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Knowledge and practices regarding prevention of iron deficiency anaemia among Primi Gravida women attending antenatal OPD at SMGS hospital GMC, Jammu: A prospective observational study

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Abstract
Background: Iron deficiency is the most prevalent nutritional deficiency all over the world. Globally, anemia affects 1.62 billion people (24.8%), among which 56 million (41.8%) are pregnant women. It is a major public health problem particularly among poorer segments of the population in developing countries where 95% of the world anemic pregnant women are residing.
Objective: To assess the knowledge and practices regarding prevention of iron deficiency anemia among primi gravida women attending antenatal OPD.
Methods: For the present study, Quantitative research approach was used. Descriptive research design was used to collect data from 100 primi gravida women. The research setting was OPD of SMGS hospital, GMC Jammu. The sample consisted of 100 primi gravida women. Purposive sampling technique was used to select the sample. Socio-demographic profile, a self structured questionnaire and a checklist was used to collect data.
Results: The results of the study revealed that that maximum of the primi gravida women 57(57%) were having average knowledge followed by 31(31%) were having poor knowledge and only 12(12%) were having good knowledge regarding prevention of iron deficiency anaemia. In regard to practices, the study showed that maximum of the primi gravida women 57(57%) were having poor practices followed by 43(43%) were having good practices regarding prevention of iron deficiency anaemia.
Conclusion: The study concluded that there is need to strengthening health education on anemia prevention during ANC follow up and preparations of brochures which describes symptoms, risks factors and ways of anemia preventions and distribute to every primi gravida mother during their visit to ANC clinic.

Keywords: iron deficiency Anemia, Primi Gravida, knowledge

1. Introduction

The women have different stages of lives and one such stage is pregnancy which is a special event in every womens' life and can be a joyful anticipation. But sometimes it can be a time of fear, suffering and death in case women begins pregnancy with low or absent stores of iron. The condition is known as anemia. It may be due to heavy menstrual period, a previous pregnancy, poor iron intake, substance abuse and increase fetal demands of iron in multiple pregnancy [1].

Anemia is the reduction in the quality of the oxygen carrying pigment, hemoglobin in the blood. It is one of the major health problems seen among females. When the number of RBCs is reduced or amount of hemoglobin in them is low, the blood cannot carry an adequate supply of oxygen. An inadequate supply of oxygen in the tissues produces the symptoms of anemia [2].

Iron deficiency is the most prevalent nutritional deficiency all over the world. According to the "State of the worlds' children", 1995, approximately 466 million women in the world suffer from iron-deficiency anemia. The most affected by iron deficiency anemia is South Asia where 75% of pregnant women of South Asia are anemic [3].

Globally, anemia affects 1.62 billion people (24.8%), among which 56 million (41.8%) are pregnant women. It is a major public health problem particularly among poorer segments of the population in developing countries where 95% of the world anemic pregnant women are residing. Iron deficient anemia of pregnancy is a reduction of the concentration of circulating hemoglobin below normal that occurs during pregnancy due to iron deficiency in a woman's body [4].

In Africa, 57.1% of the pregnant women were anemic. 17% of Ethiopian women in the reproductive age group are anemic and 22% of these women are currently pregnant. In Ethiopia, it has also been estimated that 62.7% of pregnant women were suffering from anemia and it is a severe public health problem. Geographically, those living in Asia and Africa are at the greatest risk [5, 6].

In developing countries like India, there are various causes that contribute to decreased adherence to iron supplementation including, misunderstanding of instructions, side effects, cultural beliefs, and inconvenient dosing regimens. In addition one may cite access to motivated and trained health professionals [7].

In India, anemia is more common up to 88% of pregnant and 74% of non pregnant women are affected. Throughout Africa, about

50% of pregnant and 40% of non pregnant women are anemic. West Africa is the most affected and Southern Africa the last. In Latin America and the Caribbean, prevalence of anemia in pregnant and non pregnant women are about 40% and 30% respectively. The highest levels are in the Caribbean reaching 60% in pregnant women on some islands [8].

Women with anaemia in pregnancy includes symptoms like fatigue, weakness, shortness of breath, reduced energy levels, and reduced mental performances and in cases of severe anemia it is associated with preterm birth, low birth weights and a small for gestational age fetus. Anemia is a silent epidemic which is a critical health concern [9].

According to some explorative studies the most important factors influencing compliance are: 1) lack of knowledge and appropriate attitude toward maternal anemia by both pregnant women and health care providers; 2) unstable home environment and undergoing stress; 3) reluctance in utilization of iron tablets, because of the unattractive features of the tablets and side effects. The most significant factors influencing compliance are the metallic taste of the tablets, epigastric discomfort and diarrhoea or constipation [10, 11].

Iron deficiency and specially the iron deficiency anemia remains one of the most severe and important nutritional deficiencies in the world today. Every age group is vulnerable. During pregnancy iron deficiency is associated with multiple adverse outcomes for both mother and infant including an increased risk of haemorrhage, sepsis, maternal mortality, perinatal mortality and low birth weight. It is estimated that nearly all women are to some degree iron deficient and that more than half of the pregnant women in developing countries suffer from anemia. Even in Industrialized countries, the iron stores of most pregnant women are considered to be deficient. Finally, as much as 30% impairment of physical work capacity and performance is reported in iron-deficient men and women. Programmes for the prevention of iron deficiency particularly iron supplementation for pregnant women are underway in 90 of 112 countries that reported to World Health Organisation in 1992 [12].

Most maternal deaths are preventable, as the health-care solutions to prevent or manage complications are well known. All women need access to antenatal care in pregnancy, skilled care during childbirth, and care and support in the weeks after childbirth. Success is highly dependent on the patient's ability to fully adhere to the prescribed treatment regimen.

School and Hediger in a Candem study have shown that women with iron deficiency anemia developed at the first trimester of pregnancy are three times more likely to deliver babies with low birth weight and two times more likely to have a pre-term delivery as compared to women with normal pregnancies or other anemias. According to this study iron deficiency anemia that develops in the second and third trimesters has little effect on these fetal outcomes, possibly, because relationships have been obscured by the difficulty to differentiate pathological anemia from physiological [13].

A descriptive study based on quantitative research approach conducted to assess the knowledge regarding anemia during pregnancy among 50 antenatal mothers selected by using non - probability convenient sampling technique at NMCH, Nellore. Data was collected by using structured questionnaire. The study revealed that majority of antenatal mothers 54% had satisfactory knowledge, 38% had poor and 8% has good knowledge score. Study concluded that mothers to be educated regarding anaemia [14].

A hospital based cross sectional study was employed in three public hospitals in West Shewa Zone, Etiopia to find out the level of knowledge and practice regarding prevention of anemia during pregnancy among women attending ANC. A total of 286 pregnant mothers were interviewed by using pretested structured questionnaire. Simple random sampling procedure was carried out to attain the required sample size. The results of the study revealed that only 57.3% had good knowledge and 50% had poor practice respectively regarding prevention of anemia during pregnancy. Crude and adjusted odds ratio done revealed that educational status, living in urban, having nuclear family type, previous history of anemia and good practice were significantly associated with knowledge, while educational status and having good knowledge also found to be significantly associated with prevention of anemia during pregnancy. Based on study findings, it was concluded that the policy makers should better consider those factors which contributed in prevention of anemia during pregnancy [15].

A descriptive study was conducted to assess the knowledge and attitude of pregnant women about iron deficiency anemia in Assist University Women Health Hospital, Egypt which included 400 pregnant women recruited during routine antenatal care in the antenatal clinic. Personal data, body math index, lab test, knowledge and attitude questionnaire were used to collect the data of women about anemia. The results of the study showed that 91.8% and 80.8% respectively of the studied women were housewives and from rural areas and 32.5% of them had iron deficiency anemia also 60% of participants had poor knowledge and 21.0% of them had negative attitudes about iron deficiency anemia with significant differences between knowledge of pregnant women and their age (p=0.003) and between attitude and level of education (P-value 0.011) also, between attitudes and anemia (p=0.000). The study recommended that health education should include antenatal care that focuses on intake of iron rich foods. The study recommended that the awareness of pregnant women should be raised about prevention of anemia through mass media [16].

A non-experimental descriptive study was conducted to assess the knowledge of 50 antenatal mothers regarding management of anemia during pregnancy in Yenepoya Medical College Hospital, Mangalore. The sample selected by using non probability purposive sampling technique. The data was collected by using pretested structured knowledge questionnaire. The results of the study revealed that maximum (54%) of the antenatal mothers had satisfactory knowledge followed by 38% had poor knowledge and only 8% had good knowledge regarding anemia during pregnancy. The study concluded that the overall knowledge in the study population was 29.9%. Hence, the researcher emphasizes the need for more research to improve the knowledge of antenatal mothers on anemia during pregnancy [17].

Objectives

- To assess the knowledge regarding prevention of iron deficiency anemia among primi gravida women attending antenatal OPD.
- To assess the practices regarding prevention of iron

deficiency anemia among primi gravida women attending antenatal OPD.
- To distribute informational pamphlets regarding prevention of iron deficiency anemia among primi gravida women attending antenatal OPD.

2. Methodology

For the present study, Quantitative research approach was used. Descriptive research design was used. The research setting was OPD of SMGS hospital, GMC Jammu. The sample consisted of 100 primi gravida mothers. Purposive sampling technique was used to select the sample. Prior to the data collection procedure the formal permission was obtained from the Medical Superintendent of the hospital. Socio-demographic profile, a structured knowledge questionnaire and a checklist was used to collect personal information. Data collection was done in July 2019.

Prior to interview the questionnaire to the subjects, investigator gave self-introduction and explained the purpose of gathering information. A good rapport was established with the subjects. They were assured that their responses will be kept confidential and the information will be used only for research purpose. Verbal consent was taken from subjects. The time taken by each respondent for filling the tool was average for 15-20 minutes. After collection of data information pamphlets distributed to them regarding prevention of iron deficiency anemia. The data gathered was analyzed and calculated by percentage, mean, standard deviation and chi-square.

3. Results

Demographic Characteristics

Table 1: Frequency and percentage distribution of sample characteristics **(**N=100)

S. no.	Demographic variables	Frequency (n)	Percentage (%)
1.	Age (in years)		
	25-30	58	58
	30 -35	34	34
	Above 35	08	08
2.	Religion		
	Hindu	79	79
	Sikh	10	10
	Muslim	08	08
	Christian	03	03
3.	Family income/month (Rs)		
	<20,000	11	11
	20,001-30,000	30	30
	30,001-40,000	31	31
	>40,000	28	28
4.	Residence		
	Rural	79	79
	Urban	21	21
5.	Occupation		\
	Unemployed	64	64
	Govt. Employee	12	12
	Private employee	11	11
	Daily laborer	13	13
6.	Education		
	Illiterate	14	14
	Primary	43	43
	Secondary	23	23
	Graduation & above	20	20

Table 1 reveals the frequency and percentage distribution of sample characteristics of the study subjects. Distribution of study subjects, according to age of the primi gravida women showed that maximum (58%) of were in the age group of 25-30 years, were hindus by religion having family income between Rs 30,000-40,000 were residing in rural area, were unemployed and had education up to primary level.

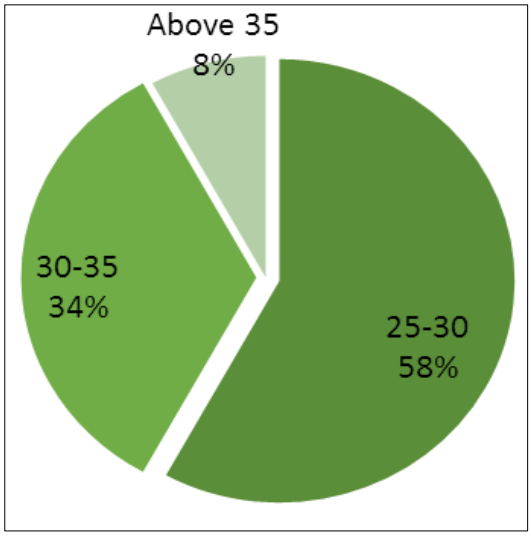

Fig 1: Percentage distribution of primi gravida women according to age (in years)

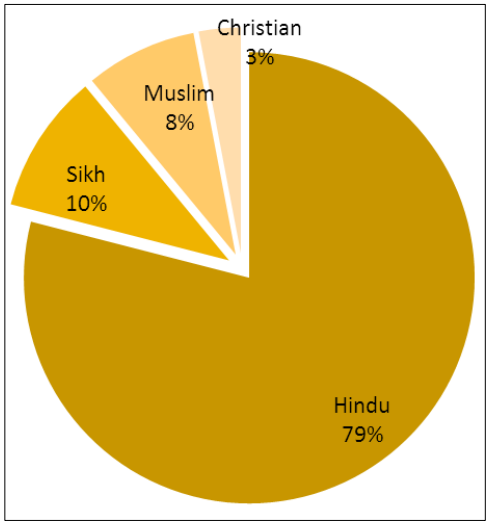

Fig 2: Percentage distribution of primi gravida women according to religion

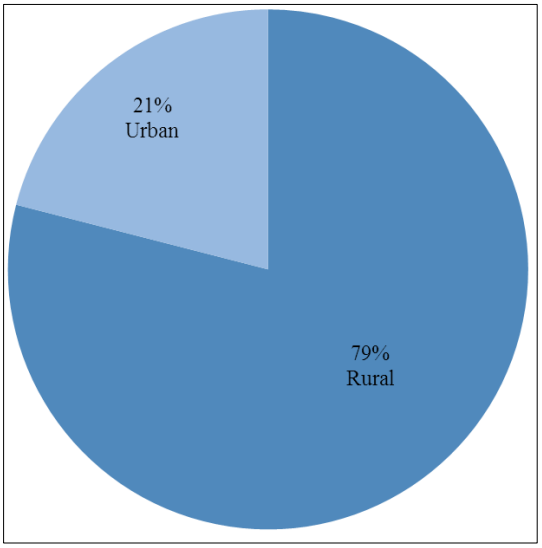

Fig 4: Percentage distribution of primi gravida women according to residence

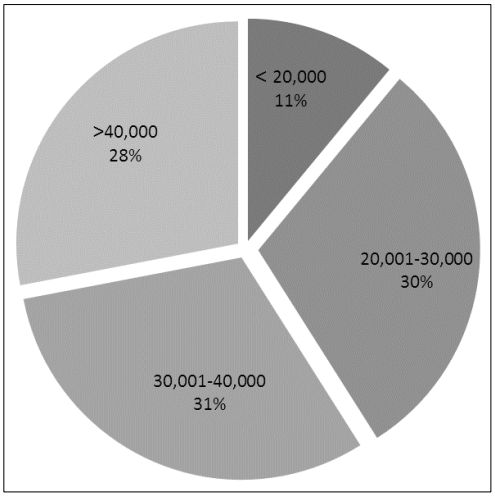

Fig 3: Percentage distribution of primi gravida women according to family income

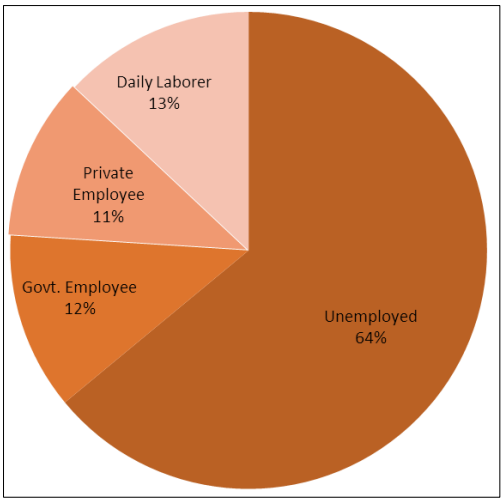

Fig 5: Percentage distribution of primi gravida women according to occupation

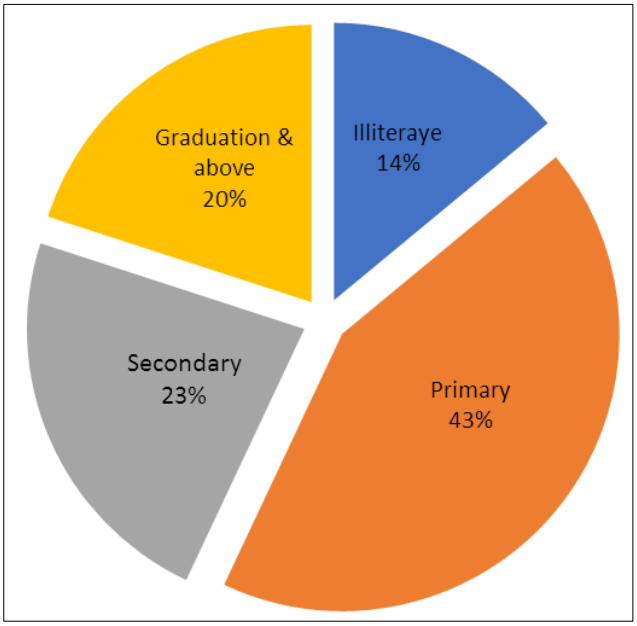

Fig 6: Percentage distribution of primi gravida women according to education

Objective 1: To assess the knowledge regarding prevention of iron deficiency anemia among primi gravida women attending antenatal OPD.

Table 2: Frequency and percentage distribution of knowledge regarding prevention of iron deficiency anemia among primi gravida women attending antenatal OPD (N=100)

Level of knowledge	Frequency(n)	Percentage (%)
Good (18-30%)	12	12.0
Average (13-17%)	57	57.0
Poor (0-12%)	31	31.0

Maximum score= 30, Minimum score = 0

Table 2 representing the frequency and percentage distribution of knowledge regarding prevention of iron deficiency anemia among primi gravida women which revealed that maximum of the primi gravida women 57(57%) were having average knowledge followed by 31(31%) were having poor knowledge and only 12(12%) were having good knowledge regarding prevention of iron deficiency anaemia.

Hence, it was concluded that maximum primi gravida women were having average knowledge regarding prevention of iron deficiency anaemia.

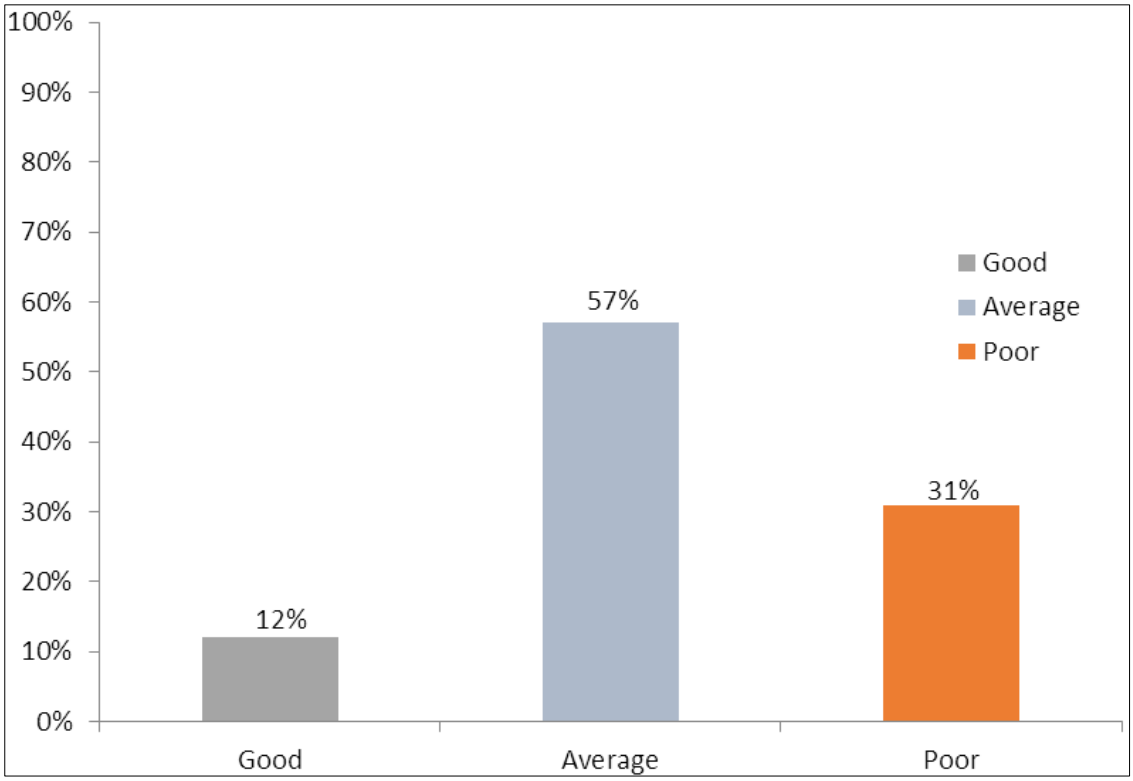

Fig 7: Frequency and percentage distribution of knowledge regarding prevention of iron deficiency anemia among primi gravida women attending antenatal OPD.

Objective 2: To assess the practices regarding prevention of iron deficiency anemia among primi gravida women attending antenatal OPD.

Table 3: Frequency and percentage distribution of practices regarding prevention of iron deficiency anemia among primi gravida women attending antenatal OPD (N=100)

Practice category	Frequency(n)	Percentage (%)
Good practice (> 50%)	43	43.0
Poor practice (<50%)	57	57.0

Maximum score= 30, Minimum score = 0

Table 3 representing the frequency and percentage distribution of practices regarding prevention of iron deficiency anemia among primi gravida women which revealed that maximum of the primi gravida women 57(57%) were having poor practices followed by 43(43%) were having good practices regarding prevention of iron deficiency anaemia.

Hence, it was concluded that maximum primi gravida women were having poor practices regarding prevention of iron deficiency anaemia.

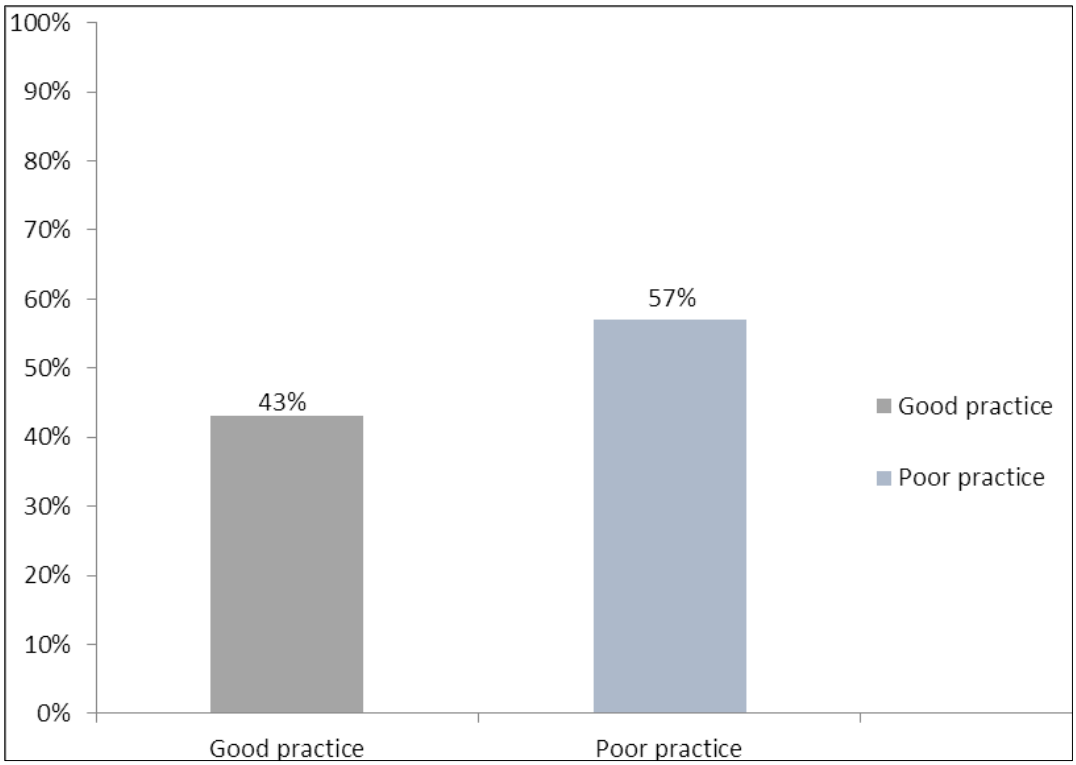

Fig 8: Frequency and percentage distribution of practices regarding prevention of iron deficiency anemia among primi gravida women attending antenatal OPD.

4. Discussion

Objective 1

To assess the knowledge regarding prevention of iron deficiency anemia among primi gravida women attending antenatal OPD.

The findings revealed frequency and percentage distribution of knowledge regarding prevention of iron deficiency anemia among primi gravida women which revealed that maximum of the primi gravida women 57(57%) were having average knowledge followed by 31(31%) were having poor knowledge and only 12(12%) were having good knowledge regarding prevention of iron deficiency anaemia.

It is consistent with a study conducted to assess the knowledge and practice of mothers regarding prevention of anemia during pregnancy in a teaching hospital Kathmandu. Convenient purposive sampling technique was adopted to collect the data from 197 pregnant mothers. The results of the study revealed that the majority 101 (51.3%) mothers had inadequate knowledge followed by 96 (48.7%) had adequate knowledge regarding prevention of anemia during pregnancy.[18]

Objective 2

To assess the practices regarding prevention of iron deficiency anemia among primi gravida women attending antenatal OPD.

The findings revealed frequency and percentage distribution of practices regarding prevention of iron deficiency anemia among primi gravida women which revealed that maximum of the primi gravida women 57(57%) were having poor practices followed by 43(43%) were having good practices regarding iron deficiency anaemia.

This is consistent with the study conducted to assess the knowledge, attitude and practice regarding prevention of iron deficiency anemia among 300 pregnant women in Tabuk region of Saudi Arabia.. The data collected by using purposive sampling technique. The results of the study showed that 48% and 40% had average and poor practices regarding iron deficiency anemia.[19].

5. Conclusion

- The study concluded that there is need to strengthening health education on anemia prevention during ANC follow up and preparations of brochures which describes symptoms, risks factors and ways of anemia preventions and distribute to every primi gravida mother during their visit to ANC clinic.
- All women should make aware about the multiple government sponsored facilities and that requires community, government as well as health care professional's participation.

6. Recommendations

1. Similar study can be under-taken on a large sample for

making more valid generalizations
2. Similar study can be conducted on different population in different setting.
3. An effect of structured teaching programme can be assessed regarding prevention of iron deficiency anaemia among primi gravida women.
4. A quasi-experimental study can be conducted regarding knowledge of iron deficiency anemia among primi gravida women.

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