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Original Research Article

Assess the Effectiveness of Beetroot Extract on Reducung Anemia among Antenatal Mothers

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Abstract: Anaemia is the commonest nutritional deficiency disorder in the world. Anaemia is easily treatable and largely preventable disease if timely detected and conducted the structured teaching programme the collected 60 samples and assess the effectiveness of beetroot juice with jaggery on iron deficiency anaemia shows in post-test. Post-test revealed the improvement in Hb level with the use of beetroot juice with jaggery. Out of 60 samples 10(15%) were having normal haemoglobin level and 20(35%) were having mild iron deficiency anaemia and 10(40%) were having moderate iron deficiency anaemia and 10(10%) were having severe anaemia. Date were collected using pretest and post-test and analysed the data using of Chi-square test and T test of significance. A value of P<0.005 was considered significant.

Keywords: Antenatal mothers, Gravida, socio economic stays, Haemoglobin.

1. INTRODUCTION

Background

Anaemia is the commonest nutritional deficiency disorder in the world. Anaemia is easily treatable and largely preventable disease if timely detected.

Need for the Study

National family health survey (NFHS-3) conducted in 2005 -2006, presented the statistics that most of the anemic patients, especially women, suffer from mild to severe deficiency of iron. As per the latest national family health survey, 55.3 percent of all women between 15-49 years of age, 56.2 percent of never married women 58.7 per cent of pregnant women are anemic in the country.

Vijaynath (2010) conducted a descriptive study to find out the prevalence of anemia in pregnancy and to investigate cause of pregnancy in and around Raichur. The sample consists of 185 pregnant mothers. By using questionnaires" method and assessing the hemoglobin level.6.48% only have knowledge and 93.5% are not having knowledge. The study shows that the prevalence of anemia is high (88.64%). The knowledge about anemia in pregnant women and complications occurring during pregnancy is very poor.

Problem Statement

Assess the Effectiveness of Beetroot Extract on Reducing Anemia among Antenatal Mothers at community area at Bengaluru.

Objectives of the Study

- To monitor the hemoglobin level among the antenatal mothers in the experimental and control group.
- To re monitor the hemoglobin level among antenatal mothers of experimental and control group.
- To compare the level of hemoglobin before and after administration of beetroot extract among antenatal mothers in the experimental group.
- To find out the association between the level of hemoglobin with demographic variable among antenatal mothers.

Hypotheses

H_1: There will be significant difference between the level of Haemoglobin before and after the administration of Beetroot extract among antenatal mothers.

H2: There is significant association between anemia and socio demographic variables among Antenatal mothers.

2. METHODS AND MATERIALS

Research Approach

An evaluative approach with quasi experimental one group pre and post-test design was used to assess the effectiveness of structured Teaching Programme on knowledge regarding improving haemoglobin in antenatal mother.

Study Design: Quasi Experimental One group Pre-test and Post design variables.

Independent variable: Structured Teaching Programme (STP) on knowledge regarding increase the haemoglobin level.

Dependent variables: Boot root juice.

Extraneous variables: Demographic characteristics included were Age, Marriage in year, qualification, Family income, marital status, gravida, previous knowledge regarding exposure to anaemia.

Settings of the Study

The setting refers to the physical locations and conditions where data collection takes place. Based on the geographical proximity, feasibility and availability of subjects and community area.

Target Population:

The target population of this study was 60 antenatal mothers as respondents in selected community area, Bengaluru.

Sample Size: 60 Antenatal mothers.

Instruments: Boot root juice.

Inclusion Criteria

Antenatal mother who are,

- Willing to be a part of the study
- Give consent for the study

Exclusion Criteria

- Antenatal mother who are,
- Absent at the time of study

Plan for Data Analysis

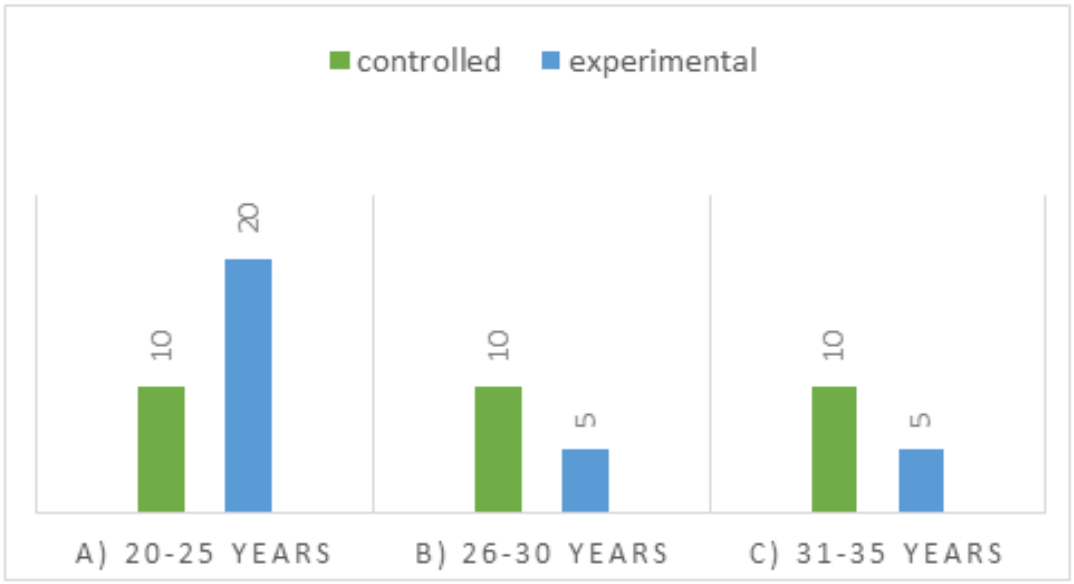
- Collected data were planned to be analysed by using descriptive statistics. The data will be planned to be presented in the form of Graph and Tables. The analysis was made on the basis of objectives and the hypotheses. The data analysis was planned which included descriptive and inferential statistical. The following plan was developed for data analysis on the basis of the opinion of experts:
- Organizing data in a master sheet.
- Frequency and percentage analysis to describe the demographic characteristic of the students. Descriptive analysis such as mean, range, standard deviation and coefficient variance will be used in study to assess the effectiveness of improving haemoglobin in antenatal mother
- The Chi-square analysis used to determine the association between socio demographic variable and antenatal mother
- Findings will be documented in tables and diagrams.

1.1 Results Analysis

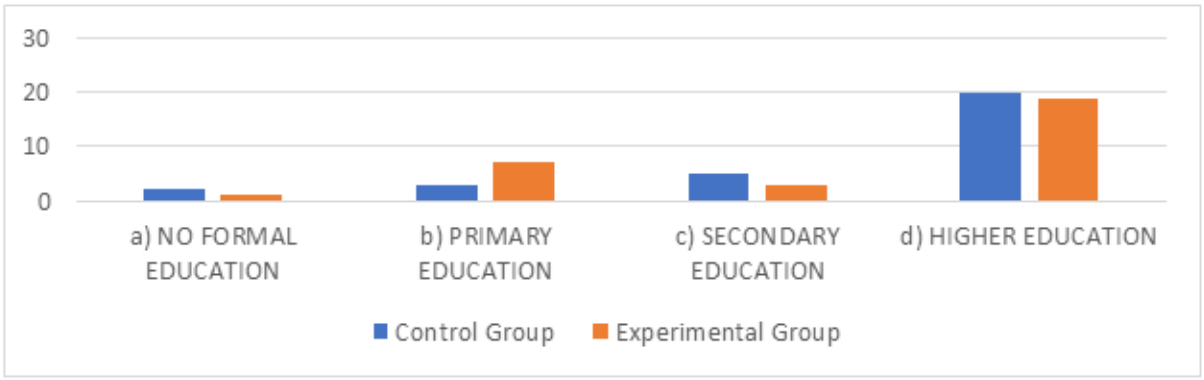
Section-A

Table-1 Distribution of demographic variables of antenatal mothers in experimental group and control group at community area in Bengaluru.

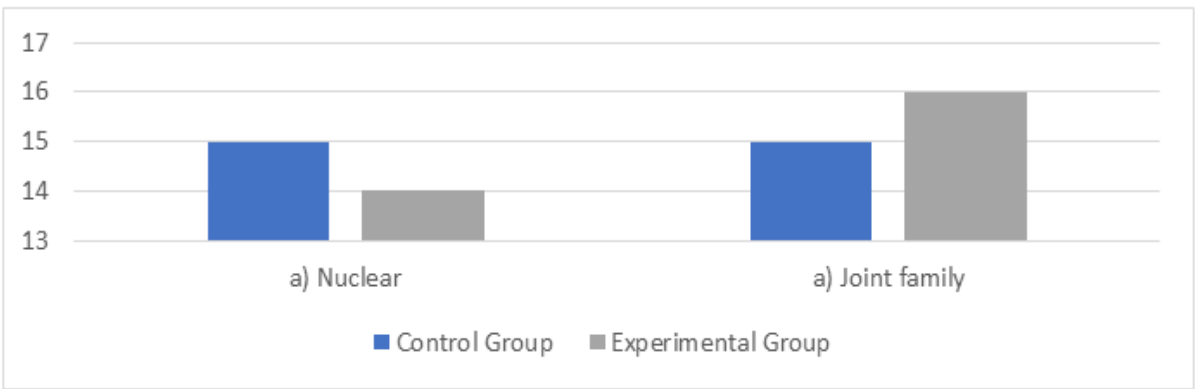
1.1 Age



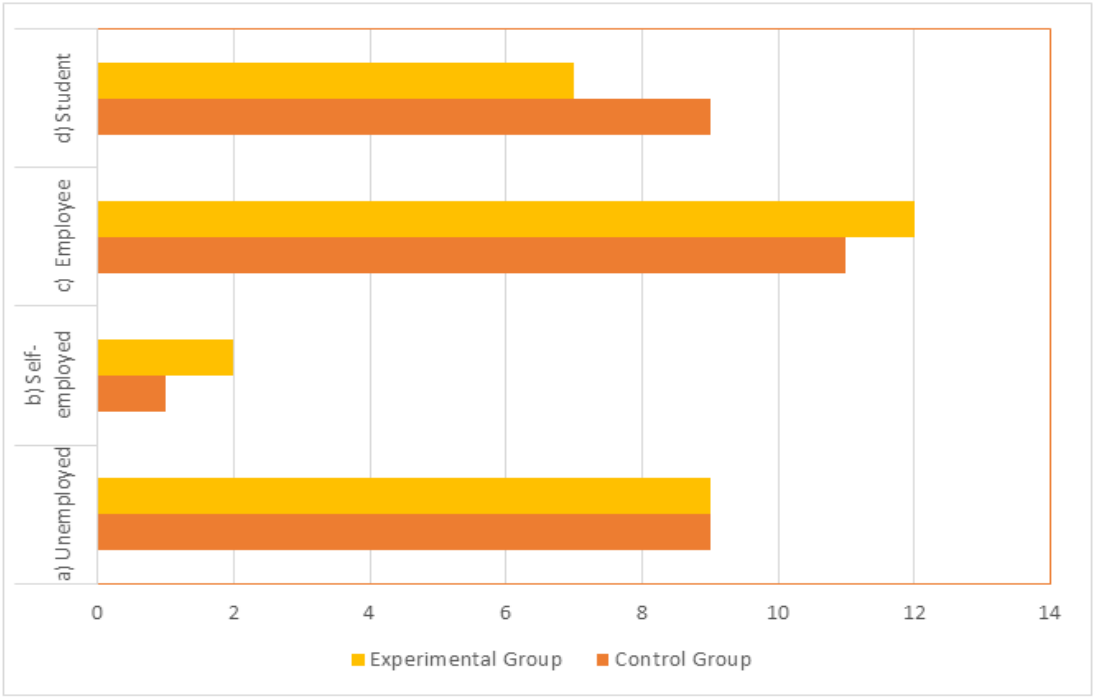
1.2 Education



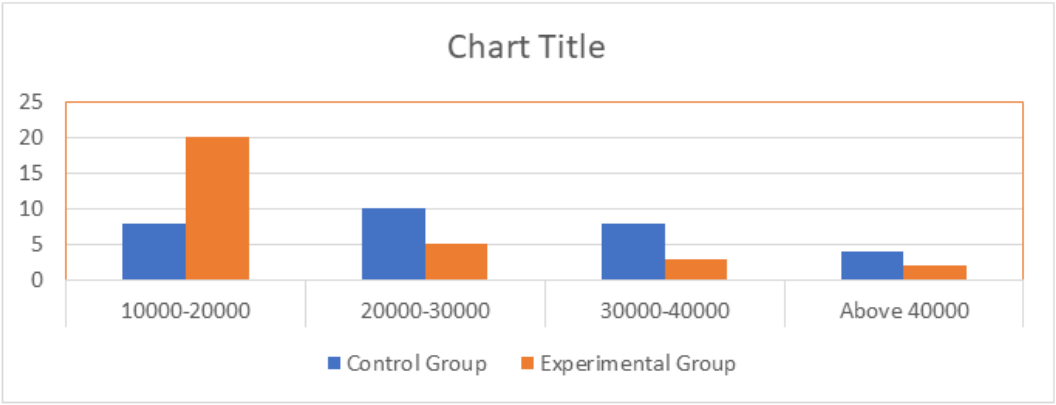
1.3 Types of family



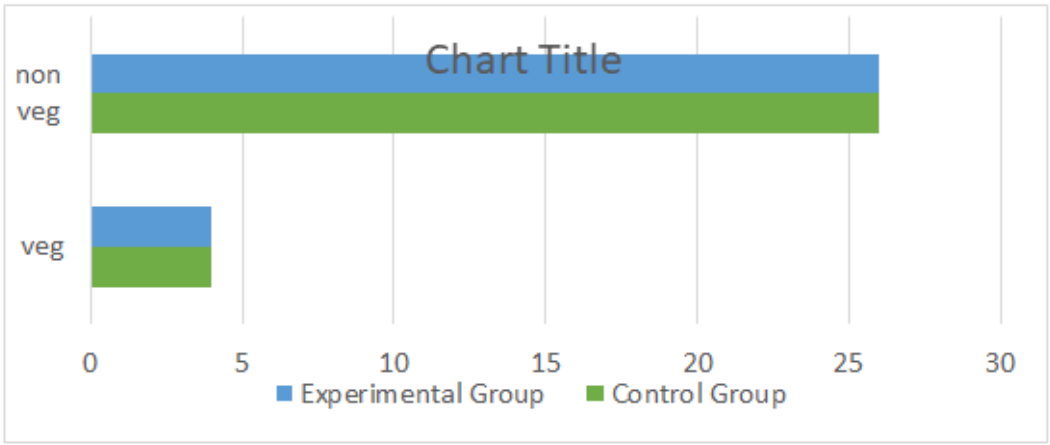
1.4 Occupation of the Family



1.5 Monthly income



1.6 Diet pattern

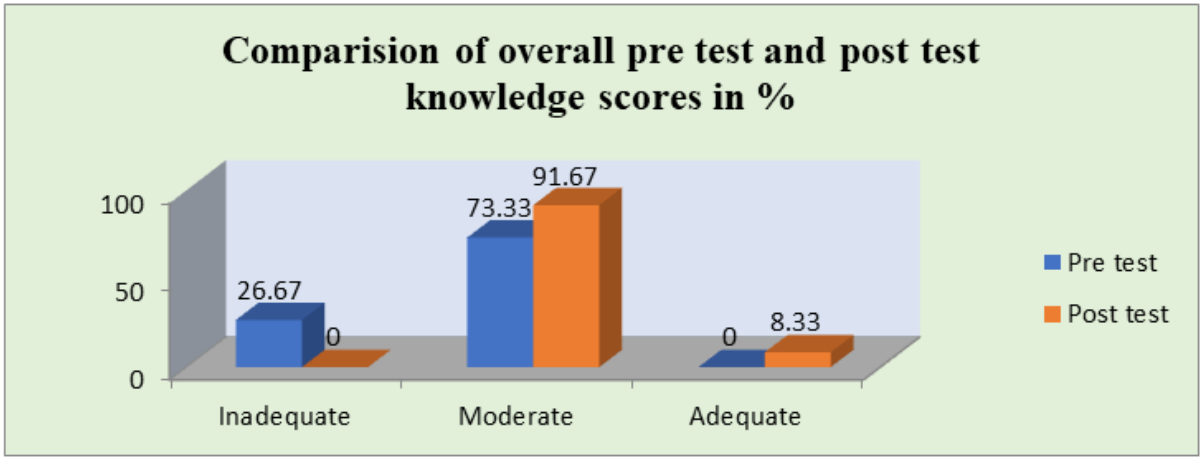


Section B:

Table-2 Mean, Mean percentage and standard deviation for the pre & post-test knowledge scores of antenatal mothers in anaemia.

Table-2: Overall comparison of pre-test and post-test knowledge score

Sl. No	Knowledge aspects	Maximum	Mean	Mean percentage	Standard Deviation
1	Overall pre-test knowledge scores	30	12.23	40.76	3.37
2	Overall post-test knowledge scores		17.23	57.43	3.004



Section-C

Table-3 Association between pretest knowledge scores of post-natal mothers with selected socio demographic variables; N=60

Sl/No	Demographic Variables	frequency	Percentage	Chi-square	df	P-Value
1	**Age in year**					
	20 – 25	20	66.6	6.429	2	0.040
	26 – 30	5	16.7			
	31 – 35	5	16.7			
2	**Religion**					
	Hindu	11	36.6	0.371	3	0.853
	Muslim	14	46.7			
	Christian	5	16.7			
3	**Monthly income of family**					
	10000-20000	20	66.6	2.857	3	0.414
	20000-30000	5	16.7			
	30000-40000	3	10			
	Above 40000	2	6.7			
4	**Education status of the mother**					
	Illiterate	1	3.3	1.721	3	0.632
	Primary education	7	23.3			
	Secondary education	3	10			
	Higher education	19	63.4			
5	**Type of family**					
	Nuclear family	14	46.7	0.918	1	0.338
	Joint family	16	53.3			
6	**Occupation**					
	Unemployed	9	30	4.972	3	0.174
	Self-employed	2	6.7			
	Employed	12	40			
	Student	7	23.3			
7	**Diet**					
	Veg	4	13.3	1.979	1	0.160

3. RESULTS AND DISCUSSION

Discussion

This chapter discusses the major findings of the study with reference to the Objectives and hypothesis stated and reviews them in relation to findings from the Results of other studies. Findings of the study have been discussed in terms of Objectives, theoretical bases and hypothesis. In this section, major findings of the Current study have been discussed concerning the results obtained by the researcher.

Hypotheses

There will be significant difference between the level of Haemoglobin before and after the administration of Beetroot extract among antenatal mothers.

1. To monitor the haemoglobin level among the antenatal mothers in the experimental and control group.

The findings of the study reveal that 58 degrees of freedom at 0.05% level of significance, the table value was 1.671 and the calculated value was 0.365 which is less than the table value. Hence, there is no significance difference existing between level of haemoglobin in control group and experimental group before administration of beetroot extract. So homogeneity is maintained between the groups.

2. To re monitor the haemoglobin level among antenatal mothers of experimental and control group.

The findings of the study reveals that 58 degrees of freedom and at 0.05% level of significance, the table value was 1.671 and the calculated value was -0.280, which is lesser than the table value and hence there is significant differences existing between level of haemoglobin in experimental group after administration of beetroot juice. It is concluded that administration of beetroot juice is effective for reducing anaemia among antenatal mothers.

3. To compare the level of haemoglobin before and after administration of beetroot extract among antenatal mothers in the experimental group

The comparison of haemoglobin levels before and after the administration of beetroot extract in the experimental group showed a significant increase in haemoglobin levels. This indicates that beetroot extract effectively improved iron levels and reduced anaemia in antenatal mothers. The findings suggest that beetroot extract could serve as a natural and accessible alternative to conventional iron supplements, particularly in resource-limited settings.

4. To find out the association between the level of haemoglobin with demographic variable among antenatal mothers.

The association of pretest attitude score with demographic variables age, educational status, type of family, occupation, monthly income of the family, diet pattern, religion. Variables were not having significant association with the pretest score.

4. CONCLISION

The level of hemoglobin among antenatal mothers who received beetroot extract was significantly increased the hemoglobin level. Improve health status of antenatal mothers. Hence the formulated alternative hypothesis was accepted.

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Declaration:

Author Contribution:

Mrs. Nagammal**:** Conceptualization of the study, formulation of report, and information.
Mrs. Devinajappan**:** Data collection, and administration of the knowledge regarding assessment & care.
Mrs. Nagammal**:** Writing of the manuscript draft, literature review, and manuscript editing.
Ms. Neelamsingh**:** Final review of the manuscript, approval of the final version for submission, and supervision of the overall project.

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Competing Interest: No evidence of any conflict towards to this project.

Ethical Clearance: The study was approved by the Institutional Ethics Committee.

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