



“Assess Knowledge Regarding Importance of Folic Acid Among Antenatal Mothers in Selected Hospital at Latur”

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Abstract:

Introduction: Taking folic acid before conceiving and in early pregnancy its lower risk of having a baby with certain birth defects. This study has been undertaken to assess knowledge regarding importance of folic acid among antenatal mothers in selected hospital at Latur.

Aim: To assess knowledge regarding importance of folic acid among antenatal mothers in selected hospital at Latur.

Methods and Material: Non experimental descriptive design was adapted to this study. The study was conducted among pregnant mothers in their first trimester of pregnancy from selected hospitals. 60 samples were selected for the study using non probability purposive sampling technique. Data collection was done by using demographic variables and Questions on knowledge regarding importance of folic acid to assess the level of knowledge. The data was analyzed by descriptive and inferential statistics. Reliability was assessed using test-retest method. Pearson's correlation coefficient was computed.

Results: The study revealed that there was significant association between knowledge regarding folic acid during pregnancy among antenatal mothers with their selected demographic variables. Data analysis related to knowledge assessment shows that the scores of antenatal mothers, majority (58.33 %) had inadequate knowledge, (38.33%) had adequate knowledge and a very minor percentage (3.33%) had good knowledge regarding importance of folic acid during Pregnancy.

Conclusion: Antenatal mother's knowledge about folic acid is very low and recommends that the various sessions on this topic to be organized for all ANC mothers so as to improve their knowledge about the folic acid.

Keywords: Assess, Knowledge, Folic Acid, Antenatal Mothers.

I. INTRODUCTION

High fetal demands for iron, render iron deficiency the most common cause of anemia in pregnancy, with other micronutrient deficiencies contributing less frequently. Folate deficiency anemia affects 25-50% of pregnant women attending hospital clinic in some areas of India.¹

The percentage of mothers who consumed iron and folic acid for 100 days or more when they were pregnant has increased from 30.3% to 44.1% across India. In US Folate deficiency affects 5% of total population. In the US, folate deficiency was present in school-age children (2.3% of the folate-deficient population), adults (24.5%), and older people (10.8%) before folic acid fortification was introduced.²

The average rural Indian women enter her reproductive life, particularly in pregnancy, suffer from nutritional anemia due to iron deficiency. National program of India had implemented a strategy for supplementation of iron folic acid by means of iron folic acid (IFA) tablets at least 3 months during antenatal period.³

Nutritional requirements increase during pregnancy for supporting fetal growth and development as well as for maternal metabolism and tissue development specific to reproduction. The recommended dietary allowance for iron and folic acid (IFA) for non-pregnant women is 18 mg and 400 µg. When compared with 27 mg and 600 µg per day for pregnant women, respectively. Folate deficiencies have been linked to the development of neural defects in infants, and iron deficiencies have been linked to anemia and other conditions. The average prevalence of anemia among pregnant women in developing countries is 56%, which is significantly higher than that of 18% in developed countries. Anemia in pregnancy is highly associated with the risk of miscarriages, stillbirths, prematurity, and low birth weight. It is also estimated that 300,000 babies are born each year with neural tube defects globally, and 15–20% of all births are low birth weight.⁴

Folic acid is a type of B vitamin that is normally found in foods such as dried beans, peas, lentils, oranges, whole-wheat products, liver, asparagus, beets, broccoli, Brussels sprouts, and spinach. Folic acid helps body produce and maintain new cells, and also helps prevent changes to DNA that may lead to cancer. As a medication, folic acid is used to treat folic acid deficiency and certain types of anemia (lack of red blood cells) caused by folic acid deficiency. Folic acid is sometimes used in combination with other medications to treat pernicious, aplastic, or normocytic anemia. However, it will not treat Vitamin B12 deficiency and will not prevent possible damage to the spinal cord.⁵

Folate means (vitamin B-9) is important in red blood cell formation and for healthy cell growth and function. The nutrient is crucial during early pregnancy to reduce the risk of birth defects of the brain and spine. Folate is found mainly in dark green leafy vegetables, beans, peas and nuts. Fruits rich in folate include oranges, lemons, bananas, melons and strawberries. The synthetic form of folate is folic acid. It's in an essential component of prenatal vitamins and is in many fortified foods such as cereals and pastas.⁶

A diet lacking foods rich in folate or folic acid can lead to a folate deficiency. Folate deficiency can also occur in people who have conditions, such as celiac disease, that prevent the small intestine from absorbing

nutrients from foods (malabsorption syndromes). The recommended daily amount of folate for adults is 400 micrograms (mcg). Adult women who are planning pregnancy or could become pregnant should be advised to get 400 to 1,000 mcg of folic acid a day.⁶

Folic acid is a synthetic, water-soluble vitamin used in supplements and fortified foods. It's a man-made version of folate, a naturally occurring B vitamin found in many foods. Body can't make folate, so it must be obtained through dietary intake. Although the words folate and folic acid are often used interchangeably, these vitamins are distinct. Synthesized folic acid differs structurally from folate and has slightly different biological effects in the body.⁷

This Research has shown that taking folic before conceiving and in early pregnancy lower risk of having a baby with certain birth defects. This research findings lead to the advice that all women who can get conceive should take 400 micrograms of folic acid daily. Before and during pregnancy folic acid protects unborn children against serious birth defects called neural tube defect.⁷

Folic acid helps prevent neural tube defect. In the United States 1,300 babies are born healthy each year because of folic acid fortification. Folic acid is a man-made form of B vitamin called folate. Folate plays an important role in the production of red blood cells and helps baby's neural tube develop into their brain and Spinal cord. The best food sources of folic acid are fortified cereals. Other potential health benefits of folic acid intake at 0.4 mg/day include reducing risks related to heart disease, stroke and some kinds of cancer. Women should keep their folic acid intake to less than 1 mg per day, unless under the supervision of a physician.⁷

Khan, D.A et al. (2010) conducted study. Folate is also important for the synthesis and repair of DNA and other genetic material, and it is necessary for cells to divide. It is particularly important to get enough folate during pregnancy. Folate deficiency during pregnancy can lead to neural tube irregularities, such as spina bifida and anencephaly. Because of its importance for health, the Food and Drug Administration (FDA) require manufacturers to add folic acid to enriched bread, pasta, rice, cereals, and other grain products in the United States. Since they introduced this, the number of babies born with neural tube irregularities has decreased. Folic acid is used to treat or prevent folic acid deficiency.⁸

II. Material and Methods

RESEARCH DESIGN

In this study the descriptive research design was used to assess the to assess the knowledge regarding importance of folic acid among antenatal mothers in selected hospitals.

SETTING

The setting of the study was selected hospital that is Yashwantrao Chavan Rural Hospital Latur.

SAMPLE

The sample selected for present study comprised of the of the antenatal Primi mothers visiting antenatal OPD during first trimester of pregnancy in selected hospitals.

INSTRUMENT

In this study, the tool consisted of following: -

Section A: Demographic Variables

Self-Structured Interview

This section consists of 6 questions which seek information regarding demographic data such as age, education, occupation, type of family, monthly family income and gravida.

Section B: Questions on knowledge regarding importance of folic acid.

The questions had 15 elements related to knowledge regarding importance of folic acid. Each correct answer having 1 score.

Scoring Key:

0 -8: Inadequate Knowledge

9 – 12: Adequate Knowledge

13 – 15: Good Knowledge

Intervention

The samples were selected considering inclusion & exclusion criteria. The researcher introduced herself to the subjects, assurance of confidentiality was given to the subjects and consent was obtained from them. Socio-demographic data was collected from each subject. Test was conducted by using questionnaire for all the participants.

Ethical consideration

The research study was conducted after the approval from the Maharashtra Institute of Nursing Science Latur. Permission from the hospital authority of selected hospital was taken. Assurance of confidentiality was given to the samples and consent was obtained from the samples.

Data Collection

After obtaining administrative permissions from hospital data was collected from 15/07/2022 to 27/07/2022

III. DATA ANALYSIS

The statistical analysis was made on the basis of objectives. The data analysis was planned to include descriptive and inferential statistics. The following was developed for data analysis on the basis of the opinion of experts. For the analysis of data frequencies and percentage was calculated.

IV. RESULTS

SECTION A: DESCRIPTION OF DATA BASED ON THEIR PERSONAL CHARACTERISTICS.

Table 1: Description of data based on their personal characteristics in terms of frequency and percentage **n=60**

		Samples	Frequency
Age	20 - 25 yrs	29	48%
	26 - 30 yrs	26	43%
	31 - 35 yrs	4	7%
	36 - 48 yrs	1	2%
Education	Illiterate	9	15%
	Primary education	33	55%
	Secondary education	14	23%
	Graduation and above	4	7%
Occupation	Private employee	33	55%
	Government employee	15	25%
	Unemployed	3	5%
	Home-maker	1	2%
	Daily wages	8	13%
Family Type	Nuclear family	34	57%
	Joint family	19	32%
	Single parent family	5	8%
	Extended family	2	3%
Monthly Income	Below 10000	31	52%
	10001 – 15000	17	28%
	15001 – 20000	4	7%
	20001 – 25001	8	13%
Gravida	Primi	44	73%
	Multi	16	27%

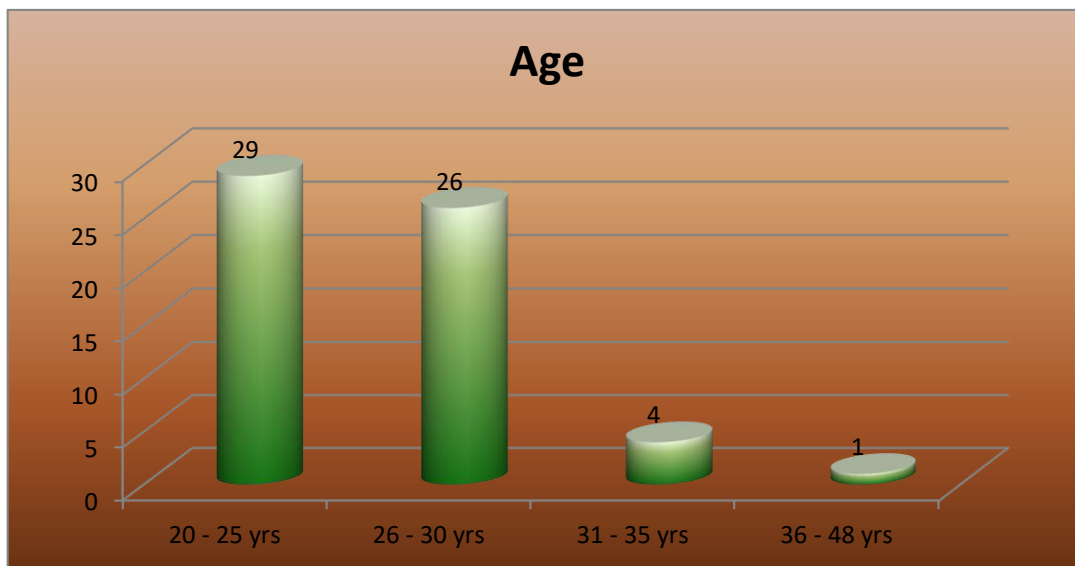


Figure 1: Bar diagram shows the description of samples based on their Age.

The data presented in the table 1 and figure 1 shows that, the age of antenatal mother varied from 20 to 48 years, Majority 29 (48%) antenatal mothers were aged between 20-25 year, followed by 26 (43%) were in the age group between 26 - 30 years and the least 1 (2%) of them aged between 36 - 48 years.

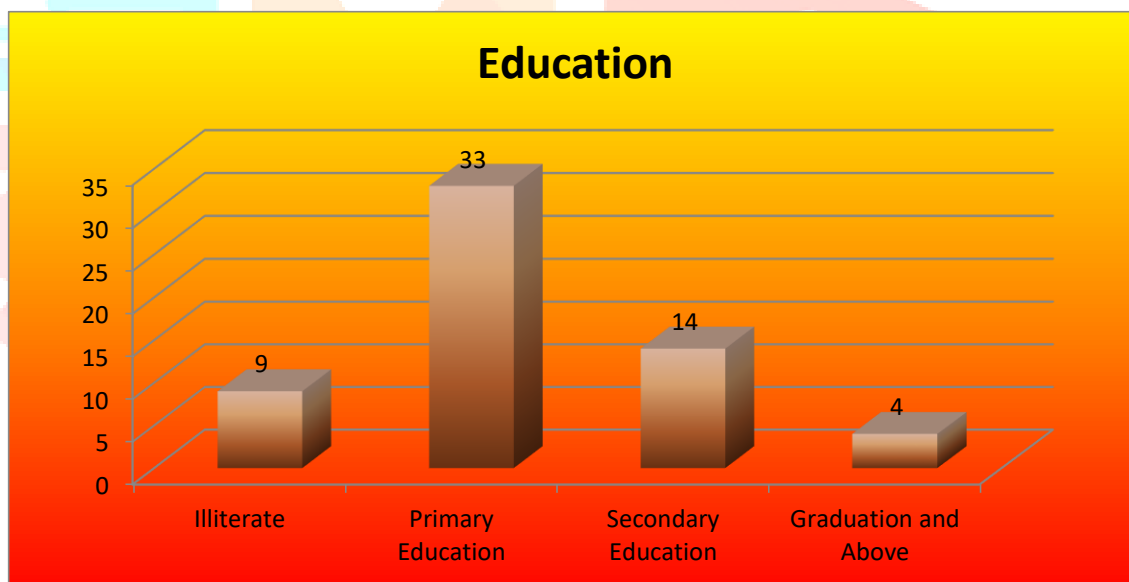


Figure 2: Bar diagram shows the description of samples based on their Education.

The data presented in the Table 1 and Figure 2 shows that, Maximum 33 (55%) Antenatal mothers had their education till primary school, followed by 14 (23%) were educated till secondary school, and least 4 (7%) of them had their education till graduation and above.

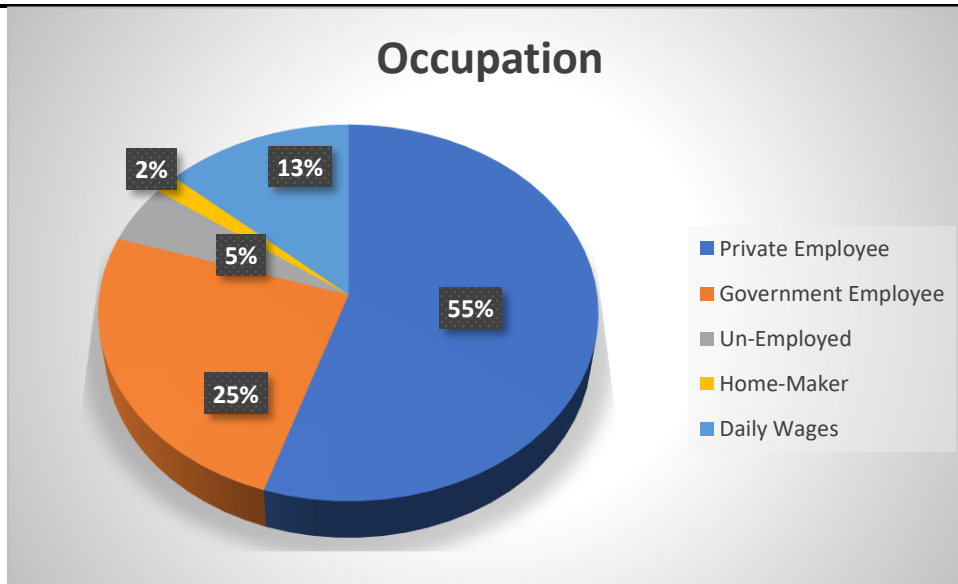


Figure 3: Pie diagram shows the description of samples based on their Occupation.

The data presented in Table -1 and Figure 3 depicts, Majority 33 (55%) of Antenatal mothers were Private employee, followed by 15 (25%) of Antenatal mothers were Government employee and least 1 (2%) were Home-Maker.

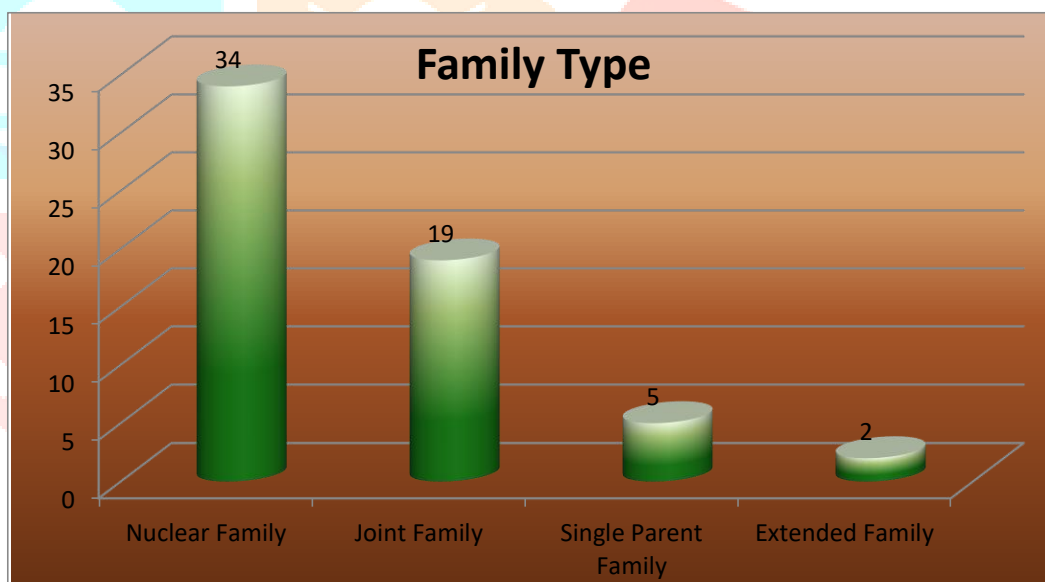


Figure 4: Bar diagram shows the description of samples based on their Family type.

The data presented in the table 1 and Figure 4 depicts that, in this study 34 (57%) of antenatal mothers belonged to nuclear family, 19 (32%) of them were from joint family, 5 (8%) of them belonged to single parent family, and least 2 (3%) were from Extended family.

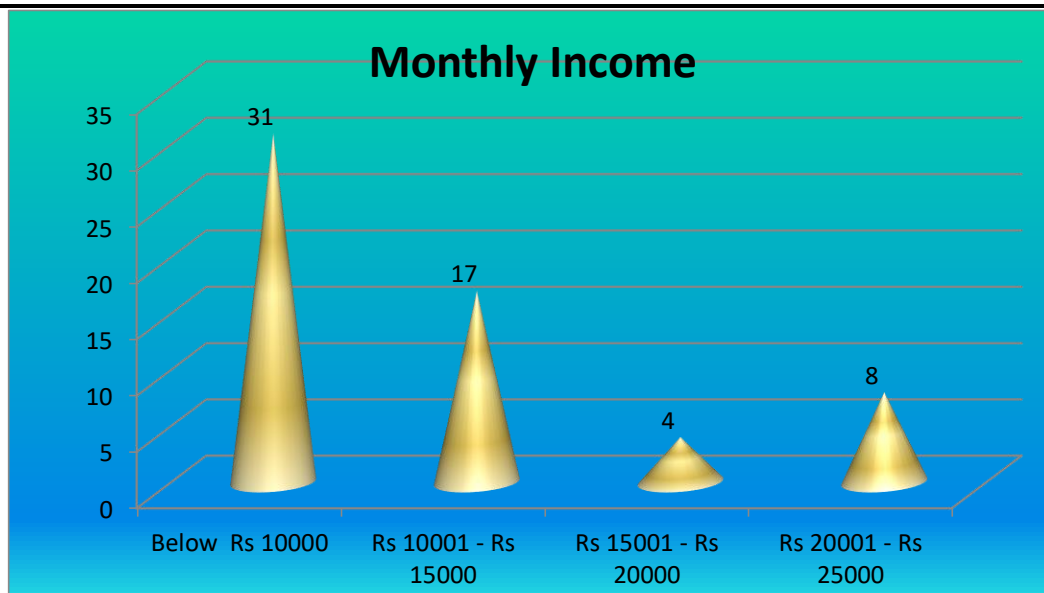


Figure 5: Bar diagram shows the description of samples based on their Monthly income.

The data presented in the table 1 and Figure 5 shows that, 31 (52%) of antenatal mothers had their family below Rs. 10000 per month income, followed by 17 (28%) of them had Rs. 10001-Rs.15000 per month as their family income, and least 4 (7%) had Rs. 15001-20000 per month as their family income.

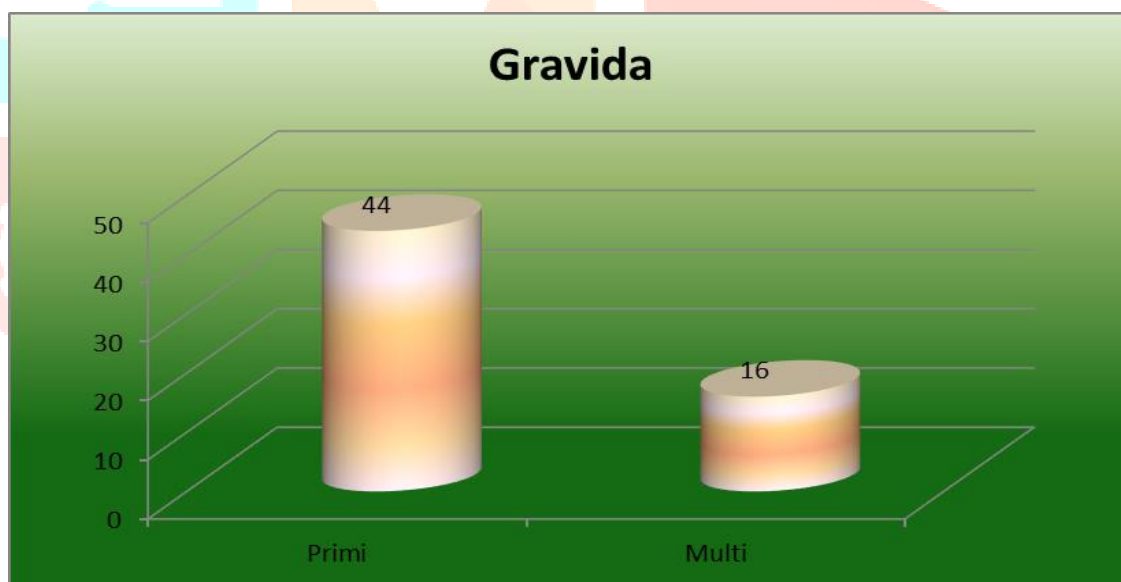


Figure 6: Bar diagram shows the description of samples based on their Gravida.

Figure 6 shows that, Majority 44 (73%) antenatal mothers were in primigravida and 16 (27%) of them were in multigravida.

SECTION B: Description of data based on their knowledge regarding IMPORTANCE OF Folic acid during Pregnancy among antenatal mothers.

a) TABLE 2: MEAN, MEDIAN AND STANDARD DEVIATION OF KNOWLEDGE OF ANTENATAL MOTHERS REGARDING IMPORTANCE OF FOLIC ACID DURING PREGNANCY

N= 60

Group	Mean	Median	Mode	Range	Std .Deviation	Std. Error of Mean
Antenatal Mothers	8.0167	7	7	3 -33	2.47353	0.31933

The data presented in Table -2 shows that the Mean knowledge score of Antenatal mothers was 8.0167 with standard deviation 2.47353, mode was 7 and Range was between 3-13.

B. TABLE 3: FREQUENCY, PERCENTAGE DISTRIBUTION OF KNOWLEDGE OF ANTENATAL MOTHER.

GROUP	KNOWLEDGE		
	INADEQUATE	ADEQUATE KNOWLEDGE	GOOD KNOWLEDGE
ANTENATAL MOTHERS	35	23	2

The data presented in the table – 3 and figure 7 shows that the knowledge scores of Antenatal mothers was majority 35 (58.33 %) had inadequate knowledge and 23 (38.33%) had adequate knowledge least 2 (3.33%) had good knowledge regarding importance of Folic acid during Pregnancy.

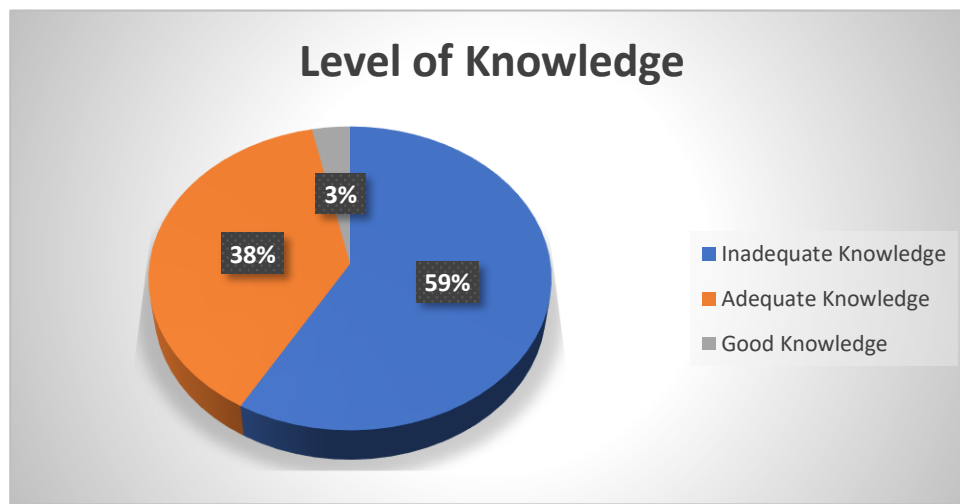


Figure 8: Pie diagram shows knowledge scores of Antenatal mothers

SECTION C: ASSOCIATION BETWEEN KNOWLEDGE OF ANTENATAL MOTHERS WITH SELECTED DEMOGRAPHIC VARIABLE.

TABLE 3: CHI SQUARE VALUES OF THE KNOWLEDGE OF ANTENATAL MOTHERS WITH SELECTED DEMOGRAPHIC VARIABLES.

		Knowledge			N=60			
		Inadequate	Adequate knowledge	Good knowledge	df	chi value	table value	significance
Age	20 - 25 yrs	17	12	0	6	5.528	5.35	S
	26 - 30 yrs	15	7	2				
	31 - 35 yrs	3	3	0				
	36 - 48 yrs	0	1	0				
Education	Illiterate	5	3	1	6	7.854	5.35	S
	primary education	17	16	0				
	secondary education	9	4	1				
	graduation and above	4	0	0				
Occupation	private employee	17	15	1	8	3.202	7.34	NS
	government employee	9	5	1				
	Unemployed	2	1	0				
	home-maker	1	0	0				

	daily wages	6	2	0				
Family Type	nuclear family	23	9	2	6	10.029	10.65	NS
	joint family	11	8	0				
	single parent family	1	4	0				
	extended family	0	2	0				
monthly income	below 10000	19	11	1	6	3.837	5.35	NS
	10001 – 15000	9	8	0				
	15001 – 20000	2	2	0				
	20001 – 25001	5	2	1				
Gravida	Primi	23	19	2	2	2.778	1.39	S
	Multi	12	4	0				

The data presented in the table no. 3 indicates that, there was significant association between Knowledge regarding Folic acid during Pregnancy among Antenatal mothers with their selected demographic variables such as Age, Education, Gravida at 0.05 level of significance. While other demographic variables were not found to be significant.

IV. CONCLUSION

From the results of study, it is evident that knowledge regarding folic acid among Primigravida mothers can have positive outcome during pregnancy.

V. RECOMMENDATIONS

Following study can be undertaken in relation to the present study.

- ❖ A similar study can be replicated by increasing the sample size, there by findings can be generalized.
- ❖ A comparative study can be done among primipara and multipara mothers
- ❖ A study can be done on association between various demographic variables, which will be significant on large samples.

VI. ACKNOWLEDGEMENT

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