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Original Research Article

Knowledge attitude and practices on prevention of anaemia among antenatal women

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ABSTRACT

Background: Iron Deficiency Anaemia in pregnancy is associated with intra uterine growth retardation, pre term labour, low birth weight baby and it also increases maternal and perinatal mortality.

Methods: This KAP study was conducted for six months. All the pregnant women attending the outpatient department of Sri Manakula Vinayagar medical college and hospital, were provided with a predesigned questionnaire by the principal investigator. Data was collected after obtaining consent from 167 patients regarding their knowledge, attitude and practices towards anaemia.

Results: In our study we found that women with age more than 25 years, advanced gestational age, educated participants and women belonging to higher socio-economic status showed adequate knowledge about anemia and its complications.

Conclusions: Health Education plays an important role, in creating awareness among antenatal women and by implementing this into practice will help in prevention of anaemia.

Keywords: Mortality, Morbidity, Anaemia, Pregnancy, Awareness

INTRODUCTION

Anaemia is considered as a significant health condition in India. It affects both maternal and fetal health.¹ According to WHO 40% of the pregnant women are anaemic. In India about 45.7% women in urban area and 52.1% women in rural area are anaemic during pregnancy.² Almost 20-40% of maternal death in India are due to anaemia.³ The most common cause for anaemia is due to nutritional deficiency. Iron deficiency anaemia (IDA) is found in almost 50% of the pregnant women in India.⁴ The aim of this study is to assess the knowledge, attitude and practices on prevention of anaemia in pregnant women there by improving both maternal and fetal outcome. Iron Deficiency Anaemia in pregnancy leads to palpitation, fatigue, breathlessness, headache for the mother and it is also associated with intra uterine growth retardation, pre term labour, low birth

weight baby. It also increases maternal and perinatal mortality.

METHODS

This KAP study was conducted for six months (March 2023 to August 2023). All the pregnant women attending the outpatient department of Sri Manakula Vinayagar Medical College and Hospital, were provided with a predesigned questionnaire by the principal investigator. Data was collected after obtaining consent from 167 patients regarding their knowledge, attitude and practices towards anaemia.

Study design

The study was a hospital based cross-sectional study.

Statistical data analysis

Analysis of the data was done using descriptive statistics and association between qualitative characteristics was calculated using chi square test. SPSS software version 3.01.

Inclusion and exclusion criteria

Inclusion criteria were; Age :18-40 years and Parity: Primigravida and Multigravida. The patient who had antepartum haemorrhage, pregnancy induced hypertension, chronic kidney disease, women with the history of blood transfusion in the previous year and hemoglobinopathies were excluded from the study.

Sample size

The sample size is calculated as 167 after considering the prevalence of anaemia among pregnant mothers to be 42.5%, absolute precision of 7.5% with 95% confidence interval (CI) calculated by Epi info version 3.5.4 from the previous study.⁵

Sampling technique

Antenatal mothers irrespective of their gestational age willing to participate in this study was included by systematic random sampling after obtaining consent.

Procedure

Pregnant women who are attending the antenatal clinic of the department of Obstetrics and Gynecology at Sri Manakula Vinayagar medical college and hospital, were administered with predesigned questionnaire. Questionnaire was administered by the principal investigator who is trained in administering the questionnaire after pilot testing and obtaining consent from the participant. Internal validity of the study was ensured by appropriate sample size calculation, sampling technique and administration of predesigned and pretested questionnaire.

RESULTS

Demographic details of the participants were collected in which the marital age of the patient, current age, area of residence, type of family, educational status of the patient and socio-economic status of the patient were calculated (Table 1). Detailed history was taken from the patient, in which 3 patients had history of anaemia in previous pregnancies for which blood transfusion was done, in our study anaemia was more in multiparous women (Table 2). In our study 4 % of women were in underweight category, and 15% of the patients were obese (Table 3).

Questionnaire was prepared to assess the knowledge level of the patients which showed the below mentioned findings (Table 4). Questionnaire was prepared to assess

the attitude of the patients towards anaemia which showed the below mentioned findings (Table 5).

Table 1: Demographic details of the antenatal mothers (n=167).

Variables	%
Marital age	
16-20	30
21-25	43
26-30	26
31-35	1
Current age	
18-20	9
21-25	35
26-30	42
31-35	14
Residence	
Rural	44
Urban	56
Family type	
Nuclear	43
Joint	57
Education	
<8 th standard	2
8 th -12 th standard	32
UG	48
PG	18
Socio economic status	
Lower	50
Middle class	44
Upper class	6

Questionnaire was prepared to assess the attitude of the patients towards anaemia which showed the below mentioned findings (Table 6).

Table 2: Details of medical and obstetric history.

Variables	N	%
Previous history of anaemia		
Yes	3	2
No	164	98
Gravida		
Primigravida	82	49
Gravida 2	44	26
Gravida 3	29	18
Gravida 4	10	6
Gravida 5	2	1
Trimester		
First	9	5
Second	62	37
Third	96	58

In our study, 138 of the participants showed adequate knowledge about anemia and its complications, among them the effect of age of the mother, gestational age,

educational status and socioeconomic status of the mother was proved statistically significant ($p < 0.05$).

Table 3: Details of BMI and haemoglobin level.

Variables	N	%
BMI		
<18.5	6	4
18.5-24.9	97	58
25-29.9	39	23
30-34.9	20	12
35-39.9	5	3
Haemoglobin level in grams		
<7	1	1
7-9	13	8
9-11	105	62
>11	48	29

It is shown that age >25 years, third trimester participants, educated participants and higher socio-economic status

Table 4: Percentage distribution of study subjects according to their knowledge (n=167).

Parameters	Correct response		Incomplete response		Wrong response	
	N	%	N	%	N	%
Have you heard about anaemia?	138	82	9	5	20	13
Signs and symptoms of anaemia	75	45	13	8	79	47
Causes of anaemia	60	36	16	10	91	54
Maternal and fetal complications	89	53	24	14	54	33
Do you know that anaemia decreases working capacity?	97	58	16	10	54	32
Test available to diagnose anaemia	98	58	20	12	49	30
Ways to prevent anaemia	105	63	20	12	42	25
Iron rich diet	138	83	8	5	21	12
Do you know that pregnant women should take iron tablet along with healthy diet	143	86	6	4	18	10
Foods which decreases iron absorption	30	18	26	16	111	66
Foods which increases iron absorption	51	31	21	13	95	66
Taking iron tablet with food reduces iron absorption	54	32	30	18	83	50
Iron tablets are available free of cost in government hospitals	149	89	8	5	10	6
Haemoglobin level during pregnancy	128	76	8	5	31	19
Iron tablet should be continued 6 weeks after delivery	104	62	12	8	31	30
Antenatal registration should be done within 3 months	116	69	10	6	41	25

Out of 167 women, 53% were aware about maternal and fetal complication due to anaemia. 63% were aware about the ways to prevent anaemia, 68% women knew that anaemia can be prevented, 77% women were aware that they should perform regular health checkup. 89% are compatible with iron tablet, all of them are related to the educational status of the patient. Based on the results, it can be concluded that majority of the women have good knowledge, neutral attitude and good practices towards prevention of anaemia in pregnancy.

Alflah et al found that the incidence of anaemia increases with parity, gestational age, short inter pregnancy interval

participants showed adequate knowledge about anemia and its complications. The following table provides results from the association between socio-demographic variables and knowledge of pregnant mothers about anemia and its complications (Table 7).

DISCUSSION

We enrolled 167 patients in our study. Majority of the women (42%) belongs to age group of 26-30 years. Most of them were from lower socio-economic status and joint family. The female literacy rate in India in 2022 is 70.30%.⁶ In our study 48% of the women were graduated. 5% women registered with us in first trimester, 37% women registered at second trimester, 58% women registered at third trimester. 2% of women had history of anaemia in previous pregnancy. 62% of women had mild anaemia, 8% had moderate anaemia, 1% had severe anaemia.

and low level of knowledge and income,⁷ our findings are conformity with this study. Alghamdi in his study insisted that educational intervention is must for women of reproductive age group and importance about anaemia should be stressed in the pre conceptional period itself.⁸ KAP study done by Theng et al concluded that women with high level of education had optimum knowledge level in his study.⁹

Anaemia is a major health problem in women of reproductive age group resulting in more complication during pregnancy. In India anaemia is found to be a major cause for maternal mortality and morbidity.⁴

Table 5: Attitude about anaemia in pregnancy.

Parameters	Correct response		Incomplete response		Wrong response	
	N	%	N	%	N	%
Anaemia in pregnancy causes serious problem	101	61	23	14	43	25
Spacing between pregnancy reduces anaemia	60	36	22	13	85	51
Pregnant women should have anaemia	40	24	27	16	100	60
Pregnant women should perform regular health checkup	129	77	10	6	28	17
Anaemia can be prevented	113	68	23	14	31	18
It is difficult to treat anaemia	43	26	40	24	84	50
Iron rich diet is important in pregnancy	129	77	9	5	29	18
Do you think you have anaemia	71	43	18	11	78	46

Table 6: Practice towards anaemia in pregnancy.

Parameters	Correct response		Incomplete response		Wrong response	
	N	%	N	%	N	%
Will you come for regular ANC visit	151	90	1	1	15	9
Do you take iron tablets daily	150	89	1	1	16	10
Do you take meat, fish, poultry	137	82	6	4	24	14
Do you take fruits containing vitamin C	139	83	11	7	17	10
Do you eat green leafy vegetables	155	93	4	3	8	4
Do you take dates & dry fruits	140	83	3	2	24	15
Drinking tea/coffee after diet leads to anaemia	53	32	29	18	85	50
Do you have difficulties in taking iron tablet	53	32	0	0	114	68

Table 7: Association between socio-demographic variables and knowledge of pregnant mothers about anaemia and its complications (n=167).

Variables	N (%)	Knowledge about anaemia and its complications, N (%)		P value
		Adequate (N=138)	Inadequate (N=29)	
Age of the mother				
16-25	73 (44)	48 (65.7)	25 (34.3)	<0.001
>25	94 (56)	90 (95.7)	4 (4.3)	
Place of residence				
Urban	73 (44)	63 (86.3)	10 (13.7)	0.33
Rural	94 (56)	75 (80)	19 (20)	
Gestational age of mother in weeks				
0-12	9 (5)	1 (11.1)	8 (88.9)	<0.001
13-28	62 (37)	51 (82.2)	11 (17.8)	
>29	96 (58)	86 (89.5)	10 (10.5)	
Family type				
Nuclear family	72 (43)	54 (75)	18 (25)	0.82
Joint family	95 (57)	84 (88.4)	11 (11.6)	
Educational status of mother				
<8 th standard	2 (2)	1 (50)	1 (50)	0.02
8 th -12 th standard	55 (32)	29 (53)	26 (47)	
UG	80 (48)	79 (99)	1 (1)	
PG	30 (18)	29 (99)	1 (1)	
Socioeconomic status (Modified BG Prasad)				
Lower	83 (50)	64 (77.1)	19 (22.9)	0.01
Middle class	73 (44)	64 (87.6)	9 (12.4)	
Upper class	11 (6)	10 (90)	1 (1)	
Previous history of anaemia				
Yes	3 (2)	2 (90)	1 (1)	0.23
No	164 (98)	136 (83)	28 (17)	

Studies have found that there is strong association between anaemia and educational status of the patients.¹⁰ Uncertainty regarding iron tablets is more among pregnant women which can be corrected by adequate education.¹¹

Limitations

Limitations of the current study were we could have enrolled more antenatal women in our study, so that the data would have provided much more information.

CONCLUSION

The incidence of anaemia in pregnancy keeps on increasing day by day, though pregnant women have positive attitude and adequate knowledge about anaemia yet there is lack in their practice, so every clinician should take responsibility to emphasize the importance of iron rich source during antenatal period.

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