ISSN 2091-2889 (Online)
ISSN 2091-2412 (Print)

Journal of Chitwan Medical College 2013; 3(5): 14-17
Available online at: www.jcmc.cmc.edu.np

ORIGINAL RESEARCH ARTICLE

KNOWLEDGE AND PRACTICE OF MOTHERS REGARDING THE PREVENTION OF ANEMIA DURING PREGNANCY, IN TEACHING HOSPITAL, KATHMANDU

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ABSTRACT

Iron deficiency anaemia is one of the main causes of anemia during pregnancy as it is associated with increased maternal and perinatal mortality and morbidity. A descriptive and cross-sectional study was carried out to assess the knowledge and practice of mothers regarding the prevention of anemia during pregnancy among mothers who delivered in Tribhuvan University Teaching Hospital (TUTH). Convenient purposive sampling technique was adopted and mothers were included in the study who delivered in TUTH during four weeks period of data collection. They were interviewed by administering semi structured questionnaire. Chi-square test was applied to assess the association between variables. The test result shows that there was significant association in level of knowledge to the educational status regarding prevention of anemia during pregnancy (p=0.002). Furthermore, the study also revealed that there was significant association between frequencies of antenatal care (ANC) visit to the level of knowledge (p=0.007) as well as level of practice (p=0.043) of mothers about prevention of anemia in pregnancy. From the result of the study, it is concluded that the majority of mothers had not adequate knowledge and poor practice regarding prevention of anemia during pregnancy.

Key Words: *Anemia, Mothers, Knowledge, Practice, Compliance and Iron Drug.*

INTRODUCTION

Iron deficiency anemia is a world-wide public health problem with the highest prevalence in developing countries. It is found especially among women of child-bearing age, young children and during pregnancy and lactating mother. [1] The most common causes of iron deficiency anemia (IDA) during pregnancy and postpartum are iron deficiency and acute blood loss. [2] Approximately 90% of cases of anemia in pregnancy are of the iron deficiency type. [3] Nepal Demography Health Survey (2011) shows that in Nepal, the prevalence of anemia in pregnant women is 48%, lactating mother 39% and reproductive age group women 33 percent. [4] In Asia, anemia is the second highest cause of maternal mortality. [5] The incidence of anemia in pregnancy ranges widely from 40-80% in the developing countries compared to 10-20% in the developed countries. Anemia is responsible for 20% of maternal death in developing countries. [6]

A study on "knowledge, attitude and practice of pregnant women in correlation with anemia" was conducted in India. It revealed that the lower knowledge about anemia in pregnant women increased risk 'five times' and the worse practice about prevention of anemia in pregnant women increased anemia risk 'six times'; so, the potential risk factors that indicated to increase anemia were knowledge and practices about anemia in pregnant mothers. Not many studies had been conducted on the knowledge and practice regarding prevention of anemia during pregnancy in Nepalese context. Therefore, the objective of the study was to study the knowledge and prevailing practices regarding prevention of anemia among mothers. [7]

MATERIALS AND METHODS

A descriptive, cross sectional design was applied in the study. The Maternity Ward of the Tribhuvan University Teaching Hospital (TUTH) was selected for the study. Convenient purposive sampling technique was adopted. All postnatal mothers during the data collection period, meeting the criteria and willing to participate in the study were selected. A semi structured interview schedule consisting of questions related to demographic information, knowledge and practice items related to prevention of anemia during pregnancy was developed by reviewing literature. The content validity of the instrument was established by seeking opinion of the subject matter expert and research advisor. The instrument was translated into Nepali language and opinion of the language expert was obtained for comprehensibility and simplicity of the language for consistency of the instrument.

Administrative approval was obtained from TUTH to conduct study in the Maternity ward. Data was collected by interviewing the eligible mothers between 17 December 2012 to 11 January

2013. All mothers who met the criteria, who were present during data collection period and who gave informed consent, were interviewed. In total, 197 mothers participated in the study. The mothers who delivered before term (less than 37 weeks), mothers who were mentally retarded and complicated cases such as pregnancy induced hypertension (PIH), pre-eclampsia, eclampsia and heart disease were excluded from the study.

The data was checked for completeness and consistency. The collected data was first edited, organized, coded and entered into Statistical Package for Social Science (SPSS) version 17. The collected data was analyzed by using both descriptive and inferential statistics. The data were presented in different tables. Chi-square test was applied to assess association between socio-demographic characteristics and knowledge as well as practice of mothers. Similarly, association between frequency of ANC visit and knowledge as well as practice of mothers was assessed.

RESULT AND DISCUSSION

Regarding the knowledge on causes of anemia during pregnancy, almost all of mothers (98%) know inadequate iron containing diet as the cause of anemia. Regarding the knowledge on sources of rich iron containing foods, more than two-third of the mothers (67.5%) said green leafy vegetables, followed by meat, fish, egg (49.2%).

About the preventive measures, near about three fourth of the mothers (76.7%) answered that iron containing foods should be taken, 72.1% stated the use of iron drug, 21.8% stated increase birth interval, 10.2% stated treatment of worms' infestation and 9.0% responded regular ANC visit as the preventive measures of anemia in pregnancy.

The result showed that the mothers' knowledge on the importance of iron drug, most of the respondents (96.4%) knew it is important to take during pregnancy. This finding result supports with a study conducted by Moradi et al. in Iran which revealed that 75.9% of pregnant women were aware about the reason of iron supplementary use during pregnancy.[8] About reasons of taking iron drug, more than three-fourth of the mothers (77.7%) knew the use of iron drug prevents from iron deficiency anemia, 75.6% stated decreasing the risk of low birth weight. Likewise, 48.2% answered fulfilling increased demand and 47.7% answered intake of iron drug can prevent complications during childbirth.

Regarding mothers' practice of ANC visit during pregnancy, most of the mothers (91.4%) visited 4 or more times and 8.6% visited less than 4 times for antenatal examination. This finding is higher than that of Nepal Demographic Health Survey (NDHS) 2011 which shows that 50% of pregnant women attend four or more antenatal visit during their entire pregnancy. [4]

It was found from the study; more than three fourth mothers (78.7%) took additional food during their last pregnancy. Regarding the types of food taken, more than half of the mothers (52.2%) had taken fruits as additional diet, similarly 29.2% had taken green vegetables, meat, egg and fish and 18.7% had taken green vegetables which are the rich sources of iron containing foods. This finding is consistent with the study conducted by Anitha in India in which dietary practices for the prevention of anemia were good. [9]

The study revealed that only 31% mother had taken deworming medication in their last pregnancy. This finding result is lower than that of NDHS (2011) which showed that 55% of women took deworming medication during their last pregnancy. [4]

Majority of mothers (83.2%) took iron drug from fourth month of pregnancy. This finding is consistent with a study conducted by Moradi et al in Iran which found 91% mothers used supplements containing iron after fourth month of pregnancy.

This study also revealed that only 76.1% mothers compliance with iron supplementation (80% or more prescribed course). This finding is higher than Nepal Demographic Health survey 2011 which revealed that only 38% pregnant women took complete course of iron tablet.4 This study was done in urban setting and most of the mothers were educated and in TUTH most of the mothers who delivered in the hospital was booked ANC cases and most of the mothers visited ANC visit four or more times. So, their intake of iron drug was good compared to national level.

Table 1: Distribution Respondents According to Level of Knowledge (n=197)

Level of knowledge	Number	Percent
Inadequate knowledge of mother	101	51.3
Adequate knowledge of mother	96	48.7

Mean ± SD = 16.46 ± 2.37
Minimum and maximum score = 11 - 23
Table 1 shows that more than half of the mothers (51.3%) had not adequate knowledge on prevention of anemia. This result is consistent with the study done by Bilenko et al in Israel which showed that 34% mothers had low level of knowledge regarding prevention of anemia. [10]

Table 2: Distribution of Respondents According to Level of Practice (n=197)

Level of Practice	Number	Percent
Poor practice of mother	130	66.0
Good practice of mother	67	34.0

Mean Score ± SD = 4.01 ± 1.049
Minimum and maximum Score =1 –6
In this study, it was found that the majority of mothers (66.0%) had poor practice for the prevention of anemia during pregnancy. This finding supports the study done by Mirzoyan in United State of America which revealed relatively high levels on attitude scores and low levels on knowledge and practice scores on the prevention of anemia in pregnancy.

Table 3: Association between Knowledge and Socio-demographic Characteristics (n=197)

Socio-demographic Characteristics	Knowledge			P Value
	Adequate	Inadequate	Total	
Age (Years)				**0.107**
Below 30	88(50.8%)	85(49.2%)	173	
30 or above	8(33.3%)	16(66.7%)	24	
Ethnicity				**0.100**
Brahmin, Chhetri, Newar	73(52.5%)	66(47.5%)	139	
Janajati, Teraibasi, Dalit	23(39.6%)	35(60.4%)	58	
Education				**0.002***
Secondary or more	83(56.1%)	65(43.9%)	148	
Primary	8(25.8%)	23(74.2%)	31	
Illiterate	5(27.7%)	13(72.3)	18	
Occupation				**0.480**
Agriculture, Housewife	73(47.4%)	81(52.6%)	154	
Service, Business	23(53.4%)	20(46.6%)	43	
Economic status				**0.762**
More than enough, enough for monthly expenditure	85(49.1%)	88(50.9%)	173	
Not more than enough for monthly expenditure	11(45.8%)	13(54.2%)	24	
Parity of mother				**0.129**
One children	62(53.1%)	53(46.9%)	115	
Two children	30(44.1%)	38(55.9%)	68	
Three or more children	4(28.6%)	10(71.4%)	14	

*P- value≤0.05 statistically significance (χ^2 test)

The study found that there was significant association between level of knowledge and educational status (p=0.002) at (p<0.05) level of significance. This finding supports the study done by Anitha in India the study result shows that there was significant relationship between educational status of mothers and level of knowledge on anemia prevention in pregnancy. [9]

It was found from the study that there was no significant association between practice and socio-demographic characteristics such as age of mothers, ethnicity, education, occupation, economic status and parity of mother.

Table 4: Association between frequency of ANC Visit and Level of knowledge (n=197)

Frequency of ANC visit	Knowledge		Total	P
	Adequate	Inadequate		
Less than 4 times	3(17.6%)	14(82.4%)	17	0.007*
Four or more times	93(51.6%)	87(48.4%)	180	

*P- value≤0.05 statistically significance (χ^2 test)

The study revealed that there was significant relationship between frequency of ANC visit and level of knowledge of mothers about prevention of anemia (p=0.007) at (p<0.05) level of significance.

Table 5: Association between frequency of ANC Visit and Level of Practice (n=197)

Frequency of ANC visit	Practice			P
	Good	Poor	Total	
Less than 4 times	2(11.7%)	15(88.3%)	17	0.043*
Four or more times	65(36.1%)	115(63.9%)	180	

*P- value≤0.05 statistically significance (χ^2 test)
It was also found that there was significant association between frequency the ANC visit and level of practice of mothers (p=0.043) at (p<0.05) level of significance.

CONCLUSION

Based on the study findings, it is concluded that majority of the mothers who delivered at Tribhuvan University Teaching hospital had not adequate knowledge for the prevention of anemia. Knowledge regarding causes of anemia, and ways of prevention of anemia and importance of taking iron drug during pregnancy seems to be satisfactory. Similarly, knowledge regarding sources of iron containing foods seems the lacking part. Among mothers have placed high importance for antenatal care and a large percentage had completed all four recommended ANC visit. Furthermore, majority of mothers did not have good practice for the prevention of anemia and most of the mothers knew well that the use of iron drug is important during pregnancy but all mothers had not taken complete course of iron drug during pregnancy. This study also found that fewer numbers of mothers had taken deworming medication in the second trimester of pregnancy.

Association was found between educational status and knowledge of mothers for the prevention of anemia during pregnancy. Mothers who have educational level of secondary or more, have adequate knowledge. It was also found that frequency of ANC visit was associated with knowledge as well as practice of mothers for the prevention of anemia.

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