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# A descriptive study to assess the knowledge regarding use of iron and folic acid among antenatal mothers in selected community area of district Kangra (H.P)

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**Abstract**
**Background:** There is a growing interest in the area of maternal and child health that is advocating for a focus on the periconceptional period to improve iron and folate status among childbearing aged women before pregnancy. An association between periconceptional folate supplementation and reduction in neural tube defects (NTDs) is already well-established (2021). For decades, public health programs have been promoting iron supplementation during pregnancy. Attention is now being given as to whether including periconceptional iron supplementation may complement iron supplementation during pregnancy to improve maternal and infant outcomes[1]. In 2007, the National Strategy for Anemia Prevention and Control in Bangladesh included adolescents and newly married women as important target groups for iron and folic acid (IFA) supplementation programs. This study is aimed at providing evidence –based research to inform decision making around periconception IFA programme in Bangladesh [2].
**Methodology:** A quantitative research approach and descriptive research design was adopted to conduct study. The non- probability purposive sampling techniques was used to select 100 antenatal mothers of selected community area of district Kangra H.P. A self-structured knowledge questionnaire was used to assess the level of knowledge of Antenatal mothers regarding use of iron and folic acid during pregnancy. Analysis of collected data was done according to the objectives of the study and data analyzed by using descriptive and inferential statistics.
**Result:** The study shows that, out of 100 antenatal mothers, about 46% were in the age group of 26--30 years, 45% antenatal mother were having secondary education, 88% antenatal mothers were residing in rural area, 82% antenatal mother were housewife, 43% antenatal mothers were having one baby, 51% antenatal mothers were having monthly family income of 10,000-20,000, 55% antenatal mother were vegetarian. The mean score was 14.41, the median score was 14, standard deviation was 2.80 and minimum and maximum score was 21 and 7. Range of knowledge score was 14 and mean percentage was 48.03%. Study finding revealed that out of all the selected sociodemographic variables, age and family income were associated with level of knowledge of antenatal mothers regarding use of iron and folic acid during pregnancy.
**Conclusion:** Antenatal mothers have less knowledge regarding the use of iron and folic acid.

**Keywords:** Folic acid, knowledge, antenatal mothers

## Introduction

Iron deficiency anemia (IDA), a type of microcytic and hypo chromic anemia, occurs when an individual's iron supply is lower than the physiological amount required for the production of hemoglobin (Hgb). Among other processes, Hgb is a key component of tissue oxygenation, cellular function, and cell development. Hemoglobin (Hgb) level indicates the amount of circulating Hgb proteins, which are attached to red blood cells (RBCs) and make up the body's usable form of iron. As one of the most severe and widespread nutritional deficiencies, IDA typically occurs when an individual's iron intake is insufficient or when there is a complication with absorption. Iron deficiency anemia (IDA) is classified as a hematologic disorder and is multifactorial in nature. Common causes of IDA vary in their

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potential for modification as they range from population demographics to lack of iron-rich foods [3].

The global percentage of children with anemia due to insufficient nutrition is 44% to 74%, with the highest rates being amongst preschool-aged children and infants. Children ages 2-11 years-old take in on average 11.5-13.7 mg/day of iron through food alone. Iron deficiency anemia (IDA) makes up a large percentage of the 79% anemic children in India between the ages of 6 months and 5 years. In addition, 50% of 10-19 year-old adolescents in India are anemic, with ID being the most prevalent cause (Chandra & Sahi, 2015). About half of all women aged 15-49 years are suspected to have ID and IDA. The average daily intake of iron through food and supplementation for men and women over 19 years of age ranges from 17.0-20.5 mg/day, with the largest amount taken in by men. Studies show that women who become pregnant within four years after menarche have even greater nutritional needs than adult women because of the significant growth that occurs in adolescence [4].

**Review of literature**

Asmamaw Demis Bizuneh and GedefawAzeze (2022), on anemia and conducted a cross sectional study to assess knowledge benefits of iron folic acid supplements among pregnant mother, in Woldias Town Northern Ethiopia. In this study systematic random sampling technique was used to select participants. Sample size was 414 pregnant mothers. In this study self structured questionnaire was used. The result shows that 54.1% and 57.7% of pregnant women had good knowledge of anemia and the benefit of iron and folic acid. The study concluded that the essentials strategies was used to raise knowledge of pregnant mother on anemia and benefits of iron and folic acids [5].

Pundkar (2017) conducted a case control study to assess the various socio demographic factors leading to anemia and also to assess the knowledge about anemia, Levak and Pandeglalg District (Banten Province) as well Puswakarta and Subang District of West Java Province, Indonesia. In this study simple Random Sampling technique was used to selected participant. Sample size was 308 pregnant female. In this study self structured questionnaire was used. The result shows that overall mean haemoglobin (Hb) was 11.55g/dL in controls, whereas it was seen that among the cases it was 9.58g/dL. The study concluded that significant association between Hb levels and age group, education level, family size, diet, gravida and parity [6].

**Materials and Methods:**

The study was undertaken to assess the knowledge regarding use of iron and folic acid during pregnancy among antenatal mothers in selected community areas of District, Kangra (H.P). The aim of study is to assess the knowledge of antenatal mothers regarding use of iron and folic acid during pregnancy. A quantitative approach was adopted for this study and descriptive research design is used. The Non probability purposive sampling technique is used to select the sample of study and investigation is done in antenatal mothers of selected areas of District Kangra H.P., during the period of data collection.

**Data collection procedure**

- Formal administrative permission was obtained from Principal of Guru Dronacharya College of nursing Yol Cantt H.P.
- The data was collected within the prescribed time period. Before starting the data collection, written permission has been taken from the concerned authorities i.e. Pradhan of rural area was Tang, Banwala, Kandered, Bankhandi, Behin. The purpose of the study was explained to the subjects and informed written consents were taken from them.
- The actual data was collected in the month of August from selected community of district kangra H.P. by using purposive non probability sampling technique and 100 people of community of kangra.

**Results**

**Table 1:** Demographic profile of the subjects

| | Opts | Percentage (%) | Frequency (f) |
|---|---|---|---|
| Age | 18-25 Years | 34.0% | 34 |
| | 26-30 Years | 46.0% | 46 |
| | 31-35 Years | 16.0% | 16 |
| | More Than 35 Years | 4.0% | 4 |
| Education of mother | Illiterate | 8.0% | 8 |
| | Primary Education | 33.0% | 33 |
| | Secondary Education | 45.0% | 45 |
| | Graduate | 14.0% | 14 |
| Place of Residence | Urban | 12.0% | 12 |
| | Rural | 88.0% | 88 |
| Occupation of Mother | House Wife | 82.0% | 82 |
| | Private Employee | 17.0% | 17 |
| | Government Employee | 1.0% | 1 |
| Number of Children | First Time Pregnant | 34.0% | 34 |
| | One Baby | 43.0% | 43 |
| | Two Baby | 22.0% | 22 |
| | More Than Two Baby | 1.0% | 1 |
| Family Monthly Income | Less Than 10000 | 23.0% | 23 |
| | 10000-20000 | 51.0% | 51 |
| | 20001-30000 | 21.0% | 21 |
| | More Than 30000 | 5.0% | 5 |
| Dietary Pattern | Vegetarian | 55.0% | 55 |
| | Non Vegetarian | 45.0% | 45 |

The data presented on table 1, depicted about frequency and percentage distribution regarding use of iron and folic acid during pregnancy among antenatal mother in selected community area according to their socio demographic variables. The inferences made are:

With respect to age, 46% antenatal mothers were in age group of 26-30 years, 34% were in 18-25 years, 16% were in 31-35 years, 4% were in >35 years.

According to education of antenatal mother, maximum knowledge regarding use of iron and folic acid during pregnancy among antenatal mothers, 45% were having secondary education, 33% were having primary education, 14% were having graduation and 8% were illiterate.

Regarding place of residence, majority of mothers, 88% were residing in rural areas and 12% were residing in urban area.

In accordance to occupation status of antenatal mothers, 82% of antenatal mothers were housewife, 17% antenatal mother were private employee, 1% antenatal mothers were government employee

According to number of children, 43% were having one baby, 34% were first time pregnant, 22% were having two babies, 1% were having more than two babies.

According to family monthly income, 51% were having income 10000-20000, 23% were having income less than 10000, 21% were having income 20001-30000, 5% were having income more than 30000.

According to dietary pattern, 55% of antenatal mothers were vegetarian, 45% of antenatal mothers were non-vegetarian.

**Table 2:** Frequency and percentage distribution of knowledge score among antenatal mother regarding use of iron and folic acid during pregnancy N=100

| Descriptive statistics | Mean | Median | S.D | Maximum | Minimum | Range | Mean % |
|---|---|---|---|---|---|---|---|
| Knowledge score | 14.41 | 14 | 2.80 | 21 | 7 | 14 | 48.03 |
| Maximum=30 | | | | | | | Minimum=0 |

Data presented in the table descriptive statistics of knowledge score of antenatal mothers show that mean was 14.41, mean% was 48.03, median was 14, S.D was 2.80, maximum was 21, minimum was 7, and range was 14.

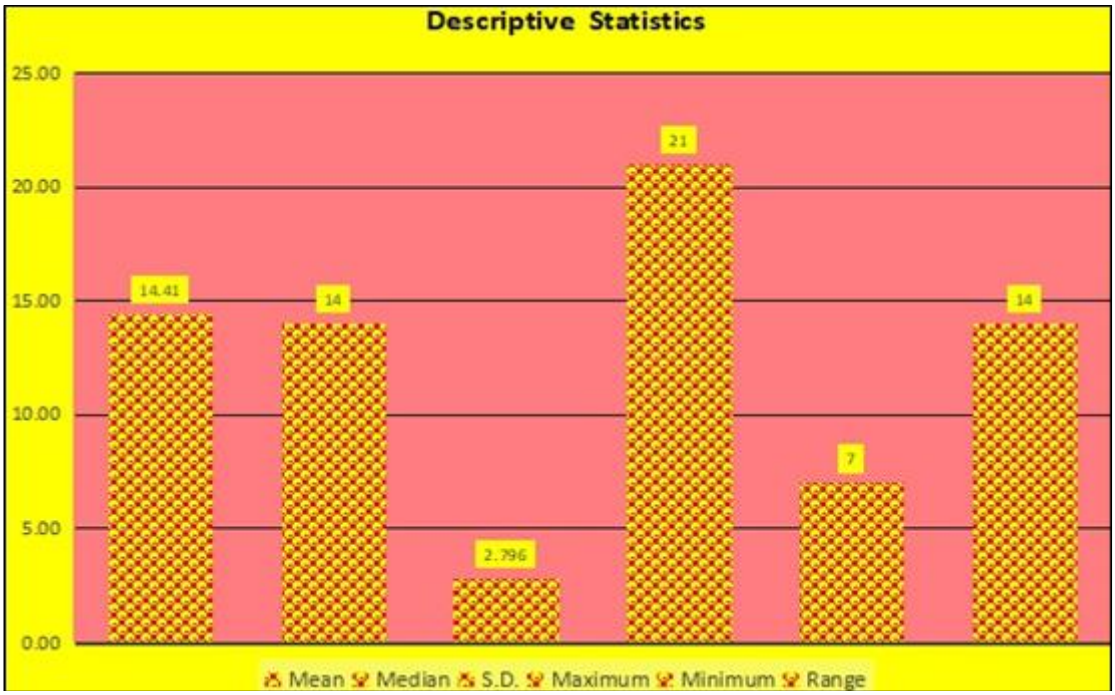


**Fig 1:** Conical Shaped diagram representing descriptive statistics level of knowledge

**Table 3:** Table showing association of scores and demographic variables

| Demographic data | | Levels of knowledge (n=100) | | | Association with knowledge score | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Variables | Opts | Adequate knowledge | Moderate knowledge | Inadequate knowledge | Chi Test | P Value | DF | Table Value | Result |
| Age | 18-25 Years | 0 | 25 | 9 | 43.284 | 0.000 | 6 | 12.592* | Significant |
| | 26-30 Years | 0 | 46 | 0 | | | | | |
| | 31-35 Years | 0 | 16 | 0 | | | | | |
| | More Than 35 Years | 1 | 3 | 0 | | | | | |
| Education of Mother | Illiterate | 0 | 6 | 2 | 7.700 | 0.261 | 6 | 12.592 | Not Significant |
| | Primary Education | 0 | 28 | 5 | | | | | |
| | Secondary Education | 1 | 43 | 1 | | | | | |
| | Graduate | 0 | 13 | 1 | | | | | |
| Place of Residence | Urban | 0 | 11 | 1 | 0.147 | 0.929 | 2 | 5.991 | Not Significant |
| | Rural | 1 | 79 | 8 | | | | | |
| Occupation of Mother | House Wife | 0 | 74 | 8 | 5.226 | 0.265 | 4 | 9.488 | Not |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Private Employee | 1 | 15 | 1 | | | | | Significant |
| | Government Employee | 0 | 1 | 0 | | | | | |
| Number of Children | First Time Pregnant | 0 | 29 | 5 | 3.690 | 0.719 | 6 | 12.592 | Not Significant |
| | One Baby | 1 | 40 | 2 | | | | | |
| | Two Baby | 0 | 20 | 2 | | | | | |
| | More Than Two Baby | 0 | 1 | 0 | | | | | |
| Family Monthly Income | Less Than 10000 | 0 | 14 | 9 | 52.155 | 0.000 | 6 | 12.592* | Significant |
| | 10000-20000 | 0 | 51 | 0 | | | | | |
| | 20001-30000 | 0 | 21 | 0 | | | | | |
| | More Than 30000 | 1 | 4 | 0 | | | | | |
| Dietary Pattern | Vegetarian | 1 | 49 | 5 | 0.831 | 0.660 | 2 | 5.991 | Not Significant |

The Chi-square value shows that there is significance association between the score level and Demographic variables (Age, Family Monthly Income). The calculated chi-square values were more than the table value at the 0.05 level of significance.

There is no significance association between the level of scores and other demographic variables (Education of Mother, Place of Residence, Occupation of Mother, Number of Children, Dietary Pattern.) The calculated chi-square values were less than the table value at the 0.05 level of significance.

## Discussion

The result of present study shows that the mean knowledge score 14.41, the median score is 14, the standard deviation score is 2.80 level of mothers in test score that the mothers.

Similar finding was also reported by "Asmamaw Demis Bizuneh and Gedefaw Azeze" their mean knowledge score was 14.41 and SD is 2.80 level of knowledge of mothers in the test showed that 1.0% of mother were heaving in adequate knowledge regarding use of iron and folic acid during pregnancy antenatal mother and 2% of mother were having adequate knowledge regarding use of iron and folic acid during pregnancy. Finding were consistent with the finding of Pundkar, *et al*., in which knowledge of antenatal mother regarding use if iron and folic acid during pregnancy reveals that 90.0% mother had moderate knowledge and 9.0% mother have inadequate knowledge. The present study finding also revealed that there was significant association of level of knowledge with educational status of mother, occupation of mother, family monthly income, number of child and they were found statistical significant at 0.05 level of significance. These variables have impact on knowledge regarding use of iron and folic acid during pregnancy among antenatal mother. These finding were consistent with the finding of Pusphao. Lokara, *et al*. that the calculated "P" value is 0.000 at 0.05 level significance. The finding on relationship of the selected variable of mother show there is significant association of religion and number of children of mothers.

## Conclusion

From the result of the study it was concluded that the antenatal mothers have less knowledge about use of iron and folic acid.

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