [25] 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. [25]

Anemia in SES Class IV & V in the present study is 76.92 %. This is comparable with the study done by Erli Amel et al [25] in Pondicherry who found that 88 % of anaemia cases were seen in Class V and Class IV.[25] Literacy and socio-economic status also importantly contribute to maternal anaemia. There was a strong association of illiteracy, low socio-economic status with maternal anaemia in the above conducted study. So does in the present study also.

Out of 206 pregnant women 118(57.28%) pregnant women had 3 or more ANC visits and among them 51 (43.22%) consumed less than 100 IFA. This clearly shows that in spite of adequate number of ANC visits, compliance towards IFA tablets consumption was found poor.

Although, education and anaemic status of pregnant women was found statistically significant, 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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