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RESEARCH ARTICLE

SAMPOORNAPOSHANA IMPACT ON HEMOGLOBIN LEVELS OF PREGNANT LADIES IN WEST GODAVARI DISTRICT

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ABSTRACT

It is estimated that 50% of Indian women are 15 to 49 years old. India has been struggling with malnutrition and undernutrition for many years. Poor nutritional and dietary habits, low spending capacity, and inability to afford a good quality diet. Central and state governments have taken many initiatives to improve the status. Hemoglobin is a very crucial parameter for pregnant ladies. Pregnancy is a significant face in women's life. One of the fundamental problems pregnant women faces is Iron deficiency anemia. Anemia may cause premature birth of babies, low birth weight, and maternal mortality. NITI Aayog and National Institute for Transforming India have indicated a strong focus on essential nutritionfor pregnant and lactating women and children during the first 1000 days of a child's life. A mother's diet is the primary source of the overall well-being of the mother and infant. Iron deficiency anemia is widespread in pregnancy. Iron and folic acid are essential minerals before and during pregnancy. Red cell mass will increase in the pregnancy. Many factors will cause the condition of anemia.To deal with anemia during pregnancy Andhra Pradesh Government implemented Integrated Child Development Services Scheme (ICDS), a universal scheme is being implemented to deliver Nutrition, Health Care through the sampoornaposhana scheme.The present study evaluates the scheme's benefits and its impact on improving the hemoglobin level in pregnant ladies in three trimesters.

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INTRODUCTION

Women in the age of reproduction are highly affected by anemia. Anemia will cause severe health and functional problems during pregnancy and after delivery. 90% of anemia is caused due to iron deficiency. The research findings indicated that around 60% of pregnant women worldwide are anemic. Iron deficiency anemia has shorter pregnancies. Proper nutrition plays a significant role in pregnancy. A nutritious diet provides essential nutrients like minerals and vitamins necessary in pregnancy. Maternal hemoglobin is directly related to the birth weight of a baby. In a study by the American Journal of Clinical Nutrition 2000, it is concluded that preterm delivery and low birth weight are directly related to the hemoglobin status of pregnant women. Anemia is said to be the primary cause of maternal mortalities in India. In the 1990's it was estimated that nearly 19% of maternal mortality is related to anemia. The findings of several studies have indicated that anemia in pregnancy is mainly due to poor dietary habits and low intake of iron and folate, which leads to iron and folic acid deficiencies. Poor nutrition, nonavailability of food, economic status, the gap between pregnancies, prolonged standing iron deficiencies will lead to anemia. Still, anemia is a major public health concern. In 1973, The National Nutritional Anaemia Prophylaxis program was launched to provide iron and folic acid supplementation during pregnancy. Several other initiatives like the National Iron Plus initiative and the very recently launched program Anaemiamukth Bharat all these programs and initiatives address anemia in pregnancy. Sampoornaposhana scheme, with Niti Aayog, and a nutritional supplementation program is implemented in Andhra Pradesh. The program's primary objective is to provide overall care to pregnant, lactating mothers and children below five years of age. The principal aim of the scheme is to ensure uniformity and coverage of all the beneficiaries. The program provides iron, protein, and energy-rich nutrition to pregnant women. This nutrition program attempts to bridge the caloric gap between the National recommended and average intake of children and women in low-income and disadvantaged communities by providing Supplementary feeding.

Objectives:

- To evaluate the efficacy of the sampoornaposhana scheme in terms of change in the Haemoglobin level.
- To evaluate the efficacy of supplementary nutrition programs and Iron supplements.

MATERIALS AND METHODS

The current study was conducted in the Nallajerla Mandal, West Godavari Andhra Pradesh. The reason for the selection of the place is sampoornaposhana scheme is implemented in villages.

Selection and Size of Sample: A sample of 250 (n=250) in the age group of 18-40 who was visiting the ICDS project and enrolled with ANM and Anganwadi centers were selected for the evaluation study. All the beneficiaries are enrolled in the sampoornaposhana scheme. The enrolment will be done as soon as they are pregnant.

Scheme implementation: All the beneficiaries receive monthly ration and Iron supplementation in tablets based on the HB levels. Ferrous sulfate& Folic Acid tablets (Dried Ferrous sulfate 150mg, Ferrous elimental iron 45mg, Folic acid IP 0.4mg) are given from 12 weeks to 180 days. Hemoglobin levels are monitored in the 2nd, 6th, and 9th months.

Table 1. Sampoornaposhana scheme – ration per one month

RICE	3KG
RED GRAM DAL	1KG
PALM OIL	500ML
EGGS	25
MILK	5.0 lts
Millet, energy, and protein-based Take-Home Kit	
RAGI FLOUR	1KG
JAGGERY	250GRAMS
GROUNDNUT CHIKKI	250GRAMS
DRY DATES	250GRAMS
BAJRA/JOWAR FLOUR	1KG
RICE FLAKES	1KG

RESULTS AND DISCUSSION

Maternal mortality rates decreased drastically over two decades. In the present study, the results are evaluated after the intervention program. Low hemoglobin levels or Iron deficiency anemia is considered the primary cause of maternal mortality, low birth weight, and premature babies.

Table No: 2Hemoglobin levels in 1st-trimester age-wise distribution

HB STATUS - 1ST TRIMISTER		
1st trimester	Below Normal	Normal
19-23	140	12
24-28	81	7
29-33	6	0
34-38	4	0

The results of the study indicate that out of 250 respondents in the age group of 19-23, 140 pregnant women are with below-average levels of hemoglobin, and in another age group which is between 24-28, it is observed that 81 respondents were below normal and whereas in the age group of 29-33 all the six pregnant women HB is below standard and in the age group of

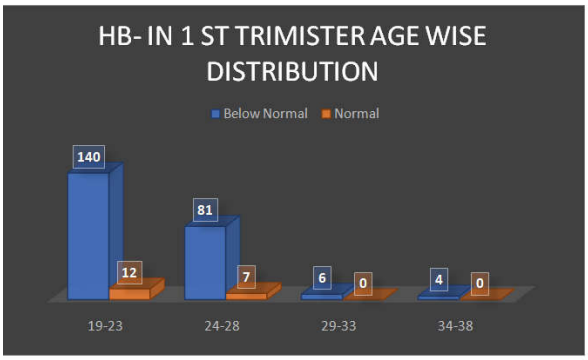

Image 1. HB- In 1st trimester – age-wise distribution

34-48 the four respondents exhibit below the expected level of hemoglobin.

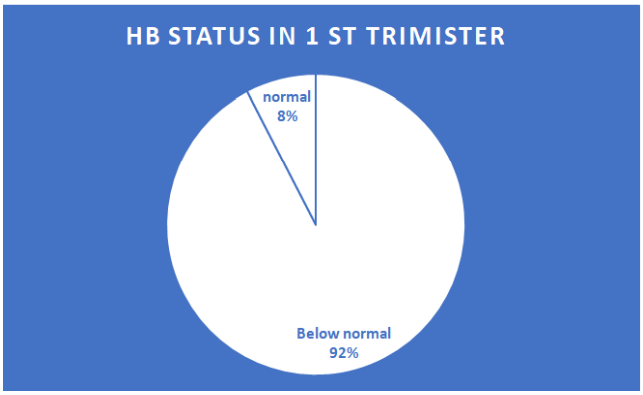

Image 2. HB status in the 1st trimester

It is observed that almost 92% of pregnant women are anemic in the first trimester. Only 8% have normal hemoglobin levels. The normal hemoglobin in the first trimester will range from 11.6 to 13.9 g/dl.

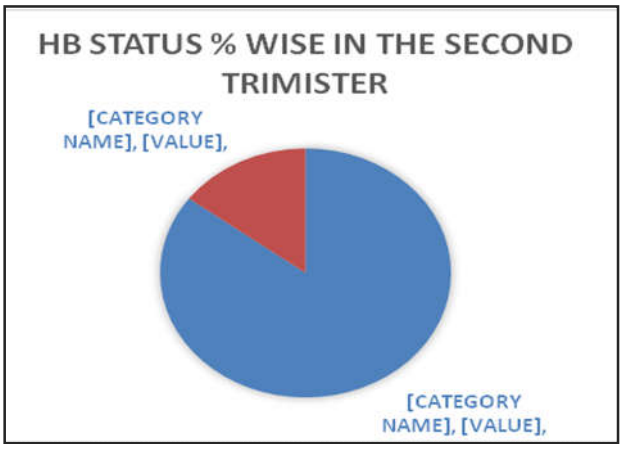

Image 3. HB status in the second trimester

Table 3. Haemoglobin level age-wise distribution

HB STATUS - 2ND TRIMISTER		
1st trimester	Below Normal	Normal
19-23	125	27
24-28	82	6
29-33	4	2
34-38	2	2

In the second trimester, it is observed that only 14.8% are maintaining normal HB values. On the other hand, almost 85.2% are still below. The normal HB in the second trimester is 9.7 to 14.8 g/dl. Diet rich in iron is provided to all pregnant women. Ragi flour, dates, groundnut chikki, bajra flour are the few items provided, along with iron and folic acid tablets from the 12th week to 180 days of pregnancy. Family counseling sessions are organized with the husband and other family members and explain the importance of diet and supplementation. ANMS and other project officers, health workers, doctors, and nurses are involved.

Table 4. HB – status in 3rd-trimester age-wise distribution

HB STATUS - 3rd TRIMISTER		
3rd trimester	Below Normal	Normal
19-23	75	77
24-28	10	78
29-33	2	4
34-38	0	4

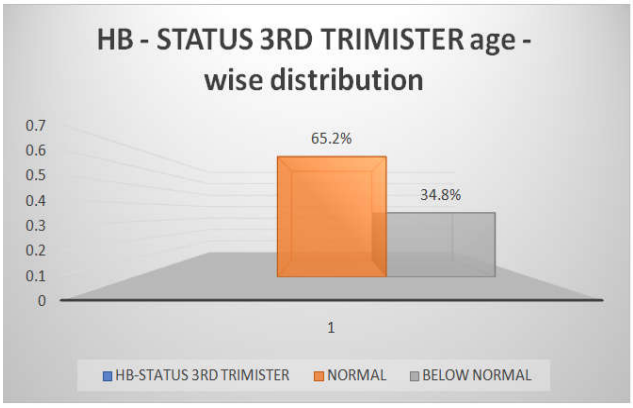

Image 4. HB – status in 3rd trimester age-wise distribution

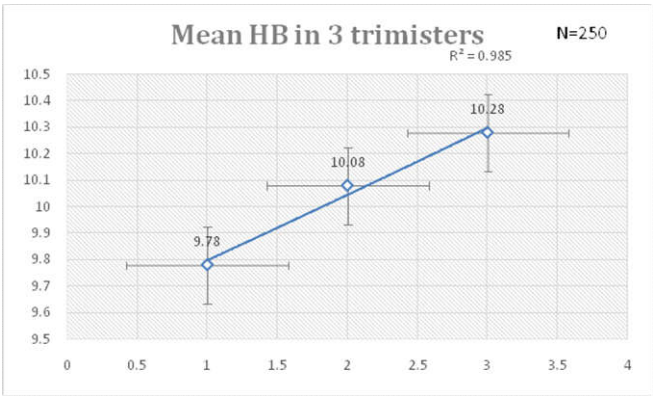

Image 5. The means HB in 3 trimesters

IDA is very prevalent in India. The distributed ratio sometimes is shared among the family members. Few pregnant ladies do not take supplements. Continuous counseling sessions will tend to improve the condition. From the above graph, it is indicated that 65.2% of the respondents have normal HB in the third trimester as compared to 1st trimester, there is a tremendous improvement is noticed. In the first trimester, only 8% are at normal HB. The normal HB in the third trimester is 9.5 to 15g/dl. Along with diet supplementation of iron, tablets have helped in the condition. The linear curve indicates improvement in the Hb levels from the first trimester to the 3rd trimester.

The mean HB in the first trimester is 9.78, and in the second trimester is noted as 10.08, whereas in the third trimester, it is observed as 10.28g/dl. Severe anemia is not indicated.

SUMMARY AND CONCLUSION

Though maternal mortality and stillbirth rates have drastically reduced in India over the past few years, there is still much to improve. It is estimated that nearly 51% of Indian women are anemic from 14-49. Especially women of the reproductive age are anemic that will continue in pregnancy. Iron deficiency anemia is observed in communities with fewer resources, economically weaker sections, and affluent societies. Poor dietary habits and junk food lead to anemic girls and women later. Sampoornaposhana scheme is very effective in improving hemoglobin levels in pregnant women.

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