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A Study to Assess the Effectiveness of Individual Teaching Programme on Knowledge Regarding Antenatal Diet Among Multigravida Mothers with Iron Deficiency Anemia Attending Antenatal OPD in Selected Maternity Hospitals, at Selected Area

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Abstract

Background: Pregnancy is a prominent event in a woman's life, able to transform her life forever. Pregnancy is a physiological state, which produces several normal and expected changes, in all the maternal organ systems. Iron is a trace mineral that is important for fetal growth and development. Iron is found in red blood cells to carry oxygen needed throughout the body. It is also essential for normal neuronal development. Folic acid is another important micronutrient used in the synthesis of neurotransmitters and particularly during early pregnancy. Hence the focus of this study was to evaluate the effectiveness of individual teaching programme on Antenatal diet among multigravida mothers with iron deficiency anemia attending antenatal OPD in selected maternity hospitals, Bangalore, Karnataka.

Objectives

1. To assess the pre test knowledge of multigravida mothers regarding antenatal diet to be measured by structured interview schedule.
2. To plan and implement Individual Teaching Programme regarding antenatal diet among multigravida mothers.
3. To evaluate effectiveness of Individual Teaching Programme regarding antenatal diet among multigravida mothers.
4. To determine the association between pre test knowledge score of multigravida mothers with iron deficiency anemia regarding antenatal diet with their selected demographic variables.

Methods: A pre-experimental design and evaluative research was used in the study. The data was collected from 40 subjects in

Government Hospital, Anekal, through convenient sampling technique. Data was collected using structured questionnaire.

Major Findings of the Study: Majority 56.7% of the multigravida mothers with iron deficiency anemia had inadequate knowledge and 40% had moderate knowledge in the pretest. After administration of individual teaching programme 67.5% of the subjects had adequate knowledge, 22.5% had moderate knowledge and only 10% had inadequate knowledge regarding Antenatal diet in the post test.

The overall analysis of level of knowledge of multigravida mothers with iron deficiency anemia regarding Antenatal diet showed that mean knowledge scores of the subjects at pre-test were 13.6 (45.33%) with standard deviation 5.207 found to be inadequate knowledge regarding Antenatal diet. After administration of individual teaching programme mean knowledge scores of the subjects was 23.48 (78.26%) with standard deviation 5.804 found to be improvement in the level of knowledge among multigravida mothers with iron deficiency anemia.

Interpretation and Conclusion: Findings of the study show that there was a significant difference in pre test and post test level of knowledge of multigravida mothers with iron deficiency anemia. From this it is concluded that the individual teaching programme is effective in improving the level of knowledge of multigravida mothers with iron deficiency anemia. And there was a significant association between level of knowledge of multigravida mothers with iron deficiency anemia and selected demographic variables such as age and religion.

Keywords: Knowledge, Multigravida Mothers, Iron Deficiency Anemia, Antenatal Diet, Knowledge, Individual Teaching Programme

Introduction

"Pregnancy is special, let us make it safe."

Pregnancy is not just a matter of waiting to give birth but a joyful and a fulfilling period in a woman's life. It can also be one of the experiences of misery and suffering when complications or adverse circumstances compromise the pregnancy, causing ill

health or even death [1].

Pregnancy is a prominent event in a woman's life, able to transform her life forever. Pregnancy is a physiological state, which produces several normal and expected changes, in all the maternal organ systems. The nutrient demands of the embryo or the foetus developing in the uterus must be met in addition to those for maintenance of the adult women; this calls for quality nutrition both before and during pregnancy. The future health of the developing child depends to a larger extent on the nutritional foundation established in prenatal life. The selection of a diet to meet the needs of pregnancy requires careful choices of food and is not particularly complicated [2].

Iron is a trace mineral that is important for fetal growth and development. Iron is found in red blood cells to carry oxygen needed throughout the body. It is also essential for normal neuronal development. Folic acid is another important micronutrient used in the synthesis of neurotransmitters and particularly during early pregnancy. It has an essential role in synthesizing DNA during organogenesis [3].

Need for the Study

Pregnancy anaemia is one of the important public health problem not only in India but also in most of southern countries, anaemia in pregnancy has effects may have deleterious to mother and fetuses [11].

Review of Literature

“Good research does not exist in vacuum” [16].

Review of literature refers to the activities involved in identifying and searching for information on a topic and developing a comprehensive picture of the state of knowledge on that topic.

A review of related literature given an insight into various aspects of the problem under study. The review serves as an integrated function that facilitates the accumulation of knowledge. Hence review of literature is important to a research in order to know what has been established and documented.

The investigator carried out an extensive review of literature on the research topic in order to gain deeper insight into the problem and to collect maximum relevant information for building the foundation for the study.

The investigator organized the literatures as follows

- Literature related to causes and prevalence of Iron deficiency anemia.
- Literature related to importance of antenatal diet.
- Literature related to multigravida with Iron deficiency anemia.
- Literature related to knowledge regarding antenatal diet among multigravida mothers with Iron deficiency anemia.

Literature related to causes and prevalence of Iron deficiency anemia

A descriptive observational study was conducted on anemia in the postnatal patient admitted at RGH; the samples of total 160 female patients with anaemia were clinically evaluated to establish the relationship between severity /type of anaemia with the socio economic status, age, parity and

the past obstetrical history. The study result shows that among 160 cases of anaemia, the iron deficiency anaemia was the most common (87.5%), thalassemia trait was in 3% of the cases. 47.5% of women were between 25-30 years of age, 83.7% of them belonged to the lower socioeconomic class. 52.5% of patient were multigravida, and 67.5% of patients had moderate anemia [17].

A cross-sectional study was conducted to assess prevalence and factors associated with anemia among pregnant women attending antenatal clinic at St. Paul's Hospital Millennium Medical College, Addis Ababa, Ethiopia. The study was conducted on 284 pregnant women to assess prevalence and factors associated with anemia at St. Paul's Hospital Millennium Medical College from June to August 2014. Results showed that the prevalence of anemia was found to be 11.6% (95 % CI; 7.8%-14.8%). Pregnant women in the second and third trimester were more likely to be anaemic when compared to pregnant women in their first trimester. Pregnant women who did not receive iron/folic acid supplementation were more likely to be anaemic when compared to pregnant women who did take supplementations. In this study the prevalence of anemia in pregnancy was low compared to the findings of others. Gestational age (trimester) and iron/folic acid supplementation were statistically associated with anemia [18].

A study was conducted to estimate the prevalence of anemia among pregnant women and to determine its association with maternal and fetal outcomes. This study design was a prospective, observational, community-based study. 446 pregnant women were included in the study from three primary health centers in Kolar district, Karnataka by multistage sampling technique and were followed up till 1 week after delivery. Results revealed that there was a significant overall improvement in the hemoglobin levels of pregnant during the follow-up (10.3–10.72 gm%). About 35.6% of the women had maternal or fetal morbidity. Anemia was one of the main pregnancy-related complications (62.3%), other complications include difficult labor (3%), postpartum hemorrhage, and preeclampsia 1.6% each abortions/stillbirths (3.5%). The fetal complications include low birth weight (25.5%) followed by premature delivery (0.2%) and birth asphyxia (0.5%). This study concludes that a high prevalence of anemia in pregnant women apparently increases the maternal and fetal risks. To improve maternal and fetal outcome, it is recommended that the primary health care has to be strengthened, prevention, early diagnosis, and treatment of anemia in pregnancy to be given priority [19].

A study was conducted to identify the prevalence of anaemia among pregnant mothers attending antenatal clinic. A cross sectional study was conducted at PHC Devarayasamudra on 50 pregnant women attending antenatal clinic. A pre tested questionnaire was applied to know the utilization and delivery of ANC services. Hemoglobin estimation was done by using Sahli's method. Results revealed that the mean age of pregnant women in the study is 22 years and 6% were below 18 years. Primi constituted to 40%. 60% had at least one child. At least one home visit by ANM was made in all of the women. 54% of the women received IFA tablets from PHC and 10% were given prescription for IFA and 40% of the women never consumed it. Only 46% of women had ever used any temporary family planning method. 70% of women did not

use sanitary latrine and 14% of them did not wear footwear during open field defecation. 64% of the women had anemia. About 52% of the women had no knowledge on the importance of consuming iron rich nutritious diet during pregnancy. This study concludes that Anaemia in pregnancy continues to be a problem. The delivery of services to prevent and control anaemia is not as expected under RCH programme. The knowledge of the pregnant mothers regarding anaemia and its prevention is poor ^[20].

Methodology

This chapter deals with the methodology adapted to assess the knowledge of multigravida mothers with iron deficiency anemia attending antenatal OPD in selected hospital regarding the Antenatal diet.

The methodology includes research approach, research design, setting of the study, sample, sampling technique, development and description of the tool, pilot study, data collection and plan for data analysis.

Research Approach

The research approach is an overall plan or blue print chosen to carry out the study. The selection of research approach is the basic procedure for the conduct of research inquiry ^[38]. Research approach used in this study is evaluative research approach. This type of research is beneficial when the researcher's primary interest to understand the human behavior in naturalistic contexts. Therefore, the evaluative research approach was found to be suitable for the present study.

Research Design

Research design is an overall plan for addressing research questions including specification for enhancing the study integrity ^[38].

In the present study the pre experimental design with one group pre test post test was adapted to assess the knowledge of multigravida mothers with iron deficiency anemia attending antenatal OPD in selected hospital regarding the Antenatal diet.

Setting of the Study

Research setting is the physical location and conditions in which data collection takes place ^[38]. The present study was undertaken in selected hospital, Bangalore. This setting was selected because of the geographical proximity, availability of the samples and permission to conduct the study.

Variables

Variables are qualities, properties or characteristics of persons, things or situations that change or vary ^[39]. Variables of the present study were the following:

Independent Variable: Individual teaching programme regarding Antenatal diet.

Dependent Variables: Knowledge of multigravida mothers with iron deficiency anemia attending antenatal OPD in selected hospital.

Demographic Variables: Age, education status, occupation, religion, Type of family, family income and source of information.

Population

The term population is the entire set of individuals or objects having common characteristics that meet certain

criteria for inclusion in the study ^[39]. The target population for the present study comprised of multigravida mothers with iron deficiency anemia attending antenatal OPD in selected hospital of Bangalore.

Sample

Sample refers to the portion of the population which represents the entire population ^[39]. In this study the sample consisted of multigravida mothers with iron deficiency anemia attending antenatal OPD in selected hospital, Bangalore.

Sample Size

Sample size refers to the number of subjects needed for the study. The total sample size of this study is 40 multigravida mothers with iron deficiency anemia attending antenatal OPD in selected hospital, Bangalore.

Sampling Technique

Sampling refers to the process of selecting a portion of the population to represent the entire population ^[39]. In this study, convenient sampling technique was adopted. Convenient sampling technique refers to the process of selecting a most readily available subjects for the study ^[40].

Criteria for selection of samples

Inclusion Criteria

The study includes the Multigravida mothers with iron deficiency anemia,

- Who are attending antenatal OPD in selected maternity hospitals.
- Who are willing to participate.
- Who are available at the time of data collection.

Exclusion Criteria

The study excludes the Multigravida mothers with iron deficiency anemia,

- Who are sick or having critical illness.
- Who are not willing to participate in the study.

Data Collection Tool

Tool selected in the research should be the vehicle as far as possible that would provide data for drawing conclusions pertinent to the study, and at the same time add to the body of knowledge in the discipline ^[40]. Based on the research problem and objectives of the study, the following steps were undertaken to select and develop the data collection tool.

Selection of Tool

A structured interview schedule was selected on basis of the objectives of the study as it was considered to be most appropriate instrument to elicit responses from the subjects.

Development of Tool

A structured interview schedule was prepared to assess the knowledge of multigravida mothers with iron deficiency anemia attending antenatal OPD in selected hospital regarding the Antenatal diet.

The tool was developed

- After reviewing related literature.
- Based on the experience of the investigator.
- Through guidance and consultation with subject experts.

- In consultation with the statistician.

Description of the tool

Structured knowledge questionnaires, which contains items on the following aspects.

Part - I: Demographic Data

This section consisted of 7 items seeking personal information such as Age, education status, occupation, religion, Type of family, family income and source of information.

Part - II: Knowledge questionnaires

The knowledge questionnaires consisted of 30 items on three knowledge aspect such as meaning and causes (7), manifestations and complications (8) and Antenatal diet (15).

Each question had 4 responses with which one correct response and 3 distracters. Score '1' was given for correct response in a single question and score '0' was given for wrong response. The total numbers of items were 30 giving rise to maximum score of 30.

The resulting score were ranged as follows

- Adequate knowledge: more than 75 % (23-30 marks).
- Moderately adequate: 50 – 75 % (16-22 marks).
- Inadequate adequate: less than 50 % (less than 15 marks).

Pre-Testing of the Tool

Content Validity

Content validity refers to the degree to which the items in an instrument adequately represent the universe of content [41].

Content validity of the tool was established by 5 experts from department of Obstetrics and Gynaecological Nursing. The prepared instruments along with scoring key and criteria checklist for validation were submitted to experts and were requested to give their opinions and suggestions regarding the relevance of the tool for further modification to improve the clarity and content of the items. For the content validity a criteria checklist was prepared each criteria consists of 1- 4 response columns for rating such as very relevant, relevant, needs modification, not relevant. The suggestions were incorporated in the tool and recommendations were considered accordingly.

Reliability

Reliability of instrument is the degree of consistency with which measures the attributes it is suppose to measure. It refers to the extent to which the same results are obtained on repeated administration of the instrument [41].

In order to establish the reliability of the tool, split- half method was used. Tool administered to 10 samples from Government Hospital, Anekal and the test was first divided into 2 equal halves and correlation of the half test was found by using Spearman Brown's prophecy formula and significance of the correlation was tested by using probable error. The reliability of the whole test was then estimated by Spearman's brown prophecy formula.

Pearson correlation coefficient:

$$r = \frac{\sum xy - \frac{\sum x \sum y}{n}}{\sqrt{(\sum x^2 - \frac{(\sum x)^2}{n})(\sum y^2 - \frac{(\sum y)^2}{n})}}$$

Spearman's brown prophecy formula:

$$r_{\text{total}} = \frac{2r}{1+r}$$

The reliability of the interview schedule to assess knowledge of multigravida mothers with iron deficiency anemia attending antenatal OPD in selected hospital was found to be 0.84. Hence the tool was found to be reliable.

Translation of the Tool

The investigator translated the English tool into Kannada. The language experts validated the Kannada translation of the tool. Therefore the same translated version was used for the interview method.

Development of ITP:

A individual teaching programme was prepared based on the assessed learning needs of the multigravida mothers with iron deficiency anemia attending antenatal OPD in selected hospital, Bangalore.

The steps followed in construction of the ITP were:

1. Referred related literature regarding Antenatal diet.
2. Prepared the contents of ITP.
3. Established content validity of the ITP.
4. Editing and translation of the teaching plan.

1. Referred of related literature:

The literatures referred to prepare the content of the ITP are presented in the Annexure.

2. Organization of the content of the ITP:

Contents of ITP were organized under five lessons such as:

1. Meaning and causes
2. Manifestations and complications
3. Antenatal diet

3. Content validity of the ITP:

Content validation was established by consulting experts in related field. Suggestions and recommendations of the experts which were considered to modify the contents of the module in Simple and appropriate manner.

4. Editing and translation of the ITP:

Prepared module was edited by an editor. Further the module was translated to Kannada by a translator.

Pilot Study

Pilot study is a trial run study conducted before the actual study in a different population with similar characteristics [41]. Pilot study was conducted on 5 subjects attending antenatal OPD in Government Hospital, Anekal, Bangalore from 06-05-2022 to 11-05-2022. The permission to conduct pilot study was obtained from the Government Hospital, Anekal, Bangalore. Subjects were chosen by convenient sampling technique. The purpose of the study was explained and informed consent obtained. Structured interview schedule was conducted among multigravida mothers with iron deficiency anemia regarding the Antenatal diet, which consists of 7 items on demographic variables, 30 items on knowledge aspects.

The pilot study was helpful to estimate total time required for conducting the study, establish feasibility of the study and an appropriate time to conduct interview.

Data Collection Procedure

The data collection was done for 4 weeks in Government Hospital, Anekal, Bangalore. A formal written permission was obtained from the Director, Government Hospital, Anekal, Bangalore and data collected within a given period from 16-05-2022 to 16-06-2022. Data were collected from 40 multigravida mothers with iron deficiency anemia who fulfilled the inclusion and exclusion criteria.

The techniques followed during the interview are:

- Mothers were made to feel comfortable and relaxed.
- A rapport was established.
- Consent was taken.
- Questions regarding demographic data were asked first and then knowledge questions regarding the Antenatal diet.
- Responses were recorded as per the schedule.
- At the end of the interview, the questions asked by the subjects were clarified.

Plan for Analysis of Data

The data collected from the participants were grouped and analyzed with the help of statistical measures. Data was transformed into the master sheet for analysis. The data analysis was planned to include descriptive and inferential statistics.

The following plan was developed for data analysis.

Descriptive statistics such as

- Frequency and percentage to describe the demographic characteristics of the participants;
- Mean, mean percentage and standard deviation will be used to describe the knowledge of multigravida mothers with iron deficiency anemia regarding Antenatal diet.

Inferential statistical methods like

- Paired 't' test will be used to compare the knowledge level of multigravida mothers with iron deficiency anemia attending antenatal OPD in selected hospital and
- Chi-square (χ^2) test will be used to find out the association between selected demographic variables and knowledge level of multigravida mothers with iron deficiency anemia.

The results were represented under following sections

Section I: Description of demographic characteristics of multigravida mothers with iron deficiency anemia attending antenatal OPD in selected hospital, Bangalore.

Section II: Overall and area-wise, pre-test and post test knowledge scores of the multigravida mothers with iron deficiency anemia attending antenatal OPD in selected hospital regarding the Antenatal diet.

Section III: Comparison of the pre-test and post-test knowledge score of multigravida mothers with iron deficiency anemia attending antenatal OPD in selected hospital, Bangalore.

Section IV: Association between knowledge scores and selected demographic variables.

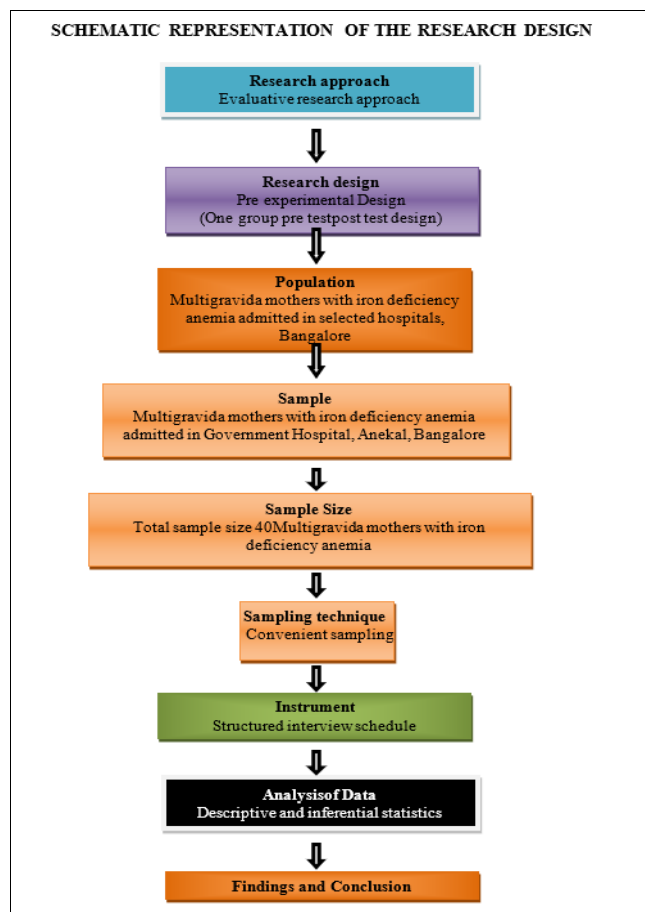


Fig 1

Results

Analysis is a detailed examination of the elements or structure of something. In research, analysis means commutation of certain measures along with searching for patterns of relationship that exist among data group.

This chapter deals with the analysis and the interpretation of data obtained from 40 multigravida mothers with iron deficiency anemia attending antenatal OPD in selected hospital with the help of structured questionnaires to assess knowledge regarding Antenatal diet, before and after administering the individual teaching programme.

Objectives

1. To assess the pre test knowledge of multigravida mothers regarding antenatal diet to be measured by structured interview schedule.
2. To plan and implement Individual Teaching Programme regarding antenatal diet among multigravida mothers.
3. To evaluate effectiveness of Individual Teaching Programme regarding antenatal diet among multigravida mothers.
4. To determine the association between pre test knowledge score of multigravida mothers with iron deficiency anemia regarding antenatal diet with their selected demographic variables.

Hypothesis

H₁: There is significant increase in knowledge of multigravida mothers with iron deficiency anaemia regarding antenatal diet after implementation of Individual teaching programme.

H₂: There is a significant association between the knowledge score of multigravida mothers with iron deficiency anaemia with their selected demographic variables.

Descriptive and inferential statistics were used to analyze the data that was collected. The Findings of data has been finalized and organized in accordance with the plan for data analysis. These are presented under the following sections.

Section I: Description of demographic characteristics of multigravida mothers with iron deficiency anemia.

Section II: Knowledge level of multigravida mothers with iron deficiency anemia regarding the Antenatal diet.

Section III: Comparison of the pre-test and post-test knowledge score of multigravida mothers with iron deficiency anemia.

Section IV: Association between knowledge scores and selected demographic variables.

Section I: Demographic Characteristics of Multigravida Mothers with Iron Deficiency Anemia

Table 1: Distribution of multigravida mothers with iron deficiency anemia according to age N = 40

Age	Frequency	Percentage
Less than 25 years	8	20.0
26-30 years	12	30.0
31-35 years	17	42.5
36 years and above	3	7.5
Total	40	100

The above table depicts that majority 42.5% of subjects were in the age group of 31-35 years, 30% of subjects were in the age group of 21-30 years, 20% of the subjects were aged Less than 25 years and remaining 7.5% of them were aged 36 years and above.

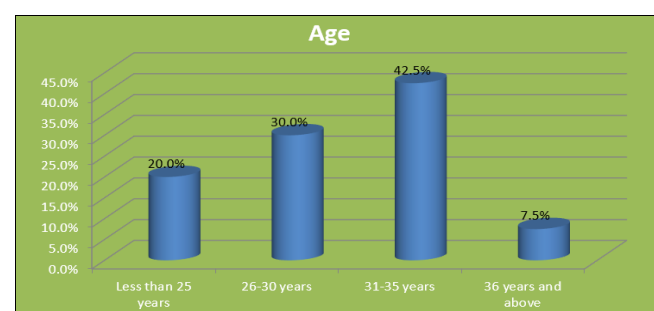


Fig 2: Distribution of subjects by age

Table 2: Distribution of multigravida mothers with iron deficiency anemia according to education N = 40

Education	Frequency	Percentage
Illiterate	1	2.5
Primary education	10	25.0
Secondary education	8	20.0
PUC	13	32.5
Degree and above	8	20.0
Total	40	100

The above table shows that the 32.5% of the subjects had pre-university education, 25% had primary education, 20% of the subjects had secondary education, 20% were graduates and 2.5% are illiterates.

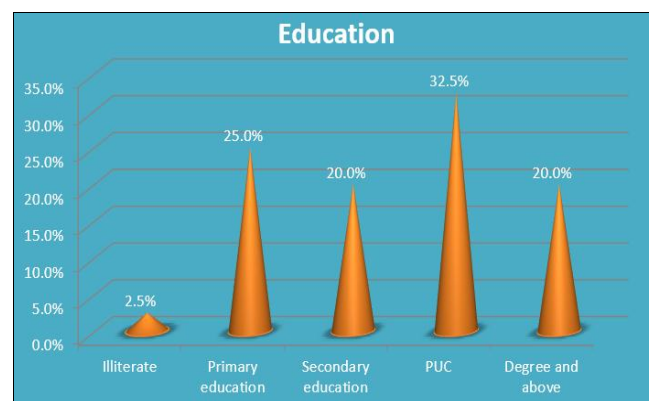


Fig 3: Distribution of subjects by education

Table 3: Distribution of multigravida mothers with iron deficiency anemia by occupation N = 40

Occupation	Frequency	Percentage
House wife	23	57.5
Coolie	5	12.5
Private employee	7	17.5
Government employee	5	12.5
Total	40	100

The above table depicts that among mothers 57.5% were housewives, 17.5% were private employees, 12.5% were coolie workers and remaining 12.5% were government employees.

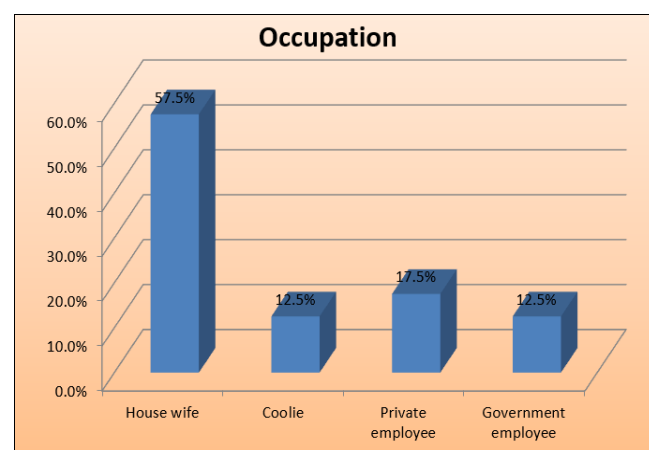


Fig 4: Distribution of subjects by occupation

Table 4: Distribution of multigravida mothers with iron deficiency anemia according to religion N = 40

Religion	Frequency	Percentage
Hindu	33	82.5
Muslim	4	10.0
Christian	3	7.5
Total	40	100

The above table shows that majority 82.5% subjects belong to Hindu religion, 10% were Muslims and 7.5% were Christians.

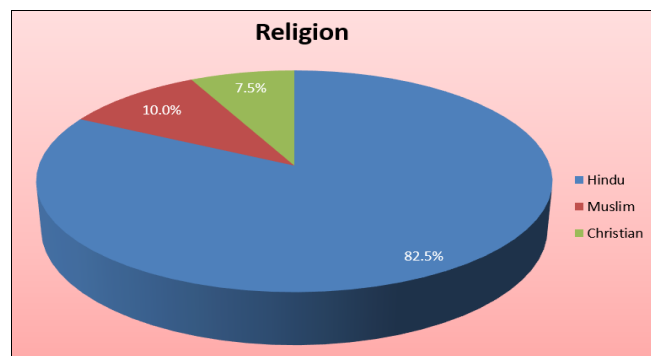


Fig 5: Distribution of subjects by religion

Table 5: Distribution of multigravida mothers with iron deficiency anemia by Type of family N = 40

Type of family	Frequency	Percentage
Nuclear family	36	90.0
Joint family	4	10.0
Total	40	100

The above table reveals that 90% of subjects were Nuclear family mothers and only 10% were Joint family mothers.

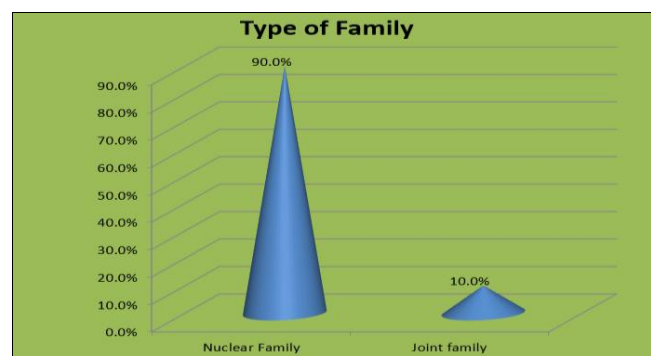


Fig 6: Distribution of subjects by their Type of family

Table 6: Distribution of multigravida mothers with iron deficiency anemia according to family income N = 40

Family Income	Frequency	Percentage
Less than Rs.5000	4	10.0
Rs.5001-10000	12	30.0
Rs. 10001-15000	20	50.0
More than Rs.15001	4	10.0
Total	40	100

The above table shows that among mothers majority 50% of subjects had income between Rs. 10001-15000, 30% had family income between Rs.5001-10000, 10% had income less than Rs. 5000 and only 10% had income more than Rs.15001.

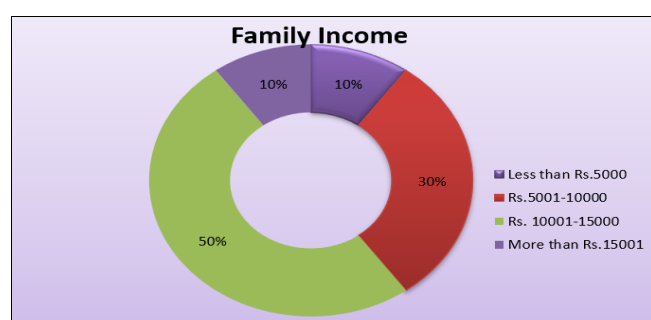


Fig 7: Distribution of subjects by family income

Table 7: Distribution of multigravida mothers with iron deficiency anemia according source of information N = 40

Source of information	Frequency	Percentage
Mass media	3	7.5
Friends	14	35.0
Relatives	13	32.5
Health personnel	10	25.0
Total	40	100

The Table 7 reveals that 35% of subjects gets information by their friends, 32.5% from relatives and 25% of them had health personnel as their source of information.

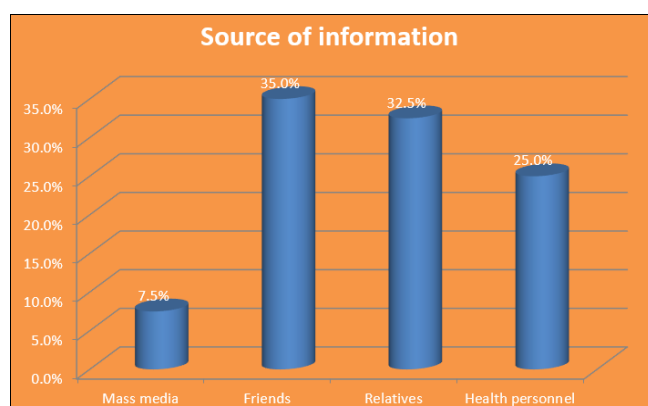


Fig 8: Distribution of subjects by present source of information

Section II: Knowledge Level of Multigravida Mothers with Iron Deficiency Anemia Regarding the Antenatal Diet

Table 8: Overall pretest and post test knowledge scores of the mothers N = 40

Knowledge level	Pre test		Post test	
	Frequency	%	Frequency	%
Inadequate knowledge	24	60.0	4	10.0
Moderate knowledge	16	40.0	9	22.5
Adequate knowledge	0	0	27	67.5
Total	40	100	40	100

Table 8 depicts that majority 60% of the mothers had inadequate knowledge and 40% had moderate knowledge in the pretest. After administration of individual teaching programme 67.5% of the subjects had adequate knowledge, 22.5% had moderate knowledge and only 10% had inadequate knowledge regarding Antenatal diet in the post test.

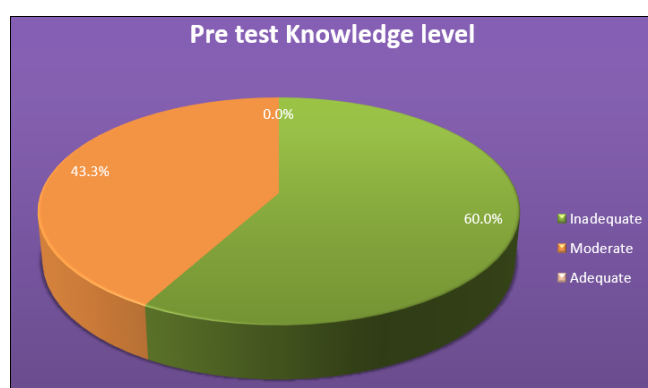


Fig 9: Overall pre test knowledge level of multigravida mothers with iron deficiency anemia

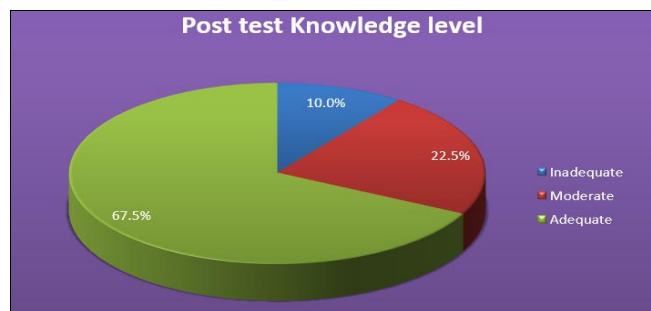


Fig 10: Overall post test knowledge level of multigravida mothers with iron deficiency anemia

Table 9: Area wise analysis of pretest knowledge scores of multigravida mothers with iron deficiency anemia N = 40

Knowledge aspects	Number of Items	Maximum Score	Mean	Mean %	Median	SD
meaning and causes	7	7	3.2	45.71	3	1.757
manifestations and complications	8	8	3.65	45.62	4	1.642
antenatal diet	15	15	6.75	45.0	7	3.477
Overall	30	30	13.6	45.33	14.5	5.207

Table 9 depicts that the maximum mean percentage obtained by the mother in pretest is in the aspect of Meaning and causes (45.71%), followed by manifestations and complications (45.62%) and least mean knowledge score (45%) found in the aspect of Antenatal diet. Therefore overall knowledge scores of respondents were found to be 13.6 (45.33%) with standard deviation 5.207.

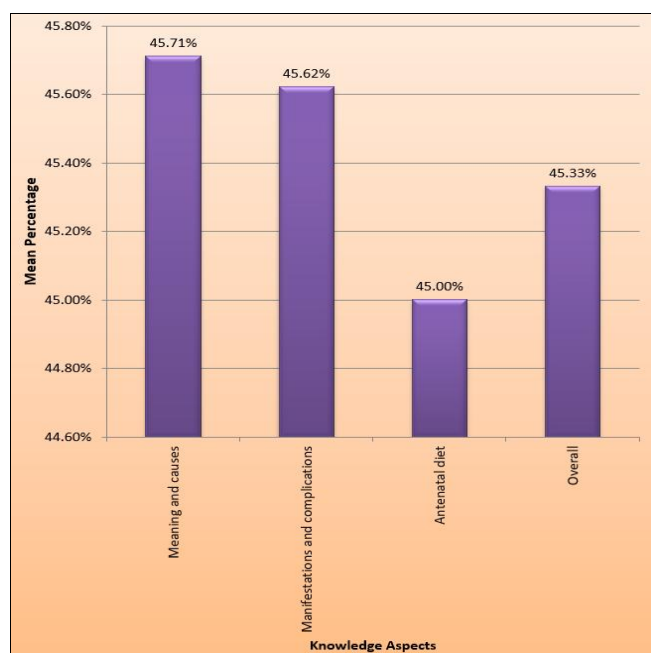


Fig 11: Area wise pre test knowledge scores of multigravida mothers with iron deficiency anemia

Table 11: Area-wise comparison of knowledge scores of multigravida mothers with iron deficiency anemia N = 40

S. No	Knowledge aspects	Pre test		Post Test		Mean difference	t value	Inference
		Mean	SD	Mean	SD			
1	Meaning and causes	3.2	1.757	5.63	1.170	2.42	8.826	S
2	Manifestations and complications	3.65	1.642	6.18	1.708	2.52	9.974	S
4	Antenatal diet	6.75	3.477	11.68	3.765	4.92	8.003	S
	Overall knowledge	13.6	5.207	23.48	5.804	9.87	11.922	S

Table 10: Area wise analysis of post test knowledge scores of multigravida mothers with iron deficiency anemia N = 40

Knowledge aspects	Number of Items	Maximum Score	Mean	Mean %	Median	SD
Meaning and causes	7	7	5.63	80.42	6	1.170
Manifestations and complications	8	8	6.18	77.25	6	1.708
Antenatal diet	15	15	11.68	77.86	13	3.765
Overall	30	30	23.48	78.26	25	5.804

Table 10 depicts that the maximum mean percentage obtained by the mother in post test is in the aspect of meaning and causes (80.42%), followed by Antenatal diet (77.86%) and least mean knowledge score (77.25%) found in the aspect of manifestations and complications. Therefore overall knowledge scores of respondents were found to be 23.48 (78.26%) with standard deviation 5.804.

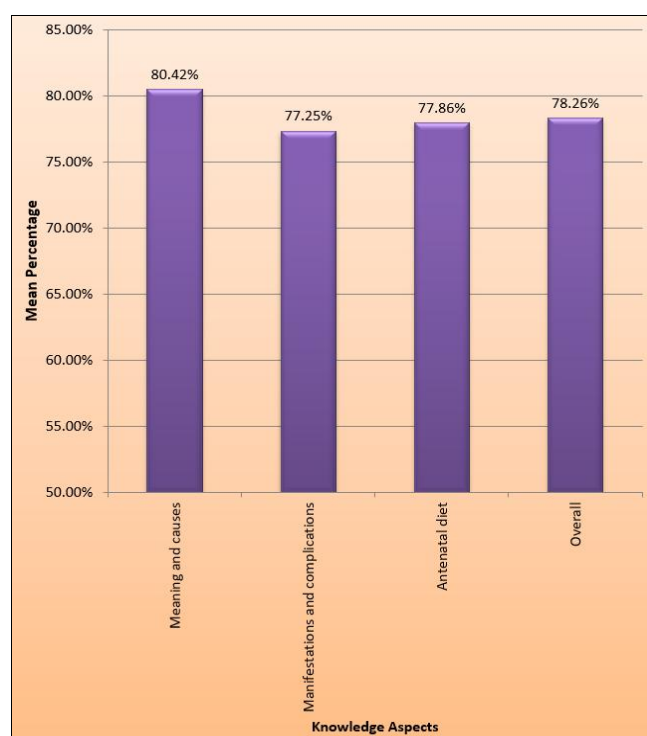


Fig 12: Area wise post test knowledge scores of multigravida mothers with iron deficiency anemia

Section III: Comparison of the Knowledge Level of Multigravida Mothers with Iron Deficiency Anemia

From the Table 11 it is evident that the obtained "t" value 11.922 is greater than the table value both at 0.05 level of significance. Therefore, "t" value is found to be significant. Hence it is inferred that there is significant difference between the knowledge multigravida mothers with iron deficiency anemia attending antenatal OPD in selected hospital regarding the Antenatal diet.

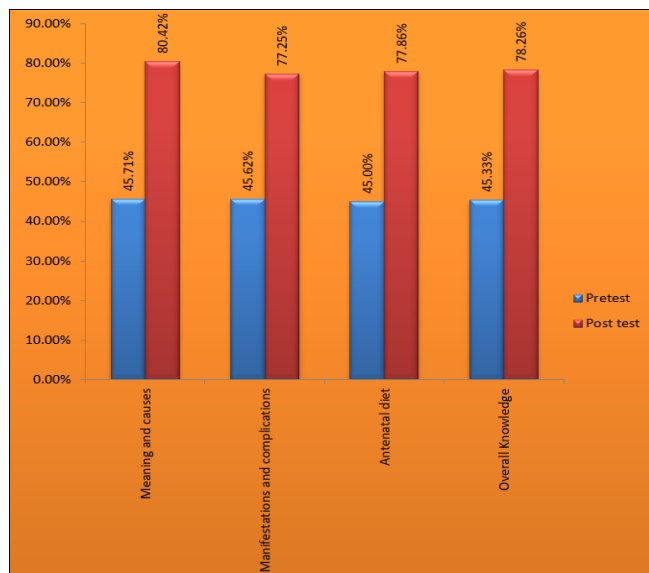


Fig 13: Comparison of mean percentage of pre-test and post-test scores

Section IV: Association of the Pre Test Knowledge Scores of Multigravida Mothers with Iron Deficiency Anemia with the Demographic Variables

Table 12: Association of post test knowledge score of multigravida mothers with iron deficiency anemia with the demographic variables N= 40

Variables	Below Median	Median and above	Chi square	Df	P value (0.05)	Inference
Age in years						
Less than 25 years	6	2	3.725	3	0.293	NS
26-30 years	4	8				
31-35 years	9	8				
36 years and above	1	2				
Education						
Illiterate	0	1	10.577	4	0.0413	S
Primary education	8	2				
Secondary education	8	0				
PUC	3	10				
Degree and above	1	7				
Occupation						
House wife	13	10	2.077	3	0.557	NS
Coolie	3	2				
Private employee	2	5				
Government employee	2	3				
Religion						
Hindu	19	14	6.091	2	0.048	S
Muslim	0	4				
Christian	1	2				
Type of family						
Nuclear family	18	18	0.000	1	1.000	NS
Joint family	2	2				
Income						
Less than Rs. 5000	2	2	2.133	3	0.545	NS

Rs. 5001-10000	4	8				
Rs. 10001-15000	12	8				
More than Rs. 15001	2	2				
Source of information						
Mass media	1	2	2.626	3	0.453	NS
Friends	7	7				
Relatives	5	8				
Health personnel	7	3				

The Table 12 shows χ^2 value computed between the knowledge level of multigravida mothers with iron deficiency anemia attending antenatal OPD in selected hospital on Antenatal diet and selected demographic variables. Variables such as age and religion were significant at 0.05 level. Thus it can be inferred that there is significant association between knowledge level of the mothers and selected variables. Therefore the hypothesis stated there will be significant association between knowledge level of multigravida mothers with iron deficiency anemia and the selected demographic variables is accepted.

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