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Assess the knowledge and practices regarding the prevention of anemia among the antenatal mothers

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Abstract
Anemia in pregnancy is present when the haemoglobin concentration in the peripheral blood is 11gm/100ml or less. The occurrence of anemia is a widely recognised public health problems in developing country where the prevalence of anemia among pregnant women is average 56%, ranging between 35%- 100% among between regions of the world. The present study measures the knowledge and expressed practices of antenatal mothers regarding anemia.Tool for data collection was structured knowledge questionnaire containing of total 30 set of items to assess the level of knowledge and expressed practices checklist containing total 15 set of items to assess the expressed practices. Total 100 antenatal mothers were taken as a sample. Data was collected in community area (rural area) (Khera, Nanhera, shahpur), of Karnal, Haryana by using structured knowledge questionnaire and expressed practice checklist. The structured knowledge questionnaire consists of 5 categories related to anemia are Concept of Anemia, Menstrual Cycle, Complication of Anemia, Diagnosis of Anemia, Diet and expressed practices consists of individual questions. The reliability coefficient of tool for knowledge by Cronbach's Alpha was found to be 0.63 and expressed practices by Cohen's Kappa were found to be 0.7. Result of the study shows 28% of antenatal mothers have very good knowledge and 70% of antenatal mothers have moderate knowledge and 2.0% of antenatal mothers have adopted below average expressed practices regarding prevention of anemia.The study concluded that most of the women have less knowledge regarding prevention of anemia. For enhancement of knowledge and expressed practice regarding prevention of anemia i provide the structure teaching programme to the antenatal mothers.

Keywords: anemia, antenatal mothers, knowledge, expressed practices, haemoglobin

1. Introduction
Anemia is defined as when haemoglobin concentration in the peripheral blood is 11gm/100 ml or less. Normal range of haemoglobin concentration in women is 12.0-15.5 gm/dl. Normal range of haemoglobin concentration in men is 13.5-17.5gm/dl. Normal ranges for children vary with age and sex. Blood supply of oxygen to tissues and it carries oxygen from lungs to the tissues, and carbon dioxide from the tissues to the lungs for excretion. Immunological functions, including circulation of white blood cells. Blood regulates body pH and body temperature, and detection of foreign material by antibodies Blood carries nutrients from the alimentary tract to the tissues and also carries protective substances, e.g. antibodies, to the areas of infection. Blood also carries clotting factors that coagulate blood, minimizing bleeding from ruptured blood vessels. Blood makes up about 7% of our body weight and it is less in women and greater in children. Blood is composed of straw colored transparent fluid, i.e. plasma in which different type of cells such as erythrocytes, leukocytes, and thrombocytes are present. Plasma constitutes about 55% and cells about 45% of blood volume. About 55% of blood is blood plasma, a fluid that is the blood's liquid medium, which by itself is straw-yellow in color. The blood plasma volume totals of 2.7–3.0 liters in an average human. It is essentially anaqueus solution containing 92% water, 8% blood plasma proteins and trace amounts of other materials. Plasma circulates dissolved nutrients, such as glucose, fatty acids and removes waste products, such as carbon dioxide, urea and lactic acid. There are some of the constituents of plasma are such as, plasma proteins, inorganic salts, nutrients, waste materials, hormones and gases· The most important causes of anemia in pregnancy include nutritional iron deficiency, folic acid deficiency, cyan cobalamin and retinol, parasitic infections, haemolytic disease, bone marrow suppression, chronic blood loss, underlying fatigue, weakness, dizziness, reduced energy level, reduced mental performances and drowsiness etc. There are many types of anemia such as physiological anemia which is defined as increase in plasma volume up to 50%, RBC volume 33% and haemoglobin mass 18% to 20%. Iron deficiency defined as lack of iron in the body leading to reduction in the number of red blood cells, folate deficiency defined as abnormal production of large red blood cells that cannot function properly, abnormal bone marrow includes aplastic anemia, leukaemia and thalassemia etc. Anemia is a major public health problem during pregnancy associated with an increased risk of morbidity and mortality specifically in developing Asian company as India. ICMR survey showed that more than 70% of antenatal mothers in the country were suffering from anemia, while the NFHS 2 and 3 reported a competitively lower prevalence of 50% and 58% respectively. In contrast to this another study showed the prevalence as 84%. In 2003, ICMR reported that in India approximately 52% of women have some degree of anemia and 40% women in every subgroup of population are anemic. The studies of different parts of the world from industrialized countries show that 2.0% to 54.0% of pregnant women are having anemia which is a usually greater among developing countries 5.0% to 90.0%. In India

it has been reported to be in the range of 33.0% to 89.0% and is the second most common cause of maternal deaths accounting for 20% of total maternal deaths. In south Indian state like Karnataka, the prevalence of anemia among pregnant women is significantly higher in women above 26 years of age 97.7% and in those below class IV socioeconomic status 90.7%.

Material and Methods

Quamtitative research approach with non-experimental descriptive survey design was used and 100 antenatal mothere were selected by non-probability purposive sampling techniques the anenatal mothers 3 rural area of karnal. The reliability coefficient of tool for knowledge by Cronbach's Alpha was found to be 0.63 and expressed practices by Cohen's Kappa were found to be 0.7. Tool for data collection was structured knowledge questionnaire containing of total 30 set of items to assess the level of knowledge and expressed practices checklist containing total 15 set of items to assess the expressed practices.

Data Collection Procedures

Antenatal mothers were selected by non-probability convenient sampling techniques.Data was collected at selected three rural areas (Khera, Nanhera, and Shahpur) of Karnal, Haryana. Tools were administered to antenatal mothers and time taken by each subject was 25-30 minutes. The data collection procedure of the final study was carried out in the month of 18th March 2017 through structured knowledge questionnaire and expressed practices checklist using paper pencil technique.

Result and Discussion

The result of current study that majority of the antenatal mothers 70% had moderate (average) knowledge, 28% had good knowledge and 2% had below average knowledge regarding prevention of anemia.Similarly the findings of current study was consistent with the study conducted by Baby A Venugopal *et al*. The result shows that 38% had average knowledge and 8% had good knowledge about anemia during pregnancy. Present study reveals that 48% of antenatal mothers were following average expressed practices to prevent anemia in pregnancy. This study is supported by Maj Sivapriya S *et al*. To assess the knowledge and expressed practices of antenatal mothers regarding prevention of anemia shows that 50.3% of antenatal mothers were following average expressed practices to prevent anemia in pregnancy. The coefficient of correlation between knowledge and expressed practices scores obtained by antenatal mothers was 0.17 respectively suggestion there was positively negligible correlation between knowledge and expressed practices scores.Other finding reveals that there was partial association between knowledge and expressed practices scores with sample characteristics of antenatal mothers

Tables and Figures

53% of antenatal mothers were primi gravida and 47% of antenatal mothers were multi gravida. According to trimester 31% of antenatal mothers were in first trimester, 36% of antenatal mothers were in second trimester and 33% of antenatal mothers were in third trimester respectively. According to diet 86% of antenatal mothers were vegetarian and 14% of antenatal mothers were non- vegetarian. Maximum 96% of antenatal mothers were having knowledge about prevention of anemia and 4% of antenatal mothers were having no any information regarding anemia.

Table 1: Descriptive Statistics table

Descriptive Statistics	Mean	SD	Median	Maximum	Minimum	Range	Mean %
Knowledge Score	18.74	3.36	18.00	28	10	18	62.5
Maximum Score= 30	Minimum score = 0						

knowledge score is 18.74, Median in term of knowledge score is 18.00, mean percentage in term of knowledge score is 62.5%, standard deviation in term of knowledge score is 3.36, maximum score in term of knowledge is 28, Minimum score in term of knowledge is 10 and range in term of knowledge score is 18.

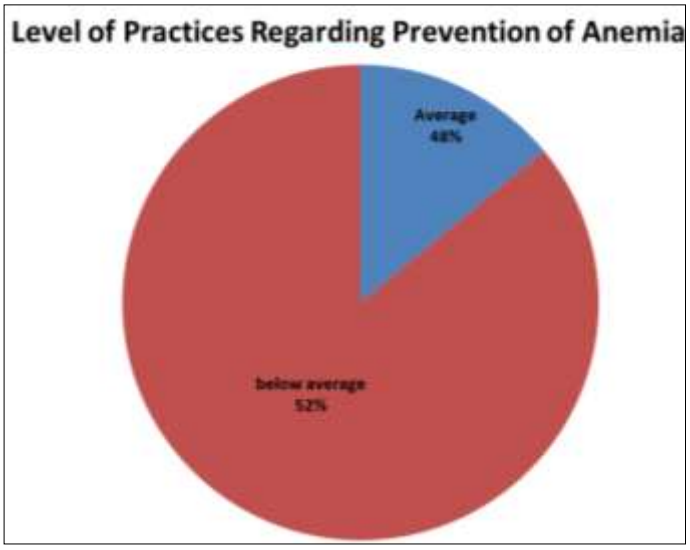

Fig 2: pie chart showing frequency and percentage distribution in terms of expressed practices regarding prevention of anemia among antenatal mothers.

Table 2: Correlation between knowledge and expressed practices score regarding prevention of anemia. N = 100

Score	Mean Score	P Value	Correlation Value	Table Value
Knowledge Scores	18.74	0.089	0.171	0.197 NS
Expressed Practices Scores	10.54			

$p<0.05^{*}$ (Significant) $p>0.05$ (NS = Non-Significant)

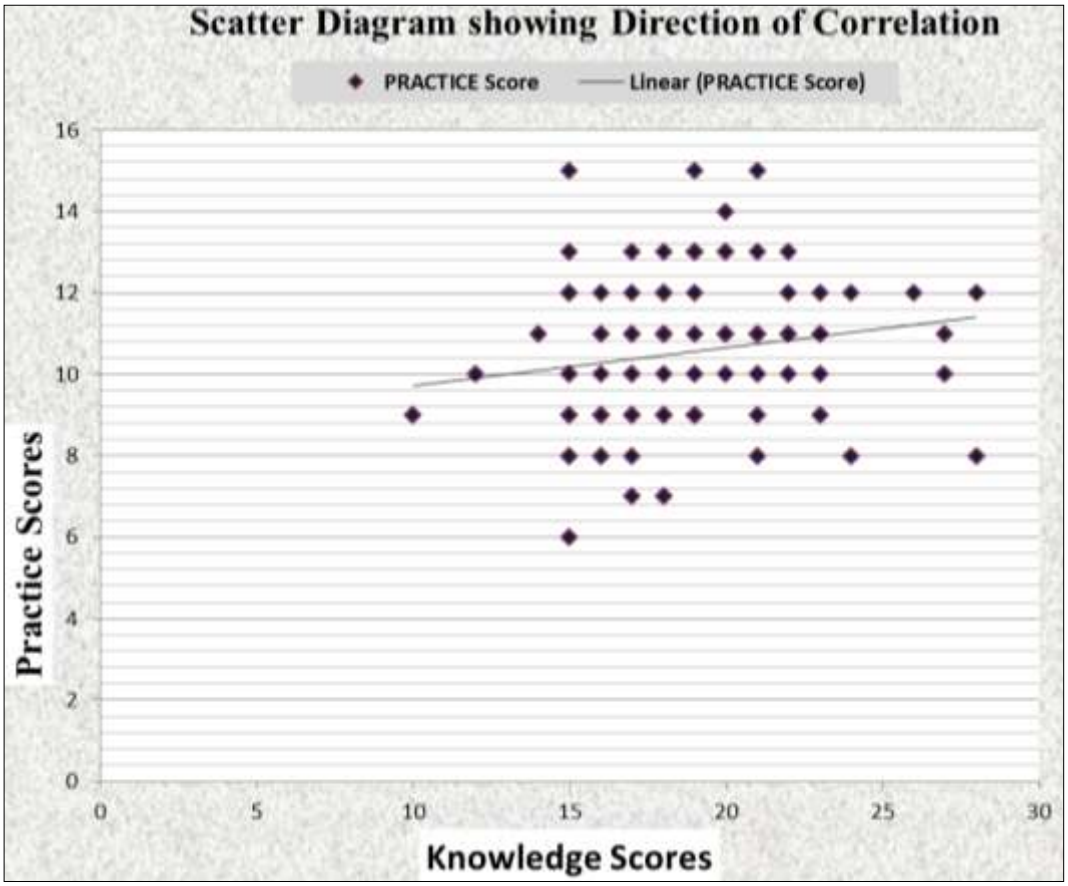

Fig 2: Scatter diagram showing the relationship of knowledge and expressed practices scores.

the coefficient of correlation knowledge and expressed practices scores was (0.17). there was a Positively Negligible Non- Significant Correlation (0.17) between the knowledge and expressed practices scores of antenatal mothers regarding prevention of anemia. Hence, research hypothesis H_1 was not accepted.

Table 3: Chi Square Value Showing Association between Knowledge Scores with Selected Sample Characteristics regarding Prevention of Anemia among Antenatal Mothers. N = 100

Sample Characteristics	Knowledge Scores	df	Chi Square		p value
	Above median	Below median			
Age (in years)					
19-24 `	3	1	3	1.12	0.77
25-29	25	22			
30-34	19	19			
35 and above	5	6			
Religion					
Hindu	40	42	3	3.67	0.29
Muslim	3	0			
Christian	5	4			
Others	4	2			
Educational Status					
Non- literate	2	4	3	3.37	0.33
Up to Primary education	5	1			
Up to Secondary Education	17	18			
Graduate and above	28	25			
Occupation					
Self-Employers	7	17	3	1.69	0.63
Private Job	6	5			
Government Job	3	1			
House wife	36	32			

Total monthly Income/month (Rs.)					
1000-5000	9	12	3	1.94	0.58
5001-10,000	15	9			
10,000-15,000	12	13			
Above 15,000	16	14			
Gravida					
Primi	26	27	1	0.39	0.53
More than two (Multi)	26	21			
Trimester of current pregnancy					
1st trimester	13	18	2	2.24	0.32
2nd trimester	19	17			
3rd trimester	20	13			
Dietary Pattern					
Vegetarian	41	45	1	4.60	0.03
Non- Vegetarian	11	3			
Any information regarding Anemia					
Yes	50	46	1	0.007	0.05
No	2	2			
If yes, source of information					
Through health worker	14	13	2	0.31	0.04
Through neighbourhood	2	3			
Through Media	**36**	**32**			

P<0.05* (*significant) p>0.05 (NS= Non-Significant)

Chi square value of the variables (Age, Religion, Educational status, Occupation, Total monthly income, Gravida, Trimester of current pregnancy) with knowledge score of antenatal mothers were found to be statistically non- significant at 0.05 level of significance indicating these variables had no association with knowledge score of antenatal mothers towards anemia. The computed chi square value of variable (Dietary pattern, any information regarding anemia, source of information regarding anemia) with knowledge score of mothers were found to be statically significant at 0.05 level of significance because computed value less than 0.05 level of significance. This data shows that the above variables directly affect the level of knowledge.

Table 4: Chi Square Value Showing Association between Expressed Practices Score with Selected Sample Characteristics Regarding Prevention of Anemia among Antenatal Mothers.

Sample Characteristics	**Expressed Practices Score**		**df**	**Chi Square**	**p value**
	Above median	**Below median**			
Age (in years)					
19-24 `	1	3	6	3.71	0.71Ns
25-29	13	34			
30-34	10	26			
35 and above	4	7			
Religion					
Hindu	27	53	6	6.81	0.33Ns
Muslim	0	3			
Christian	0	9			
Others	1	5			
Educational Status					
Non- literate	3	3	6	6.14	0.40Ns
Up to Primary education	2	4			
Up to Secondary Education	7	26			
Graduate and above	16	37			
Occupation					
Self-Employers	6	11	6	13.41	0.03*
Private Job	2	9			
Government Job	0	3			
House wife	20	47			
Total monthly Income/month (Rs.)					
1000-5000	6	13	6	8.18	0.18Ns
5001-10,000	5	19			
10,000-15,000	7	18			
Above 15,000	10	20			
Gravida					
Primi	15	37	2	0.01	0.03*
More than two (Multi)	13	33			
Trimester of current pregnancy					
1st trimester	11	20	4	5.27	0.26Ns
2nd trimester	10	24			

3rd trimester	1	26			
Dietary Pattern					
Vegetarian	41	45	1	4.60	0.03*
Non- Vegetarian	11				
Any information regarding Anemia		3			
Yes	28	66	2	1.78	0.40Ns
No	0	4			
If yes, source of information					
Through health worker	6	21	4	1.92	0.74Ns
Through neighbourhood	2	3			
Through Media	20	46			

P<0.05* (*significant) p>0.05 (NS= Non-Significant)

Table 4, this data revealed that the computed Chi Square value of the variables (Age, Religion, Educational status, Total monthly income, Trimester of current pregnancy, any information regarding anemia, Source of information) with expressed practices scores of antenatal mothers were found to be statically non-significant at 0.05 level of significance indicating these variables had no association with expressed practices score of antenatal mothers towards anemia.The computed Chi square value of variables (Occupation, Gravida, Dietary pattern) with expressed practices score of antenatal mothers were found to be statistically significant at 0.05 level of significance indicating these variables had association with expressed practices score of antenatal mothers towards anemia.

Conclusion

Antenatal mothers had moderate (average) knowledge, regarding prevention of anemia. Present study reveals that antenatal mothers were average expressed practices to prevent anemia in pregnancy. The coefficient of correlation between knowledge and expressed practices scores obtained by antenatal mothers was 0.17 respectively suggestion there was positively negligible correlation between knowledge and expressed practices scores. Other finding reveals that there was partial association between knowledge and expressed practices scores with sample characteristics of antenatal mothers. Nursing personnel must acquire skills in the assessment of the sign and symptoms of anemia which help them in early detection of the problem and plan the care accordingly. Nursing personnel's should focus on improving the clinical skills and competencies in history taking, clinical examination and assess of anemia cases in antenatal mothers and also act as a facilitator to educate antenatal mothers in identifying the symptoms of anemia.

Recommendations

The study can be replicated on a large sample; thereby findings can be generalized foe a large population. A similar study can be done during postnatal period, non-pregnant women to assess the knowledge and expressed practices of mothers regarding prevention of anemia. Educationa programs can be held for further improvement of knowledge and expressed practices of antenatal mothers regarding prevention of anemia. Health camps and seminars can be held for antenatal mothers for providing knowledge and makes them adopt better expressed practices.

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