

IMPACT OF IRON FOLIC ACID TABLET UTILIZATION ON THE PREVALENCE OF ANEMIA AMONGST MOTHERS UNDER RCH PROGRAMME

A.B. Singh*, S.D. Kandpal**, S.K.Gupta***, R.Chandra**, V.K Srivastava#, K.S Negi***

Resident*, Professor**, Assistant Professor***, Professor# (KGMU)

Deptt. Of Community Medicine, HIMS, Dehradun (Uttaranchal).

Abstract :

Research question: What is the effect of IFA Tablet utilization on prevalence of anemia.

Objectives:

- 1- To study the utilization of IFA tablets among pregnant and lactating women in Dehradun district.
- 2- To study the association of anemia with IFA tablet utilization.

Study design: Cross-Sectional study.

Setting: Twenty villages of Doiwala Block, Dehradun

Participants: Pregnant and lactating women.

Study period: January 2004 to Feb 2005.

Statistical Analysis : Percentage, Chi-square test.

Results: Prevalence of anemia among those women who had not received Iron Folic Acid tablets was found to be 77.9% as compared to 57.7% among those women who had received the IFA tablets.

Key Words: Anemia, Prevalence, Pregnant women. Lactating women, IFA tablet.

Introduction:

Anemia is a Greek word "meaning (an = not, haemia = blood) i.e. not having blood. "Anemia is not a diagnosis in itself but merely an objective sign of presence of disease." WHO has defined Nutritional Anemia as "a condition in which the hemoglobin content of the blood is lower than normal as a result of one or more essential nutrients, regardless of the cause of such a deficiency"¹

Prevalence of anemia in pregnant women is very high. District Nutrition Survey data of 1999-2000 by the ICMR showed that the pregnant mothers of Himachal Pradesh,

Uttar Pradesh, Bihar, Assam and Kashmir had 61%, 79%, 84%, 91% and 97% prevalence anemia respectively². Ray et al³ in 2000 carried out one study in the three divisions of West Bengal and observed that it varied from 66% to 95.38% with an average of 85.98% in a recent study done by Shail Tetal⁴ in Delhi the prevalence of anemia in pregnant women was 80.6%. Thus it is of public health significance. The overall picture is more or less same throughout the country.

Assessments of the performance and impact of countrywide iron supplementation programmes are also disappointingly few.

Operational research is frequently directed towards specific aspects such as experimental delivery strategies or treatment with new formulations of iron. Other studies have evaluated the impact of iron supplementation in small scale and time-limited implementation projects. Often under semi-experimental conditions.⁵

National Nutritional Anemia Prophylaxis programme (NNAPP) has been in operation in our country since 1970 but its evaluation by ICMR had shown that the programme failed to make any major impact in reducing the incidence of anemia in India⁶. In 1990 the National Nutritional Anemia prophylaxis Programme (NNAPP) was renamed as National Nutritional Anemia Control Programme (NNACP) where the beneficiaries and dose schedule were revised. In 1992, the policy on Nutritional Anemia Control was made an integral part of the Child Survival and Safe Motherhood Programme⁷. In 1997 with the inclusion of CSSM in the Reproductive and Child Health Programme (RCH) the nutritional anemia control has achieved further priority⁷.

Under RCH programme all the pregnant women must be given Iron Folic Acid (IFA) tablets for prevention and treatment of anemia. The prophylactic doses specified in the existing policy that is 1 tab containing 100mg of elemental iron & 500mcg of folic Acid is considered adequate. It is suggested that a

minimum of 100 tablets to be consumed during each pregnancy, for severely anemic pregnant women 2 IFA tabs are recommended daily⁷.

The impact of the Government's RCH Programme has been limited, due to poor supply and distribution of iron supplements. Dearth of adequate research work in the field of logistics of IFA has resulted in poor accomplishment of the targets of anemia. Utilization of services by the beneficiaries is also far from satisfactory. The latter is believed to be due to above mentioned factors.

Uttaranchal is one of the few states in the country having high maternal mortality rate⁸. Only 38.5% of the pregnant mothers in Uttaranchal receive IFA supplement, which is much lower than the National average of 57.6% (NFHS II 1998-99).⁹

Therefore keeping these factors in view this study was conducted to study the utilization of IFA tablets and its effect on prevalence of anemia.

Material and Methods :

The present study was conducted among pregnant women with current pregnancy of more than 6 months and Lactating Mother with child aged up to 6 months of age during the period, January 2004 to Feb 2005. Based on the knowledge that about 50% of women in the country are anemic, it was calculated that a sample size of 400 will provide an estimate of prevalence with 10% allowable error.

A multistage random sampling technique was applied in the present study for the selection of villages. Doiwala Block of District Dehradun was chosen for the study, since it is the field practice area of the Department of Community Medicine, H. I. M. S., Dehradun. Twenty three subcentres of CHC Doiwala were included in the study. Out of 10 randomly selected subcentres, villages were arranged according to their position to the sub centre into two groups viz. the sub centre village and the village away from sub centre. In the third stage, from each sub centre, two villages i.e. one sub centre village and one village from the remaining group were selected randomly. Thus two villages from each of the ten subcentres totaling twenty villages were selected for the study. From every village 10 each of pregnant and lactating women were randomly covered from different house holds. The women were interviewed using a pre-structured, pre-tested schedule. Hemoglobin estimation was done by hemocue technique. Anemia was classified as per WHO criteria. Data compilation and analysis was done by SPSS package.

Results :

The table 1 shows the status of anemia in pregnant and lactating women by their receipt of Iron Folic Acid tablets. 61.5% pregnant women replied that they had received IFA tablets. Prevalence of anemia among those

women who had not received Iron Folic Acid tablets was found to be 77.9% as compared to 57.7% among those women who had received the IFA tablets. This difference in prevalence of anemia was found to be statistically significant ($p < 0.05$). Among the lactating mothers 86.5% had not received any IFA tablet. Prevalence of anemia was found to be 68.8% in those lactating mothers who had not received any IFA tablet as compared to 48.1% among those who had received these tablets. This difference was found to be statistically significant ($p < 0.05$).

According to table-2, Prevalence of anemia was found to be 40.3% in those pregnant women who had received 100 tablets as compared to 54.9% among women who received 31-60 tablets and this difference was found to be statistically significant ($p < 0.05$).

Prevalence of anemia was found to be 32.0% in those pregnant women who had consumed 100 tablets as compared to 84.4% among those who consumed 1-30 tablets and 75.0% among those who did not consume any tablet. This difference in the prevalence of anemia according to the consumption of IFA tablets was found to be statistically significant ($p < 0.001$), however this difference was statistically not significant in lactating mothers (Table-3).

Discussion :

In the present study prevalence of anemia was found to be 65.5% in pregnant and 66% in lactating mothers and 61.5% pregnant women replied that they had received IFA tablets where as in an another study done by Jayanti et al¹⁰ it was only 19.4% in the pregnant women and dropped to 7% in case of lactating mothers but according to NFHS II 38.5% of the pregnant mothers in Uttaranchal receive IFA supplement which is much lower than the National average of 57.6%⁹. In the present study 13.5% of lactating mothers received the IFA tablets of which 81.5% consumed the tablets received by them. prevalence of anemia among those women who had not received Iron Folic Acid tablets was found to be 77.9% as compared to 57.7% among those women who had received the IFA tablets. The present study reveals that out of 61.5% pregnant women who received the IFA tablets only 3.3% did not consume any tablet, 56.1% partially consumed them and the complete consumption of 100 tablets was found only in 40.6% of women. Our findings of complete consumption of IFA tablets is almost similar to the findings of Integrated Nutrition and Health Programme by CARE in U.P. (40.0%) and the results (41%) revealed by study done by Jayanti et al¹⁰. NFHS II 1998-99 reported that mothers in U.P received IFA supplements for only 32% of births. This level is much lower than the national average of

58%, and is lower than any other state except Bihar. Amongst these 32% mothers only 64% received at least 3 months supply and 73% consumed the entire supplement given to them. In other words only 15% of the total population of ANC consumed the full dose of 100 tablets⁹. The mid term evaluation report of Integrated Nutrition and Health Programme by CARE 1999 in U.P showed that out of the 45% of pregnant women who had received IFA tablets only 7% had received more than or equal to 90 tablets. Of these 45% pregnant women only 40% consumed the tablet they had received with only 4% consuming equal or more than 90 tablets¹¹.

The above study shows the need for sensitizing about the magnitude of the problem of anemia and its ill effect on mother & child and imparting knowledge on IFA tablets with special reference to consumption of tablets.

Acknowledgement :

The authors are thankful to State Nutrition Resource Centre, Lucknow for providing Hemocue instrument for Hb analysis.

References :

1. World Health Organization, Technical Report Series;1968.
2. District nutrition Project Micronutrient deficiency disorders in 16 districts of India; Part I. Report of an ICMR task

- Force study; 2001.
3. Galloway Rae. Iron Supplementation for Women: Step Child or Crown Prince? National Council of Applied Economic Research Harvard Institute of International Development; 2001.
 4. Shail T, Singh C, Goindi G. Prevalence of anemia amongst pregnant mothers and children in Delhi. Indian J Pediatr 2004; 71: 946.
 5. Pappagallo S, Bull D L. Operational problems of an iron supplementaion programme for pregnant women: an assessment of UNRWA experience. Bulletin of the World Health Organization. 1996; 74 (1): 25, 33.
 6. "Evaluation of the nutritional anemia prophylaxis programme" An ICMR task force study, New Delhi; 1989.
 7. Basic guide to Reproductive and Child Health Programme. 1997; 7-27.
 8. Health and Population policy of Uttaranchal. Department of Medical Health and Family Welfare, Government of Uttaranchal; 2002.
 9. National Family Health Survey- 2, 1998-1999, International Institute for Population Sciences, Mumbai.
 10. Tuladhar M. Jayanti, Townsend John, Haider N. Iron Supplementation: Knowledge, Perception and usage among Pregnant women in Rural India 1997: Technical Paper 9, Population Council Operation Research and Technical assistance Project: New Delhi.
 11. CARE. Integrated nutrition and health programme-Mid term evaluation report of Uttar Pradesh 1997:21-29.

TABLE - 1

Prevalence of Anemia in Mothers by receipt of IFA tablets

Prevalence of Anemia						
IFA tablets received	Pregnant		Lactating		Total	
	Examined No.(%)	Anemic No.(%)	Examined NO.(%)	Anemic No.(%)	Examined No.(%)	Anemic No.(%)
Yes	123 (61.5)	71(57.7)	27(13.5)	13(48.1)	150(37.5)	84(56.0)
No	77(38.5)	60(77.9)	173(86.5)	119(68.8)	250(62.5)	179(71.6)
Total	200(100.0)	131(65.5)	200(100.0)	132(66.0)	400(100.0)	263(65.7)
$\chi^2 = 8.55, df = 1, p < 0.05$						
$\chi^2 = 4.43, df = 1, p < 0.05$						

TABLE - 2

Anemia in mothers by number of IFA tablets received

Prevalence of Anemia						
Total tablets received	Pregnant		Lactating		Total	
	Examined No.(%)	Anemic No.(%)	Examined No.(%)	Anemic No.(%)	Examined No.(%)	Anemic No.(%)
1-30	2 (1.6)	1 (50.0)	5 (18.5)	4 (80.0)	07 (4.7)	05 (71.4)
31-60	51(41.5)	39 (76.5)	9 (33.3)	3 (33.3)	60 (40.0)	42 (70.0)
61-90	8 (6.5)	6 (75.0)	6 (22.2)	2 (33.3)	14 (9.3)	08 (57.1)
100	62 (50.4)	25 (40.3)	7 (26.0)	4 (57.1)	69 (46.0)	29 (42.0)
Total	123 (100.0)	71 (57.7)	27 (100.0)	13 (48.1)	150 (100.0)	84 (56.0)

$\chi^2 = 16.06$, df = 3,
p < 0.001

$\chi^2 = 3.57$, df = 3,
p > 0.05

TABLE - 3

Anemia in mothers by number of IFA tablets consumed

Prevalence of Anemia						
No.of tablets consumed	Pregnant		Lactating		Total	
	Examined No.(%)	Anemic No.(%)	Examined No.(%)	Anemic No.(%)	Examined No.(%)	Anemic No.(%)
None	4(3.3)	3(75.0)	5(18.5)	5(100.0)	9(6.0)	08(88.9)
1-30	32(26.0)	27(84.4)	5(18.5)	3(60.0)	37(24.7)	30(81.1)
31-60	24(19.5)	17(70.8)	9(33.3)	3(33.3)	33(22.0)	20(60.6)
61-90	13(10.6)	8(61.5)	6(22.2)	2(33.3)	19(12.7)	10(52.6)
100	50(40.6)	16(32.0)	2(7.4)	0(0.0)	52(34.6)	16(30.8)
Total	123(100.0)	71(57.7)	27(100.0)	13(48.1)	150(100.0)	84(56.0)

$\chi^2 = 8.55$, df = 4,
p < 0.001

$\chi^2 = 8.84$, df = 4,
p > 0.05