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# A study to assess the effectiveness of drumstick leaves juice on haemoglobin among antenatal mothers in SMC Palayam Coimbatore District

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**Abstract**

**Introduction:** Pregnancy is a beautiful phase, it gives the women the joy and fulfillment which comes from bringing a new life into the world [1]. Anemia in pregnancy is one of the major public health problems in developing countries. According to WHO globally anemia affects 1.62 billion people (25%), among which 56 million are pregnant women [2].

**Materials and Methods:** The study aims to assess the effectiveness of Drumstick Leaves juice on Levels of Hemoglobin among Antenatal Mothers in SMS PALAYAM Coimbatore District. A Quantitative Approach with one group pretest posttest design was used.30 antenatal mothers were selected using non-probability convenient sampling technique method.

**Results:** The mean hemoglobin value of pretest score is 10.31 and post test score is 11.19. The calculated t-value is 18.7 at 0.05% level of significance indicating a significant difference between pretest score and posttest score which implied that was a significant increase in hemoglobin level after providing drumstick leaves juice.

**Keywords:** Anaemia (level of Haemoglobin), drumstick leave juice, antenatal mothers

## Introduction

When a woman gets pregnant, her body goes through lots of changes physiologically and emotionally. It is through this nine months that a woman develops patience, understanding, fortitude, and courage she needs to give birth [3].

The Diet plays a significant role during the antenatal period which influences the later development of the child. The weight and diet of pregnant women are important, not just for the pregnancy and birth process but for the impact of long term [4].

Disproportionate increases in plasma volume results in haemodilution so the heart woks harder to provide adequate nourishment. The body increases its blood volume by 30-50%, which increases the supply of iron, vitamin that the body need to meet Hemoglobin [4].

According to WHO Anemia during pregnancy is one of the major public health problem, especially in developing countries. Globally Anemia affects 1.62 billion people among which 56 million are pregnant women. During pregnancy, anemia is considered as severe when hemoglobin concentration is less than 7.0g/dl, moderate when hemoglobin falls between 7.0-9.9g/dl, mild from 10-11g/dl. Anemia occurs in up to one third of women during third trimester [2].

India has a long history of various government run Programme like Integrated Child Development Scheme (ICDS) National nutritional anemia control Programme (NNACP). Weekly iron and Folic Acid Supplementation (WIFS), National Iron Plus initiative (NIPI) to combat Anemia. There are evidences that despite the pregnant women receiving 100 IFA tablets free of cost, the prevalence of anemia has still remained alarming. To overcome this, there was a strong felt need for focusing on Social and Behavior Change Communication at Community Level [5].

Drumstick leaves which is significantly own as Moringa Olifera is been contained with green leafy vegetables which are rich and natural source of iron. It has approximately 90 nutrients and 46 antioxidants. It is equal to 7 times of Vitamin C in oranges, 4 times Vitamin A in Carrots, 4 times Calcium in Milk, 3 times Potassium in Banana, 2 times Protein in Yogurt, 4 times Fiber in Oats, 9 times Iron in Spinach. Eating Drum stick leaves curry or taking juice regularly can cure Anemia.

Drum stick leaves contain high beta carotene content has a positive impact in the mobilization of stored iron and thus increases the level of Hemoglobin in mothers with anemia [7].

## Materials and methods

A pretest posttest experimental study was conducted in the month of August 2023 at SMS Palayam Coimbatore District. Totally 30 Antenatal mothers were selected by non-probability convenient sampling technique method The data was collected using semi-structured questionnaire validated by experts from the field of Obstetrics. This section consist of 3 parts Demographic Variables, Clinical estimation of Hemoglobin level and assessment of intake of drumstick leaves juice. Study included 30 antenatal mothers who were between the age group of 20-40 and willing to participate in the study.

## Results

### Section I: Demographic Variable

### Demographic distribution of Antenatal Mother

Majority 46.7% of the mothers were between the age group of 20-25 years. Majority 80% of the mothers were primi gravida within the gestational age between 24-32 weeks. 85% of mothers were belonging to Hindu religion. 60% of mothers are residing in urban area and belongs to nuclear family. With regard to menstrual history 90% of mothers attained menarche at the age between 15-17 yrs. 70% of them had regular, normal menstrual flow upto 3-5days. Majority 90% of mothers were non-vegetarian.

### Section II: Level of hemoglobin among antenatal mothers in pre-test

**Table 1:** Distribution of frequency and percentage of pretest level of hemoglobin among antenatal mothers in experimental group, N=30

| Level of Hemoglobin | Normal | | Mild | | Moderate | |
|---|---|---|---|---|---|---|
| | F | % | F | % | F | % |
| Experimental Group | 2 | 6.7 | 15 | 50 | 13 | 43.3 |
| Control Group | 3 | 10 | 13 | 43.3 | 14 | 46.7 |

Table 1, Shows the frequency and percentage of pretest level of Hemoglobin in experimental group before intervention of drumstick leaves juice for antenatal mothers. Majority of the mothers had mild level of anemia.

### Section III: Level of haemoglobin among antenatal mothers in post test

**Table 2:** Distribution of frequency and percentage of Post-test level of Haemoglobin among Antenatal Mothers in Experimental Group

| Level of Haemoglobin | Normal | | MILD | | Moderate | |
|---|---|---|---|---|---|---|
| | F | % | F | % | F | % |
| Experimental Group | 7 | 23.3 | 10 | 33.3 | 6 | 20 |
| Control Group | 4 | 13.3 | 12 | 40 | 14 | 46.7 |

Table 2, Shows the frequency and percentage of Post-test level of Hemoglobin in experimental group after intervention of drumstick leaves juice in antenatal mothers. This difference in frequency and percentage level of hemoglobin between pretest and posttest is due to intervention of providing drumstick leaves juice.

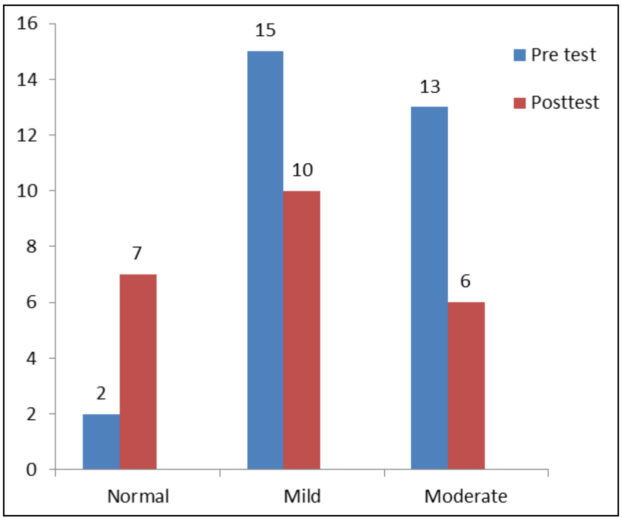


**Fig 1:** Graphical representation of pre and post-test level of hemoglobin in experimental group

**Section III:** Comparison of pretest and posttest level of hemoglobin among antenatal mothers in the experimental group

**Table 3:** Distribution of statistical value of pre-test and post-test level of hemoglobin among antenatal mothers in experimental group, N=30

| S. No | Experimental Group | Mean | SD | T-Value DF=29 | Significant Value |
|---|---|---|---|---|---|
| 1. | Pretest | 10.31 | 1.13 | | 0.05 |
| 2. | Posttest | 11.19 | 1.014 | 18.7 | |

Table 3, Shows the mean score of pretest is 10.31and posttest is 11.19. The Calculated t value is 18.7 at 29 degree of freedom at 0.05% level Of Significance, which is greater than the table value (2.045%). It shows that there was a significant difference between pre-test and post –test score which implied that was a significant increase in Hemoglobin level after providing drumstick leaves juice.

## Results and Discussion

An experimental study was carried out to assess the effectiveness of Drumstick Leaves juice on Levels of Hemoglobin among Antenatal Mothers in SMS PALAYAM Coimbatore District, in which a total of 30 antenatal mothers were selected using non-probability convenient sampling technique method. A semi structured tool was used

The study was similar to another study which was conducted by Rani Joseph and the findings of the study shows that there was an increase in the level of Haemoglobin after providing Drumstick leaves juice among antenatal mothers.

## Major findings of the study

- The findings of the study revealed that the mean score of pretest haemoglobin level was 10.3 and post-test was 11.9
- Calculated t value is 18.7 at 29 degree of freedom at 0.05% level of Significance, which is greater than the table value (2.045%). It shows that there was a significant difference between pre-test and post-test score which implied that was a significant increase in Hemoglobin level after providing drumstick leaves

juice.

## Conclusion
The study shows a significant effectiveness of Drumstick leaves which is a cost effective method in increasing the level of hemoglobin. As a midwife it is our responsibility to take care of the mothers from conception, labour and after delivery in all aspects.

## Conflict of Interest
Not available

## Financial Support
Not available

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