



A CROSS SECTIONAL STUDY OF MAGAPERU SANJEEVI KIT IN THE PROGNOSIS OF ANEMIA AMONG ANTE NATAL WOMEN WHO HAVE ATTENDED THE MATERNITY CARE CENTRE OF POONAMALLE (JAN 2017 – JUNE 2018)

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ABSTRACT

Anaemia during pregnancy is a public health problem especially in developing countries and is associated with adverse outcomes in pregnancy. World Health Organization (WHO) has defined anaemia in pregnancy as the haemoglobin (Hb) concentration of less than 11 g/dl. Anemia is the second most common cause of maternal death in India and contributing to about 80% of the maternal deaths caused by anemia in South East Asia. Siddha system of medicine has extensive therapy on improving the hemoglobin level in women's and children's with its traditional formulations. Magaperu sanjeevi is a unique composite pack of 11 siddha drugs prompted for ascertaining the health benefits in pregnant women's and new born launched under health promotion scheme of the Govt of Tamil Nadu. Present study aimed at analyzing the utilization and impact of Magaperu sanjeevi kit on anemic condition in pregnant women's. Cross sectional observation study comprises of 53 pregnant women attending maternity care centre including first gravida second gravida, and multiple gravida. It was observed from the study that out of 53 patients, 18 of them had folic acid with magaperu sanjeevi kit and 35 of them had only magaperu sanjeevi kit. The comparison between the folic acid intake group and magaperu sanjeevi kit intake group was demonstrated by standard analytical methods. The mean value of both the groups were tabulated below. At the first visit the mean value of both the groups is 9.77 (0.87). At the second visit the mean value of folic acid intake group was 10.13 (1.03) and the mean value of magaperu sanjeevi kit intake group was 10.25 (0.77). At the third visit the mean value of folic acid intake group was 10.76 (0.75) and the mean value of magaperu sanjeevi kit intake group was 10.77 (0.67). At the final visit the mean value of folic acid intake group was 11.08 (0.81) and the mean value of magaperu sanjeevi kit intake group was 11.25 (0.61). It was concluded from the observation of the present study that utilization of magaperu sanjeevi kit along with fortified supplement has real-time improvement in improving the hemoglobin level and may alleviate the anemic condition in pregnant women's.

KEY WORDS: Anaemia, Pregnant women, Siddha system, Magaperu sanjeevi kit, Hemoglobin level, Health promotion.

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1. Introduction

Its prevalence is estimated at 2.5–3% in the adults. Anemia in pregnancy is a major public health problem, especially in developing countries. It affects 41.8% of pregnant women globally. Anemia in pregnant women has severe consequences on health, social, and economic development [1,2]. Anemia is one of the most common nutritional deficiency disorders affecting the pregnant women; the prevalence in developed countries is 14%, in developing countries 51%, and in India, it varies from 65% to 75% [3,4].

According to the World Health Organization (WHO), anemia affects approximately 1.5 billion people worldwide. The prevalence is very high in Africa, Asia, India, Latin America, Eastern Europe, and China; however, it is also high in developed countries [5]. Pregnancy is associated with increased iron demand, and therefore, increase the risk of iron deficiency anemia. Up to 52% of pregnant women in the developing world are affected [6]. Lowered iron stores in their newborn baby will increase the risk of subsequent iron deficiency anemia. Prematurity and early weaning off breastfeeding increases the risk further, because of reduced iron stores. Iron deficiency (ID) control programs have not been successful in reducing the number of iron deficient people in developing countries due to unsuccessful supplementation programs, the low absorption of some fortification iron compounds, and to the presence of other complicating health factors such as vitamin A deficiency [7].

Siddha is one of the oldest systems of healthcare system adopted by ancient traditional healers like siddhars. Siddha system has marked best in recent times because of known side effects caused by conventional allopathic medicines. The awareness and promotion of practicing Indian medicines have increased consistently in recent years.

Magaperu sanjeevi is a unique composite pack of 11 siddha drugs includes madhulai manapagu, Karuveppilai podi, Nellikai Legiyam, Elathy Chooranam, Ulunthu thylam, Bhaavana Panchangula thylam, Sadhavery Lagiyam etc. This kit is mainly prompted for ascertaining the health benefits in pregnant women's and new born. Most of the ingredients and medicines in the kit aimed improving the immunity, digestive power and promote normal

delivery in pregnant women's and also enhancing the health and wellness of new born. Present study aimed at analyzing the utilization and impact of Magaperu sanjeevi kit on anemic condition in pregnant women's.

2. Materials and Methods

2.1. Study design

Cross sectional observation study comprises of 53 pregnant women attending maternity care centre poonamallee which was conducted between Jan 2017 to June 2018. Total sample of the study subject was 53 pregnant women including first gravida second gravida, and multiple gravida. Institutional ethical committee clearance was obtained for this study [IEC approved no: GSMC -CH- ME- 5/037/2018]. Participants were explained about the purpose and objective of the study and also received consent to participate in this study. It involved the collection of data on socio demographic and obstetric variables, medical interventions, folic acid consumption, and MAGAPERU SANJEEVI KIT medicine consumptions using case record form. Also data on hemoglobin concentrations at first and last antenatal visit were collected. Data were dealt with the high level of anonymity and confidentiality.

2.2. Statistical analysis

Data analysis was done by statistical package for social science (SPSS), analysis of variance (ANOVA), student t test.

3. Results

3.1. Mean value of anemia in ante natal women maternity care visit

Mean value of anemia in ante natal women maternity care visit was tabulated at different visits. At the time of first visit the mean value of anemia in ante natal women 9.44(0.81). The mean value of anemia in ante natal women second visit was 10.21 (0.86). The mean value of anemia in ante natal women at third visit was 10.77 (0.69). At the final visits the mean value of anemia in ante natal women was 11.23 (0.68).

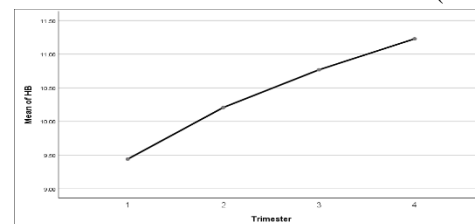


Figure 1: Mean Plot of HB

Table 1: Mean value of anemia in ante natal women maternity care visit

Visits	No	Mean(Std. Deviation)	F	P Value
1(cnfrm of preg)	53	9.44(0.89)	51.276	.001**
2(20-24 th week)	53	10.21(0.86)		
3(28-32 th week)	53	10.77(0.69)		
4(36-40 th week)	53	11.23(0.68)		

were

3.2. Mean categorization of anemia in ante natal women’s in subsequent visits

It was observed from the study that among 53 patients, at the time of their first ante natal visit 24 (45.28%) of them had mild anemia [haemoglobin level between 10 – 10.9], 29 (54.72%) had moderate anemia. In the second visit (20 -24 th week) 30 (56.60%) of them had mild anemia, 16 (30.19%) of them had moderate anemia, 7 (13.21%) of them had no anemia. In the third visit (28 -32 th week) 20 (37.74%) of patients had mild anemia, 8 (15.09%) of the patients had moderate anemia, 25 (47.17%) of the patients had no anemia. During their last ante natal visit 6 (11.32%) of the patients had mild anemia, 4 (7.55%) of the patients had moderate anemia and 43 (81.31%) of the patients had no anemia.

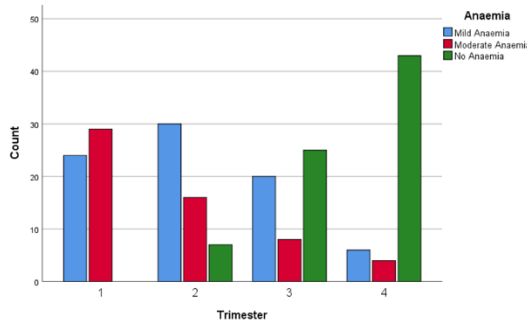


Figure 2: Mean categorization of anemia in ante natal women’s in subsequent visits

3.3. Comparative analysis among the women’s utilizing magaperu sanjeevi kit and womens subjected to combination of folic acid supplement with magaperu sanjeevi kit

Out of 53 patients, 18 of them had folic acid with magaperu sanjeevi kit and 35 of them had only magaperu sanjeevi kit. The comparison between the folic acid intake group and magaperu sanjeevi kit intake group was demonstrated by student T test. The mean value of both the groups were tabulated below. At the first visit the mean value of both the groups is 9.77 (0.87). At the second visit the mean value of folic acid intake group was 10.13 (1.03) and the mean value of magaperu sanjeevi kit intake group was 10.25 (0.77). At the third visit the mean value of folic acid intake group was 10.76 (0.75) and the mean value of magaperu sanjeevi kit intake group was 10.77 (0.67). At the final visit the mean value of folic acid intake group was 11.18 (0.81) and the mean value of magaperu sanjeevi kit intake group was 11.25 (0.61).

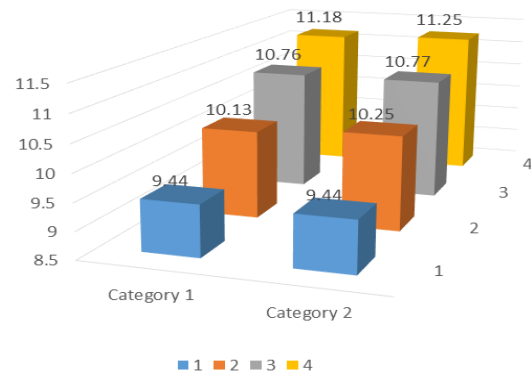


Figure 3: Comparative analysis among the women’s utilizing magaperu sanjeevi kit and women’s subjected to combination of folic acid supplement with magaperu sanjeevi kit

4. Discussion

Anemia in the 1st and 3rd trimester of pregnancy was defined by the Centers for Disease Control and Prevention in 1989 as hemoglobin (Hb) or hemotocrit less than 11 g/dL or 33%, respectively, and when the level of Hb or hemotocrit is less than 10.5 g/dL or 32%, respectively, in the 2nd trimester of pregnancy [8]. According to the World Health Organization (WHO), anemia in pregnancy in any trimester is considered when the level of Hb in less than 11 g/dL [9]. It was observed from the study that among 53 patients, at the time of their first ante natal visit 24 (45.28%) of them had mild anemia [haemoglobin level between 10 – 10.9], 29 (54.72%) had moderate anemia. In the second visit (20 -24 th week) 30 (56.60%) of them had mild anemia, 16 (30.19%) of them had moderate anemia, 7 (13.21%) of them had

no anemia. In the third visit (28 -32 th week) 20 (37.74%) of patients had mild anemia, 8 (15.09%) of the patients had moderate anemia, 25 (47.17%) of the patients had no anemia. During their last ante natal visit 6 (11.32%) of the patients had mild anemia, 4 (7.55%) of the patients had moderate anemia and 43 (81.31%) of the patients had no anemia.

Anaemia during pregnancy is a public health problem especially in developing countries and is associated with adverse outcomes in pregnancy [10]. World Health Organization (WHO) has defined anaemia in pregnancy as the haemoglobin (Hb) concentration of less than 11 g/dl [11]. According to WHO, anaemia is considered to be of a public health significance or problem if population studies find the anaemia prevalence of 5.0% or higher. Prevalence of anaemia of $\geq 40\%$ in a population is classified as a severe public health problem [12].

Siddha system of medicine is one of the ancient Indian systems of medicines containing a large number of medicines which are grouped under different morphological categories of the final products, the method of preparation of each category is specific [13]. The Indian traditional systems of medicine and folk medicines make use of thousands of plant-based formulations [14]. The principle underlying the use of more than one plant/plant product in these formulations is that they may produce synergistic and/or additive effects, or one may neutralize the toxic effect of another, which is otherwise therapeutic in the given context [15].

Anaemia is a common disease in the pregnant women and also adolescent's girls It leads to lot complication in pregnant women such as preterm baby, infant mortality and also it increases the mortality rate in mother. The permanent solution for anaemia is highly essential hence exploration of traditional medicine like siddha system of medicine have numerous formulations for health related problems in pregnant women. Out of 53 patients, 18 of them had folic acid with magaperu sanjeevi kit and 35 of them had only magaperu sanjeevi kit. The comparison between the folic acid intake group and magaperu sanjeevi kit intake group was demonstrated by student T test. The mean value of both the groups were tabulated below.

At the first visit the mean value of both the groups is 9.77 (0.87) gm/dL. At the second visit the mean value of folic acid intake group was 10.13 (1.03)

and the mean value of magaperu sanjeevi kit intake group was 10.25 (0.77) gm/dL. At the third visit the mean value of folic acid intake group was 10.76 (0.75) gm/dL and the mean value of magaperu sanjeevi kit intake group was 10.77 (0.67) gm/dL. At the final visit the mean value of folic acid intake group was 11.08 (0.81) gm/dL and the mean value of magaperu sanjeevi kit intake group was 11.25 (0.61) gm/dL.

5.Conclusion

Indian Council of Medical Research surveys showed that over 70% of pregnant women in the country were anemic. Similar prevalence rate of anemia in pregnant women was observed in the present study. iron deficiency anemia adversely affects the maternal and fetal well-being, and is linked to increased morbidity and fetal death. Magaperu sanjeevi kit issued in public interest by TamilNadu government to promote the health and wellness in pregnant women's and new born. It was concluded from the data's obtained from the present study that utilization of magaperu sanjeevi kit along with fortified supplement has real-time improvement in elevating the hemoglobin level and may halt the progression of anemic condition in pregnant women's.

Acknowledgement

I wish to acknowledge my thanks to The Tamil Nadu Dr. M.G.R. Medical University, Chennai, Tamil Nadu, India and The Noble research solutions, Chennai, Tamil Nadu, India for their support.

I wish to place wonderful thanks to my Guide Prof. Dr. K. KANAKAVALLI MD(S), Principal, Government Siddha Medical College, Chennai -106. For her excellent guidance, inspiration and encouragement, right from the time of choosing the topic to submitting this minor project with perfection.

I am particularly indebted to Prof. Dr. N. ANBU., MD(S), Head of the Department, Post Graduate (Pothu Maruthuvam), Government Siddha Medical College, Chennai-106, for his necessary advise at every step of my minor project.

I wish to place wonderful thanks to my Co-guide Dr. R. VARALAKSHMI, MD(S), Asst. Medical Officer, Primary Health Centre, Poonamalli, for giving me permission to collect the data.

I also convey my sincere thanks to Dr. AYYASAMY., BSMS, PhD, District Siddha Medical Officer, Kanchipuram and Thiruvallur, for giving me

permission to collect the data in maternity care centre of Poonamalli

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