

# **The Effectiveness of Planned Teaching Programme to Promote Knowledge and Attitude on Management of Anemia in Pregnancy among Antenatal Mothers in Selected Community Health Centers in Kerala**

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**ABSTRACT: Objectives:** To assess knowledge and attitude on management of anemia among antenatal mothers.

**Method:** Knowledge and attitude was assessed with the help of structured questionnaire. 200 samples were selected by adopting Non Probability Convenient sampling technique.

**Findings:** The study showed statistical significance ( $p < 0.001$ ) level. The overall Pre-Test knowledge score was it is evident that out of 200 antenatal mothers, 106(53%) have inadequate knowledge, 67(33.5) have moderate knowledge and the rest belong to adequate knowledge group. After the teaching programme the knowledge assessment showed 78.5% have adequate knowledge and the rest 21.5% belong to the moderate level and none were in the poor group. The paired "t" value is 23.524. The test is found to be significant with P-value  $< 0.001$ . In the Pre-test most of the mothers had negative attitude towards management of anemia that means 83.5% have negative attitude. After intervention it was seen that those with negative attitude also changed to positive resulting in 100% positive attitude sample. Also the mean post test score increased to 35.58 from 12.49. No association was found between attitude with age and educational status.

## **Limitation**

Generalisation of the study was limited in the samples only.

## **Conclusion:**

The mean pre-test knowledge and attitude score were inadequate. After exposure to the planned teaching programme on management of anemia, the mean post knowledge and attitude score were improved. It showed the effectiveness of planned teaching programme helps to improve the knowledge and creating a positive attitude on management of anemia in pregnancy.

**KEYWORDS:** Anemia, Effectiveness, Attitude, Planned Teaching Programme, Antenatal Mothers.

## **I. INTRODUCTION**

Anemia is one of the leading obstetrical cause of maternal and perinatal morbidity and mortality in the developing countries. As a cause it accounts directly for 20% maternal mortality and indirectly for 80%. In developing countries like India, anemia can be dealt by an attack on social and cultural factors like ignorance, low level of female literacy, low level of nutrition and poor environmental sanitation. It can be seen that anemia is not a disease, but a sign of underlying pathology which may be antecedent to conception (**Pankaj Desai, 2011**)

The occurrence of anemia as a major public health problem throughout the world is widely recognized. In developing countries, the prevalence of anemia among pregnant women was 56% ranging between 35 – 100% among different regions of the world. According to **WHO** 2007 the prevalence of anemia in Asian continent was 61%, India was 49.3%. According to **WHO** (2007) estimation 2000 million people all over the world is suffering with

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anemia, of these 500 million is women. In India 10 million out of 22 million pregnant women suffer from anemia, where as the incidence of anemia ranges between 20 – 30% in the middle income group. It is much higher in the lower income group that is 60% in the urban woman and 70% in rural women. In India the incidence of anemia among expectant mother is alarmingly high. Nutritional anemia is a serious problem in pregnancy which affect 60 – 70% pregnant women with the Hb level less than 10gm%. (Nursing And Midwifery Research Journal ,April 2008)

Anaemia remains to be major cause of maternal mortality and low birth weight in India . Moderate and severe anaemia is seen even among educated families and the higher income group . Pregnant women with Hb less than 8 g/dl constitute a high risk group . Seven states, Himachal Pradesh and Haryana in the North; Tamil Nadu and Kerala in the South; Assam and Orissa in the East and Madhya Pradesh in Central India were investigated. A total of 84 per cent pregnant and 92.2 per cent lactating women were anaemic with severe anaemia in 9.2 and 7.3 per cent respectively; 39.2 and 27.3 per cent in Madhya Pradesh, 14.4 and 8.6 per cent in Assam and 8.5 and 13.4 per cent in Haryana had severe anaemia in pregnancy and lactation, respectively . ICMR data in the same districts also reported 90.1 per cent adolescent girls with anaemia (7.3% having severe anaemia). ICMR district nutrition survey (1999-2000) reported prevalence of anaemia as 84.2 per cent with 13.1 per cent with severe anaemia in pregnancy. So, these findings suggest continuation of anaemia throughout life in women. (RCH INDIA 2008)

Anemia is a major health problem throughout the world, in that iron deficiency anemia is one of the commonest form of anemia. The prevalence of iron deficiency anemia is higher in developing countries like India, especially affecting toddler, adolescents and women of child bearing age (<http://www.women.ygoy.com/2008>)

## OBJECTIVES

- 1.To prepare and validate the Planned Teaching programme on management of anemia.
- 2.To assess the knowledge of mothers regarding Anemia in pregnancy.
- 3.To assess and compare mean pre-test and mean post-test knowledge score on management of anemia among samples.
- 4.To assess the attitude of mothers regarding Anemia in pregnancy.
- 5.To assess and compare mean pre-test and mean post-test attitude score on management of anemia among samples.
- 6.To find association on pre-test level of attitude on management of anemia among antenatal mothers and their selected demographic variables (age and educational status).

## II. MATERIALS AND METHOD

### 2.1. Research design

The research design selected for the present study was Pre-experimental design (One group pre-test and post-test design).

### 2.2. Settings:

The study was conducted in Nedumonkavu Community Health Center .

### 2.3. Sample

In this present study the sample consists of antenatal mothers in Nedumonkavu CHC.

### 2.4. Sampling technique and sample size

In this study non-probability convenient sampling method was used to select subjects as they fulfill the inclusion criteria. The total sample size consists of 200 antenatal mothers.

### 2.5. Data collection procedure

Data was collected from 25.08.2011 to 29.09.2011 for about 5 weeks in Nedumonkavu Community Health Center. Initially the researcher got informed written consent from the mothers after explaining the purpose of the study. Also giving assurance for keeping their information confidentially. The samples were selected by using Non Probability Convenient sampling technique. 200 mothers were selected as samples. To assess the pre test knowledge and attitude the questionnaire was administered. Planned Teaching Programme was given with adequate teaching aids and lasts for 40-45minutes. The method of teaching was Lecture Cum Discussion and Demonstration. Clarification were made after the session. Post-Test was conducted to assess the knowledge level and attitude after the teaching session. Data analysis was done by using descriptive and inferential statistics.

### 2.6. Data analysis

- The collected data analysed in terms of objectives of study by using descriptive and inferential statistics

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- Organized the data in a master sheet
- Frequencies and Percentage for the analysis of Demographic data
- Mean ,Standard Deviation and Range of Pre Test and Post Test scores.
- Computing the chi square to determine the association between the pre test level of attitude and their selected demographic variable.

## III. RESULTS AND DISCUSSION

### 3.1 Results

#### 3.1.1 Section-i

This section dealt with the details of analysis about the distribution of samples according to the frequency and percentage of samples

Table 4-1-Frequency and percentage distribution of samples based on demographic variables

Variables	Number	Percentage
Age(years)		
<20	25	12.5
20-25	125	67.5
26-30	27	13.5
31-35	13	6.5
Education		
Illiterate	0	0
Primary	0	0
Secondary	41	20.5
Higher secondary	99	49.5
UG/PG	60	30.0
Gestation (Weeks)		
12-15	20	10.0
16-19	8	4.0
20-23	32	16.0
24-27	55	27.5
28-30	85	42.5
Weeks which started haematanics		
4-7	0	0
8-11	7	3.5
12-15	179	89.5
16-19	7	3.5
20-23	7	3.5
Interpregnancy interval		
Primi	79	39.5
<1 year	21	10.5
1 year	0	0

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## 3.1.2 Section-ii

(a) Total percentage distribution of samples based on their pre test and post test knowledge level before and after the intervention.

The bar diagram deals with the details of the knowledge level before and after the intervention.

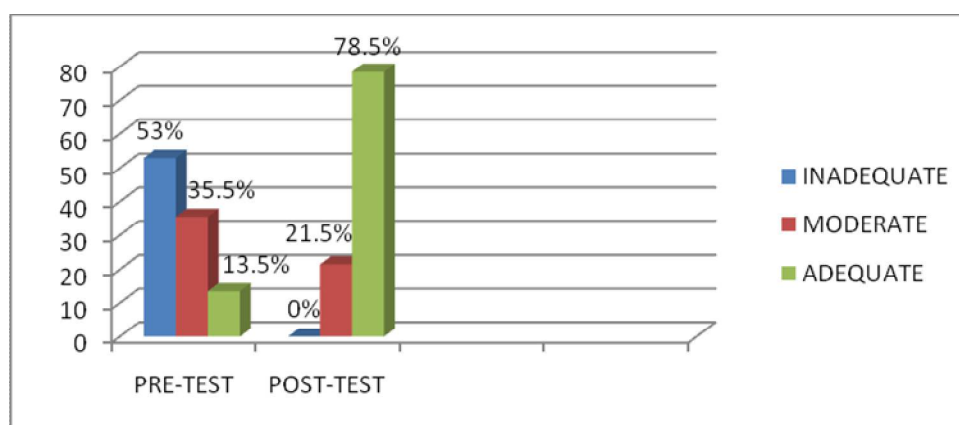


Fig-4:1 Bar diagram on pre test and post test knowledge score on management of anemia

Fig-4-1 shows that out of 200 samples, 53% have inadequate knowledge, 35.5% have moderate knowledge and the rest 13.5% belong to adequate knowledge group. After the teaching programme the knowledge assessment showed 78.5% have adequate knowledge and the rest 21.5% belong to the moderate level and none were in the inadequate group. Mean post test knowledge score is higher than the mean pre test score.

## SECTION-II (B)

MEAN, STANDARD DEVIATION AND 't' VALUE OF KNOWLEDGE ON MANAGEMENT OF ANEMIA..

Table 4-2: Mean, standard deviation, and paired 't' value of knowledge on management of anemia among samples  
n=200

Pre-test		Post-test		Paired 't' value	P-value
Mean	SD	Mean	SD		
6.02	2.643	12.46	2.658	23.524	<0.001

Table 4-2 reveals that the mean pre-test score was 6.02 with SD of 2.643. The mean post-test score was 12.46 with SD 2.648. The statistical hypothesis was checked by comparing the mean pre-test and post-test knowledge scores. In order to compare the knowledge score before and after intervention paired 't' test is applied. The paired "t" value is 23.524. The test is found to be significant with P-value < 0.001. Hence the teaching programme is effective in improving the knowledge.

## 3.1.3 Section-III

ASSESS AND COMPARE THE MEAN PRE TEST AND POST TEST ATTITUDE SCORE ON MANAGEMENT OF ANEMIA

## SECTION-III (a)

Total percentage distribution of samples based on their pre test and post test attitude.

The bar diagram deals with the details of the attitude of antenatal mothers on management of anemia.

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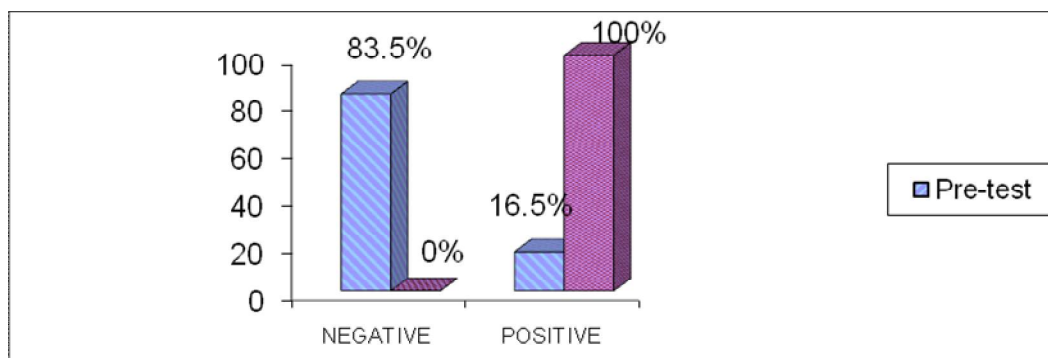


Fig-4:2Bar diagram on pre test and post test attitude score on management of anemia

Fig-4-2- Shows that in pre-test out of 200 samples 33(16.5%) had positive attitude and 167(83.5%) had negative attitude. In post-test out of 200 (100%)samples all of them had positive attitude.

## Section-III (b)

MEAN, STANDARD DEVIATION AND PAIRED 't' VALUE OF ATTITUDE ON MANAGEMENT OF ANEMIA.

Table 4-3 Mean,standard deviation and paired 't' value of attitude on management of anemia among samples.

n=200

Pre-test		Post-test		Paired 't' value	P-value
Mean	SD	Mean	SD		
12.49	4.830	35.58	1.109	67.526	<0.001

Table 4-3 reveals that the mean pre-test score was 12.49 with SD of 4.830. The mean post-test score was 35.58 with SD 1.109. The statistical hypothesis was checked by comparing the mean pre-test and post-test attitude scores. The paired 't' value were found significant at  $P < 0.001$ . This indicates that Planned Teaching Programme was highly effective to improve the attitude on management on anemia among antenatal mothers.

## 3.1.4 Section-IV

ASSOCIATION BETWEEN THE PRE-TEST LEVEL OF ATTITUDE ON MANAGEMENT OF ANEMIA WITH THEIR SELECTED DEMOGRAPHIC VARIABLES

This section deals with association between mean pre-test attitude score on management of anemia with their selected demographic variables. It was associated by using chi-square test. For a valid Chi-square test we have to avoid the cells with zero frequency, for that we clubbed the last two age groups 25-30 and 30-35. Similarly for educational level also clubbed the secondary with higher secondary. The cross tabulation analysis was employed effectively and the result of chi-square analysis was observed.

- Chi-Square value for pre-test level of attitude of samples on management of anemia and their age

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Table-4-4: Chi-Square value for pre-test level of attitude of samples on management of anemia and their age  
n=200

Age(yrs)		Attitude		Total	$\chi^2$	df	p-Value
		Negative	Positive				
<20	Number	19	6	25	1.328 (N.S)	2	0.567
	%	76.0%	24.0%	100.0%			
20-25	Number	115	20	135			
	%	85.2%	14.8%	100.0%			
25-35	Number	33	7	40			
	%	82.5%	17.5%	100.0%			
Total	Number	167	33	200			
	%	83.5%	16.5%	100.0%			

Non –Significant at 0.001 level

Data presented in table 4-4 revealed that the calculated chi-square value 1.328,degree of freedom 2 and p-value 0.567. Since the test is found to be not significant and there is no association between attitude and age. Hence alternative hypothesis was rejected and statistical hypothesis was accepted.

b)Chi-square value for association between pre-test level of attitude of samples and their educational status

Table-4-5: Chi-Square value for pre-test level of attitude of samples on management of anemia and their Educational status  
n=200

		Attitude		Total	$\chi^2$	Df	p-Value
		Negative	Positive				
Education level	Secondary/	120	20	140	1.661 (N.S)	1	0.198
	Higher						
secondary	Number	120	20	140			
	%	71.9%	60.6%	70.0%			
UG/PG	Number	47	13	60			
	%	28.1%	39.4%	30.0%			
Total	Number	167	33	200			
	%	100.0%	100.0%	100.0%			

Non –Significant at 0.001 levels

Data presented in table 4-5 revealed that the calculated chi-square value 1.661,degree of freedom 1 and p-value 0.198. Since the test is found to be not significant and there is no association between attitude and age. Hence alternative hypothesis was rejected and statistical hypothesis was accepted.

So the study to evaluate the effectiveness of planned teaching programme on management of anaemia in pregnancy has resulted in improving the knowledge and attitude among antenatal mothers in selected community health centers in kerala.



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## Discussion

In this study the knowledge score was assessed by using a structured questionnaire. It consists of 15 questionnaire. The total score is 15. Each correct answers got 1 point and wrong answers scores 0. The overall Pre-Test knowledge score was **it is evident** that out of 200 antenatal mothers, 106(53%) have inadequate knowledge, 67(33.5) have moderate knowledge and the rest belong to adequate knowledge group. After the teaching programme the knowledge assessment showed 78.5% have adequate knowledge and the rest 21.5% belong to the moderate level and none were in the poor group. Mean post test knowledge score is higher than the mean pre test score. The paired "t" value is 23.524. The test is found to be significant with P-value < 0.001. Hence the teaching programme is effective in improving the knowledge.

Jyothi Sain, Lily Podder (2007) conducted a study to determine the prevalence of anemia among antenatal mothers and evaluate a planned health education programme on prevention and management of anemia at Haryana, India. The research design is pretest post test control group design. Sample size is 100. The results shows 49% of mother had mild anemia and 51% had moderate anemia and the pretest knowledge score was 36.6% and the post test score was 83.85. Antenatal mothers who were exposed to planned health education programme had significantly higher knowledge and practice score than the antenatal mother who did not exposed to planned health education programme on prevention of management of anemia in pregnancy.

In this study the Pre Test attitude was assessed by using Likert's Scale on Management of anemia for 200 antenatal mothers in selected community health centers in Kerala. The attitude scale consists of 20 statement of which 10 statement are positive and 10 statement are negative. The maximum possible score was 40. In Pre Test 83.5% have negative attitude. After intervention it was seen that those with negative attitude also changed to positive resulting in 100% positive attitude sample. Also the mean post test score increased to 35.58 from 12.49. The statistical hypothesis was checked by comparing the mean pre-test and post-test attitude scores. The paired 't' (67.526) value were found significant at P<0.001. From this it is clearly understood that planned nursing intervention was helpful in improving the attitude of antenatal mothers on management of anemia.

The study was supported by Badruddin SH, Pasha. O (2008) conducted a study to assess the effect of teaching programme on anemia management in pregnant women living in an urban community setting in Pakistan. This was a pre-experimental study conducted among 1130 pregnant women. Pre-test was conducted about knowledge attitude and practice regarding the management of anemia. After the pre-test education programme given and the post-test results reveal a significant increase in knowledge (88%) attitude (84%) and practice (80%).

The statistical findings of association between attitude and age of the mother was found to be statistically not significant. [ $\chi^2$  value=1.328, p-value = 0.567 and df=2 at 0.001 level] It evidences that there is no statistical significance association of attitude and age of the mother.

The statistical findings of association between attitude and educational status of the mother was found to be statistically not significant. [ $\chi^2$  value=1.661, p-value = 0.198 and df=1 at 0.001 level] It evidences that there is no statistical significance association of attitude and educational status of the mother.

The study was supported by Dairo O, Lawolin T (2004) conducted a study on socio-demographic factors (age and educational status) associated with anemia in pregnancy at booking in Lagos, Nigeria. The sample size was 196 pregnant women. The statistical findings of association between attitude and age of the mother was found to be statistically not significant. [ $\chi^2$  value=0.63, Table value = 7.82 and df=3 at 0.05 level]. The statistical findings of association between attitude and educational status of the mother was found to be statistically not significant. [ $\chi^2$  value=1.53, Table value = 5.99 and df=2 at 0.05 level] It evidences that there is no statistical significance association of attitude with age and educational status of the mother.

## IV. CONCLUSION

We conclude that anemia is a significant problem of women. It needs new programme strategies, particularly those that control the large family size and improve the overall nutrition status of Pregnant women. This will require tailored programs across the socioeconomic groups and within both rural and urban areas. Problem of anemia is not difficult to treat but effort must be made to educate women and enhance their level of economic status. The approach of treating anemia should be an early approach so that it should not progress to severe stage. Hence it is important to know the aetiology of anemia and treat it accordingly. These findings also suggest that intervention

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for anemia should be directed at all members of the community. To improve the hemoglobin status of pregnant women through dietary modification along with preventive supplementation and nutrition education. All of these efforts would help to ensure safe motherhood and to achieve the relevant targets of the Millennium Development Goals.

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