"INFLUENCE OF DIRECTLY OBSERVED IRON THERAPY ON ADHERENCE TO IRON TABLETS CONSUMPTION BY PREGNANT WOMEN IN A RURAL FIELD PRACTICE AREA" - A CONTROLLED TRIAL

BY

DR. ANIL B.S

DISSERTATION

SUBMITTED TO THE

KLE UNIVERSITY

BELGAUM, KARNATAKA

IN PARTIAL FULFILMENT

OF THE REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF MEDICINE (M.D)

IN

COMMUNITY MEDICINE

UNDER THE GUIDANCE OF

DR. H N SANGOLLI MD

ASSOCIATE PROFESSOR

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J.N.MEDICAL COLLEGE, NEHRU NAGAR,
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MAY 2010

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Declaration by the Candidate

I hereby declare that this dissertation entitled

"INFLUENCE OF DIRECTLY OBSERVED IRON THERAPY ON ADHERENCE TO IRON TABLETS CONSUMPTION BY PREGNANT WOMEN IN A RURAL FIELD PRACTICE AREA"- A CONTROLLED TRIAL is a bonafide and genuine research work carried out by me, under the guidance of **Dr. H N SANGOLLI** $_{\textbf{MD}}$ Associate Professor, Department of Community Medicine, J. N. Medical College, Belgaum.

Date:

Place: Belgaum **(Dr. ANIL B S)**

Certificate by the Guide

This is to certify that the dissertation entitled **"INFLUENCE OF DIRECTLY OBSERVED IRON THERAPY ON ADHERENCE TO IRON TABLETS CONSUMPTION BY PREGNANT WOMEN IN A RURAL FIELD PRACTICE AREA" – A CONTROLLED TRIAL** is a bonafide research work done by **DR. ANIL B S** in partial fulfilment of the requirement for the degree of MD Community Medicine.

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ACKNOWLEDGEMENTS

This study has been supported by the KLE University, Belgaum and by the active participation of enthused pregnant women and direct observers from the field-practice area of Agasaga and Shivapur Subcentres. It is an immense delight to convey my gratitude and regards to all the people who have made such a positive impact in the completion of this research study.

It is with a deep sense of gratitude that I thank my guide **Dr. H N Sangolli** **MD** Associate Professor, Department of Community Medicine, J. N. Medical College, Belgaum, for his able guidance, constant inspiration, and invaluable support at every stage of my study. I am also thankful to **Dr. V.D. Patil** **MD DCH**, Principal, Jawaharlal Nehru Medical College, Belgaum, for giving me an opportunity to undertake and complete the present study.

I express my deep sense of gratitude to **Dr.(Mrs). VIJAYA .A. NAIK** **MD, DPH,** Professor and Head, Department of Community Medicine, J. N. Medical College, Belgaum, for her continued support and guidance throughout the course of this study. I also extend my gratitude to **Dr. S.M. Katti.** MD, Professor, Department of Community Medicine, J. N. Medical College, Belgaum, for his constant inspiration and constructive criticism.

I express my sincere gratitude to **Dr. A. S. Wantamutte** **MD (BHU)** Professor, Department of Community Medicine, J. N. Medical College, Belgaum, for his supervision, insight, and intense feedback regarding the study. I also sincerely thank **Shri. M. D. Mallapur M.sc**, Statistician and an exemplary teacher of biostatistics for his invaluable help with statistical analysis of data. I thank and appreciate Dr**. M. S.**

Shivaswamy and Dr. Padmaja R Walvekar, Associate professors for their help and support with study design and data collection.

I express my deep gratitude and love to my amazing family, including my parents **Shri. B Somashekara, Smt. S Janaki,** my sister **Asha** and my fiancee **Kshama K K**. for supporting, inspiring, and encouraging to do my best at all times. I acknowledge and appreciate their countless and implicit sacrifices. I truly acknowledge my close friend **Javad,** for his support and prompt suggestions.

My special thanks to **Dr. Ravindra, Dr. Praveen Kumar B A** for their valuable help in electronic data entry and moral support in the completion of this study. I am thankful to **Dr. Rudramma, Dr. Veena** and all other **Fellow Postgraduates** and **Colleagues** for their support and insight. I also extend my sincere thanks to **Dr. Shobha, Dr. Deepthi, Dr. Chandra, Dr. Girija, Dr. Yogesh, Sri Patil V.B, and Smt. S.A. Hukkeri,** for their continued support and inspiration.

My heartfelt thanks to **Shantaram, Neelamma, Maya, Nalini, Kumbar, Sangolli Ahmed, Gangadhar** of Handignur PHC for their technical support with the logistics of conducting the present study. I extend my sincere regards to **Mr. Mahesh** and all those who have helped me in all possible ways to bring out this work.

Finally, I dedicate this dissertation work to all the Anganwadi workers and pregnant women belonging to Agasaga and Shivapur Subcentres for their altruistic attitude and willing co-operation, without which this study would not have been possible.

Dr. ANIL B S

LIST OF ABBREVATIONS

ANC	-	Antenatal Case
ANM	-	Auxiliary Nurse Midwife
BAMS	-	Bachelor of Ayurvedic Medicine and Surgery
BHMS	-	Bachelor of Homeopathic Medicine and Surgery
CHV	-	Community Health Volunteers
DBP	-	Diastolic Blood Pressure
DF	-	Degree of Freedom
DOTS	-	Directly Observed Treatment Short course
Hb	-	Haemoglobin
IFA	-	Iron and Folic Acid
IFA	-	Iron and Folic Acid
ISDS	-	Iron Supplementation Delivery System
JN Medical College	-	Jawaharlal Nehru Medical College
KLE	-	Karnataka Lingayath Education Society
MBBS	-	Bachelor of Medicine and Bachelor of Surgery
MCH	-	Maternal and Child Health
MF	-	Multiplication Factor
NFHS	-	National Family Health Survey
NGO	-	Non-Governmental Organization
NGO	-	Non Governmental Organization
No.	-	Number
No.	-	Number
OR	-	Odds Ratio
P	-	P- Value
PHC	-	Primary Health Centre
POT	-	Personally Observed Treatment
RBC	-	Red Blood Cell
RCH	-	Reproductive and Child Health
RCH	-	Reproductive and Child Health
RMP	-	Registered Medical Practitioner
SBP	-	Systolic Blood Pressure
SES	-	Socio Economic Status
SWACH	-	Survival for women and children foundation
TBA	-	Traditional Birth Attendant
UNICEF	-	United Nations International Children’s Emergency Fund
WHO	-	World Health Organization

ABSTRACT

Background and objectives:

Iron deficiency is the most prevalent nutritional deficiency on the globe. Women, especially during pregnancy, are among those most vulnerable population to iron deficiency and its more severe manifestation, anaemia. Many pregnant women have very less compliance to oral iron tablets prescribed. To achieve higher compliance in this regard, there is a need to concentrate on a better way of delivery system. Appointing a direct observer from the community itself may be a cost-effective way of finding a solution to this problem. Current study was undertaken to validate a method for monitoring and delivery of iron supplements to the pregnant women by direct observers, in order to evaluate the adherence to the supplement regimen and observe the possible effects on haemoglobin values.

Methodology:

The study was conducted between January 2008 to December 2008 in villages belonging to Agasaga and Shivapur subcentres of Handignur PHC, a rural field practice area of J N Medical College, Belgaum. A total of 140 pregnant women were recruited for a non-randomised controlled trial, who were studied under the case and control groups. Direct observers were assigned to the case group, for monitoring consumption by the pregnant women. Detailed history and baseline investigations were done before the initiation of study, followed by a total of four visits to each participant.

Results:

The possible confounding factors (demographic variables, baseline investigations, etc) were matched across cases and controls. The mean adherence rate and haemoglobin levels in case group entailed a statistically significant outcome (p=0.000) compared to the Control group across all visits.

Conclusion:

It was observed that assigning a direct observer for monitoring and delivery of iron supplementation, amplifies the adherence of pregnant women to oral iron tablets.

Keys words: Compliance; Monitoring; Supervision; Direct Observer; Anaemia in pregnancy; Prenatal supplements.

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INTRODUCTION

Iron deficiency is the most prevalent nutritional deficiency on the globe.[1] Women, especially during pregnancy, are among those most vulnerable to iron deficiency and its more severe manifestation, anemia. Even though the majority of developing country governments have policies to provide iron supplements to pregnant women, anemia prevalence has not declined significantly where large-scale programs have been evaluated.[2]

Current estimates from the World Health Organization (WHO) (1993-2005) put anemia prevalence at 41.8 % among pregnant women, with the highest prevalence rate (61.3%) found among pregnant women in Africa and 52.5 % among South East Asia.[3]

Prevalence of anaemia among pregnant women (%) [4, 5]:

PLACE	OVERALL	URBAN	RURAL
INDIA	57.9	54.6	59.0
KARNATAKA	59.5	48.7	65.6

The magnitude of the problem combined with its negative consequences for both mother and infant justify its prioritization within maternal health programs. Up to 90% of maternal anemia results from inadequate consumption of bioavailable dietary iron. Depending on local conditions, other determinants can also play a key role like increased blood loss due to hookworm or schistosomiasis, bleeding piles, the impact of chronic infections such as malaria and HIV/AIDS, folic acid and B_{12} deficiencies, and genetic disorders such as sickle cell anemia and thalassemia major.[6]

The Standards for Maternal and Neonatal Care developed by the Department of Making Pregnancy Safer, World Health Organization advices to provide all pregnant women with a standard dose of 60 mg iron + 400 μg folic acid daily for 6 months or, if 6 months of treatment cannot be achieved during the pregnancy, either continue supplementation during the postpartum period or increase the dosage to 120 mg iron during pregnancy.[7]

In India, under National Nutrition Anemia Prophylaxis programme, the pregnant women and nursing mothers, as well as acceptors of family planning are given one tablet of iron and folic acid containing 60 mg elementary iron which was raised to 100 mg elementary iron, however folic acid content remained same (0.5 mg of folic acid) daily for a period of 100 days. This programme is being taken up by Maternal and Child Health (MCH) Division of Ministry of Health and Family Welfare, now a part of RCH programme.[8]

Despite the recommendations mothers who consumed IFA for 90 days or more when they were pregnant with their last child (%) {By NFHS – 3 [2005-06]} [4, 5]

PLACE	OVERALL	URBAN	RURAL
INDIA	22.3	34.5	18.1
KARNATAKA	40.0	48.9	34.7

Even after significant advancements in understanding the dynamics of iron supplementation programs, research gaps remain. The messages and the media for communication materials will continue to be refined as knowledge and behaviors (those of women, their families, and service providers) change over time. Efforts are

in place to generate interest and commitment on the part of health care providers to deliver iron/folate tablets, and to improve training of providers for promoting the use of iron supplements, through counseling and supportive listening. However, such degree of phenomenal work still needs amendments and commitment at the grass root level. The concept of how best to assist the women to adhere for a daily regimen of supplement consumption is not fully understood. Looking to the experience with other types of daily protocols (e.g., tuberculosis control) may hold some clues to this complex behavioral issue.[9]

Programs that have proved successful with using of iron/folate supplementation to prevent and control iron deficiency and anemia in pregnant women have focused on

(1) Increasing availability of supplements, (2) Increasing acceptability of iron/folate tablets, (3) Improving provider performance, (4) Increasing compliance, and (5) Encouraging iron supplementation earlier in life. [6]

MotherCare's research and program experience underscores critical importance of the provider for the success of iron supplementation programs. Lack of knowledge about the importance of controlling iron deficiency and anemia during pregnancy contributes to the frequent disinterest and low priority placed on delivery of IFA supplements to women. Providers must be willing (and trained) to actively engage in education and counseling of clients in order to motivate and support women in adhering to the daily regimen. From a range of developing countries comes evidence that there are often serious misperceptions on the part of service providers regarding women's reasons for non-adherence to the long-term supplementation schedule during pregnancy and the postpartum periods. Unless they can communicate

the importance of iron supplements to the mothers and their babies and enable women to surmount logistical, behavioral, cultural, and physical (e.g., side effects) barriers, programs may not be successful.[6]

Compliance to therapy is one of the important factors that affect the outcome of therapy. Compliance can be defined as the extent to which a patient's behavior coincides with medical advice. In case of tuberculosis, non-compliance may also result in acquired drug resistance requiring more prolong and expensive therapy that is less likely to be successful than the treatment of drug susceptible tuberculosis. Hence the Directly Observed Treatment Short Course was designed and the adoption of DOT has been associated with reduced rate of treatment failure, relapse and drug resistance.[10]

To increase the compliance for iron tablets, we need to develop specific tools and approaches to address the difficulties of a daily regimen. Some studies indicated that forgetfulness was a significant barrier for consumption of iron tablets. In a study, women participating in in-depth interviews felt that they needed outside assistance to remember to consume IFA tablets. In another study supervision helped pregnant women adhere to the iron tablets consumption.[6] Considering all the interventions done to improve adherence, present study was undertaken to monitor and supervise the pregnant women consuming iron tablets and thereby attempted to better the compliance. Though there are many alternative way of supplementing iron and folic acid, all of them are not cost-effective. With the available resources, a better way of delivery system is required to improve compliance. One of the main components in iron supplement delivery system would be monitoring and evaluation. Hence, appointing a direct observer from the community itself would help in cost-effective

way of finding a solution to the problem. It may also help in motivating and reminding the pregnant woman to consume the oral iron tablets regularly. In the background of this research question, the present study was undertaken to evaluate the benefits of monitoring the iron supplement consumption by direct observers.

Objectives of the Study:

Primary:

To study the effect of directly observed iron therapy on the adherence to consumption of oral iron tablets by pregnant women.

Secondary:

To estimate any change following directly observed iron therapy on haemoglobin status of pregnant women.

REVIEW OF LITERATURE

Iron compliance is one of the major factors contributing to the effectiveness of iron supplementation programme. Some studies on iron compliance have opinionated that better delivery system of iron tablets is the need of the hour.[6] Seldom there have been studies which have focused on iron supplementation interventions with the help of a direct observer for the traditional method of delivering iron supplements. These studies have been discussed in this section to provide a broad-based conceptual understanding of the needs for and the advantages of directly observed iron therapy. The reviews are related generally to the overall population and specifically to the pregnant women.

Factors contributing for low/non-adherence to iron supplements:

In the course of advocating a direct observation for validating the consumption of nutritional supplements like iron, we also have to consider a significant number of factors that may invariably affect the adherence to these supplements. A study conducted among low-income women in USA during 2005 on pill count adherence to prenatal multivitamin/ mineral supplement use, reported that ethnicity, nulligravidity, smoking, educational and marital status, affected the adherence of the women on taking pills. The study was monitored using a pill bottle fitted with Medical Event Monitoring System. They could calculate the adherence [74%] of pregnant women to iron tablets. However, compared to the gold standard Medical Event Monitoring System measure, both self-reports and pill counts overestimated adherence in the validation sample. The results indicated that side effects were distributed equally in different ethnic groups, but the adherence showed no association with side effects. Since the study involved no intervention with direct observers, the next logical

extension in this line of research will be to observe and record if the adherence to iron supplements can be strengthened by the human intervention with a direct observer, at the time of consumption of the drug.[11]

A qualitative study on women's perceptions of iron deficiency and anaemia prevention and control in eight developing countries describes that the major reasons for women not continuing iron tablets consumption are poor access to supplies (i.e., low utilization of antenatal care services or inadequate supplies at facilities), the form of the tablet (i.e., unappealing taste, smell, or colour), side effects (e.g., gastrointestinal problems), fear (e.g., high birth weight, difficult delivery, harm to the foetus), recovery (i.e., discontinuation of supplements as a result of improvement in symptoms) and behaviour (i.e., forgetting or not wanting to take the tablets). In the nation-wide surveys of Latin American countries, it is observed that women are reluctant to accept iron tablets from sources outside the government health system, fearing poor quality control and lack of medical supervision. In South India, where the private sector is well developed at the community level, the opposite is true. Potential consumers of supplements are suspicious of the quality of government-supplied pharmaceuticals. In such instances, tablets procured and distributed through NGOs, purchased from private clinics, or in the marketplace are regarded safer.[12]

A study conducted in 1994, to evaluate the determinants of compliance with iron supplementation suggested that inadequate program support (lack of political commitment and financial support); insufficient service delivery (poor provider-user dynamics; lack of supplies, access, training. and motivation of health care professionals); and patient factors (misunderstanding instructions, side effects, frustration about the frequency and number of pills taken, migration, fear of having big babies, personal problems, nausea that accompanies pregnancy, and the subtlety

of anaemia which makes demand for treatment low) are contributors for an overall non-adherence to iron supplements. The authors concluded that, the unavailability of iron supplements was the most common reason why women did not take iron supplements. This point to the fact that the side-effects and other compliance issues with iron supplementation have been overrated and should not be held as a detrimental element for rendering iron supplementation to the target population.[13]

Confounds of behavioural patterns affecting the adherence:

A study in 1993 on low compliance with an iron-supplementation program among pregnant women in Jakarta, explained that the most important reason for non-adherence to iron tablets is skipping the doses on account of forgetfulness. In this study, a total of 45 subjects were inducted for a 2-month supplementation programme. It was observed that only 33 were available for follow-up. Presence of elemental iron in stool was tested by using colouring reaction with stool sample. Even though, 64% of 33 pregnant women claimed to have 100% adherence, a thorough stool examination revealed that only 36% of them completely adhered to iron supplementation. Therefore, the author concluded that there is a strong need for supplementation programs reliably monitored and evaluation systems should be in place to estimate the authenticity of pupils' claims about adherence.[14]

A study conducted in 2007 on the determinants of compliance with iron supplementation among pregnant women in Senegal revealed that overall compliance was 69%. It was significantly higher in the treatment than in the control group (86% vs. 48%). Women with higher compliance (58%) were motivated by the perception of improved health upon taking the tablets. The insistence by midwives and the mentioning that the tablets would improve health also increased compliance. Women

with low compliance (42%) reported about the unfavourable experience due to side-effects and the misunderstanding that they needed to continue taking the tablets throughout pregnancy and the forgetfulness affecting their compliance.[15]

Lessons from DOTS (a parallel issue):

A study of treatment compliance in Directly Observed Therapy for Tuberculosis conducted in Gujarat during 2006 showed that 93% of study population was compliant to the DOT. One of the reasons for non-compliance was the fact that the anti-tubercular drugs caused a marked array of toxic symptoms owing to composition. The number of people discontinuing treatment on this regards were 12/19, (63.2%). The other reasons included transient period of recovery (feeling better during treatment) causing a total of 3/19 (15.8%) to terminate the treatment. Additionally, lack of knowledge about various aspects of Tuberculosis and its treatment resulted in a drop-out of 10.5%. The study revealed that the compliance of DOT was significantly high among those who exhibited good knowledge about various aspects of disease.[10]

Auxiliary interventions for direct observation:

A report by UNICEF in China during 2002 had described that anaemia control programs in ANC are ineffective due to women not taking iron tablets because of side effects. In addition, the problem is amplified due to the failure of health providers to address other causes of anaemia, including any concomitant parasitic infections. For an iron supplementation program to be effective, the report proposed three major interventions. Firstly, the exact strength and number of iron tablets must be delivered to the pregnant women. Secondly, the recipient needs to acquire the supplements at the place, where she is working or living. Finally, appropriate behavioural

interventions need to be rendered to help the pregnant women overcome the psychological barriers that keep them from consuming the iron supplements regularly and consistantly.[16]

A study conducted in Baltimore, Maryland area to observe the impact of Pill Organizers and Blister Packs on Adherence to pill taking in two vitamin supplementation trials revealed that among those with lower adherence, the pill count distribution in the blister-pack group exceeded than that of organizer group. Mean differences in serum vitamin E levels between active and placebo groups did not differ by types of pill packaging. In summary, use of blister packs, but not pill organizers, improved adherence as measured by pill counts among those with lower adherence.[17]

Need for direct observation:

A pilot study on the management of anaemia in rural patients of Panyali, Himachal Pradesh in 2004 indicated that providing iron supplementation as directly observed home based therapy is feasible and successful in decreasing the prevalence of anaemia by 40% in resource-poor settings. The compliance for oral iron consumption was 87%. The study was done with the general population and among them, only two were pregnant women. However, both pregnant women were protocol violators and did not complete the intervention and hence excluded from the study.[18] Nonetheless, it was a pioneer study in its domain and paved the way for further exploration of directly observed iron therapy, especially in rural populations.

The failure of antenatal programmes in most developing countries, to address the issue of anaemia has been underlined by a study done in 2002 in rural Tanzania. The authors were able to detect prevalence of anaemia to be 58% and that of severe

anaemia as being close to 6.2%. However, only 4% of them had availed specific guidance and interventions within the antenatal program.[19] This points to a possible and potential intervention in the form of a direct observer to bolster the adherence to iron supplementation and consequently improve the iron consumption in the target population.

In spite of a range of negative effects experienced by some women (approximately one-third) in each study site (e.g., poor quality of the tablets, including bad taste and a tendency to split or burst, physical symptoms of heartburn, headache, dark stools, constipation, and diarrhoea), it is seen that in most of the studies, the majority of women persisted with the trial, finding that side effects subsided after the first few days. Only about one-tenth of women stopped taking iron tablets because of side effects. The knowledge that iron will improve the health of their children and themselves motivates most women to tolerate transitory discomforts associated with the iron supplements.[19]

A prospective, partially randomized study of pregnancy outcomes and hematologic responses to oral and intramuscular iron treatment in moderately anemic pregnant women was conducted in New Delhi in 2004. Of the 148 women who were assigned to receive oral iron treatment, only 100 completed the study and attended follow-up clinic for a second blood sample test. A successful study termination of 67.5% was computed for this group. On the other hand, of the 106 women who were assigned to receive parenteral iron treatment, 100 completed the study, the rate of successful study termination in this group being 94.3%, an obvious higher rate than the other group. It is noteworthy that there are no significant differences between the 2 groups in age, parity, literacy, socioeconomic status, or gestational age at the start of the study. Gastrointestinal side effects were observed more frequently in the oral iron

group than in the parenteral iron group. Even though, this study favours parenteral iron supplementation compared to oral iron therapy, one can make a reasonable assumption about the favourable increase in the haemoglobin level to be due to direct observation (in a sense that parenteral iron therapy can only be administered by a health professional).[20] The need for direct observation has been highlighted by a survey in Baroda, Gujarat. Nearly 50% of the women who were a part of in-depth interviews felt that they needed outside assistance to remind them for taking IFA tablets.[6]

Dealing with non-compliance issues:

Typically, non-compliance (or non-adherence) with medical advice is assumed to reflect patient ignorance, inability to retain medical instructions, or willful, deviant behaviour. Recent research suggests that compliance (or not) with medical advice is the result of rational decision-making by the patient about the costs and benefits of prescribed actions, depending upon individual socio-cultural circumstances. It is suggested that "more open, cooperative doctor-patient relationships" are the key to improved compliance. Finding ways to improve the patient-provider relationship through "negotiation and accommodation" must be found.[21]

A study done in Bangladesh during 2002 to know the effect of adverse events on compliance showed that gastrointestinal side-effects were not significantly associated with compliance. Compliance was monitored using a pill bottle equipped with an electronic counting device that recorded date and time whenever the pill bottle was opened. Of the five gastrointestinal side-effects (heartburn, nausea, vomiting, diarrhoea, or constipation) assessed, vomiting occurred more frequently in the weekly group (21%) than in the daily group (11%, $p<0.05$). Compliance (ratio between observed and recommended tablet intake) was significantly higher in the

weekly supplementation regimen (93%) than in the daily-supplementation regimen (61%, $p<0.05$). However, the presence of nausea and/or vomiting reduced compliance in both the regimens. The findings support the view that gastrointestinal side-effects generally have a limited influence on compliance, at least in the dose ranges studied.[22]

Empirical evidence for directly observed therapy:

Even though there are not many studies that have explored the realm of direct observation to monitor iron supplementation, there is ample evidence to suggest the validity of such methods in ensuring better drug compliance and adherence. A study done in Philippines in 2008 to evaluate the effectiveness of a redesigned iron supplementation delivery system for pregnant women showed that pregnant women in the experimental area were four times more likely to take iron tablets (OR = 3.79) and sixteen times more likely to being monitored for iron intake (OR = 16.86) compared to the control. In this study 1180 pregnant women were given iron/folic acid tablets daily through the redesigned ISDS in the experimental areas and the existing ISDS in the control areas.[23]

A study done in 2005 to know the impact of a weekly iron-folic acid supplement delivered with social marketing to Cambodian women revealed that supplementation was increasingly effective among women of higher socioeconomic status (SES). Among higher SES schoolgirls, 58% took the supplements, compared with 49% for lower SES. Social marketing program promoting weekly iron-folic acid supplementation improved haemoglobin levels in women of reproductive age in Cambodia.[24]

A conducted a study in Toronto to investigate the effects of iron content on the tolerability of prenatal multivitamins in pregnancy. There was no statistically

significant difference detected in proportions of women who actually started taking either [35mg or 60mg] multivitamin. Kaplan-Meier survival curves demonstrated no significant differences in rates of adherence or reported adverse events. The range of pill intake for both the groups was zero to 100%, and the mean pill intake for both groups was approximately 50%.[25]

A study in 1998 conducted at the St John's Medical College, Bangalore, demonstrated the effectiveness of utilizing community women as "Volunteers" who would participate in the distribution of iron thereby improving coverage. Community Health Volunteers (CHVs) were identified with special predetermined criteria (e.g. willingness and enthusiasm even being a mother and having family approval) and with the help of women in the community. Village leaders, government functionaries, Traditional Birth Attendants were given priority and selected in many villages as they already enjoyed an excellent relationship with women in the community and were trusted caregivers during pregnancy. The authors found that health education and promotion of iron consumption through innovative IEC strategies generated demand for iron as well as improved compliance in terms of regular consumption.[26]

On similar lines, calendars were developed in Bolivia and Indonesia for women to use in their homes. They provided space for storage of IFA tablets, spots for marking that a tablet had been consumed that day, and pictorial/written information about anaemia prevention.[6,12]

Under a MotherCare-supported project in Haryana, India, the Survival for Women and Children Foundation (SWACH) adapted the DOTS strategy for anti-tuberculosis treatment, to deliver iron supplements. The project implemented personally observed treatment [POT], as a mechanism to combat the difficulties of a

daily iron regimen. Adolescent girls on their way to and from school stopped by the homes of pregnant women who had been diagnosed with moderate anaemia. They supervised the consumption of twice-daily iron supplements and provided information about iron and anaemia. With this treatment strategy, they were able to achieve nearly 100% compliance.[6,12]

Iron supplementation reports across the globe have been suggesting that communication efforts must be expanded to increase understanding of the importance of taking supplements and to address any fears or misconceptions relating to supplementation. Overall, measures should be taken to increase the capacity of individuals and communities to define, analyze and act to address their own health needs.[27]

A study done in Massachusetts medical school on lesson in a pill box revealed the differences in expectations versus experience about the difficulty of adherence. That difference, combined with the qualitative feedback, suggests that obtaining such results may benefit the researchers to device effective strategies in the future[21].

RESULTS

The results of the study are discussed in this section, which included \ 140 pregnant women participants (n=140). The level of significance was set at a conventional ‘p’ value of 0.05.

The following were the parameters that were observed among the two groups [Study and Control]:

The first ten tables match the confounding factors between study and control group. Table 1 and 2 provide comparison between the demographic variables. Table 3 and 4 compare the Antenatal profile of the pregnant women. Table 5 provides details about environmental and healthy personal habits. Table 6 and 7 provide details on baseline investigations done during the initial stages of the study. Table 8A, 8B and 9 provides the details about dietary habits and deficiencies of calorie and protein. Table 10 matches the demographic profile of direct observers. Table 11 and 12 show the improvement in anaemia and haemoglobin status in two groups during 3 months. Table 13 compares the adherence rates between two groups during the period of study. Table 14 provides reasons for missed doses in both the groups.

Many other parameters [demographic profile, antenatal history, general physical examination, systemic examination, etc] were included in the data collection for ethical reasons. These confounding factors were also matched and found statistically insignificant. The parameters which may have an effect on the present study only are shown in the results section.

Note: The tables and graphs depicted in this section are not to scale.

Table 1: Distribution of participants according to caste, age and literacy level in Study and control groups.

CHARACTERISTIC		STUDY n=72		CONTROL n=68		TOTAL n=140		Test of Significance
		No.	%	No.	%	No.	%	
Caste	Hindu	38	52.8	42	61.8	80	57.1	$\chi2 = 1.203$ DF = 2 P = 0.548
	SC	16	22.2	13	19.1	29	20.7	
	ST	18	25	13	19.1	31	22.1	
Woman's Age	16-20 yrs	39	54.2	35	51.5	74	52.9	$\chi2 = 0.102$ DF = 2 P = 0.950
	21-25 yrs	30	41.7	30	44.1	60	42.9	
	31-35 yrs	3	4.2	3	4.4	6	4.3	
Woman's Literacy	Illiterate	25	34.7	25	36.8	50	35.7	$\chi2 = 0.211$ DF = 3 P = 0.976
	Primary	15	20.8	15	22.1	30	21.4	
	Middle	17	23.6	14	20.6	31	22.1	
	High School	15	20.8	14	20.6	29	20.7	

There was no statistically significant difference between Study and control group in the distribution of participants according to caste, age and literacy. All the participants were belonging to Hindu religion. There were no Christians nor Muslims in our study as the PHC had <1 % of Muslim population and absolutely no Christian population. Among them majority of the participants were belonging to the general Hindu (57.1%) category and remaining were Scheduled Caste (20.7%) and Scheduled Tribes (22.1%). Many of them were in the age group 16-20 years (52.9%) followed by 21-25 years group (42.9%). Most of the participants were not literates (35.7%).

Table 2: Distribution of participants according to Socio economic status and type of family

CHARACTERISTICS			STUDY n=72	CONTROL n=68	TOTAL n=140	TEST
Per Capita Income	Class II (1083 – 2165)	No.	12	12	24	$\chi^2 = 0.051$ DF = 3 P = 0.997
		%	16.7	17.6	17.1	
	Class III (650 – 1082)	No.	23	22	45	
		%	31.9	32.4	32.1	
	Class IV (325 – 649)	No.	33	30	63	
		%	45.8	44.1	45.0	
	Class V (< 325)	No.	4	4	8	
		%	5.6	5.9	5.7	
Family Type	Joint	No.	43	43	86	$\chi^2 = 14.627$ DF = 2 P = 0.001
		%	59.7	63.2	61.4	
	Nuclear	No.	25	9	34	
		%	34.7	13.2	24.3	
	Three Generation	No.	4	16	20	
		%	5.6	23.5	14.3	

In the current study, the participants were equally distributed in Study and control group, with regard to their Socio-economic status. A higher number of participants were in Class IV (45%) and Class III (32.1%) level. There was a statistically significant difference in the distribution of participants among Study and control groups in relation to the family type. Joint families were observed to be similarly distributed. However, nuclear families were identified in higher number in the Study group (34.7%) compared to the control group (13.2%); whereas three generation families were observed more in the control group (23.5%) compared to the Study group (5.6%).

Table 3: Distribution of participants according to the ANC registration time and place

CHARACTERISTIC		STUDY n = 72		CONTROL n = 68		TOTAL n = 140	
		No.	%	No.	%	No.	%
Time of ANC Registration	1st trimester	72	100	68	100	140	100
*Place of ANC Registered	PHC	27	37.5	26	38.2	53	37.9
	Anganwadi	15	20.8	0	0	15	10.7
	Private Hospital	7	9.7	18	26.5	25	17.9
	Sub Centre	23	31.9	24	35.3	47	33.6

***$\chi 2$ = 19.782 DF = 3 P = 0.000**

All the participants got registered in their first trimester and most of the registrations were completed in Primary Health Centre (37.9%) followed by Subcentres (33.6%) in both the groups. None of the control group got registered in Anganwadi centres; where as more of control group registered in the private hospital (26.5%) compared to the Study group (9.7%)

Graph 1: Distribution of participants according to the place of ANC registration

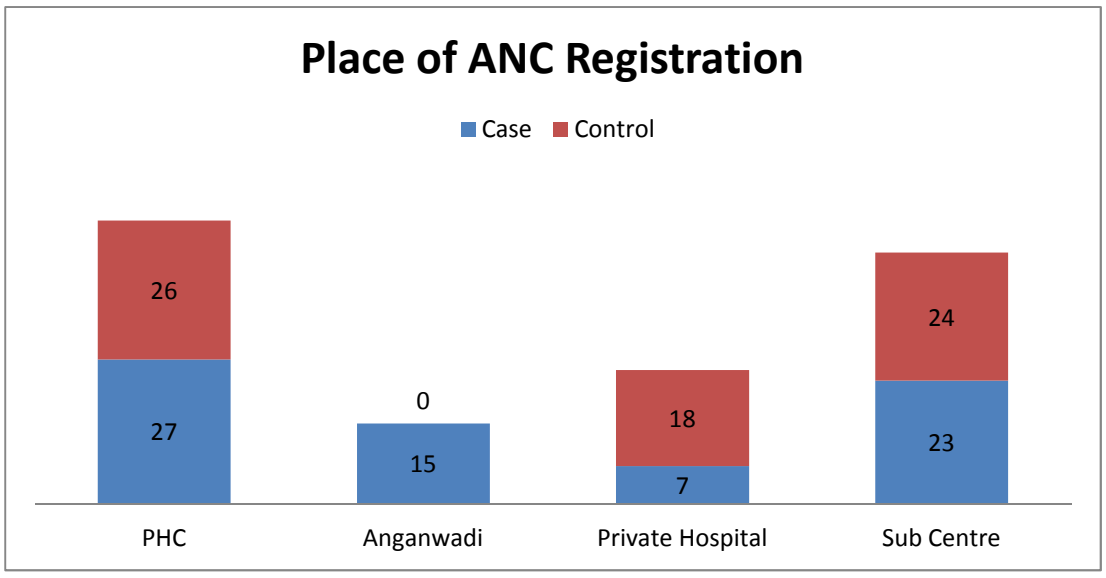

Table 4: Distribution of pregnant women according to gravida and parity, and number of living children

CHARACTERISTIC		Study [n=72]		Control [n=68]		Total [n = 140]		Test of significance
		No.	%	No.	%	No.	%	
Gravida and Para	**1**	35	48.6	25	36.8	60	42.9	**χ2 13.713 DF = 4 P 0.008**
	2	20	27.8	35	51.5	55	39.3	
	3	9	12.5	8	11.8	17	12.1	
	4	4	5.6	0	0	4	2.9	
	5	4	5.6	0	0	4	2.9	
Living Children	**0**	39	54.2	34	50.0	73	52.1	**χ2 7.806 DF = 3 P = 0.050**
	1	16	22.2	26	38.2	42	30.0	
	2	13	18.1	8	11.8	21	15.0	
	3	4	5.6	0	0	4	2.9	

There was a statistically significant difference in the distribution of Gravida and Para of pregnant women in the two groups. More of Gravida 1 and Para 1 (48.6%) participants were in the Study group, whereas Gravida 2 and Para 2 (51.5%) were relatively higher in the control group. Women belonging to Gravida/Para 4 (5.6%) and 5 (5.6%) were found only in the Study group. There was no statistically significant difference among the number of living children the women had in both the groups.

Table 5: Distribution of participants according to toilet facility at homes, footwear use, and deworming status

CHARACTERISTIC		STUDY n = 72		CONTROL n = 68		TOTAL n = 140		TEST
		No.	%	No.	%	No.	%	
Toilet Facility	**Yes**	44	61.1	42	61.8	86	61.4	**$\chi 2 = 0.006$ DF = 1 P = 0.937**
	No	28	38.9	26	38.2	54	38.6	
Foot Wears	**Yes**	44	61.1	41	60.3	85	60.7	**$\chi 2 = 0.010$ DF = 1 P = 0.921**
	No	28	38.9	27	39.7	55	39.3	
Deworming	**Done <6m**	22	30.6	22	32.4	44	31.4	**$\chi 2 = 0.052$ DF = 1 P = 0.819**
	Not done	50	69.4	46	67.6	96	68.6	

In the current study there is no statistically significant difference in the distribution of participants according to the use of foot wears, toilet facility at homes, and the deworming status. Totally, 61.4% of the participants had a toilet facility at home and 60.7% were using foot wears. But the status of the deworming history in the last 6 months was elicited only with 31.4% of the participants.

Table 6: Distribution of participants according to anaemia and its grade at baseline

CHARACTERISTIC		STUDY n=72		CONTROL n=68		TOTAL n=140		TEST
		No.	%	No.	%	No.	%	
Anaemic status at baseline	No anemia	3	4.2	1	1.5	4	2.9	χ^2= 0.339 DF = 1 P = 0.916
	Anemia	69	95.8	67	98.5	136	97.1	
Anaemic grade at baseline	Severe	6	8.3	3	4.4	9	6.4	χ^2= 0.528 DF = 3 P = 2.221
	Moderate	62	86.1	62	91.2	124	88.6	
	Mild	1	1.4	2	2.9	3	2.1	
	Normal	3	4.2	1	1.5	4	2.9	

In the first visit, majority of the participants were provisionally diagnosed as being anaemic (97.1%). Additionally, most of them were categorized to be having a moderate anaemia (88.6%). There was no significant difference in the distribution of anaemia in Study and control group.

Graph 2: Distribution of participants according to grade of anaemia at baseline

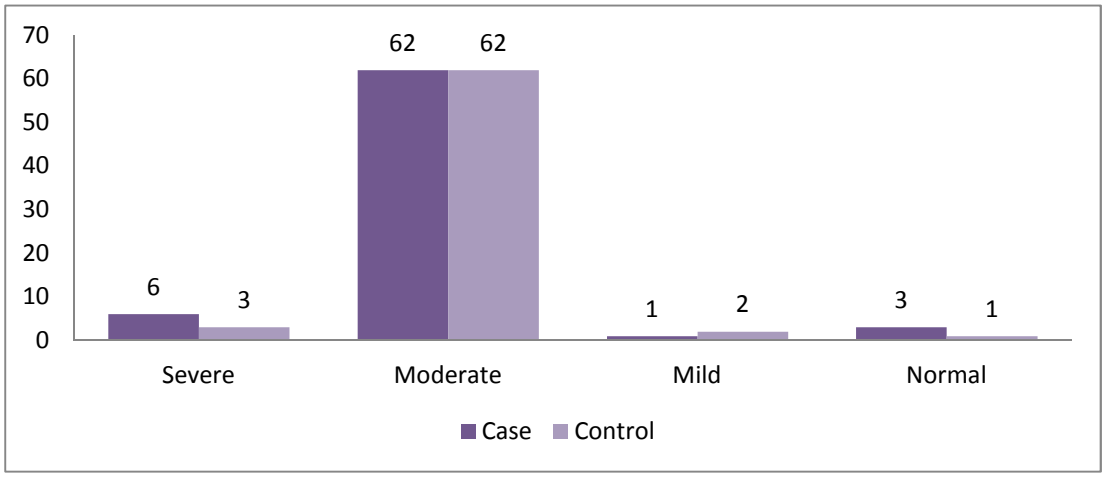

Table 7: Distribution of participants according to baseline peripheral smear report

CHARACTERISTIC			STUDY	CONTROL	TOTAL	TEST
Cell Size at 1st Visit	**Normocytic**	**No.**	72	68	140	-
		%	100	100	100	
Cell cytoplasm at 1st Visit	**Normochromic**	**No.**	10	16	26	$\chi 2$ = 2.149 DF = 1 P = 0.143
		%	13.9	23.5	18.6	
	Hypochromic	**No.**	62	52	114	
		%	86.1	76.5	81.4	
Blood Picture at first Visit	**Normal Blood Picture**	**No.**	39	32	71	$\chi 2$ = 0.707 DF = 1 P = 0.400
		%	54.2	47.1	50.7	
	Eosinophilia	**No.**	33	36	69	
		%	45.8	52.9	49.3	
TOTAL		**No.**	72	68	140	
		%	100	100	100	

In the peripheral smear report done at first visit, RBC size was normocytic (100%). The cell cytoplasm was hypochromic (81.4%) in nature and about 49.3% participants had eosinophilia. The differences in two groups were not statistically significant.

Table 8: A. Distribution of diet pattern among Study and Control

CHARACTERISTIC			STUDY	CONTROL	TOTAL
DIET	VEG	No.	18	17	35
		%	25	25	25
	MIXED	No.	54	51	105
		%	75	75	75
TOTAL		No.	72	68	140
		%	100	100	100

$\chi 2 = 0.000$, DF = 1, P = 1.000

Majority (75%) of the participants across both the groups were consuming predominantly mixed diet, and there were no significant differences in the distribution between the groups.

B. Distribution of participants according to the consumption of iron rich foods, enhancers of iron absorption and inhibitors of iron absorption:

Iron rich foods like organ meats (72.1%), dried fruits (63.2%), green leafy vegetables (92.6%), eggs (52.1%) were consumed by the participants; whereas ragi (22.1%), jaggery (40%), whole grain cereals (23.5%) were consumed in lesser quantity across both groups. Enhancers of iron absorption like meat (80.7%), poultry (57.1%), fish (27.9%), fruits and vegetables rich in Vitamin C (90%) were also consumed. Inhibitors of iron absorption like spinach (52.9%), tea (47.1%), coffee (15%), legumes (44.3%), fibre (35%), calcium (77.9%), and zinc (83.6%) were consumed by participants similarly in both the groups.

Table 9: Distribution of participants according to the deficiency of calorie and protein intake

CHARACTERISTIC			STUDY N= 72	CONTROL N=68	TOTAL N=140	TEST
CALORIE DEFICIENCY	<25%	No.	16	16	32	χ^2 = .044 DF = 2 P = 0.978
		%	22.2	23.5	22.9	
	25-34.99%	No.	35	32	67	
		%	48.6	47.1	47.9	
	≥35%	No.	21	20	41	
		%	29.2	29.4	29.3	
PROTEIN DEFICIENCY	No Deficiency	No.	4	7	11	χ^2 = 1.652 DF = 3 P = 0.648
		%	5.6	10.3	7.9	
	<15%	No.	33	33	66	
		%	45.8	48.5	47.1	
	15-25%	No.	22	19	41	
		%	30.6	27.9	29.3	
	>25%	No.	13	9	22	
		%	18.1	13.2	15.7	

In this study, all participants were identified to have a moderate deficiency of daily calorie consumption. Most of them (47.9%) were having a deficiency of 25-34.99%. The protein deficiency was observed in a higher number among all the participants (92.1%); majority (47.1%) were observed to have <15% deficiency in protein intake. The parameters of protein and calorie deficiency were observed similarly distributed among the study and control groups.

Table 10: Distribution of age, sex and educational status of Direct Observers

CHARACTERISTIC		STUDY		CONTROL		TOTAL		TEST
		No.	%	No.	%	No.	%	
Age category of Direct Observer	<25yrs	19	26.4	20	29.4	39	27.9	χ^2 = 0.626 DF = 2 P = 0.731
	25-35yrs	33	45.8	33	48.5	66	47.1	
	>35 yrs	20	27.8	15	22.1	35	25.0	
Sex	Male	31	43.1	31	45.6	62	44.3	χ^2 = .091 DF = 1 P = 0.763
	Female	41	56.9	37	54.4	78	55.7	
Educational Status	Illiterate	1	1.4	0	0	1	0.7	χ^2 = 4.951 DF = 4 P = 0.292
	Primary	20	27.8	24	35.3	44	31.4	
	Middle	23	31.9	27	39.7	50	35.7	
	High School	18	25.0	13	19.1	31	22.1	
	College	10	13.9	4	5.9	14	10.0	

The present study depicts that the age, sex and educational status of direct observers were similarly distributed among two groups. Majority of the Direct Observers were in the age group of 25-35 years; most of them were females and there was one participant, who was not literate in the Study group. Most of the Direct Observers had attended middle and high School.

Table 11: Anaemic participants during 1st, 2nd and 4th Visits

		1st Visit		2nd Visit		4th Visit	
		STUDY [n=72]	CONTROL [n=68]	STUDY [n=63]	CONTROL [n=58]	STUDY [n=58]	CONTROL [n=55]
NON ANEMIA	No.	3	1	3	3	10	5
	%	4.2	1.5	4.8	5.2	17.2	7.4
	% of Total	2.1	0.7	2.5	2.5	8.9	3.6
ANEMIA	No.	69	67	60	55	48	50
	%	95.8	98.5	95.2	94.8	82.8	92.6
	% of Total	49.3	47.9	49.6	45.5	42.9	44.6
		χ^2 = 0.916, DF = 1 P = 0.339		χ^2 = 0.011, DF = 1, P = 0.917		χ^2 = 2.473, DF = 1, P = 0.116	

In the present study, there was no statistically significant difference in the distribution of participants according to anaemic status across both groups during 1st, 2nd and 4th visits. Prevalence of anaemia in Study group was at 1st visit (95.8%), at 2nd visit 95.2% and at 4th Visit 82.8%; whereas in control group at 1st Visit(98.5%), at 2nd visit 94.8% and at 4th visit 92.6%.

Graph 3: Anaemic participants during 1st, 2nd and 4th Visits

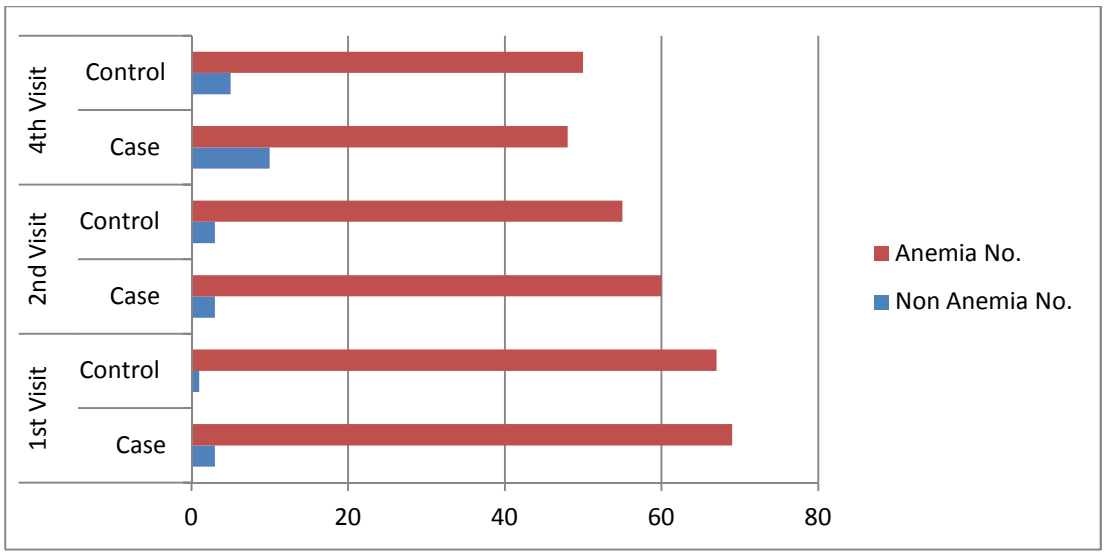

Table 12: Distribution of mean haemoglobin at 1st, 2nd and 4th visits in Study and Control groups

	Sub Centre	N	Mean	Std. Deviation	Test
Hb - 1	Study	72	7.97	1.06	t = -0.085, DF = 138
	Control	68	7.98	0.93	**P = 0.932**
Hb - 2	Study	63	8.47	1.07	t = 1.527, DF = 119
	Control	58	8.18	0.99	**P = 0.130**
Hb - 4	Study	58	8.99	1.11	t = 2.804, DF = 111
	Control	55	8.42	1.04	**P = 0.006**

The results of this study show that the mean haemoglobin values of participants in study group during 1st visit was 7.97 gm%, whereas in control group, it was 7.98 gm%; In the 2nd visit, mean haemoglobin level in the study group was 8.47 gm% and a 8.18 gm% in the control group; In the 3rd visit, mean haemoglobin was 8.99 gm% in the study group and 8.42 gm% in control group. There was no statistical difference in the mean haemoglobin values between two groups in the first two visits. Although the mean haemoglobin values were similar on baseline investigations (1st visit), there was a difference of 0.30 gm% in 2nd visit and 0.57 gm% difference in the 4th Visit. This moderate increase was observed in Study. The difference in haemoglobin values at 4th visit was statistically significant.

Graph 4: Mean haemoglobin at 1st, 2nd and 4th visits

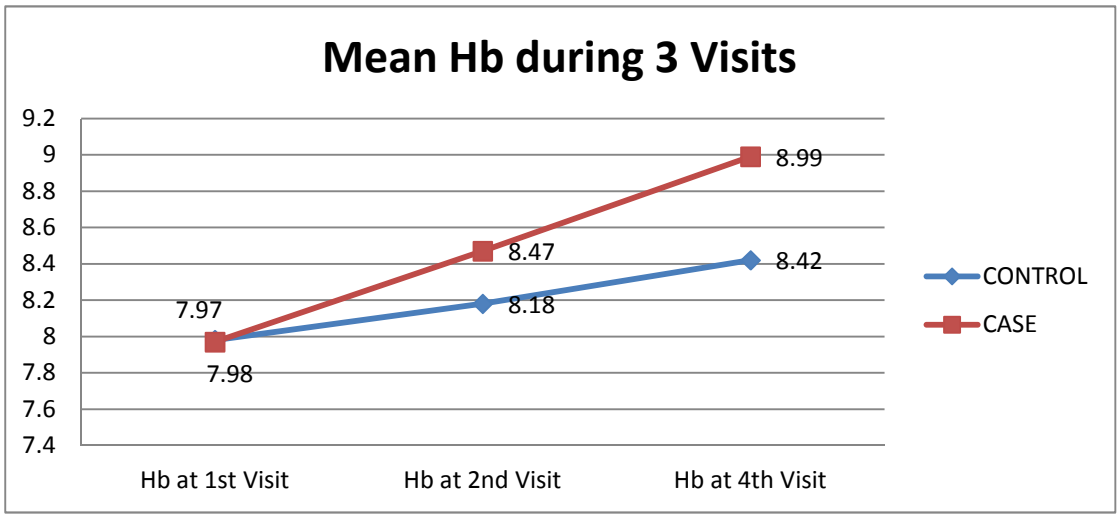

Table 13: Distribution of Adherence rate among Study and Control group during 2nd, 3rd & 4th Visits

	Groups	N	Mean	Std. Deviation	t test
Adherence at 2nd Visit	Study	63	78.48	10.32	**t = 12.053 DF = 119 P = 0.000**
	Control	58	49.22	15.98	
Adherence at 3rd Visit	Study	61	79.13	11.77	**t = 10.789 DF = 115 P = 0.000**
	Control	56	52.75	14.63	
Adherence at 4th Visit	Study	58	76.44	9.72	**t = 9.599 DF = 111 P = 0.000**
	Control	55	53.87	14.87	

In the present study, there is a statistically significant difference in the distribution of adherence rates among study and controls. The mean adherence rate in study group during 2nd visit was 78.48 %, whereas in the control group it was 49.22%. Likewise, during 3rd visit mean adherence rate was 79.13% in study and 52.75% in controls. In 4th Visit, the adherence rate was 76.44% in study group and 53.87% in control group.

Graph 5: Adherence rate during 3 visits

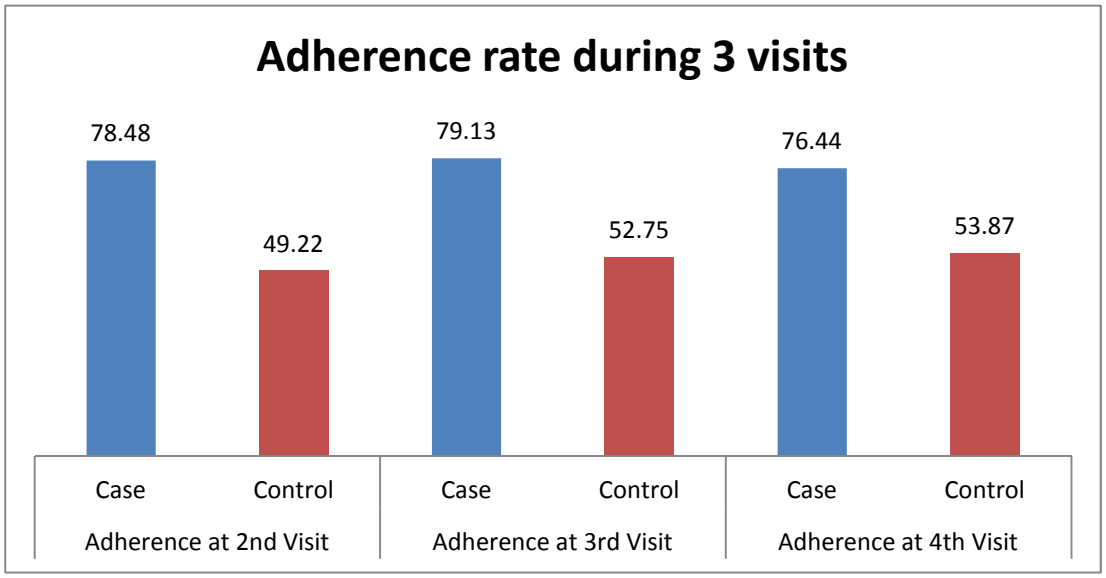

Table 14: Reasons for missing doses when interviewed during visits

REASONS		2nd Visit		3rd Visit		4th Visit	
		Study	Control	Study	Control	Study	Control
Did not have any side effects	No.	1	0	1	0	1	0
	%	1.6	0	1.6	.0	1.7	0
Diarrhoea	No.	0	0	1	0	14	10
	%	0	0	1.6	.0	24.1	18.2
Constipation	No.	1	0	2	2	1	0
	%	1.6	0	3.3	3.6	1.7	0
Heartburn	No.	2	3	25	5	42	25
	%	3.2	5.2	41.0	8.9	72.4	45.5
Forgot	No.	0	17	0	29	0	20
	%	0	29.3	0	51.8	0	36.4
Nausea	No.	42	29	30	19	0	0
	%	66.7	50	49.2	33.9	0	0
Vomiting	No.	16	9	0	0	0	0
	%	25.4	15.5	0	0	0	0
Stomach pain	No.	1	0	2	1	0	0
	%	1.6	0	3.3	1.8	0	0
Total	No.	63	58	61	56	58	55
	%	100	100	100	100	100	100
TEST		**$\chi 2 = 24.37$, DF = 6 P = 0.000**		**$\chi 2 = 47.008$, DF = 6 P = 0.000**		**$\chi 2 = 26.919$, DF = 4 P = 0.000**	

The following were the reasons rendered by the participants for missing the doses. Forgetfulness was the main reason among the control group (29.3%). Vomiting was one of the main reasons for failing to stick to the therapy in the Study group (25.4%). In the 3rd visit it was noticed that forgetfulness (51.8%) was the main reason among control group, whereas nausea (49.2%) and heart burn (41%) were more observed in the Study group. In the 4th visit diarrhoea (24.1%) and heartburn (72.4%) were observed to be the predominant reasons in the study group, whereas forgetfulness (36.4%) was the most common reason in the control group.

DISCUSSION

The current study is a novel method of validation, which was designed to incorporate a new angle to the already existing system of functioning. There is always a possibility of potential confounds right from the stages of ideation, design, and till the completion of the study. Nonetheless, in the present study, all possible measures were promptly deployed to remediate and manage possible confounds at all levels vis a vis with available resources and evidence of similar studies. The tables obtained from the results are discussed in the following section.

Table 1: Distribution of participants according to caste, age and literacy level in study and control groups.

In the present study, there was no statistically significant difference between study and controls in the distribution of participants according to caste, age and literacy. However, all the participants were Hindus (100%) since the PHC area has only <1 % of Muslim population and no Christian population. Among Hindus, the general Hindu category (57.1%) was more. Majority of the participants were not literates (35.7%). Furthermore, it was observed that many of them were in the age group of 16-20 years (52.9%) and 21-25 years group (42.9%). There is an array of literature about similar studies conducted with a population that is in close approximation as in the current study. In a study done in New Delhi, maternal age ranged from 21 to 27 years in both the groups and 91 to 95% were $<10^{th}$ grade including even people who were not literates and only 4-9% attended $>10^{th}$ grade. The authors opinionated that an intramuscular administration of iron supplements was better than the prescription of oral tablets. This points to the fact that intramuscular administration of iron supplements is a form of direct observation and monitoring, though the results cannot be generalized to the present study, owing to the factors of

varied selection of population and varied independent variables, including human interventions.[20] In a study conducted in USA, pregnant women showed improved adherence to micronutrient supplementation in the age group that ranged from 13 to 41 years, with a mean age of 23 years. It is also noticeable that the study included more than a third of the women who had not graduated from the high school.[11] In a cross-sectional study conducted in Indonesia, mean maternal age was 24.5 ± 4.6 and authors examined the role of strategically administered iron supplements in the pregnant women.[14] In a study conducted in Pakistan, maternal age ranged from 20 to 28 years & women with less than 5 years of school attendance was 51-63%.[31] It was a double-blind controlled trial done to compare the benefits of daily iron supplementation as against the twice weekly administration with same dose and strength. In a similar study done in Saudi Arabia, maternal age was 26.7±5.4 years; 50% had completed secondary education or higher.[32] In a study conducted in Philippines, the participants' mean age was 27 years and the authors were able to depict the crucial role of iron supplementation.[23] A similar study was conducted in Senegal to evaluate the compliance of iron supplements among pregnant women. The authors recruited participants whose mean age was 27+/- 6 years; among which 57% were not literates.[15]

Table 2: Distribution of participants according to Socio-economic status and type of family

In the present study, the participants were equally distributed in study and control groups with regard to their socio-economic status. Most of the participants were in class IV (45%) and class III (32.1%) level of modified B G Prasad's classification. There was a statistically significant difference in distribution of participants among study and control group in relation to family type. Joint families

were seen equally distributed, but nuclear families were seen more in study group (34.7%) compared to control group (13.2%); whereas three generation families were more in control group (23.5%) compared to study group (5.6%).

A similar study was conducted in Kurukshetra, to estimate the benefits of iron supplementation in pregnant women with anaemia. The study included a total of 58.33% participants living in nuclear families. Additionally, a total of, 41.66% participants were in living in joint families. The monthly income of families was around 2100 in 33.33% of participants, 2100-4500 in 50%, 4500-7000 in 16.66%.[33] It is notable that the study was conducted in a district hospital which qualifies as an urban setup. Since the current study was conducted in a rural-field practice area, a higher number of participant were in class III and class IV of socio-economic status according to the modified B G Prasad's classification.

Table 3: Distribution of the participants according to the ANC registration time and place

In this study, all the participants were registered in their first trimester and most of them took place at the Primary Health Centre (37.9%), followed by Subcentres (33.6%) in both the groups. None in the control group got registered in Anganwadi centres. It was also observed that most of the participants from the control group were registered at private hospital (26.5%) compared to those in the study group (9.7%). Since the participants were identified in the second trimester, and most of the informants were ANMs and Anganwadi workers, it is expected that they would have provided the details of ANC cases registered in their Subcentre area. A relatively better performance of health workers compared to the national average may be attributed to the fact that the rural field practice area of the PHC is directly supervised by the J. N. Medical college, Belgaum.

In a similar study conducted in Vadodara, 80% of the pregnant women registered to avail antenatal care either at government hospital or at private medical clinics. The authors tended to focus their inclination towards obtaining better results with prompt and appropriate ANC registrations.[34]

Table 4: Distribution of pregnant women according to gravida, parity and the number of living children they have.

A statistically significant difference was observed in the present study in relation to the distribution of gravida and para of pregnant women in the two groups. More of gravida 1 and para 1 (48.6%) were in the study group, whereas gravida 2 and para 2 (51.5%) belonged to control group. Women belonging to gravida/para 4 (5.6%) and 5 (5.6%) were found only in study group. There was no statistically significant difference among the number of living children in both the groups. The effect of the status of gravida and parity on adherence can be another research question for future implications of the study.

In the study conducted in Senegal, the authors observed that the gravidity was 3 +/- 0.1 and parity was 1.6 +/- 0.1.[15] Additionally, the study in USA included most women who were nulligravid [42 – 46%].[11] In a the study conducted in New Delhi, it was observed that parity 1 was 40 - 46% and parity >/=2 was 54-60%.[20]

Table 5: Distribution of participants according to the toilet facility at home, footwear use & deworming status

In the current study, there is no statistically significant difference in the distribution of participants according to the use of foot wears, having toilet facility at home, or the deworming status. A total of 61.4% had toilet facility at home and 60.7% were using foot wears for walking. But deworming within 6 months was done in

31.4% of participants only. This can be attributed to the fact that in the initial screenings, most of participants had eosinophilia (49.3%).

In a study conducted in Vietnam to evaluate the effects of free weekly iron-folic acid supplementation and regular deworming in pregnancy, it was observed that deworming was done in the last 1 week to 12 months before the study was 14.2%; 1 to less than 10 yrs was 45.5%, more than 10 yrs or no history of deworming, was 40.3%.[35]

Table 6: Distribution of participants according to anemic status and grade of anaemia at baseline

In the first visit, majority of the participants were anaemic (97.1%) and many belonged to the moderate anaemia category (88.6%). There was no significant difference in the distribution of anaemia in study and control group. The prevalence of anaemia in the current study was higher compared to the national average. However, most participants showed an improvement in the haemoglobin levels on second visit. This moderate improvement may be due to prophylactic deworming that was administered under supervision to all the participants with one tab. Albendazole 400mg on the day of enrolment into the study.

Similar studies conducted among pregnant women in different regions, have yielded a considerable amount of literature regarding the anaemia status. A study conducted in Vietnam had prevalence of anaemia at baseline of about 37.5%. The prevalence of mild anaemia among them was 29% and moderate/severe anaemia was 9%.[35] In a study performed in Philippines, prevalence of anaemia in study group was 50.7% and in control group was 37.3%. Normal Hb level in control group was 62.7% and in study it was 49.3%. Mild Hb level in control group was 22.7% and in study group it was 22.1%. Moderate Hb level in control group was 14.0% and in study

group it was 24.8%. Severe Hb level in control group was 0.7% and in study group it was 3.7%.[23] In a survey conducted among attendants of PHCC in Saudi, prevalence rate of anaemia was 41.3%. Normal rate was 58.7%, Mild anaemia 25.2%, Moderate anaemia 15.7% and severe anaemia 0.4%.[32] In a study conducted in New Delhi Hb <9.0 g/dL was observed among 23% of oral iron group individuals and 33% of Parenteral iron group individuals; 9.0–9.99 g/dL was seen in 35% of oral iron group individuals and 26% of Parenteral iron group individuals; 10.0–10.9 g/dL was seen in 42% of oral iron group individuals and 41% of Parenteral iron group individuals. More than 11g/dL were excluded from the study.[20] In a study conducted in Pakistan, initial Hb was 9.26 +/- 1.4 in daily dose group and 9.58 +/- 1.0 in twice weekly dose group.[31] Prevalence of anaemia was 42% in a study conducted in Indonesia at baseline.[14]

Table 7: Distribution of participants according to peripheral smear done at first visit

Based on the peripheral smear conducted on first visit, RBC size was normocytic (100%). The cell cytoplasm was hypochromic (81.4%) in nature and about 49.3% participants had eosinophilia. The reason for conducting the peripheral smear examination was to know the type of anaemia and to rule out the possibility of vitamin B_{12} deficiency This parameter could not be compared with any of similar studies as none of the studies evaluated adherence rates including a peripheral smear examination as a part of initial screenings.

Table 8: A. Distribution of diet pattern among study and control

Majority (75%) of the study and control group were consuming mixed diet [i.e., both vegetarian and non vegetarian diet] and there was no difference in distribution between the groups.

B. Distribution of participants according to the consumption of iron rich foods, enhancers of iron absorption and inhibitors of iron absorption:

Various iron rich foods were consumed by the participants. Each category of food was given a percentile value based upon the number of total participants consuming it particularly.

Table 9: Distribution of participants according to the deficiency of calorie and protein intake

In this study, all participants were observed to be caloric-deficient. Most of them (47.9%) were having a deficiency of 25-34.99%. The protein deficiency was seen among 92.1% of the participants; majority (47.1%) were having less than 15% deficiency in protein intake. Both protein and calorie deficiency was observed to be equally distributed among the study and control group. The calorie and protein deficiency may also add up for the anemic status of the pregnant women in this area. This was assessed by a 24 hour recall method.

Table 10: Distribution of age, sex and educational status of Direct Observers

The present study shows that the age, sex and educational status of direct observers were similarly distributed across both the groups. Majority of the direct observers were in the age group of 25-35 years; most of whom were females and one person was not a literate in the study group. Most of the direct observers had attended middle and high School.

Table 11: Anaemic Participants with anaemia during 1st, 2nd and 4th Visits

In the present study there was no statistically significant difference in the distribution of participants of anemic status in both study and control groups during

1st, 2nd and 4th visits; although the decrease in anaemia prevalence was seen more in study group when compared to control group. Prevalence of anaemia in study group was at 1st visit (95.8%), at 2nd visit 95.2% and at 4th visit 82.8%; whereas in control group, it was 1st visit (98.5%), at 2nd visit 94.8% and at 4th visit 92.6%.

In the study conducted in Vietnam, prevalence of anaemia at baseline was 37.5% and at 3 months post intervention was 28.4%.[35] Prevalence of anaemia was 42% after the initiation of 2 months supplementation programme.[14] In another study performed in Philippines, anaemia prevalence in control group at baseline was 37.3% and in experimental group was 50.7%. After six months of supplementation, the anaemia prevalence in the control group was 33.1% and in experimental group was 35.6%.[23] In the study conducted in Vietnam, prevalence of anaemia at baseline was 37.5%, and after three months of intervention, it raised to 28.4%.[35]

Table 12: Distribution of mean haemoglobin at 1st, 2nd and 4th visits in study and control groups

The present study depicts that the mean haemoglobin values of participants in study group during 1st visit was 7.97 gm%, whereas in control group it was 7.98 gm%; In the 2nd visit, mean haemoglobin in study group was 8.47 gm% and in control group was 8.18 gm%; In the 4th visit, mean haemoglobin was 8.99 gm% in study group and 8.42 gm% in control group. There was no statistical difference in the mean haemoglobin values between two groups in the first two visits. Although the mean haemoglobin values were equal at baseline (1st visit), there was a difference of 0.30 gm% in 2nd visit and 0.57 gm% difference in the 4th Visit. This slight increase was seen only in the participants of study group. The difference in haemoglobin values at 4th visit was statistically significant (p= 0.006). This difference in study and control group may be attributed to the difference in adherence rates.

In a study conducted in New Delhi, mean haemoglobin at the beginning of the study was 8.22 +/- 1.54 g/dl and after 110 days of follow up 8.81+/-1.53 g/dl. Maximum rise (2.16gm%) was observed among participants who consumed 125 or more tablets in total.[28] In a study conducted in Pakistan, baseline Hb in daily supplementation group was 9.2+/-1.4, at 4th week 10.1+/-1.5, at 8th week 10.8+/-1.7, at 12th week 11.3+/-1.8; In case of twice weekly dosage at baseline 9.5+/-1.06, at 4th week 9.6+/-1.05, at 8th week 9.7+/- 1.1, at 12th week 10.09+/- 1.2.[31] In a study conducted in New Delhi, baseline Hb in oral iron group was 9.6+/-0.8 and at term 10.2+/-1.08; in parenteral iron group at baseline 9.4+/-0.9 and at term 10.4+/-1.09.[20] In a study conducted in Panyali, baseline Hb was 9.5+/-0.91 and after intervention 11.7+/-0.73.[18] In the study conducted throughout the antenatal period in the pregnant women in Vadodara, mean haemoglobin level was 9.6 g/dl at the first contact, which subsequently improved to a level of 11.08 g/dl towards the end of the last trimester.[34]

Table 13: Distribution of adherence rate among study and control group during 2nd, 3rd & 4th Visits

In the present study, a statistically significant difference in the distribution of adherence rates was observed among study and control groups. The mean adherence rate in study group during 2nd visit was 78.48 % whereas in control group it was 49.22%. Likewise, during 3rd visit, mean adherence rate was 79.13% in study and 52.75% in controls. In 4th Visit, the adherence rate was 76.44% in study group and 53.87% in control group. Since all the appropriate measures were promptly undertaken to manage the confounding factors before the initiation of study, the difference in adherence rate may be attributable to the presence of direct observer in the study group.

In a study done at Panyali, Himachal Pradesh, a total of 87.3% completely adhered to the 3 months iron therapy. Compliance was defined as total number of patients who completed the therapy, to the total number of patients enrolled and the resulting parameter multiplied by the factor of 100.[18] In the study done in Vietnam, a total of 73% of literate women reported high compliance when compared with women who were not literates who showed a 50% of compliance.[35] The literacy level in both the groups was controlled, as there were approximately similar number of literate women in both groups. In a study conducted in Toronto, the range of pill intake for both groups was zero to 100%, and the mean pill intake for both groups was approximately 50%. Among those who started taking assigned prenatal supplements 73% were adherent in 35mg iron group and 76% were adherent in 60 mg iron group. Among them >80% adherence was seen in 37% in 35mg group and 38% in 60 mg iron group. >50% adherence was seen in 56% in 35mg iron group and 60% in 60mg iron group. Participants were controlled for strength of iron supplementation at 100 mg. [25]

In a study conducted in Philippines, the percentage of women consuming iron and folic acid tablets in control group was 57.4% and in experimental group 79.2% after intervention.[23] However, the follow up of the participants was conducted for 180 days in that study, compared to 100 days in the present study [considering actual follow up cases only]. The results of the study conducted in New Delhi, showed that the completion rate of participants who availed oral iron group, was 67.5% and parenteral iron group was 94.3% indicating relatively better acceptance for parenteral iron supplementation, a form of direct observance.[20] The results of the study conducted in Bangladesh suggested that for the supplements provided during week 1 to 4, daily supplements compliance rate was 61.1% and for weekly supplements, it

was 92.7%. During week 5 to 11, median compliance in daily group was 65% and in weekly group was 93%.[22] The daily group compliance can be compared to our study since all our participants were given daily iron tablets.

In a study conducted in USA to know the pill count adherence to prenatal multivitamin supplement use, adherence rate was 74%, and half of them were having 78% adherence. Adherence rate of 79% was seen among non-hispanic white women and 72% among non-Hispanic African-American women.[11] With direct observers, the adherence rate of our participants can be compared to this study.

In a study conducted in Brazil to know the adherence for three different types of dose frequencies, the results showed an adherence rate of 71.4% for daily regimen, 83% for twice weekly regimen, and 91.6% for once weekly regimen.[36] In a study conducted in Vadodara, adherence rate was identified to be 92 – 99% by effective counselling and ethnographic decision models.[34] In a study conducted at New Delhi, only 0.9% had adhered to the IFA tablets intake as per their definition on non adherence [An intake of IFA tablets for less than 90 days was considered as non adherence].[28]

Table 14: Reasons rendered for missing doses when interviewed during visits

The following were the reasons rendered by the participants for missing the doses. Forgetfulness was the main reason among the control group (29.3%). Vomiting was one of the main reasons for failing to stick to the therapy in the study group (25.4%). In the 3rd visit it was noticed that forgetfulness (51.8%) was the main reason among control group, whereas nausea (49.2%) and heart burn (41%) were more observed in the study group. In the 4th visit diarrhea (24.1%) and heartburn (72.4%)

were observed to be the predominant reasons in the study group, whereas forgetfulness (36.4%) was the most common reason in the control group.

The reason of forgetfulness was not rendered by any participant in the study group. The main reason being that one of the duties of the Direct Observer was to remind the participant to consume the iron tablets regularly.

In the study conducted in Toronto, to understand the tolerability between different doses of iron, pregnant women reported with nausea and or vomiting (78%), constipation (11%), abdominal pain, gastro intestinal irritability, diarrhoea, heartburn, reflux (14%).[25] In a study conducted in Baltimore and Maryland in two vitamin supplementation trial, women decided not to take pills in 3.4-3.7%, forgot to take pills 23.2-27.1%, skipped pills 10.8-6%, mistook pills due to carelessness 12.1-11.9%.[17] In the study conducted in Philippines, proportion of women with reported side effects in control group was 40%, and in experimental group 20.1% during baseline. After 6 months it was 23.8% in control and 34.7% in experimental group.[23] Reasons given by mothers in a study conducted in Saudi for no/irregular intake of iron supplementation included forgetfulness (52.9%), unnecessary (17.6%) or harmful for the fetus (5.9%).[32] In a study conducted in New Delhi side effects from oral iron were dyspepsia (10%), constipation(5%), diarrhoea(3%), vomiting(2%), rash and itching (1%) whereas in parenteral iron group local pain (41%), skin staining (27%), fever (8%), systemic ache (7%), arthralgia (5%), headache and giddiness (3%), malaise (3%), vasovagal attack (1%) and systemic reaction (1%).[20] In a study conducted in Bangladesh, side effects for daily regimen were heartburn (11.5%), nausea (14.4%), vomiting (9.6%), diarrhoea (10.6%), constipation (59.6%).[22] In the study conducted in USA, prenatal supplements caused side effects like stomach discomfort (38.1%), stomach pain (31.6%), vomiting (19.7%), gas (52.9%), constipation (32.4%),

diarrhoea (13.5%), loss of appetite (21.7%), abdominal cramps (28.7%), unpleasant taste in the mouth (20.1%), heartburn (38.1%).[11] Side effects were for all routes of iron administration, across all the studies. Since it is unavoidable and inherent sequelae of iron supplementation, natural to the ingredients of the drug, the aim of better compliance can be achieved by appointing direct observers.

For all practical purposes, the results of the current study suggest that, by assigning a direct observer to monitor, supervise, and evaluate the delivery of iron supplements by pregnant women, a better adherence can be accomplished which invariably results in improved haemoglobin values and thereby, decreasing the prevalence of anaemia and its deleterious health effects.

CONCLUSION

On the basis of observations brought out in the present study, the following conclusions can be drawn. There was a high prevalence of anemia among pregnant women (97.1%). Moderate anemia was more common among the subjects. All the confounding factors were matched before the study started (religion, woman's age, literacy, percapita income, time and place of ANC registration, toilet facility, wearing footwears, deworming, anemia at baseline, peripheral smear at baseline, diet, consumption of iron rich foods, enhancers of iron absorption and inhibitors of iron absorption, calorie deficiency, protein deficiency, demographic characters of direct observer). Some factors which did not match were type of family, gravida and para.

It was found that appointing a direct observer increases the adherence to iron tablets consumption through reducing the factors responsible for non adherence like forgetfulness, carelessness, etc. It can't reduce the side effects on oral iron tablets, but keeps them adhered to the schedule as prescribed by the physician through motivating and supporting the cause. Though the mean haemoglobin raise in both the groups were statistically insignificant initially, it was found that there was statistically significant difference in improving hemoglobin levels in the Case group during the last visit.

The present study was done in a rural set up where anemia prevalence was high. Also, the study was done using the tablets which were usually prescribed by the Government of Karnataka health staff. Therefore, a similar replication of this study in other rural areas of the country is feasible and is needed. Even though similar studies have shown better compliance than the present study, the results validate a method, which can be advantageously strategized into the present practice without further

compromising on financial or human resources. The strategy is simple, in a sense that the Direct Observers (Volunteers) from the population are to be selected for voluntary and willing participation and cooperation.

Therefore, appointing a direct observer in a rural set up is an effective method to improve the adherence rate of pregnant women to iron tablets consumption. Additionally, it is favorable to be included in the current drug delivery system by effective channelization of man power and with available resources, thus scoring additional points in cost-benefit analysis.

SUMMARY

The present study was a non-randomized controlled trial undertaken to evaluate influence of directly observed iron therapy on the adherence to iron tablets consumption by pregnant women in a rural field practice area.

The duration of the current study spanned about an year, from 1st January 2008 to 31st December 2008. A total of 140 pregnant women in their 2nd trimester (16-20 weeks) who were recruited from the villages under the Shivapura and Agasaga subcentre, a rural field practice area of Department of Community Medicine, J. N. Medical College, Belgaum. After obtaining an informed consent, all the participants were interviewed by a pretested questionnaire. Based on the self reported history, clinical findings, medical records, and by relevant laboratory investigations, a provisional diagnosis was made.

The overall prevalence of anemia was 97.1% among the participants included in the study. Moderate grades of anemia were more common (88.6%). A total of 68.6% of the participants had not received any de-worming medication in the past six months and 49.3% of the participants had a diagnosis of eosinophilia when the baseline investigations were done. All the participants had normocytic(100%) but hypochromic (81.4%) blood picture on peripheral smear. None of the participants had macrocytosis, which rules out clinically significant Vitamin B12 deficiency. An approximate 57.1% of the participants were practicing Hindu religion by faith and were in the age bracket of 16-20 years (52.9%) and 21-25 years (42.9%) category. Most of the participants were not literates (35.7%) though primary (21.4%), middle (22.1%) and high school (20.7%) education level were also observed. The majority of

the participants belonged to Class IV (45%) and Class III (32.1%) of B G Prasad classification of Socioeconomic status in India.

Participants were divided into a study group monitored by a direct observer, and a control group. All the participants in the present study had an ANC registration, performed in the first trimester. The most frequent place of registration was Primary Health Centre (37.9%) followed by Subcentres (33.6%) in both the groups. None in the control group were registered in Anganwadi centres; Higher number of participants in the control group were registered in the private hospital (26.5%) compared to study group (9.7%). A total of 61.4% of the participants had a toilet facility in their homes. Additionally, it was observed that a total of 60.7% of the participants were wearing footwears for walking. Totally, 75% of the participants were consuming predominantly mixed diet, which included iron rich foods like organ meats (72.1%), dried fruits (63.2%), green leafy vegetables (92.6%), and eggs (52.1%). It was also observed that other sources of iron which included millets like ragi (22.1%) , and whole grain cereals (23.5%) were consumed in lesser quantities. Enhancers of iron absorption like meat (80.7%), poultry (57.1%), fish (27.9%), fruits and vegetables rich in Vitamin C (90%) were also reported to be consumed. Inhibitors of iron absorption like spinach (52.9%), tea (47.1%), coffee (15%), legumes (44.3%), fibres (35%), calcium (77.9%) and zinc (83.6%) were consumed almost similarly in both the groups.

In most of the participants (47.9%) calorie deficiency was assessed to be about 25-35%; 47.1% of the participants had a protein deficiency of about <15%. All the above mentioned factors were almost similarly distributed among study and control groups upon the baseline survey. But, statistically significant differences in distribution were seen with factors like type of family, gravida and parity of the

participants. Joint family type was identified across both the groups (61.4%), whereas nuclear family was observed more in study group (34.7%) and three generation families were more in control group (23.5%). A significantly higher number of Gravida 1 and Para 1 (48.6%) were in the observed to be in study group, whereas Gravida 2 and Para 2 (51.5%) were found more in the control group. Women belonging to Gravida/Para 4 (5.6%) and 5 (5.6%) were found only in study group.

The demographic variables of direct observes similar in both study and control groups. Most of the observers (47.1%) were in the age group 25-35 years. Female observers (55.7%) were comparatively higher in number and they had attended primary (31.4%), middle (35.7%), high school (22.1%) and college (10%) level of education.

When the results were analyzed, it was observed that there was a 13% decrease in anaemic participants in study group compared to 6% in control group from point of enrolment to 3 months later. It should be taken to notice that the mean haemoglobin values between study and control groups did not differ significantly during enrolment (study group – 7.97g/dL; control group-7.98 g/dL). After 3 months of the study, the mean haemoglobin difference between study (8.99g/dL) and control group (8.42g/dL) was 0.57 g/dL, which was statistically significant (p=0.006).

The adherence rates between two groups differed significantly. Study group had adhered more to iron and folic acid tablet consumption than control group. In the 2^{nd} Visit, participants in the study group had a mean adherence rate of 78.48%, whereas the control group had 49.22%. In the 3^{rd} Visit, study group had an adherence of 79.13% and control group had an adherence rate of 52.75%. In the 4^{th} Visit study group had an adherence rate of 76.44% and control group had 53.87%. This difference was statistically significant (p=0.000) too.

The following were the reasons rendered by the participants for missing the doses. Forgetfulness was the main reason among the control group (29.3%). Vomiting was one of the main reasons for failing to stick to the therapy in the study group (25.4%). In the 3rd visit it was noticed that forgetfulness (51.8%) was the main reason among control group, whereas nausea (49.2%) and heart burn (41%) were more observed in the study group. In the 4th visit diarrhea (24.1%) and heartburn (72.4%) were observed to be the predominant reasons in the study group, whereas forgetfulness (36.4%) was the most common reason in the control group.

LIMITATIONS

This study was a non-randomized trial. Randomization was done only when selecting the subcentres for study and control group. But randomization was not done in selecting the patients and villages they hailed from. It was done so, to prevent the possible diffusion of the interventional ideas into the control group as the subjects were approached and interviewed in their home and on occasions in Anganwadi centres.

- There were no measures taken to measure the hawthorne effect which could have been possible for the better performance by both the groups when compared to State and National average.[4,5] Attempting to remove the hawthorne effect could have been done by having a Placebo group, but it would have been unethical to do so in the present scenario when we know for sure that iron supplements has a beneficial effect over pregnant women.

- The dropouts were because the pregnant women moved out from their current location and could not be traced. But additional samples were collected to compensate for dropouts and to prevent a deleterious effect on the overall power of the study.

RECOMMENDATIONS AND FUTURE IMPLICATIONS

The following recommendations must be addressed for increasing the compliance and effective channelization of available resources:

- Provision for school children or women self help groups to volunteer as direct observers can be implemented.
- Health care and Anganwadi workers can arrange group discussions among the needy population and volunteers. A prime focus on resolving nutritional issues can remediate doubts and misconceptions among pregnant women.
- A responsible village worker or a health professional can periodically arrange meetings among the direct observers and supervise the overall progress. This would aid in inculcating team-work ethics.
- Monetary and financial assistance should be recommended at higher levels of administration, for direct observers in order to encourage participation and improve recruitment levels.
- Direct observers should be assigned higher levels of responsibilities based on work and merit for better delivery of supplementations.
- Emphasis should be given regarding deworming in second trimester.
- Diet rich in iron, periodic deworming and iron supplementation to adolescent girls should be inculcated.
- Directly Observed Iron Therapy (DO-IT) for pregnant women appears to be need of the hour like DOTS in tuberculosis control.

REFERENCES

1. Anaemia prevention and control: What works. Part I Program guidance. The Population, Health and Nutrition Information (PHNI) Project, Jorge Scientific Corporation with The Futures Group International and John Snow, Inc; June 2003.

2. Gillespie S. Major issues in the control of iron deficiency. Ottawa, Canada: Micronutrient Initiative; 1998.

3. Benoist B, McLean E, Egli I, Cogswell M. Worldwide prevalence of anaemia 1993-2005. WHO global database on anaemia; 2008.

   Cited on Oct 12, 2009, accessed from http://whqlibdoc.who.int/publications/2008/9789241596657_eng.pdf

4. Ministry of Health and Family Welfare. National Family Health Survey (NFHS-3) [cited 2007 Oct 14]. Available from: URL: http://www.nfhsindia.org/pdf/IN.pdf

5. Ministry of Health and Family Welfare. National Family Health Survey (NFHS-3) [cited 2007 Oct 14]. Available from: URL: http://www.nfhsindia.org/pdf/KA.pdf

6. Elder LK. Issues in programming for maternal anaemia. Center for Population, Health and Nutrition. Bureau for Global Programs, Field Support and Research, U.S; Sept 2000

7. Lincetto O. Iron and folate supplementation. Integrated Management of Pregnancy and Childbirth (IMPAC). World Health Organization, Geneva; 2002 Oct 14-16.

8. National Institute of Health and Family Welfare. National Nutrition Anemia Prophylaxis Programme. [Cited 2009 Nov 15]. Available from: http://nihfw.nic.in/ndc-nihfw/html/Programmes/NationalNutitionAnemia.htm.

9. Kureshy N, Elder L. MotherCare Matters. A quarterly newsletter and literature review on Maternal and Neonatal Health and Nutrition 2000 Jan;8 (3-4):1-24.

10. Pandit N, Choudhary SK. A study of treatment compliance in directly observed therapy for Tuberculosis. Indian J Community Med 2006 Oct-Dec;31(4):1-3.

11. Jasti S, Siega-Riz AM, Cogswell ME, Hartzema AG, Bentley ME. Pill count adherence to prenatal multivitamin/mineral supplement use among low-income women. J. Nutr 2005;135: 1093–101.

12. Galloway R, Dusch E, Elder L, Achadi E, Grajeda R, Hurtado E et al. Women's perceptions of iron deficiency and anemia prevention and control in eight developing countries. Soc. Sci. Med 2002;55:529–44.

13. Galloway R. Determinants of compliance with iron supplementation: Supplies, Side effects, or Psychology. McGuire J. Soc. Sci. Med 1994;39(3):381-90.

14. Schultink W, Ree M, Matulessi P, Gross R. Low compliance with an iron-supplementation program: a study among pregnant women in Jakarta, Indonesia. Am J Clin Nutr 1993;57:135-9.

15. Seck BC, Jackson RT. Determinants of compliance with iron supplementation among pregnant women in Senegal. Public Health Nutrition 2007 Sept;11(6):596–605.

16. Yip R. Iron supplementation: Country level experiences and lessons learned. J. Nutr 2002;132: 859S–61S.

17. Huang HY, Maguire MG, Miller ER, Appel LJ. Impact of pill organizers and blister packs on adherence to pill taking in two vitamin supplementation trials. Am J Epidemiol 2000;152:780–7.

18. Bharti S. Feasibility of "Directly observed home-based twice-daily iron therapy" (DOHBIT) for management of anemia in rural patients: A pilot study. Indian J of Med Sci 2008 Oct;58(10):431-8.

19. Urassa DP, Carlsted A, Nystrom L, Massawe SN, Lindmark G. Quality assessment of the antenatal program for anaemia in rural Tanzania. International Journal for Quality in Health Care 2002;14(6):441-48.

20. Sharma JB, Jain S, Mallika V, Singh T, Kumar A, Arora R, Murthy NS. A prospective, partially randomized study of pregnancy outcomes and hematologic responses to oral and intramuscular iron treatment in moderately anemic pregnant women. Am J Clin Nutr 2004;79:116–22.

21. O'Connor DM, Savageau JA, Centerbar DB, Wamback KN, Ingle JS, Lomerson NJ. Lesson in a Pill Box: Teaching about the challenges of medication adherence. Fam Med 2009;41(2):99-104.
22. Hyder SMZ, Persson LA, Chowdhury AMR, Ekstrom EC. Do side-effects reduce compliance to iron supplementation? A study of daily- and weekly-dose regimens in pregnancy. J Health Popul Nutr 2002 Jun;20(2):175-79.
23. Risonar MGD, Rayco-Solon P, Tengco LW, Sarol JN, Paulino LS, Solon FS. Effectiveness of a redesigned iron supplementation delivery system for pregnant women in Negros Occidental, Philippines. Public Health Nutrition 2008 Aug;12(7):932–40.
24. Kanal K, Busch-Hallen J, Cavalli-Sforza T, Crape B, Smitasiri S,and the Cambodian weekly Iron-Folic acid program team. Weekly Iron-Folic acid supplements to prevent anaemia among Cambodian women in three settings: process and outcomes of social marketing and community mobilization. Nutrition Reviews 2005 Dec;63(12):S126–33.
25. Nguyen P, Nava-Ocampo A, Levy A, O'Connor DL, Einarson TR, Taddio A et al. Effect of iron on the tolerability of prenatal multivitamins in pregnancy. BMC Pregnancy and Childbirth 2008 May;8:17.
26. Reducing maternal anemia through community participation: Bangalore, India. Cited on 24 Oct, 2009, accessed from file:///CI/DOCUME~1/GGLEAS~1.TUF/LOCALS~1/Temp/~LWF0000.htm(1 of 6) [5/28/2003 12:10:02 PM]
27. Schultink W. Iron-supplementation programmes: Compliance of target groups and frequency of tablet intake. Cited on 20 Oct 2009, accessed

from

http://www.idpas.org/pdf/241_Iron_supplementation_programmes.pdf

28. Gautam VP, Bansal Y, Taneja DK, Ingle GK. A study on compliance to iron-folic acid therapy and its effects on anaemia during pregnancy. Indian J. Prev. Soc. Med. 2005 Dec;36(3&4).

29. Kulkarni AP, Barde JP. Text book of community medicine. 2nd Ed. Mumbai:Vora Medical Publishers;1998.p31.

30. All India consumer price index. Accessed from: http://www.eximkey.com/budget0910/es/tab53.pdf on 20/08/2009.

31. Mumtaz Z, Shahab S, Butt N, Rab MA, DeMuynck. Daily iron Supplementation is more effective than twice weekly iron supplementation in pregnant women in Pakistan in a randomized double-blind clinical trial. A J. Nutr. 2000 July;130:2697–702.

32. Rasheed P, Koura MR, Al-Dabal BK, Makki SM. Anemia in pregnancy: a study among attendees of primary health care centers. Ann Saudi Med 2008 July;28(6):449-52.

33. Agarwal T, Kochar GK, Goel S. Impact of iron supplementation on anemia during pregnancy. Ethno-Med 2008;2(2):149-51.

34. Ghanekar J, Kanani S, Patel S. Toward better compliance with iron-folic acid supplements: Understanding the behavior of poor urban pregnant women through ethnographic models in Vadodara, India. Food and Nutrition Bulletin 2002;23(1):65-72.

35. Casey GJ, Phuc TQ, MacGregor L, Montresor A, Mihrshahi S, Thach TD et al. A free weekly iron-folic acid supplementation and regular deworming program is associated with improved hemoglobin and iron status indicators in Vietnamese women. BMC Public Health 2009 July;9:261.

36. De Souza, Filho MB, Bresani CC, Ferreira LOC, Figueiroa JN. Adherence and side effects of three ferrous sulfate treatment regimens on anemic pregnant women in clinical trials. Cad. Saúde Pública.2009 July;25(6):1225-33.

37. Peripheral smear preparation. Cited on 10 Oct 2009, accessed from http://www.pathology.vcu.edu/education/PathLab/pages/hematopath/pbs.html

ANNEXURE I: PROFORMA

Name of the Subcentre: Agasaga/Shivapur Date of survey: _____

Name of the village: _____ CASE/CONTROL : Sl.No _____

Full Name of the woman:	Full Name of the Husband:
Age: years	Age: years
Occupation: Housewife/Farmer/Any	Occupation: Industry/Farmer/Any others

Literacy status:

Woman: Illiterate/Literate (primary/middle/high school/college) _____

(0-4/5-7/8-10/>10)

Husband: Illiterate/Literate (primary/middle/high school/college) _____

(0-4/5-7/8-10/>10)

Percapita Income in Rs/month: _____

Number of family members: _____

Type of family: Joint/ Nuclear/ 3Generation/

Broken/ Others

Members	Male	Female	Total
Adults			
Children <15 years			

MENSTRUAL HISTORY :

Age of Menarche: _____ G_ P_ L_ A_ D_

Duration of Cycle: _____ Duration of Bleeding: _____

Dysmenorrhea: Y/N Amount of blood loss: Excess/Avg /Scanty

1) Age at marriage: _____ years 3) LMP: _____

2) Age at first pregnancy: _____ years 4) EDD: _____

ANTENATAL CARE

1) ANC registration: Yes/No , If yes

a) When did you register? I/II/III trimester

b) Where did you register? PHC/ District Hospital/ Private Hosp/ Others specify

2) ANC check-up: Yes/ No, If yes, a) how many visits:

i) Previous Pregnancy: ≥3/ 2/ 1 ii) Present Pregnancy: ≥3/ 2/ 1

b) Place of ANC check-up: PHC/ Sub centre / Dist. hospital/ Pvt. Hospital/ others specify

If no, reasons for not receiving ANC: Unaware/Not accessible/Others specify

3) Injection tetanus toxoid given: Yes/ No. If yes, how many doses

i) Previous Pregnancy: TT1 at week, TT2 at week.

ii) Present Pregnancy: TT1 at week, TT2 at week.

If no, reasons for not receiving:

4) IFA tablets taken: Yes/ No

If yes, how many in Previous Pregnancy: < 30/ 31- 60/ 61-90/ >90

If yes, reason for taking <30: Unavailability/Side effects/Advised/Disbelief/Others

31-60: Unavailability/Side effects/Advised/Disbelief/Others

61-90: Unavailability/Side effects/Advised/Disbelief/Other

>90: Unavailability/Side effects/Advised/Disbelief/Other

Advised by : Health worker/Doctor/Others specify

If No, reason for not taking : Unavailability/Side effects/Disbelief/Others

5) H/O Vit B 12 tablets taken:

i) Previous Pregnancy: Yes/No ; If Yes <10/ 11-20/21-30/>30

ii) Present Pregnancy: Yes/No ; If Yes <10/ 11-20/21-30/>30

Advised by: Health worker/Doctor/Others specify

6) Had any complications during previous pregnancy? Yes/No

If Yes; Anemia/ PIH/ Swelling of feet/ Blurring of vision/ APH/ PPH/ Malaria/ Rh incompatibility/ H/O Blood transfusion/ others specify

7) Did you get referred to higher centre? : Yes/ No

If yes, why:

Where:

Who referred:

8) Birth Interval between children: Marriage to 1st Pregnancy: _____ months

Marriage to 1st child: _____months

1st to 2nd child : _____months

2nd to 3rd child : _____months

9) Family Planning Practiced before present pregnancy: Yes/No, If YES: OCP/Cu-T/Condom

10) Diet: a)Veg/Non Veg/Mixed

b) Diet during Pregnancy: 24 hour recall method: Breakfast/ Lunch/ Evening Snacks/ Dinner

	Calories	**Proteins**
Expected		
Consumed		
Deficiency		
Percentage of Deficiency		

11) Consumption of Iron rich foods: Organ meats (liver, kidney) /Beef/Dried fruits(raisins, apricots)/Whole grain cereals/Enriched cereals/Dark green leafy

vegetables (spinach, chard, kale)/Legumes (lentils, dried peas or beans)/Ragi/Jaggery/Eggs

12) Consumption of inhibitors of Iron absorption: Spinach/Whole grains/tea/ coffee/ bran/ legumes (soybeans, split peas, dried beans, and lentils)/high fibre intake(whole grains)/Calcium (dairy products)/zinc (dark leafy greens)/Eggs/Spinach

13) Consumption of enhancers of Iron absorption: Meat/poultry/fish/foods rich in vitamin C (oranges, grapefruit, strawberries, cantaloupe, tomatoes, baked potato, cauliflower or cabbage)

14) Toilet facility: Yes/No

15) Habit of wearing foot wears: Yes/No

16) Deworming: Done/Not done If yes, < 6 months / > 6months

17) General Physical examination*:*

i) Pallor: a) Conjunctiva: _____ b) Tongue: _____ c) Nail: _____

ii) Icterus: Present/Absent

iii) Cyanosis: Present/Absent If Present, Central/ Peripheral

iv) Clubbing: Present/ Absent

v) Lymphadenopathy: Present/Absent If present, Cervical/ Inguinal/ Axillary

vi) Oedema: Present/Absent If present, Pitting/Non Pitting

vii) Pulse: viii) Blood Pressure: ix) Height: x) Weight:

xi) Thyroid:

18) Systemic Examination:

i) Per Abdomen:

ii) Cardiovascular System: Murmurs- Present/Absent

If Present, Functional/Pathological

iii) Respiratory System: Breath Sounds:

Added Sounds: Rhonchi/ Crepitations/Wheeze

iv) Central Nervous System Examination:

19) Investigations :

1st Visit : a) Hb : b) Peripheral smear: Normocytic/ Microcytic/ Macrocytic/Dimorphic

2nd Visit : a) Hb : b) Peripheral smear: Normocytic/ Microcytic/ Macrocytic/Dimorphic

4th Visit : a) Hb : b) Peripheral smear: Normocytic/ Microcytic/ Macrocytic/Dimorphic

20) Intervention:

Sl. No.	CHARACTERISTIC	1st Visit	2nd Visit	3rd Visit	4th Visit
a)	**No of IFA tablets given**				
b)	**No of IFA consumed**				
c)	**No remaining in the strips**				
d)	**Adherence**				
e)	**Reasons for missing doses**				

21) Name of the Direct Observer: Age :

Educational Status : Sex :

Comments by Direct Observer :

Signature/Thumb Impression of the observer :

INFORMED CONSENT FORM

"Influence of Directly Observed Iron Therapy on adherence to iron tablets consumption by pregnant women in a rural field practice area – A Controlled Trial"

INVESTIGATORS: DR.H.N.SANGOLLI, DR ANIL B S.

Introduction

You are being invited to participate in this study to find out the influence of Directly Observed Iron Therapy on the adherence to iron tablets consumption by pregnant women in a rural field practice area– A Controlled Trial in Handignur primary health center of Belgaum district.

Explanation of procedures

In this study you will have to answer a few prepared questions about the nutrition, parity, age of menarche, and habits. Your general physical examination, abdominal and other system examination will be done and blood will be drawn for haemoglobin estimation. The entire procedure may take about 30 minutes if you agree to participate.

Possible Benefits

Haemoglobin estimation is done and anemia can be diagnosed, required doses of iron and folic acid are given and if any other physical ailments are detected during general physical examination, necessary treatment will be provided.

Confidentiality

Your identity will not be revealed. All information will be collected and coded so that no one will know your identity.

Withdrawal

Participation in this study is voluntary. If you do not wish to participate in this study, you will not lose benefits to which you are entitled.

Costs of participation

The cost of the study will be borne by the researcher. There will be no additional cost to you for participating in this study.

Payment of Participation

There will be no incentives to you for participating in this study.

Questions

If you have any questions about this study, you can contact Dr. H.N.SANGOLLI and Dr.ANIL B S at 9980569709. If you have any questions about your rights as a study participant, you may contact Dr V.D. PATIL, Chairman, JNMC Institutional ethics committee on human subjects research at 0831 2741701.

Legal rights

By signing this consent form, we are not waiving any of your legal rights.

Consent statement

I volunteer and consent to participate in this study. I have read the consent or it has been read to me in my own language. The study has been fully explained to me and I may ask questions at any time.

_____	_____
Signature or Left Hand Thumb Impression (Volunteer Subject)	Date
_____	_____
Signature of Person Obtaining Consent	Date
_____	_____
Signature of Witness	Date

ANNEXURE III: INVESTIGATIONS

A. HEMOGLOBIN ESTIMATION USING SAHLI'S METHOD

PRINCIPLE: The Hb present in a measured amount of blood is converted by dilute hydrochloric acid into acid hematin, which on dilution turns to golden brown color. The intensity of color depends on the concentration of acid hematin which, in turn, depends on the concentration of Hb. The color of the solution (its hue and depth) is matched against golden brown tinted glass rods by direct vision after dilution with water. The readings are obtained in gm%.

APPARATUS AND MATERIALS:

1. **SAHLI'S HEMOGLOBINOMETER**: The set consists of:

a) **Comparator**: It is a rectangular plastic box with a slot in the middle which accommodates the calibrated Hb tube. Non fading, standardized, golden brown glass rods are fitted on each side of the slot for matching the color. An opaque white glass is fitted behind the slot to provide uniform illumination during direct visual color matching.

b) **Hemoglobin tube**: The square or round glass tube is calibrated in gm%(2-24 gm%) on one side and in percentage Hb (20-140%) on the other.

c) **Hemoglobin pipette**: It is a glass capillary pipette with only a single calibration mark – 0.02 ml(20 microlitres).

d) **Stirrer**: It is a thin glass rod with flattened end used for stirring and mixing the blood and the dilute acid.

e) **Pasteur pipette**: A 8-10 inch glass tube drawn to a long thin nozzle, and has a rubber teat.

2. DECINORMAL(N/10) HYDROCHLORIC ACID SOLUTION
3. DISTILLED WATER

4. MATERIALS FOR STERILE SKIN PRICK

PROCEDURE :

Using a dropper, the Hb tube is filled with N/10 HCl upto the mark 20%.

A finger prick is made under aseptic conditions, and the first drop of blood is wiped off. When a large drop of blood is formed again, it is drawn upto 20 microlitre mark of the Hb pipette.

Without any waiting, the tip of the pipette is immersed into the bottom of the acid solution and blood is gently expelled. The pipette is rinsed 2-3 times by drawing up and blowing out the clear upper part of the acid solution till all the blood has been washed out from it.

The blood is mixed with the acid solution using the stirrer gently. The Hb tube is put back in the comparator and allowed to stand for 6-8 minutes. During this time, the acid ruptures the RBCs, releasing their Hb into solution. The acid acts on the Hb and converts it into acid hematin which is deep golden brown in color.

The next step is to dilute the acid hematin solution with distilled water till its color matches with the standard tinted rods in the comparator. Distilled water is added drop by drop using the Pastuer pipette, stirring the mixture each time and comparing the color with the standard. The comparator is held against bright but diffuse light, at the eye level, and the lower meniscus is read.

OBSERVATIONS AND RESULT

The result is expressed as Hb concentration =…..gm/100 ml blood.

B. PERIPHERAL SMEAR

Peripheral Blood Smear Preparation:

The wedge slide ("push slide") technique developed by Maxwell Wintrobe remains the standard method for the preparation of peripheral blood smears (films). The following procedure (Fig. 1) is utilized to prepare a peripheral smear. Place a 1" x 3" glass microscope slide with a frosted end on a flat surface (usually the counter top of a laboratory bench). Attach a label on the slide or write the patient name, specimen identification number, and date of preparation on the frosted surface. Place a 2 - 3 mm drop of blood approximately 1/4" from the frosted slide, using a wooden applicator stick or glass capillary tube. Hold the slide by the narrow side between the thumb and forefinger of one hand at the end farthest from the frosted end.

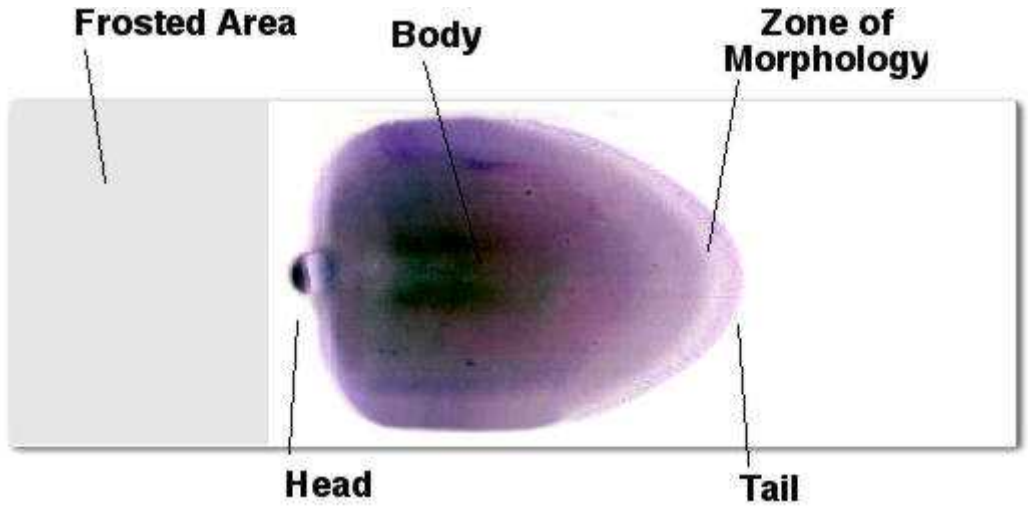

Fig.2. Photograph of the peripheral blood smear prepared above. The arrow points to the zone of morphology

Grasp a second slide ("spreader slide") between the thumb and forefinger of the other hand at the frosted end. Place the edge of the spreader slide on the lower slide in front of the drop of blood (side farthest from the frosted end). Pull the spreader slide toward the frosted end until it touches the drop of blood. Permit the blood to spread by

capillary motion until it almost reaches the edges of the spreader slide. Push the spreader slide forward at a 30o angle with a rapid, even motion. Let the weight of the slide do the work.

Peripheral Blood Smear Examination:

Peripheral smear examination requires a systematic approach in order to gather all possible information. In addition, all specimens must be evaluated in the same manner, to assure that consistent information is obtained. The following approach is recommended:

An examination at low power (10X ocular, 10x objective) is first performed to evaluate the quality of the smear, ascertain the approximate number of white blood cells and platelets, and to detect rouleaux formation, platelet clumps, and leukocyte clumps and other abnormalities visible at low magnification. An optimal area for evaluation at higher magnification is also chosen. This should be an intact portion of the smear free of preparation artifact where the red blood cells are separated by 1/3 to 1/2 of a cell diameter. The red blood cells should stain a pink color, while neutrophils show "crisp" features, with deep blue-purple nuclear material and lilac to pinkish to violet cytoplasmic granules. Optimal preparation and staining of the peripheral blood smear is critical for morphologic examination; an inadequate smear should not be examined.

Following low power examination of a peripheral blood smear, the 50X or 100X objective of the microscope is selected (500X or 1000X total magnification when using a 10x ocular) and the area of morphology is examined in a consistent scanning pattern (Fig 3) to avoid counting the same cell(s) twice. A differential count of at least 100 white blood cells (200, 500, or 1000 is even better) is performed, and any abnormal morphology of RBCs, WBCs, and platelets observed during the differential

count is recorded. Each morphologic abnormality observed should be quantitated ("graded") separately as to severity ("slight to marked" or "1+ to 4+"). Medical technologists are well trained in the reproducible quantitation of morphologic abnormalities; details are available in medical technology textbooks.

A fairly accurate estimate of the white blood cell count (cells/mL) can be obtained by counting the total number of leukocytes in ten 500X microscopic fields, dividing the total by 10, and multiplying by 3000. These estimates should approximate that obtained by the cell analyzer. If the estimate does not match the automated cell count, obtain the original blood specimen, confirm patient identity, repeat the automated analysis, and prepare a new smear.

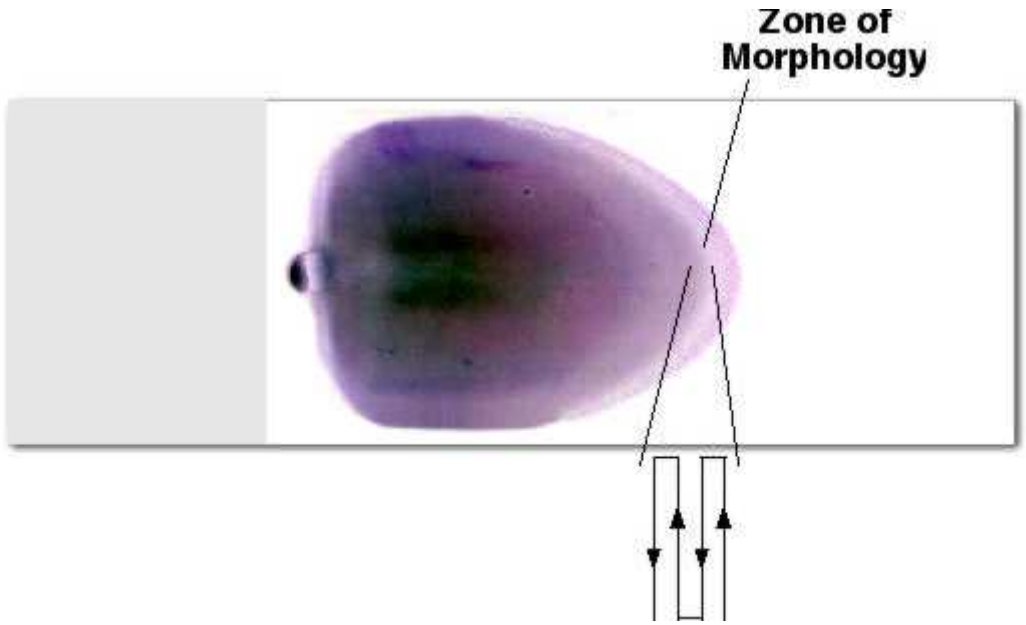

Fig. 3. Scanning technique for peripheral blood differential count and morphologic evaluation. (a) Ten microscopic fields are examined in a vertical direction from bottom to top (or top to bottom). (b) The slide is horizontally moved to the next field (c) Ten microscopic fields are counted vertically. (d) The procedure is repeated until 100 leukocytes have been counted (for a 100-cell count).

ANNEXURE IV: DIRECT OBSERVER's CALENDAR

NAME OF THE PREGNANT LADY: **GIVEN DATE:**

NAME OF THE DIRECT OBSERVER: **RETURN DATE:**

WEEK	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1							
2							
3							
4							
5							
6							
7							

VISIT No:

NO OF TABLETS GIVEN: **Signature of Candidate**

NO OF TABLETS REMAINING:

ADHERENCE: **Signature of Guide**

ANNEXURE V: IFA Tablets

Iron Tablets Constituents:

Dried Ferrous Sulphate I.P 335 mg [equivalent to 100 mg of elemental iron]

Folic Acid I.P 0.5 mg

Colour: Ponceau 4A

Dosage: One tablet twice daily

Overages added to compensate the possible loss of potency on storage.

Manufactured in India by Unicure (India) Pvt. Ltd. an ISO 9001: 2000 Certified Company

C-22. Sector – 3 Noida – 201301

Mfg Lic No. 3/SC/P of 1984

Batch No. FFT 24-41

Mfg date: 09 / 2007

Exp Date: 08 / 2009

Government of Karnataka

Karnataka state Drugs Logistics and Warehousing Society (Regd)

Health Department

Not for sale

ANNEXURE –VI: KEY TO MASTER CHART

1. Sl. No.

2. Sub Centre - 1. Agasaga [Case] 2. Shivapur [Control]

3. Village - 1. Agasaga, 2 Lamani Tanda, 3. Malenatti, 4. Cheluvenatti, 5. Shivapur, 6. Suttagatti, 7. Maranhol, 8. Ningyanatti, 9. Parsyanatti, 10. Iddalhonda, 11. Guramnatti

4. Religion - 1. Hindu, 2. Muslim, 3. Christian, 4. Sc, 5. St, 6. Others

5. Woman Age - 1. 10-15 Yrs, 2. 16-20 Yrs, 3. 21-25 Yrs, 4. 26-30 Yrs, 5. 31-35 Yrs

6. Husband Age - 1. 10-15 Yrs, 2. 16-20 Yrs, 3. 21-25 Yrs, 4. 26-30 Yrs, 5. 31-35 Yrs

7. Woman Occupation - 1. House Wife, 2. Farmer, 3. Others

8. Husband Occupation - 1. Industry, 2. Farmer, 3. Business, 4. Others

9. Woman Literacy - 1. Illiterate, 2. Primary, 3. Middle, 4. Highschool, 5. College

10. Husband Literacy - 1. Illiterate, 2. Primary, 3. Middle, 4. Highschool, 5. College

11. Percapita Income - 1. 2166 And Above, 2. 1083 - 2165 , 3. 650 -1082, 4. 325 - 649, 5. <325

12. Family Members

13. Adult Male

14. Adult Female

15. Children < 15 Male

16. Children <15 Female

17. Family Type - 1. Joint, 2. Nuclear, 3. 3 Generation, 4. Broken, 5. Others

18. Age Of Menarche - 1. 8-10, 2. 11-14, 3. 15-17, 4.>17

19. Duration Of Cycle - 1. 10-15, 2. 16-20, 3. 21-25, 4. 26-30, 5. 31-35, 6. >35

20. Duration Of Bleeding - 1. <2, 2. 3-5, 3. 6-9, 4. >10

21. Assoc With Lower Abdominal Pain - 1. Yes 2. No

22. Age At Marriage - 1. 10-15, 2. 16-20, 3. 21-25, 4. 26-30, 31-35

23. Age At First Pregnancy

24. Gravida

25. Para

26. Living

27. Abortion

28. Dead

29. Anc Registration - 1. Yes, 2. No

30. When - 1. 1st Trimester, 2. 2nd Trimester, 3. 3rd Trimester

31. Where - 1. Phc, 2. Anaganwadi, 3. District Hospital, 4. Private Hospital, 5. Sub Centre, 6. Others

32. Anc Checkup - 1. Yes, 2. No

33. How Many Previous Pregnancy

34. How Many Present Pregnancy

35. Place Of Anc Check Up - 1. Phc, 2. Sub Centre, 3. Anganwadi, 4. District Hospital, 5. Private Hospital, 6. Others

36. Reasons For Not Receiving - 0. Not Applicable, 1. Unaware, 2. Not Accessible, 3. Others

37. Previous Pregnancy Tt1 - 0. Not Applicable, Continuos Variable

38. Previous Pregnancy Tt2 : 0. Not Applicable, Continuos Variable

39. IFA Tablets - 1. Yes, 2. No, 3. Not Applicable

40. Previous How Much : 0. Not Applicable, 1. <30, 2. 31-60, 3. 61-90, 4. >90

41. Reasons For : 0. Not Applicable, 1. <30, 2. 31-60, 3. 61-90, 4. >90

42. Adviced By : 0. Not Applicable ,1. Health Worker, 2. Doctor, 3. Others

43. Previous Pregnancy Vit B12 Tabs : 0. Not Applicable, 1. Yes, 2. No

44. 0. Not Applicable, 1.<10, 2.11-20, 3.21-30, 4.>30

45. Present Pregnancy 0. Not Applicable, 1.<10, 2.11-20, 3.21-30, 4.>30

46. Any Complications: 0. Na, 1. No, 2. Anemia, 3. Pih, 4. Swelling Of Feet, 5. Blurring Of Vision, 6. Aph, 7. Pph, 8. Malaria, 9. Rh Incompatibility, 10. H/O Blood Transfusion

47. Referral To Higher Centre : 0. Na, 1. Yes, 2. No

48. Why : 0. Na, 1. Anemia, 2. Bleeding, 3. Aph

49. Where : 0. Na, 1. Govthospital, 2. Pvt Hospital

50. Who : 1. 0. Na, 1. Anm, 2. Directly, 3. Doctor

51. Marriage To 1st Preg

52. Marriage To 1st Child

53. 1st To 2nd Child

54. 2nd To 3rd Child

55. Family Planning Practiced : 1. No, 2. Ocp, 3. Cu - T, 4. Condom

56. Diet : 1. Veg, 2. Nonvegetarian, 3. Mixed

57. 24 Hour Recall Method - Percentage Of Deficiency Calorie

58. Consumption Of Iron Rich Foods: 1. Organ Meats, 2. Beef, 3. Dried Fruits, 4. Whole Grain Cereals, 5. Enriched Cereals, 6. Dark Glv, 7. Legumes, 8. Ragi, 9. Jaggery, 10. Eggs

59. Consumption Of Inhibitors Of Iron Absorption : 1. Spinach, 2. Whole Grains, 3. Tea, 4. Coffee, 5. Bran, 6. Legumes, 7. Fibre, 8. Calcium, 9. Zinc, 10. Eggs

60. Enhancers Of Iron Absorption: 1. Meat, 2. Poultry, 3. Fish, 4. Vit C [Oranges, Grape Fruit, Tomato, Cantaloupe, Baked Potato, Cauliflower, Cabbage]

61. Toilet Facility: 1. Yes, 2. No

62. Foot Wears: 1. Yes, 2. No

63. Deworming : 1. Done <6m, 2. Done >6m, 3. Not Done

64. Pallor Conjunctiva: 1. +, 2. ++, 3. +++

65. Tongue : 1. +, 2. ++, 3. +++

66. Nail: 1. +, 2. ++, 3. +++

67. Icterus : 0. No, 1. Yes

68. Cyanosis: 0. No, 1. Yes

69. Clubbing: 0. No, 1. Yes

70. Lympadenopathy: 0. No, 1. Yes

71. Oedema: 0. No, 1. Yes

72. Pulse:

73. BP - Systolic

74. Height: Cms

75. Weight: Kgs

76. Per Abdomen : 0. NAD, 1. Abnormality Present

77. CVS: 0. NAD, 1. Abnormality Present

78. Rs: 0. NAD, 1. Abnormality Present

79. CNS: 0. NAD, 1. Abnormality Present

80. Hb - 1

81. Hb - 2

82. Hb 4

83. Adherence 2

84. Adherence 3

85. Adherence 4

86. Direct Observer Age

87. Sex : 1. Male, 2. Female

88. Educational Status - 1. Illiterate, 2. Primary, 3. Middle, 4. Highschool, 5. College

89. Protein Defeciency

90. PS - 1 : Polymorphs -1

91. Lymphocytes -1

92. Eosinophils -1

93. Monocytes -1

94. Basophils -1

95. Cell Size -1 : 1. Normocytic, 2. Microcytic, 3. Macrocytic

96. Chromic - 1 : 1. Normochromic, 2. Hypochromic, 3. Hyperchromic

97. Anemia - 1: 1. Anemia, 0. Non Anemic

98. Blood Picture - 1: 1. Eosinophilia, 0. Normal Blood Picture

99. PS - 2 : Polymorphs -2

100. Lymphocytes -2

101. Eosinophils - 2

102. Monocytes -2

103. Basophils - 2

104. Cytes - 2

105. Chromic - 2

106. Anemia - 2

107. PS - 3 : Polymorphs - 4

108. Lymphocytes - 4

109. Eosinophils - 4

110. Monocytes - 4

111. Basophils - 4

112. Cytes - 4

113. Chromic - 4

114. Anemia - 4

115. BP - Diastolic

116. Reasons For Missing Dose - 2nd Visit : 1. Diarrhoea, 2. Constipation, 3. Heart Burn, 4. Forgot, 5. Nausea, 6. Vomitting, 7. Stomach Pain

117. Reasons For Missing Dose - 3rd Visit : 1. Diarrhoea, 2. Constipation, 3. Heart Burn, 4. Forgot, 5. Nausea, 6. Vomitting, 7. Stomach Pain

118. Reasons For Missing Dose - 4th Visit : 1. Diarrhoea, 2. Constipation, 3. Heart Burn, 4. Forgot, 5. Nausea, 6. Vomitting, 7. Stomach Pain

1. Sl No	2. SUB CE	3. VILLAG	4. religion	5. WOMAN	6. HUSBAN	7.WOMAN	8.HUSBAN	9.WOMAN	10.HUSBA	11.PERCA	12.FAMIL	13.ADULT	14.ADULT	15.CHILDI	16.CHILDI	17.FAMIL	18.AGE OF	19.DURAT	20.DURAT	21.ASSOC	22.AGE AT	23.AGE AT	24.GRAVI	25.PARA	26.LIVING	27.ABORT	28.DEAD	29.ANC RE	30.WHEN	31.WHERE	32.ANC CH	33.HOW M	34.HOW M	35.PLACE	36.REASO	37.PREVIO	38.PREVIO	39.IFA TA	40.PREVIO	41.REASO	42.ADVICE	43.PREVIO	44.<10, 11-	45.Present	46.ANY CO	47.REFERI	48.WHY	49.WHERE	50.Who	51.MARRI	52.MARRI
1	1	1	1	2	3	1	2	3	4	4	6	4	2	0	0	1	3	4	3	1	2	1	2	1	1	0	0	1	1	2	1	3	2	3	0	20	24	1	4	3	1	1	2	0	1	2	0	0	0	12	21
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87	2	6	1	3	4	1	1	2	5	3	6	2	2	1	1	1	2	4	2	2	2	2	3	2	2	0	0	1	1	5	1	3	1	1	0	20	24	1	1	2	1	2	0	0	1	2	0	0	0	24	24
88	2	6	1	3	4	2	2	4	4	4	4	2	2	0	0	1	2	6	2	1	2	2	1	0	0	0	0	1	1	5	1	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
89	2	7	1	2	3	1	2	1	2	4	4	2	2	0	0	1	2	4	2	1	3	3	2	1	0	0	1	1	1	4	1	3	2	1	0	20	24	1	3	3	1	1	3	0	1	2	0	0	0	12	0
90	2	7	4	2	3	1	1	2	1	3	3	1	1	1	0	2	2	4	2	2	2	2	2	1	1	0	0	1	1	4	1	3	2	1	0	22	26	0	0	0	0	0	0	0	1	2	0	0	0	4	13
91	2	8	5	2	3	1	1	3	4	4	4	2	2	0	0	1	3	4	2	2	2	2	1	0	0	0	0	1	1	1	1	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
92	2	8	5	3	4	1	2	4	2	3	7	2	3	1	1	1	2	4	2	2	1	2	2	1	1	0	0	1	1	1	1	3	1	1	0	20	24	1	1	2	1	1	3	0	1	2	0	0	0	36	45
93	2	9	4	2	3	1	1	3	1	3	7	3	3	0	1	3	2	4	2	2	2	2	2	1	1	0	0	1	1	1	1	3	1	1	0	20	24	1	1	2	1	2	0	0	1	2	0	0	0	24	33
94	2	9	1	2	3	1	2	2	3	4	5	2	2	1	0	3	3	4	2	2	2	2	1	0	0	0	0	1	1	5	1	0	1	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	5	0
95	2	11	4	3	4	1	2	1	3	2	6	2	2	1	1	1	2	4	2	2	2	2	3	2	2	0	0	1	1	5	1	3	1	1	0	20	24	1	1	2	1	1	3	0	1	2	0	0	0	24	24

96	2	10	1	3	4	1	1	4	3	2	4	2	2	0	0	1	2	6	2	1	2	2	1	0	0	0	0	1	1	5	1	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
97	2	5	1	5	6	1	2	4	4	4	4	2	2	0	0	1	2	4	2	1	3	3	2	1	0	0	1	1	1	4	1	3	2	1	0	20	24	1	3	3	1	2	0	0	1	2	0	0	0	12	0
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99	2	6	1	2	4	2	3	1	2	5	4	2	2	0	0	1	3	4	2	2	2	2	1	0	0	0	0	1	1	1	1	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
100	2	7	1	2	3	1	1	3	3	4	7	2	3	1	1	1	2	4	2	2	1	2	2	1	1	0	0	1	1	1	1	3	1	1	0	20	24	1	1	2	1	1	3	0	1	2	0	0	0	36	45
101	2	8	1	2	3	1	2	2	4	3	7	3	3	0	1	3	2	4	2	2	2	2	2	1	1	0	0	1	1	1	1	3	1	1	0	20	24	1	1	2	1	2	0	0	1	2	0	0	0	24	33
102	2	9	4	3	4	1	2	1	2	4	5	2	2	1	0	3	3	4	2	2	2	2	1	0	0	0	0	1	1	5	1	0	1	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	5	0
103	2	6	1	2	3	1	1	2	3	4	6	2	2	1	1	1	2	4	2	2	2	2	3	2	2	0	0	1	1	5	1	3	1	1	0	20	24	1	1	2	1	2	0	0	1	2	0	0	0	24	24
104	2	7	5	2	3	1	1	4	4	3	4	2	2	0	0	1	2	6	2	1	2	2	1	0	0	0	0	1	1	5	1	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
105	2	11	1	3	4	2	1	3	4	4	4	2	2	0	0	1	2	4	2	1	3	3	2	1	0	0	1	1	1	4	1	3	2	1	0	20	24	1	3	3	1	1	4	0	1	2	0	0	0	12	0
106	2	10	1	2	3	1	1	4	2	3	3	1	1	1	0	2	2	4	2	2	2	2	2	1	1	0	0	1	1	4	1	3	2	1	0	22	26	0	0	0	0	0	0	0	1	2	0	0	0	4	13
107	2	5	1	2	4	2	2	2	3	3	4	2	2	0	0	1	3	4	2	2	2	2	1	0	0	0	0	1	1	1	1	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
108	2	5	1	3	4	2	1	3	4	4	7	2	3	1	1	1	2	4	2	2	1	2	2	1	1	0	0	1	1	1	1	3	1	1	0	20	24	1	1	2	1	2	0	0	1	2	0	0	0	36	45
109	2	6	1	2	3	1	2	1	2	2	7	3	3	0	1	3	2	4	2	2	2	2	2	1	1	0	0	1	1	1	1	3	1	1	0	20	24	1	1	2	1	1	4	0	1	2	0	0	0	24	33
110	2	7	1	3	4	2	3	1	1	2	5	2	2	1	0	3	3	4	2	2	2	2	1	0	0	0	0	1	1	5	1	0	1	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	5	0
111	2	8	4	3	4	1	1	4	3	4	6	2	2	1	1	1	2	4	2	2	2	2	3	2	2	0	0	1	1	5	1	3	1	1	0	20	24	1	1	2	1	2	0	0	1	2	0	0	0	24	24
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113	2	9	5	3	4	1	1	1	2	5	4	2	2	0	0	1	2	4	2	1	3	3	2	1	0	0	1	1	1	4	1	3	2	1	0	20	24	1	3	3	1	1	4	0	1	2	0	0	0	12	0
114	2	6	4	3	4	1	2	1	5	4	3	1	1	1	0	2	2	4	2	2	2	2	2	1	1	0	0	1	1	4	1	3	2	1	0	22	26	0	0	0	0	0	0	0	1	2	0	0	0	4	13
115	2	8	1	2	3	1	2	1	3	3	4	2	2	0	0	1	3	4	2	2	2	2	1	0	0	0	0	1	1	1	1	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
116	2	9	4	2	3	1	2	3	1	4	7	2	3	1	1	1	2	4	2	2	1	2	2	1	1	0	0	1	1	1	1	3	1	1	0	20	24	1	1	2	1	2	0	0	1	2	0	0	0	36	45
117	2	7	1	2	4	1	2	1	1	4	7	3	3	0	1	3	2	4	2	2	2	2	2	1	1	0	0	1	1	1	1	3	1	1	0	20	24	1	1	2	1	1	3	0	1	2	0	0	0	24	33
118	2	5	1	2	3	1	2	3	2	3	5	2	2	1	0	3	3	4	2	2	2	2	1	0	0	0	0	1	1	5	1	0	1	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	5	0
119	2	6	5	2	3	1	3	2	5	3	6	2	2	1	1	1	2	4	2	2	2	2	3	2	2	0	0	1	1	5	1	3	1	1	0	20	24	1	1	2	1	2	0	0	1	2	0	0	0	24	24
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122	2	9	1	3	4	2	2	1	2	3	3	1	1	1	0	2	2	4	2	2	2	2	2	1	1	0	0	1	1	4	1	3	2	1	0	22	26	0	0	0	0	0	0	0	1	2	0	0	0	4	13
123	2	6	4	3	4	2	3	3	5	4	4	2	2	0	0	1	3	4	2	2	2	2	1	0	0	0	0	1	1	1	1	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
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125	2	8	5	3	4	1	1	4	2	3	7	3	3	0	1	3	2	4	2	2	2	2	2	1	1	0	0	1	1	1	1	3	1	1	0	20	24	1	1	2	1	2	0	0	1	2	0	0	0	24	33
126	2	11	1	3	4	1	1	1	1	4	5	2	2	1	0	3	3	4	2	2	2	2	1	0	0	0	0	1	1	5	1	0	1	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	5	0
127	2	10	1	5	6	1	2	2	1	2	6	2	2	1	1	1	2	4	2	2	2	2	3	2	2	0	0	1	1	5	1	3	1	1	0	20	24	1	1	2	1	2	0	0	1	2	0	0	0	24	24
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130	2	5	1	2	3	1	1	3	3	2	3	1	1	1	0	2	2	4	2	2	2	2	2	1	1	0	0	1	1	4	1	3	2	1	0	22	26	0	0	0	0	0	0	0	1	2	0	0	0	4	13
131	2	5	1	2	3	2	2	2	4	5	4	2	2	0	0	1	3	4	2	2	2	2	1	0	0	0	0	1	1	1	1	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
132	2	6	4	2	3	2	1	1	2	4	7	2	3	1	1	1	2	4	2	2	1	2	2	1	1	0	0	1	1	1	1	3	1	1	0	20	24	1	1	2	1	2	0	0	1	2	0	0	0	36	45
133	2	5	5	2	3	2	2	4	3	3	7	3	3	0	1	3	2	4	2	2	2	2	2	1	1	0	0	1	1	1	1	3	1	1	0	20	24	1	1	2	1	1	2	0	1	2	0	0	0	24	33
134	2	6	5	3	4	1	2	4	3	4	5	2	2	1	0	3	3	4	2	2	2	2	1	0	0	0	0	1	1	5	1	0	1	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	5	0
135	2	7	4	3	4	1	1	1	4	4	6	2	2	1	1	1	2	4	2	2	2	2	3	2	2	0	0	1	1	5	1	3	1	1	0	20	24	1	1	2	1	2	0	0	1	2	0	0	0	24	24
136	2	9	1	3	4	1	2	1	3	3	4	2	2	0	0	1	2	6	2	1	2	2	1	0	0	0	0	1	1	5	1	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
137	2	11	4	3	4	1	2	3	2	4	4	2	2	0	0	1	2	4	2	1	3	3	2	1	0	0	1	1	1	4	1	3	2	1	0	20	24	1	3	3	1	1	3	0	1	2	0	0	0	12	0
138	2	10	1	2	4	1	3	2	5	3	3	1	1	1	0	2	2	4	2	2	2	2	2	1	1	0	0	1	1	4	1	3	2	1	0	22	26	0	0	0	0	0	0	0	1	2	0	0	0	4	13
139	2	5	1	3	4	1	1	1	4	3	4	2	2	0	0	1	3	4	2	2	2	2	1	0	0	0	0	1	1	1	1	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
140	2	6	5	3	4	2	2	2	2	4	7	2	3	1	1	1	2	4	2	2	1	2	2	1	1	0	0	1	1	1	1	3	1	1	0	20	24	1	1	2	1	2	0	0	1	2	0	0	0	36	45

53.1ST TO	54.2ND TO	55.FAMILY	56.DIET	57.24 HOU	58.CONSU	59.CONSU	60.ENHAN	61.TOILET	62.FOOT W	63.DEWOR	64.PALLO	65.TONGU	66.NAIL	67.ICTERU	68.CYANO	69.CLUBB	70.LYMPA	71.OEDEM	72.PULSE	73.BP - Sys	74.HEIGH	75.WEIGH	76.PER AB	77.CVS	78.RS	79.CNS	80.HB - 1	81.HB - 2	82.HB 4	83.ADHER	84.ADHER	85.ADHER	86.DIRECT	87.SEX	88.EDUCA	89. Protein	90. PS - 1 :	91. LYMPH	92.EOSINO	93.MONOC	94. BASOP	95. CELL S	96. CHRON	97. ANEMI	98. BLOOD	99. PS - 2 :	100.LYMP
0	0	2	3	40	20	11	4	1	2	3	1	0	1	0	0	0	0	0	84	110	148	48	0	0	0	0	7.8	8.3	9	88	70	78	48	1	3	14.07	65	30	4	1	0	1	2	1	0	60	31
0	0	1	3	24.6	13	12	7	1	1	3	1	0	1	0	0	0	0	0	68	116	153	53	0	0	0	0	7.5	8	8.6	96	94	82	63	2	2	16.67	63	31	6	0	0	1	2	1	1	77	20
24	0	1	1	24	18	17	4	2	1	1	1	0	0	0	0	0	0	0	74	110	154	44	0	0	0	0	8.2	8.4	9.5	92	90	94	56	1	5	27.98	70	20	5	0	0	1	2	1	0	59	37
24	0	3	3	39.4	18	15	5	2	1	1	2	1	2	0	0	0	0	0	64	112	152	43	0	0	0	0	10	10.4	11	68	72	70	35	1	2	15.8	62	27	9	2	0	1	2	1	1	71	19
0	0	1	1	27.8	20	22	4	1	2	3	0	0	2	0	0	0	0	0	68	118	151	48	0	0	0	0	8.1	9	10.2	100	100	100	23	1	1	13.2	78	17	3	2	0	1	2	1	0	69	25
0	0	1	3	34.5	14	14	9	1	1	3	1	0	1	0	0	0	0	0	84	110	152	37	0	0	0	0	8	8	8.4	67.14	88	74	14	1	4	0	70	24	5	1	0	1	2	1	0	59	34
14	12	1	1	32.9	19	25	6	2	2	3	0	0	2	0	0	0	0	0	74	122	150	37	0	0	0	0	9.2	9.3	9.8	88.5	70	73	16	2	2	12	60	35	5	0	0	1	2	1	0	60	32
204	0	1	3	23.9	17	16	7	1	1	1	1	1	0	0	0	0	0	0	78	120	147	52	0	0	0	0	7.4	8.2	8.7	72	79	64	24	2	2	23	62	26	10	2	0	1	2	1	1	68	21
48	0	1	3	28.5	15	21	8	2	1	3	0	0	3	0	0	0	0	0	78	120	150	39	0	0	0	0	8	8.4	8.9	96	88	82	26	2	3	12	59	38	3	0	0	1	2	1	0	63	30
0	0	2	3	34.5	22	24	7	1	1	3	0	0	0	0	0	0	0	0	78	130	151	49	0	0	0	0	7.2	7.4	7.8	88	80	72	46	1	3	14	66	30	4	0	0	1	1	1	0	72	20
0	0	1	3	38	21	20	9	2	1	3	2	2	2	0	0	0	0	0	84	120	146	45	0	0	0	0	8.4	8.8	9.6	73	70	78	24	1	3	13.08	75	23	2	0	0	1	2	1	0	63	29
0	0	1	3	26	12	23	6	1	1	3	0	0	0	0	0	0	0	0	78	110	143	46	0	0	0	0	8.6	9	9.8	87	84	88	13	2	4	14.29	66	24	8	2	0	1	2	1	1	66	23
0	0	1	3	19.5	23	25	7	1	2	1	1	0	1	0	0	0	0	0	84	110	148	48	0	0	0	0	7.6	8.4	9.1	91	94	80	56	2	2	23.65	63	30	4	3	0	1	2	1	0	65	28
0	0	1	3	34.8	13	14	7	1	2	3	1	0	1	0	0	0	0	0	68	116	153	53	0	0	0	0	12.2	12.4	12.5	69	74	71	23	1	3	25.98	79	15	5	1	0	1	1	0	1	60	31
24	0	1	1	29.3	18	13	4	2	2	1	1	0	0	0	0	0	0	0	74	110	154	44	0	0	0	0	8.2	8.8	9	64	63	57	57	2	2	12.33	55	38	4	3	0	1	1	1	0	77	20
36	36	1	3	38.6	18	19	5	1	1	1	2	1	2	0	0	0	0	0	64	112	152	43	0	0	0	0	6.4	6.8	7.2	78	88	70	25	2	3	25.34	63	29	6	2	0	1	1	1	1	59	37
0	0	2	3	43.2	19	25	6	2	2	3	0	0	2	0	0	0	0	0	68	118	151	48	0	0	0	0	7.3	7.9	8.3	82	96	94	19	2	2	18.94	60	31	8	1	0	1	1	1	1	71	19
0	0	1	3	40	20	18	8	1	1	3	1	0	1	0	0	0	0	0	84	110	152	37	0	0	0	0	8.9	9.3	9.5	94	92	90	28	1	3	14.07	72	21	6	1	0	1	1	1	1	69	25
24	0	1	3	24	13	14	7	1	1	3	0	0	2	0	0	0	0	0	74	122	150	37	0	0	0	0	7.5	7.8	8.4	70	68	72	29	1	2	16.67	68	25	7	0	0	1	1	1	1	59	34
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24	0	1	3	23.9	17	14	7	1	2	3	1	1	1	0	0	0	0	0	78	110	149	43	0	0	0	0	7.4	7.4	7.6	37	33	65	28	1	3	0	59	37	2	2	0	1	2	1	0	68	25

0	0	1	3	28.5	15	25	8	1	1	1	1	0	1	0	0	0	0	0	0	86	140	160	55	0	0	0	0	8	8.2	8.3	44	65	57	20	2	5	12	71	19	8	2	0	1	2	1	1	69	29
0	0	1	3	34	22	16	7	2	2	3	0	0	0	0	0	0	0	0	0	82	110	153	38	0	0	0	0	9	9.2	9.1	33	67	49	28	2	2	23	69	25	5	1	0	1	2	1	1	68	32
0	0	2	3	38	18	17	4	1	1	3	1	1	1	0	0	0	0	0	0	84	100	160	41	0	0	0	0	7.2	7.4	7.3	42	37	23	28	1	3	12	59	34	6	1	0	1	2	1	1	73	19
0	0	1	3	26	18	15	5	2	1	3	0	0	1	0	0	0	0	0	0	74	110	148	42	0	0	0	0	8	7.8	8.1	24	32	43	23	1	5	14	60	32	7	1	0	1	2	1	1	67	25
0	0	1	3	19.5	20	22	4	1	1	3	1	0	2	0	0	0	0	0	0	70	130	152	43	0	0	0	0	7.2	7.4	7.7	45	58	47	14	1	4	13.08	68	21	10	1	0	1	2	1	1	60	31
0	0	1	3	34.8	14	14	9	1	1	1	1	0	1	0	0	0	0	0	0	74	120	150	39	0	0	0	0	8.1	8.4	8.6	48	57	47	16	2	4	14.29	63	30	5	2	0	1	2	1	1	77	20
0	0	1	1	29.3	19	25	6	1	1	3	1	0	1	0	0	0	0	0	0	74	110	160	55	0	0	0	0	7.1	7.2	7.5	64	39	43	17	1	4	23.65	72	20	7	1	0	1	2	1	1	59	37
24	0	1	3	38.6	17	16	7	2	2	3	1	1	1	0	0	0	0	0	0	76	110	152	44	0	0	0	0	7.4	7.5	7.6	78	45	48	16	2	4	25.88	63	29	5	3	0	1	2	1	1	71	19
0	0	1	3	43.2	15	21	8	1	2	1	1	0	1	0	0	0	0	0	0	84	120	156	50	0	0	0	0	8	8.4	8.8	37	72	46	14	1	4	12.34	66	23	9	2	0	1	2	1	1	69	25
0	0	2	3	40	22	24	7	2	2	3	0	0	0	0	0	0	0	0	0	78	110	149	43	0	0	0	0	8.3	7.8	8.2	67	59	87	16	2	2	25.39	65	28	5	2	0	1	1	1	1	59	34
0	0	1	3	24	21	20	9	2	1	3	1	1	1	0	0	0	0	0	0	88	140	160	55	0	0	0	0	7.4	7.8	8	53	77	54	24	2	2	18.94	60	31	7	2	0	1	2	1	1	60	32
0	0	1	1	24	12	23	6	2	1	3	0	0	1	0	0	0	0	0	0	82	110	153	38	0	0	0	0	8.2	8.4	8.7	61	67	63	26	2	3	14.07	77	20	4	0	0	1	2	1	0	68	21
0	0	3	3	39.4	23	25	7	1	2	1	1	0	2	0	0	0	0	0	0	84	100	160	41	0	0	0	0	9.3	9.5	9.8	29	59	11	46	1	3	16.64	59	37	8	2	0	1	2	1	1	63	30
0	0	1	1	27.8	13	14	7	2	2	3	1	0	1	0	0	0	0	0	0	74	110	148	42	0	0	0	0	7.3	7.4	7.7	72	70	36	24	1	3	27.98	71	19	4	2	0	1	1	1	0	72	20
0	0	1	3	34.5	18	13	4	2	1	3	1	0	1	0	0	0	0	0	0	78	130	152	43	0	0	0	0	8.1	8.5	8.7	61	75	57	13	2	4	15.8	69	25	7	1	0	1	2	1	1	63	29
24	0	2	1	32.9	18	19	5	2	1	3	1	1	1	0	0	0	0	0	0	74	120	150	39	0	0	0	0	8.2	8.4	8.8	74	47	68	56	2	2	13.2	59	34	5	1	0	1	2	1	0	66	23
0	0	1	3	23.9	19	25	6	1	2	3	1	0	1	0	0	0	0	0	0	74	110	160	55	0	0	0	0	8.3	8.6	8.8	40	54	37	23	1	3	0	60	32	9	1	0	1	2	1	1	55	38
0	0	1	3	28.5	20	18	8	1	1	3	0	0	0	0	0	0	0	0	0	76	110	152	44	0	0	0	0	7.4	7.7	7.8	41	64	82	57	2	2	12	68	21	4	1	0	1	2	1	0	63	29
0	0	3	3	34	13	14	7	2	1	1	1	1	1	0	0	0	0	0	0	84	120	156	50	0	0	0	0	7.4	7.5	8	44	59	54	25	2	3	23	63	30	8	2	0	1	2	1	1	60	31
0	0	1	3	38	18	22	4	2	1	1	0	0	1	0	0	0	0	0	0	78	110	149	43	0	0	0	0	8.1	8.3	8.4	47	45	61	19	2	2	13.2	72	20	6	1	0	1	2	1	1	72	21
0	0	1	3	26	18	14	5	1	2	3	1	0	2	0	0	0	0	0	0	88	140	160	55	0	0	0	0	9.3	9.5	9.5	39	58	45	28	1	3	0	63	29	5	3	0	1	2	1	0	68	25
0	0	1	3	19.5	20	17	4	1	1	3	1	0	1	0	0	0	0	0	0	82	110	153	38	0	0	0	0	7.1	7.5	7.7	63	56	65	29	1	2	12	66	23	4	2	0	1	2	1	0	69	29
0	0	1	3	34.8	14	15	9	2	2	3	1	0	1	0	0	0	0	0	0	84	100	160	41	0	0	0	0	8.2	8.5	8.6	48	50	57	48	2	3	23	65	28	5	2	0	1	2	1	0	68	32
24	0	1	3	29.3	19	22	6	1	1	1	1	1	1	0	0	0	0	0	0	74	110	148	42	0	0	0	0	7.1	7.5	7.4	47	67	49	38	2	2	12	60	31	4	2	0	1	2	1	0	73	19
0	0	2	3	38.6	17	14	7	2	1	3	1	0	1	0	0	0	0	0	0	78	130	152	43	0	0	0	0	10.2	10.4	10.3	58	36	23	49	1	3	14	77	20	6	0	0	1	2	1	1	67	25
0	0	1	3	43.2	15	25	8	1	1	3	0	0	0	0	0	0	0	0	0	74	120	150	39	0	0	0	0	7.1	7.7	7.5	79	76	43	39	1	2	13.08	59	37	5	2	0	1	2	1	0	60	31
0	0	1	1	40	22	16	7	2	1	3	1	1	1	0	0	0	0	0	0	74	110	160	55	0	0	0	0	7.2	7.5	7.6	19	54	47	49	2	3	14.29	71	19	9	2	0	1	2	1	1	77	20
0	0	1	1	24	18	17	4	1	1	3	0	0	1	0	0	0	0	0	0	76	110	152	44	0	0	0	0	6.7	7	7.2	38	49	47	26	2	3	23.65	69	25	7	1	0	1	2	1	1	73	24
0	0	1	3	39.4	18	15	5	1	2	1	1	0	2	0	0	0	0	0	0	84	120	156	50	0	0	0	0	7	7.2	7.3	23	24	43	34	1	2	25.98	59	34	3	1	0	1	2	1	0	63	31
0	0	1	1	27.8	20	22	4	1	2	3	1	0	1	0	0	0	0	0	0	78	110	149	43	0	0	0	0	6.3	6.4	6.5	45	54	48	47	2	2	12.34	60	32	8	1	0	1	2	1	1	58	30
0	0	1	3	34.5	14	14	9	2	2	1	1	0	1	0	0	0	0	0	0	88	140	160	55	0	0	0	0	7.5	7.3	7	33	42	46	28	1	3	25.34	68	21	5	1	0	1	2	1	0	69	26
24	0	2	1	32.9	19	25	6	1	1	1	1	1	1	0	0	0	0	0	0	82	110	153	38	0	0	0	0	8.1	8.4	8.9	27	27	34	20	2	5	18.94	63	30	6	2	0	1	2	1	1	65	23
0	0	1	3	23.9	17	16	7	2	2	3	1	0	1	0	0	0	0	0	0	84	100	160	41	0	0	0	0	6.4	6.7	0	54	34	0	28	2	2	14.07	72	20	3	1	0	1	2	1	0	66	24
0	0	1	3	28.5	15	21	8	1	1	3	0	0	0	0	0	0	0	0	0	74	110	148	42	0	0	0	0	7.8	8	0	57	0	0	28	1	3	16.67	63	29	5	3	0	1	2	1	0	68	25
0	0	3	3	34	22	24	7	1	1	3	1	1	1	0	0	0	0	0	0	78	130	152	43	0	0	0	0	7.4	7.5	0	41	0	0	23	1	5	27.98	55	38	1	3	0	1	1	1	0	60	29
0	0	1	3	38	21	20	9	2	1	1	0	0	1	0	0	0	0	0	0	74	120	150	39	0	0	0	0	9	0	0	0	0	0	14	1	4	15.8	63	29	2	2	0	1	1	1	0	0	0
0	0	1	3	26	12	23	6	1	2	1	1	0	2	0	0	0	0	0	0	74	110	160	55	0	0	0	0	7.8	0	0	0	0	0	16	2	4	13.2	60	31	2	1	0	1	1	1	0	0	0
0	0	1	3	19.5	23	25	7	1	2	3	1	0	1	0	0	0	0	0	0	76	110	152	44	0	0	0	0	8.1	0	0	0	0	0	17	1	4	0	72	21	3	1	0	1	1	1	0	0	0
0	0	1	3	34.8	13	14	7	1	1	3	1	0	1	0	0	0	0	0	0	84	120	156	50	0	0	0	0	7.7	0	0	0	0	0	16	2	4	12	68	25	2	0	0	1	1	1	0	0	0
24	0	1	1	29.3	18	13	4	1	2	3	1	1	1	0	0	0	0	0	0	78	110	149	43	0	0	0	0	8.3	0	0	0	0	0	14	1	4	23	69	29	1	0	0	1	2	1	0	0	0
0	0	2	3	38.6	18	19	5	1	1	1	1	0	1	0	0	0	0	0	0	88	140	160	55	0	0	0	0	8	0	0	0	0	0	16	2	2	13.2	68	32	2	1	0	1	2	1	0	0	0
0	0	1	3	43.2	19	25	6	2	2	3	0	0	0	0	0	0	0	0	0	82	110	153	38	0	0	0	0	8.2	0	0	0	0	0	24	2	2	0	73	19	3	3	0	1	2	1	0	0	0
0	0	1	3	40	20	18	8	1	1	3	1	1	1	0	0	0	0	0	0	84	100	160	41	0	0	0	0	7.1	0	0	0	0	0	26	2	3	12	67	25	2	2	0	1	1	1	0	0	0
0	0	1	3	24	13	14	7	1	2	3	0	0	1	0	0	0	0	0	0	74	110	148	42	0	0	0	0	7.4	0	0	0	0	0	46	1	3	23	59	34	3	1	0	1	2	1	0	0	0
0	0	1	1	24	18	22	4	1	1	1	1	0	2	0	0	0	0	0	0	78	130	152	43	0	0	0	0	7.3	0	0	0	0	0	24	1	3	12	60	32	8	1	0	1	2	1	1	0	0

101.EOSIN	102.MONO	103.BASOI	104. CELI	105.CHRO	106. ANEM	107. PS - 3	108. LYMP	109. EOSIN	110. MONO	111. BASO	112. CELL	113. CHRO	114. ANEM	115. BP - D	116. Reason	117. Reason	118. Reason	59.1 Spinac	59.2 Whole	59.3 Tea	59.4 Coffee	59.5 Bran	59.6 Legum	59.7 Fibre	59.8 Calciu	59.9 Zinc	59.10 Eggs	58.1 Organ	58.2 Beef	58.3 Dried	58.4 Whole	58.5 Enrich	58.6 Dark C	58.7 Legum	58.8 Ragi	58.9 Jagger	58.10 Eggs	60.1 Meat	60.2 Poultr	60.3 Fish	60.4 Vitami
1	2	0	1	2	1	55	38	1	3	0	1	1	1	70	5	3	3	0	0	1	0	0	1	0	1	1	0	0	0	1	1	0	1	1	0	0	0	0	0	1
2	0	0	1	2	1	63	29	2	2	0	1	1	1	70	5	5	1	1	0	0	0	0	1	1	1	1	1	0	1	0	0	1	1	0	0	1	1	1	0	1
1	2	0	1	2	1	60	31	2	1	0	1	1	1	76	5	3	3	1	0	0	0	0	0	1	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
3	2	0	1	2	1	72	21	3	1	0	1	1	0	70	6	5	3	1	0	0	0	0	1	0	1	1	0	1	0	0	0	0	1	0	0	0	0	1	1	0	0
0	1	0	1	2	1	68	25	2	0	0	1	1	1	68	0	0	0	0	0	1	0	0	1	0	1	1	0	0	0	1	1	0	1	1	0	0	0	0	0	1
0	1	0	1	2	1	69	29	1	0	0	1	2	1	70	5	3	3	1	0	0	0	0	1	1	1	1	1	1	0	1	0	0	1	0	1	1	0	1	0	0	1
0	1	0	1	2	1	68	32	2	1	0	1	2	1	60	5	5	1	0	0	1	0	0	0	0	0	1	1	1	0	1	0	0	1	0	1	1	1	1	1	1	1
4	1	0	1	2	1	73	19	3	3	0	1	2	1	76	5	3	3	1	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	1	1	1	1	0	1
1	2	0	1	2	1	67	25	2	2	0	1	1	1	80	6	5	3	0	0	1	1	0	0	0	1	1	1	0	1	0	0	1	0	0	1	1	1	0	1	1	1
1	1	0	1	1	1	60	31	1	2	0	1	2	1	70	5	3	3	0	0	1	0	0	0	0	1	1	1	0	0	1	0	0	1	0	1	1	1	1	0	1	1
0	3	0	1	2	1	77	20	4	0	0	1	2	1	78	5	5	1	0	0	1	1	0	0	0	1	0	0	0	0	1	0	0	1	0	0	1	1	1	0	0	1
0	2	0	1	2	1	59	37	2	2	0	1	2	1	70	5	3	3	0	0	1	0	0	0	0	1	0	1	1	0	1	1	0	1	1	0	0	1	1	1	1	1
0	2	0	1	2	1	71	19	1	2	0	1	2	1	70	6	5	3	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	1	1	1	0	1
1	2	0	1	1	0	69	25	2	1	0	1	1	0	70	5	3	3	1	0	0	0	0	1	1	1	1	1	1	0	1	0	0	1	1	0	0	1	1	1	0	1
1	0	0	1	1	1	59	34	3	1	0	1	2	1	76	5	5	1	1	0	0	1	0	0	0	1	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1
2	2	0	1	1	1	60	32	1	1	0	1	2	1	70	5	3	3	1	0	0	0	0	0	1	1	1	1	1	0	0	0	0	1	0	0	0	0	1	1	0	0
2	2	0	1	1	1	68	21	2	1	0	1	2	1	68	6	5	3	0	0	1	0	0	0	0	0	1	1	1	0	1	0	0	1	0	1	1	1	1	1	1	1
3	1	0	1	1	1	63	30	1	2	0	1	2	1	70	5	3	3	1	0	0	0	0	0	1	1	1	0	0	0	1	1	0	1	1	0	0	0	1	0	1	1
4	1	0	1	1	1	72	20	2	1	0	1	2	1	60	5	5	1	1	0	0	0	0	1	1	1	1	1	1	0	1	0	0	1	1	0	0	1	1	1	0	1
0	1	0	1	2	1	63	29	1	3	0	1	2	1	76	5	3	3	0	0	1	0	0	1	0	1	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1
3	1	0	1	2	1	66	23	2	2	0	1	2	1	80	6	5	3	1	0	0	0	0	1	1	1	1	1	1	0	0	0	0	1	0	0	0	0	1	1	0	0
1	2	0	1	2	1	55	38	1	3	0	1	1	0	70	6	5	3	1	0	0	0	0	0	1	1	0	0	0	0	1	1	0	1	1	0	0	0	0	0	1
1	1	0	1	1	1	63	29	2	2	0	1	1	0	78	5	3	3	1	0	0	0	0	1	0	1	1	0	1	0	1	0	0	1	0	1	1	0	1	0	0	1
2	3	0	1	2	1	60	31	3	1	0	1	1	0	70	5	1	1	0	0	1	0	0	1	0	1	1	0	1	0	1	0	0	1	0	1	1	1	1	1	1	1
0	2	0	1	2	1	72	21	2	1	0	1	1	0	70	5	3	3	1	0	0	0	0	1	1	1	1	1	1	0	0	1	0	0	0	0	1	1	1	0	1	1
0	2	0	1	2	1	68	25	4	0	0	1	1	0	70	6	5	3	0	0	1	0	0	0	0	0	1	1	1	0	1	0	0	1	0	0	1	1	1	0	1	1
4	2	0	1	2	1	69	29	4	0	0	1	2	1	76	5	3	2	1	0	0	0	0	1	0	0	1	0	0	0	1	0	0	1	0	1	1	1	1	1	0	1
1	0	0	1	2	1	68	32	3	1	0	1	2	1	70	5	5	1	0	0	1	1	0	0	0	1	1	1	0	0	1	0	0	1	0	0	1	1	1	0	0	1
1	2	0	1	2	1	73	19	4	3	0	1	2	1	68	5	3	3	0	0	1	0	0	0	0	1	1	1	1	0	1	1	0	1	1	0	0	1	1	1	1	1
2	2	0	1	2	1	67	25	3	2	0	1	1	0	70	6	5	3	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	1	1	1	0	1
3	1	0	1	2	1	60	31	4	2	0	1	2	1	60	6	5	3	0	0	1	0	0	0	0	1	0	1	1	0	1	0	0	1	1	0	0	1	1	1	0	1
1	1	0	1	2	1	77	20	2	0	0	1	2	1	76	5	7	3	0	0	1	0	0	0	0	0	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	1
2	1	0	1	2	1	59	37	2	2	0	1	2	1	80	5	5	1	1	0	0	0	0	1	1	1	1	1	1	0	0	0	0	1	0	0	0	0	1	1	0	0
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4	2	0	1	2	1	0	0	0	0	0	0	0	0	60	4	0	0	0	0	1	0	0	0	0	1	1	1	0	0	1	0	0	1	0	1	1	1	1	1	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	70	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	1	0	0	1	0	0	1	1	1	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	70	0	0	0	0	0	1	0	0	0	0	1	0	1	1	0	1	1	0	1	1	0	0	1	1	1	1	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	70	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	1	1	1	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	80	0	0	0	1	0	0	0	0	1	1	1	1	1	1	0	1	0	0	1	1	0	0	1	1	1	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	70	0	0	0	1	0	0	1	0	0	0	1	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	80	0	0	0	1	0	0	0	0	0	1	1	1	1	1	0	0	0	0	1	0	0	0	0	1	1	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0	1	0	0	1	0	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	70	0	0	0	1	0	0	0	0	0	1	1	0	0	1	1	0	1	1	0	0	0	1	0	1	0	1	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	70	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1	0	1	0	0	1	1	0	0	1	1	1	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	0	0	0	0	0	1	0	0	1	0	1	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1

1	3,4,6,7	20	0	0	1	1	0
2	1,3,6,7,10	13	1	0	1	0	0
3	1,6	18	1	0	0	0	0
4	1,6	18	1	0	0	0	0
5	3,4,6,7	20	0	0	1	1	0
6	1,3,6,8,9	14	1	0	1	0	0
7	1.3,6,8,9,10	19	1	0	1	0	0
8	1,4,9,10	17	1	0	0	1	0
9	1,3,6,9,10	15	1	0	1	0	0
10	3,6,9,8,10	22	0	0	1	0	0
11	3,6,9,10	21	0	0	1	0	0
12	1,3,4,6,7,10	12	1	0	1	1	0
13	6,7,10	23	0	0	0	0	0
14	1,3,6,7,10	13	1	0	1	0	0
15	1,6	18	1	0	0	0	0
16	1,6	18	1	0	0	0	0
17	1.3,6,8,9,10	19	1	0	1	0	0
18	3,4,6,7	20	0	0	1	1	0
19	1,3,6,7,10	13	1	0	1	0	0
20	1,6	18	1	0	0	0	0
21	1,6	18	1	0	0	0	0
22	3,4,6,7	20	0	0	1	1	0
23	1,3,6,8,9	14	1	0	1	0	0
24	1.3,6,8,9,10	19	1	0	1	0	0
25	1,4,9,10	17	1	0	0	1	0
26	1,3,6,9,10	15	1	0	1	0	0
27	3,6,9,8,10	22	0	0	1	0	0
28	3,6,9,10	21	0	0	1	0	0
29	1,3,4,6,7,10	12	1	0	1	1	0
30	6,7,10	23	0	0	0	0	0
31	1,3,6,7,10	13	1	0	1	0	0
32	1,6	18	1	0	0	0	0
33	1,6	18	1	0	0	0	0
34	1.3,6,8,9,10	19	1	0	1	0	0
35	6,7,10	23	0	0	0	0	0
36	3,6,9,10	21	0	0	1	0	0
37	1,4,9,10	17	1	0	0	1	0
38	3,4,6,7	20	0	0	1	1	0
39	6,7,10	23	0	0	0	0	0
40	3,6,9,10	21	0	0	1	0	0
41	1,3,4,6,7	11	1	0	1	1	0
42	3,4,6,7	20	0	0	1	1	0
43	1,4,6,7	16	1	0	0	1	0
44	1,4,6,7	16	1	0	0	1	0
45	1,3,6,8,9	14	1	0	1	0	0
46	1,4,6,7	16	1	0	0	1	0
47	1,4,6,7	16	1	0	0	1	0

48	1,3,6,8,9	14	1	0	1	0	0
49	1,3,6,7,10	13	1	0	1	0	0
50	1,3,4,6,7,10	12	1	0	1	1	0
51	6,7,10	23	0	0	0	0	0
52	1,3,6,7,10	13	1	0	1	0	0
53	1,6	18	1	0	0	0	0
54	1,6	18	1	0	0	0	0
55	1.3,6,8,9,10	19	1	0	1	0	0
56	6,7,10	23	0	0	0	0	0
57	3,6,9,10	21	0	0	1	0	0
58	1,4,9,10	17	1	0	0	1	0
59	3,4,6,7	20	0	0	1	1	0
60	6,7,10	23	0	0	0	0	0
61	3,6,9,10	21	0	0	1	0	0
62	1,3,4,6,7	11	1	0	1	1	0
63	3,4,6,7	20	0	0	1	1	0
64	1,4,6,7	16	1	0	0	1	0
65	1,4,6,7	16	1	0	0	1	0
66	1,3,6,8,9	14	1	0	1	0	0
67	1,4,6,7	16	1	0	0	1	0
68	1,4,6,7	16	1	0	0	1	0
69	3,4,6,7	20	0	0	1	1	0
70	1,4,6,7	16	1	0	0	1	0
71	1,4,6,7	16	1	0	0	1	0
72	1,3,6,8,9	14	1	0	1	0	0
73	1,6	18	1	0	0	0	0
74	1,6	18	1	0	0	0	0
75	3,4,6,7	20	0	0	1	1	0
76	1,3,6,8,9	14	1	0	1	0	0
77	1.3,6,8,9,10	19	1	0	1	0	0
78	1,4,9,10	17	1	0	0	1	0
79	1,3,6,9,10	15	1	0	1	0	0
80	3,6,9,8,10	22	0	0	1	0	0
81	3,6,9,10	21	0	0	1	0	0
82	1,3,4,6,7,10	12	1	0	1	1	0
83	6,7,10	23	0	0	0	0	0
84	1,3,6,7,10	13	1	0	1	0	0
85	1,6	18	1	0	0	0	0
86	1,6	18	1	0	0	0	0
87	1.3,6,8,9,10	19	1	0	1	0	0
88	3,4,6,7	20	0	0	1	1	0
89	1,3,6,7,10	13	1	0	1	0	0
90	1,6	18	1	0	0	0	0
91	1,6	18	1	0	0	0	0
92	3,4,6,7	20	0	0	1	1	0
93	1,3,6,8,9	14	1	0	1	0	0
94	1.3,6,8,9,10	19	1	0	1	0	0

95	1,4,9,10	17	1	0	0	1	0
96	1,3,6,9,10	15	1	0	1	0	0
97	3,6,9,8,10	22	0	0	1	0	0
98	1,6	18	1	0	0	0	0
99	1,6	18	1	0	0	0	0
100	3,4,6,7	20	0	0	1	1	0
101	1,3,6,8,9	14	1	0	1	0	0
102	1.3,6,8,9,10	19	1	0	1	0	0
103	1,4,9,10	17	1	0	0	1	0
104	1,3,6,9,10	15	1	0	1	0	0
105	3,6,9,8,10	22	0	0	1	0	0
106	3,6,9,10	21	0	0	1	0	0
107	1,3,4,6,7,10	12	1	0	1	1	0
108	6,7,10	23	0	0	0	0	0
109	1,3,6,7,10	13	1	0	1	0	0
110	1,6	18	1	0	0	0	0
111	1,6	18	1	0	0	0	0
112	1.3,6,8,9,10	19	1	0	1	0	0
113	3,4,6,7	20	0	0	1	1	0
114	1,3,6,7,10	13	1	0	1	0	0
115	1,6	18	1	0	0	0	0
116	1,6	18	1	0	0	0	0
117	3,4,6,7	20	0	0	1	1	0
118	1,3,6,8,9	14	1	0	1	0	0
119	1.3,6,8,9,10	19	1	0	1	0	0
120	1,4,9,10	17	1	0	0	1	0
121	1,3,6,9,10	15	1	0	1	0	0
122	3,6,9,8,10	22	0	0	1	0	0
123	1,6	18	1	0	0	0	0
124	1,6	18	1	0	0	0	0
125	3,4,6,7	20	0	0	1	1	0
126	1,3,6,8,9	14	1	0	1	0	0
127	1.3,6,8,9,10	19	1	0	1	0	0
128	1,4,9,10	17	1	0	0	1	0
129	1,3,6,9,10	15	1	0	1	0	0
130	3,6,9,8,10	22	0	0	1	0	0
131	3,6,9,10	21	0	0	1	0	0
132	1,3,4,6,7,10	12	1	0	1	1	0
133	6,7,10	23	0	0	0	0	0
134	1,3,6,7,10	13	1	0	1	0	0
135	1,6	18	1	0	0	0	0
136	1,6	18	1	0	0	0	0
137	1.3,6,8,9,10	19	1	0	1	0	0
138	3,4,6,7	20	0	0	1	1	0
139	1,3,6,7,10	13	1	0	1	0	0
140	1,6	18	1	0	0	0	0

58.CONSUMPTION OF IRON RICH FOODS

1 2 3 4 5

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1	1	0	0	1
1	0	0	0	0
1	0	0	0	0
1	1	0	0	0
1	0	1	1	0
1	0	1	1	1
0	0	0	1	1
1	0	0	1	1
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1	0	0	1	1
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1	0	1	1	1
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1	1	0	0	0

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1	0	1	1	1

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1	0	0	0	0
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1	1	0	0	0
1	1	0	0	1
1	0	0	0	0

6 7 8 9 10

1	4	4	0	0	0	1
2	1,2,4	7	1	1	0	1
3	4	4	0	0	0	1
4	1,2	5	1	1	0	0
5	4	4	0	0	0	1
6	1,4	9	1	0	0	1
7	1,2,3,4	6	1	1	1	1
8	1,2,4	7	1	1	0	1
9	1,3,4	8	1	0	1	1
10	1,2,4	7	1	1	0	1
11	1,4	9	1	0	0	1
12	1,2,3,4	6	1	1	1	1
13	1,2,4	7	1	1	0	1
14	1,2,4	7	1	1	0	1
15	4	4	0	0	0	1
16	1,2	5	1	1	0	0
17	1,2,3,4	6	1	1	1	1
18	1,3,4	8	1	0	1	1
19	1,2,4	7	1	1	0	1
20	4	4	0	0	0	1
21	1,2	5	1	1	0	0
22	4	4	0	0	0	1
23	1,4	9	1	0	0	1
24	1,2,3,4	6	1	1	1	1
25	1,2,4	7	1	1	0	1
26	1,3,4	8	1	0	1	1
27	1,2,4	7	1	1	0	1
28	1,4	9	1	0	0	1
29	1,2,3,4	6	1	1	1	1
30	1,2,4	7	1	1	0	1
31	1,2,4	7	1	1	0	1
32	4	4	0	0	0	1
33	1,2	5	1	1	0	0
34	1,2,3,4	6	1	1	1	1
35	1,2,4	7	1	1	0	1
36	1,4	9	1	0	0	1
37	1,3,4	8	1	0	1	1
38	4	4	0	0	0	1
39	1,2,4	7	1	1	0	1
40	1,4	9	1	0	0	1
41	1,2,4	7	1	1	0	1
42	4	4	0	0	0	1
43	1,2,3,4	6	1	1	1	1
44	1,2,3,4	6	1	1	1	1
45	1,4	9	1	0	0	1
46	1,2,3,4	6	1	1	1	1
47	1,2,3,4	6	1	1	1	1

48	1,4		9	1	0	0	1
49	1,2,4		7	1	1	0	1
50	1,2,4		7	1	1	0	1
51		4	4	0	0	0	1
52	1,2		5	1	1	0	0
53	1,2,3,4		6	1	1	1	1
54	1,2,4		7	1	1	0	1
55	1,4		9	1	0	0	1
56	1,2,4		7	1	1	0	1
57		4	4	0	0	0	1
58	1,2,4		7	1	1	0	1
59	1,4		9	1	0	0	1
60	1,4		9	1	0	0	1
61		4	4	0	0	0	1
62	1,2,3,4		6	1	1	1	1
63	1,2,3,4		6	1	1	1	1
64	1,4		9	1	0	0	1
65	1,2,3,4		6	1	1	1	1
66	1,2,3,4		6	1	1	1	1
67	1,4		9	1	0	0	1
68	1,2,4		7	1	1	0	1
69	1,2,4		7	1	1	0	1
70		4	4	0	0	0	1
71	1,2		5	1	1	0	0
72	1,2,3,4		6	1	1	1	1
73		4	4	0	0	0	1
74	1,2		5	1	1	0	0
75		4	4	0	0	0	1
76	1,4		9	1	0	0	1
77	1,2,3,4		6	1	1	1	1
78	1,2,4		7	1	1	0	1
79	1,3,4		8	1	0	1	1
80	1,2,4		7	1	1	0	1
81	1,4		9	1	0	0	1
82	1,2,3,4		6	1	1	1	1
83	1,2,4		7	1	1	0	1
84	1,2,4		7	1	1	0	1
85		4	4	0	0	0	1
86	1,2		5	1	1	0	0
87	1,2,3,4		6	1	1	1	1
88	1,3,4		8	1	0	1	1
89	1,2,4		7	1	1	0	1
90		4	4	0	0	0	1
91	1,2		5	1	1	0	0
92		4	4	0	0	0	1
93	1,4		9	1	0	0	1
94	1,2,3,4		6	1	1	1	1

95	1,2,4		7	1	1	0	1
96	1,3,4		8	1	0	1	1
97	1,2,4		7	1	1	0	1
98		4	4	0	0	0	1
99	1,2		5	1	1	0	0
100		4	4	0	0	0	1
101	1,4		9	1	0	0	1
102	1,2,3,4		6	1	1	1	1
103	1,2,4		7	1	1	0	1
104	1,3,4		8	1	0	1	1
105	1,2,4		7	1	1	0	1
106	1,4		9	1	0	0	1
107	1,2,3,4		6	1	1	1	1
108	1,2,4		7	1	1	0	1
109	1,2,4		7	1	1	0	1
110		4	4	0	0	0	1
111	1,2		5	1	1	0	0
112	1,2,3,4		6	1	1	1	1
113	1,3,4		8	1	0	1	1
114	1,2,4		7	1	1	0	1
115		4	4	0	0	0	1
116	1,2		5	1	1	0	0
117		4	4	0	0	0	1
118	1,4		9	1	0	0	1
119	1,2,3,4		6	1	1	1	1
120	1,2,4		7	1	1	0	1
121	1,3,4		8	1	0	1	1
122	1,2,4		7	1	1	0	1
123		4	4	0	0	0	1
124	1,2		5	1	1	0	0
125		4	4	0	0	0	1
126	1,4		9	1	0	0	1
127	1,2,3,4		6	1	1	1	1
128	1,2,4		7	1	1	0	1
129	1,3,4		8	1	0	1	1
130	1,2,4		7	1	1	0	1
131	1,4		9	1	0	0	1
132	1,2,3,4		6	1	1	1	1
133	1,2,4		7	1	1	0	1
134	1,2,4		7	1	1	0	1
135		4	4	0	0	0	1
136	1,2		5	1	1	0	0
137	1,2,3,4		6	1	1	1	1
138	1,3,4		8	1	0	1	1
139	1,2,4		7	1	1	0	1
140		4	4	0	0	0	1

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CERS OF IRON ABSORPTION

4	4
1,2	5
1,2,3,4	6
1,2,4	7
1,3,4	8
1,4	9

1	3,6,8,9	11	0	0	1	0	0	1
2	1,6,7,8,9,10	12	1	0	0	0	0	1
3	1,7,8	17	1	0	0	0	0	0
4	1,6,8,9	15	1	0	0	0	0	1
5	3,6,8,9	22	0	0	1	0	0	1
6	1,6,7,8,9,10	14	1	0	0	0	0	1
7	3,9,10	25	0	0	1	0	0	0
8	1,6,9	16	1	0	0	0	0	1
9	3,4,8,9,10	21	0	0	1	1	0	0
10	3,8,9,10	24	0	0	1	0	0	0
11	3,4,8	20	0	0	1	1	0	0
12	3,8,10	23	0	0	1	0	0	0
13	3,9,10	25	0	0	1	0	0	0
14	1,6,7,8,9,10	14	1	0	0	0	0	1
15	1,4,8,9	13	1	0	0	1	0	0
16	1,7,8,9,10	19	1	0	0	0	0	0
17	3,9,10	25	0	0	1	0	0	0
18	1,7,8,9	18	1	0	0	0	0	0
19	1,6,7,8,9,10	14	1	0	0	0	0	1
20	3,6,8,9	22	0	0	1	0	0	1
21	1,6,7,8,9,10	14	1	0	0	0	0	1
22	1,7,8	17	1	0	0	0	0	0
23	1,6,8,9	15	1	0	0	0	0	1
24	3,6,8,9	22	0	0	1	0	0	1
25	1,6,7,8,9,10	14	1	0	0	0	0	1
26	3,9,10	25	0	0	1	0	0	0
27	1,6,9	16	1	0	0	0	0	1
28	3,4,8,9,10	21	0	0	1	1	0	0
29	3,8,9,10	24	0	0	1	0	0	0
30	3,4,8	20	0	0	1	1	0	0
31	3,8,10	23	0	0	1	0	0	0
32	3,9,10	25	0	0	1	0	0	0
33	1,6,7,8,9,10	14	1	0	0	0	0	1
34	1,4,8,9	13	1	0	0	1	0	0
35	1,7,8,9,10	19	1	0	0	0	0	0
36	3,9,10	25	0	0	1	0	0	0
37	1,7,8,9	18	1	0	0	0	0	0
38	1,6,7,8,9,10	14	1	0	0	0	0	1
39	3,6,8,9	22	0	0	1	0	0	1
40	1,6,7,8,9,10	14	1	0	0	0	0	1
41	1,7,8	17	1	0	0	0	0	0
42	1,6,8,9	15	1	0	0	0	0	1
43	3,6,8,9	22	0	0	1	0	0	1
44	1,6,7,8,9,10	14	1	0	0	0	0	1
45	3,9,10	25	0	0	1	0	0	0
46	1,6,9	16	1	0	0	0	0	1
47	3,4,8,9,10	21	0	0	1	1	0	0

48	3,8,9,10	24	0	0	1	0	0	0
49	3,4,8	20	0	0	1	1	0	0
50	3,8,10	23	0	0	1	0	0	0
51	3,9,10	25	0	0	1	0	0	0
52	1,6,7,8,9,10	14	1	0	0	0	0	1
53	1,4,8,9	13	1	0	0	1	0	0
54	1,7,8,9,10	19	1	0	0	0	0	0
55	3,9,10	25	0	0	1	0	0	0
56	1,7,8,9	18	1	0	0	0	0	0
57	1,6,7,8,9,10	14	1	0	0	0	0	1
58	3,6,8,9	22	0	0	1	0	0	1
59	1,6,7,8,9,10	14	1	0	0	0	0	1
60	1,7,8	17	1	0	0	0	0	0
61	1,6,8,9	15	1	0	0	0	0	1
62	3,6,8,9	22	0	0	1	0	0	1
63	1,6,7,8,9,10	14	1	0	0	0	0	1
64	3,9,10	25	0	0	1	0	0	0
65	1,6,9	16	1	0	0	0	0	1
66	3,4,8,9,10	21	0	0	1	1	0	0
67	3,8,9,10	24	0	0	1	0	0	0
68	3,4,8	20	0	0	1	1	0	0
69	3,8,10	23	0	0	1	0	0	0
70	3,9,10	25	0	0	1	0	0	0
71	1,6,7,8,9,10	14	1	0	0	0	0	1
72	1,4,8,9	13	1	0	0	1	0	0
73	1,7,8	17	1	0	0	0	0	0
74	1,6,8,9	15	1	0	0	0	0	1
75	3,6,8,9	22	0	0	1	0	0	1
76	1,6,7,8,9,10	14	1	0	0	0	0	1
77	3,9,10	25	0	0	1	0	0	0
78	1,6,9	16	1	0	0	0	0	1
79	3,4,8,9,10	21	0	0	1	1	0	0
80	3,8,9,10	24	0	0	1	0	0	0
81	3,4,8	20	0	0	1	1	0	0
82	3,8,10	23	0	0	1	0	0	0
83	3,9,10	25	0	0	1	0	0	0
84	1,6,7,8,9,10	14	1	0	0	0	0	1
85	1,4,8,9	13	1	0	0	1	0	0
86	1,7,8,9,10	19	1	0	0	0	0	0
87	3,9,10	25	0	0	1	0	0	0
88	1,7,8,9	18	1	0	0	0	0	0
89	1,6,7,8,9,10	14	1	0	0	0	0	1
90	3,6,8,9	22	0	0	1	0	0	1
91	1,6,7,8,9,10	14	1	0	0	0	0	1
92	1,7,8	17	1	0	0	0	0	0
93	1,6,8,9	15	1	0	0	0	0	1
94	3,6,8,9	22	0	0	1	0	0	1

95	1,6,7,8,9,10	14	1	0	0	0	0	1
96	3,9,10	25	0	0	1	0	0	0
97	1,6,9	16	1	0	0	0	0	1
98	1,7,8	17	1	0	0	0	0	0
99	1,6,8,9	15	1	0	0	0	0	1
100	3,6,8,9	22	0	0	1	0	0	1
101	1,6,7,8,9,10	14	1	0	0	0	0	1
102	3,9,10	25	0	0	1	0	0	0
103	1,6,9	16	1	0	0	0	0	1
104	3,4,8,9,10	21	0	0	1	1	0	0
105	3,8,9,10	24	0	0	1	0	0	0
106	3,4,8	20	0	0	1	1	0	0
107	3,8,10	23	0	0	1	0	0	0
108	3,9,10	25	0	0	1	0	0	0
109	1,6,7,8,9,10	14	1	0	0	0	0	1
110	1,4,8,9	13	1	0	0	1	0	0
111	1,7,8,9,10	19	1	0	0	0	0	0
112	3,9,10	25	0	0	1	0	0	0
113	1,7,8,9	18	1	0	0	0	0	0
114	1,6,7,8,9,10	14	1	0	0	0	0	1
115	3,6,8,9	22	0	0	1	0	0	1
116	1,6,7,8,9,10	14	1	0	0	0	0	1
117	1,7,8	17	1	0	0	0	0	0
118	1,6,8,9	15	1	0	0	0	0	1
119	3,6,8,9	22	0	0	1	0	0	1
120	1,6,7,8,9,10	14	1	0	0	0	0	1
121	3,9,10	25	0	0	1	0	0	0
122	1,6,9	16	1	0	0	0	0	1
123	1,7,8	17	1	0	0	0	0	0
124	1,6,8,9	15	1	0	0	0	0	1
125	3,6,8,9	22	0	0	1	0	0	1
126	1,6,7,8,9,10	14	1	0	0	0	0	1
127	3,9,10	25	0	0	1	0	0	0
128	1,6,9	16	1	0	0	0	0	1
129	3,4,8,9,10	21	0	0	1	1	0	0
130	3,8,9,10	24	0	0	1	0	0	0
131	3,4,8	20	0	0	1	1	0	0
132	3,8,10	23	0	0	1	0	0	0
133	3,9,10	25	0	0	1	0	0	0
134	1,6,7,8,9,10	14	1	0	0	0	0	1
135	1,4,8,9	13	1	0	0	1	0	0
136	1,7,8,9,10	19	1	0	0	0	0	0
137	3,9,10	25	0	0	1	0	0	0
138	1,7,8,9	18	1	0	0	0	0	0
139	1,6,7,8,9,10	14	1	0	0	0	0	1
140	3,6,8,9	22	0	0	1	0	0	1
			1	2	3	4	5	6

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1	1	1	0
1	1	1	1
0	1	1	0
7	8	9	10

	59.CONSUMPTION OF INHIBITORS OF IRON ABSORPT
11	3,6,8,9
12	1,6,7,8,9,10
13	1,4,8,9
14	1,6,7,8,9,10
15	1,6,8,9
16	1,6,9
17	1,7,8
18	1,7,8,9
19	1,7,8,9,10
20	3,4,8
21	3,4,8,9,10
22	3,6,8,9
23	3,8,10
24	3,8,9,10
25	3,9,10

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80.HB - 1	97. ANEMIA -1
7.8	1
7.5	1
8.2	1
10	1
8.1	1
8	1
9.2	1
7.4	1
8	1
7.2	1
8.4	1
8.6	1
7.6	1
12.2	0
8.2	1
6.4	1
7.3	1
8.9	1
7.5	1
7.8	1
7.4	1
7	1
8.8	1
7.9	1
8.3	1
7.4	1
8.1	1
7.7	1
8.4	1
8.6	1
7.6	1
7.8	1
8.2	1
6.4	1
7.3	1
8.9	1
7.2	1
7.7	1
11.1	0
6.8	1
7.5	1
8.4	1
12.1	0
8.6	1
7.5	1
6.9	1

7.2	1
7.7	1
7.1	1
7.5	1
7.8	1
8.2	1
6.4	1
7.3	1
8.9	1
7.5	1
7.8	1
7.4	1
7	1
8.8	1
7.9	1
8.3	1
7.4	1
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7.1	1
7.8	1
7.3	1
6.8	1
9	1
8.2	1
8.8	1
7.3	1
8.5	1
8.8	1
8	1
7.8	1
8.4	1
9.6	1
7.2	1
12.1	0
7.2	1
8.4	1
7.2	1
7.6	1
9	1
8.4	1
7.5	1
8.2	1
9	1
7.5	1
8.1	1
8.3	1
8.4	1

10.1	1
7.4	1
8	1
9	1
7.2	1
8	1
7.2	1
8.1	1
7.1	1
7.4	1
8	1
8.3	1
7.4	1
8.2	1
9.3	1
7.3	1
8.1	1
8.2	1
8.3	1
7.4	1
7.4	1
8.1	1
9.3	1
7.1	1
8.2	1
7.1	1
10.2	1
7.1	1
7.2	1
6.7	1
7	1
6.3	1
7.5	1
8.1	1
6.4	1
7.8	1
7.4	1
9	1
7.8	1
8.1	1
7.7	1
8.3	1
8	1
8.2	1
7.1	1
7.4	1
7.3	1

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