



Knowledge And Attitude Towards The Prevention Of Iron Deficiency Anaemia Among Antenatal Clients In Tertiary Hospital In Port Harcourt

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ABSTRACT

This study assessed the knowledge, and attitude towards the Prevention of Iron Deficiency Anaemia among Antenatal Clients in Tertiary Hospital in Port Harcourt, Rivers State. A cross-sectional study design was employed with a study population which consisted of pregnant women attending antenatal care in (UPTH). A sample size of 175 was selected using simple random sampling method. A structured questionnaire was used for data collection and data was analyzed using statistical tools such as percentage and chi-square at 0.05 alpha level. The result of the study showed that, 125(76.7%) of the respondents had high level of knowledge about iron deficiency anaemia while 38(23.3%) had poor knowledge. The result showed that the grand mean of 2.73 ± 0.35 was greater than the criterion mean of 2.50 indicating that overall, the respondents had positive attitude towards the prevention of iron deficiency anaemia. The study recommended among others that, health talk on the prevention of iron deficiency anaemia should be maintained in the antenatal clinics by the health care workers.

Keywords: antenatal care, iron deficiency anaemia, pregnant women

INTRODUCTION

Iron Deficiency is considered the most common nutritional deficiency leading to anaemia, though other nutritional deficiencies can also cause anaemia, including deficiencies of vitamins A, B12, B6, C, D, and E, folate, riboflavin, copper, and zinc (Wieringa *et al.*, 2016). More than 50% of global anaemia cases are due to iron deficiency. The main contributing factors to iron-deficient anaemia include inadequate dietary intake and absorption, increased iron requirements and excessive iron losses, genetic defects, disease affecting blood cells or blood cell producing organs such as malaria, schistosomiasis, hookworm infection and HIV Infection (Pasricha, 2013; Stevens, 2013). According to World Health Organization (WHO 2011), Iron deficiency is the most common nutritional problem in the world that affects about 25% of the world population, especially women in the childbearing age. A pregnant woman needs to have more red blood cells to carry oxygen around her body and her baby, it is more common in pregnancy (Krafft, *et al.*, 2012). Iron deficiency anaemia (IDA) is a disorder characterized by a significant decrease of iron stores in the body as a result of extrinsic and intrinsic factors. This type of anaemia is hypochromic and microcytic. High- risk groups to Iron Deficiency Anaemia (IDA) are pregnant and lactating women, elderly adults, patients with a lot amount of blood loss, individuals with nutritionally-poor diets, infants, women of childbearing age and low socioeconomic status (Rome, *et al.*, 2014). Women who had more than three children, shorter birth spacing less than 2 years, a decrease of antenatal care visits, decrease

intake of vegetables, fruits and animal source and having intestinal parasites are positively at a high risk to anaemia (Shill, 2014).

Iron deficiency anaemia during pregnancy is accompanied with features caused by lowered oxygen delivery to the tissues that include pallor, fatigue, depression, fainting, breathlessness, emotional instability, palpitation, headaches and hair loss. Besides, chronic Iron Deficiency Anaemia lowers the quality of life, work tolerance and productivity (Abbaspour, et al.2014, Balarajan, et al. 2011). Iron deficiency anaemia has a major impact on the health of the woman and her foetus, it also affects cognitive and motor development (Kozuki, Lee, & Katz, 2012). Moreover, it may be associated with a low birth weight of the foetus, premature labour, intrauterine growth retardation, and increased risk of maternal and prenatal mortality. An analysis of National Health and Nutrition Examinations Survey (NHANES) epidemiological data from the USA from 1999-2006 demonstrated an overall prevalence of IDA of nearly 18.0%. Iron deficiency was shown to increase from 6.9% to 14.3% to 28.4% across the three trimesters during pregnancy (Mei, et al, 2011). In the UK, a multicentre cross-sectional study estimated a 24.4% prevalence of maternal anaemia at some stage of the antenatal period (Barroso, et al, 2011).

The knowledge and practices of women towards the preventing iron deficiency anaemia may differ with an individual woman and their level of education (Myrada, 2010). In the absence of proper KAP, pregnant women may not have enough information about healthy living and eating habit, their medication, including the dosage regimen, side effects or a missed dose. Lack of information may compel them not to take the medication in the way it was intended, which in turn may result in therapeutic failure, adverse effects, additional expenditure on investigations and treatment, and even hospitalization (Devkota et al., 2017). A study revealed that anaemia can be prevented and controlled in pregnancy by improvement in knowledge and practice in diet and prophylactic treatment by iron-folic treatment, improvement in diet and treatment of worm infestation and malaria (Rao, 2005). Adequate Maternal knowledge of anaemia may encourage women to take iron supplements during pregnancy and after childbirth.

A systemic review suggests that an inadequate amount of research relevant to iron deficiency anaemia in pregnancy has been undertaken in Nigeria (Ugwu & Uneke, 2020). In Nigeria anaemia in pregnancy is a common problem with iron deficiency anaemia as the commonest cause. The review shows that the prevalence of iron deficiency anaemia among pregnant women in Nigeria is still high, ranging from 25% to 45.6%.

Pregnant women attending antenatal clinics in Nigeria are routinely put on iron supplementation throughout their pregnancy. However, the prevalence of anaemia among pregnant women is still high. Also, study conducted by Ogu and Ikimalo (2018) shows that about 73.5% of women at booking were anaemic as against 47.9%, at delivery which was probably due to iron supplementation and education during the period of ante-natal care. Adequate Maternal knowledge of anaemia may encourage women to take iron supplements during pregnancy and after childbirth. It has been observed that some pregnant women do not come back for a refill of their routine drugs during antenatal visit while others due to lack of adequate information and finance have turned to the use of herbal medicines such as 'Hospital too far', a local herb with no known scientific proof of its benefit as a means of boosting blood level. These and other factors could be the reason for the increase. It is therefore important for women to be aware of the risk and preventive measures of iron deficiency anaemia as it poses a great danger to the mother and the foetus. Pregnant women knowledge about iron deficiency anaemia and its risk to the foetus is very important as it can be a barrier factor or motivational factor on practice on prevention and iron supplement intake (Gowri, & Palanivel, 2017). Thus it is important for the researcher to carry out a study to find out the knowledge and attitude towards the prevention of iron deficiency anaemia in tertiary hospitals in Port Harcourt, Rivers State.

Research questions

The following research questions were stated to guide the study:

1. What is the level of knowledge on the prevention of iron deficiency anaemia among pregnant women attending the ante-natal clinic at the University of Port Harcourt Teaching Hospital?
2. What is the attitude on the prevention of iron deficiency anaemia among pregnant women attending the ante-natal clinic at the University of Port Harcourt Teaching Hospital?

3. What is the relationship between pregnant women knowledge of Iron deficiency anaemia and the prevention of Iron deficiency anaemia?
4. What is the relationship between attitude of pregnant women towards Iron deficiency anaemia and the prevention of Iron deficiency anaemia?

Hypotheses

The following hypotheses were tested at 0.05 alpha level:

1. There is no significant relationship between pregnant women knowledge of Iron deficiency anaemia and the prevention of Iron deficiency anaemia.
2. There is no significant relationship between attitude of pregnant women towards Iron deficiency anaemia and the prevention of Iron deficiency anaemia.

METHODOLOGY

The cross-sectional research design was adopted with a study population which consisted of all pregnant women attending antenatal care (ANC) in the University of Port Harcourt Teaching Hospital, Rivers State during the time of the study. On average a total of 110 new mothers and 790 follow-up cases were seen at the antenatal clinic on a monthly bases. A sample size of 175 mothers were selected using the simple random sampling technique. Data was collected using a structured questionnaire with a reliability coefficient of 0.84. Data collected were analyzed using the IBM Statistical Product for Service Solution (SPSS V-25). Statistical tools such as frequency, percentage, mean and Chi-square at 0.05 level of significance.

RESULTS

The results of the study are presented below:

Table 1: Knowledge of respondents on iron deficiency anaemia (n=163)

Variable	Frequency (n)	Percent (%)
Ever heard about iron deficiency anaemia		
Yes	145	89.0
No	18	11.0
Iron deficiency anaemia increases with pregnancy		
Yes	132	81.0
No	31	19.0
Signs and symptoms of IDA		
Fatigue	133	81.6
Loss of appetite	135	82.8
Dizziness	156	95.7
Shortness of breath	136	83.4
Weakness	159	97.5
Pale skin	37	22.7
Causes of IDA		
Poor nutrition	159	97.5
Bleeding during pregnancy	134	82.2
Multiple pregnancy	11	6.7
No spacing between births	159	97.5
Effects of IDA on mothers		
Postpartum haemorrhage	133	81.6
Low birth weight	159	97.5
Susceptible to infection	10	6.1
Foetal death	161	98.8
Abortion	10	6.1
Complication during birth	135	82.8
Effects of IDA on the babies		
Low birth weight	137	84.0
Preterm delivery	135	82.8
Foetal death	162	99.4
Anaemia in infancy	161	98.8
Sources of Iron rich foods*		
Red meat	34	20.9
Liver	136	83.4
Chicken	9	5.5
Vegetables	163	100
Fish	6	3.7
Beans	5	3.1
Eggs	161	98.8

Table 1 showed the knowledge of respondents on iron deficiency anaemia. The result showed that majority 145(89.0%) have ever heard about iron deficiency anaemia. The signs and symptoms of IDA known to the respondents were weakness (97.5%), dizziness (95.7%), shortness of breath (83.4%) and fatigue (81.6%) among others. The cause of IDA known to the respondents were poor nutrition (97.5%) and bleeding during pregnancy. The effects of IDA on mother known were foetal death (98.8%), low birth weight (97.5%) and complication during birth (82.8%) among others while effects on babies mentioned included anaemia in infancy (98.8%), low birth weight (84.0%) and preterm delivery (82.8%).

The sources of iron rich foods known to the respondents included vegetables (100%), eggs (98.8%), and liver (20.9%) among others.

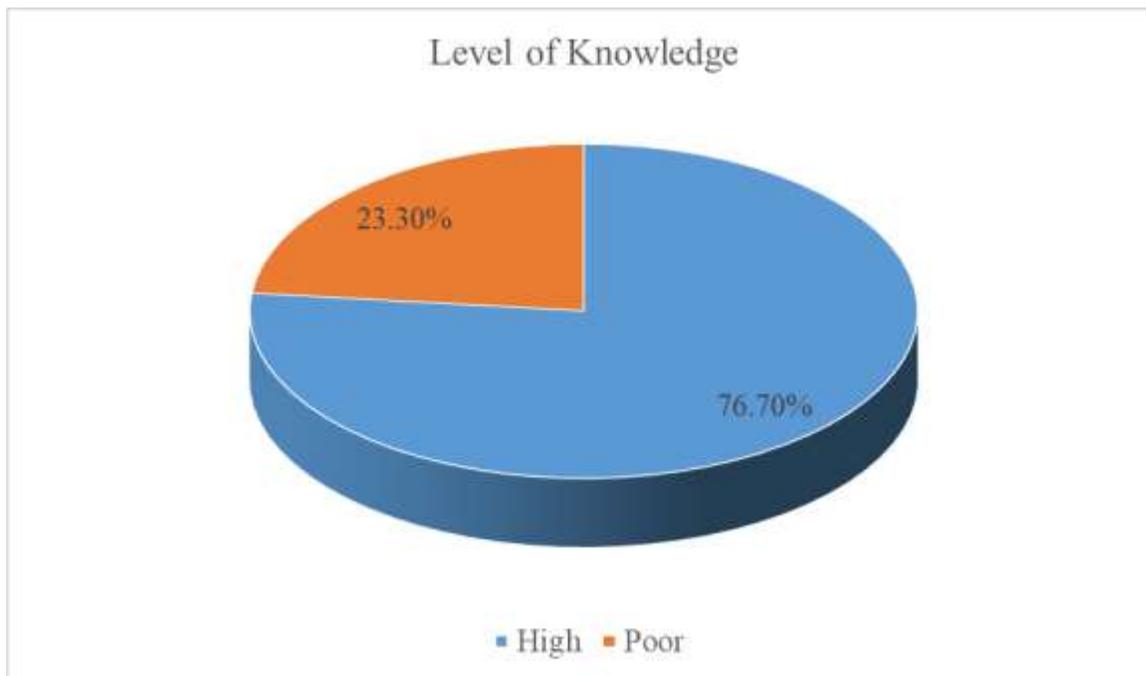


Fig 1: Level of knowledge among the respondents

The result showed that 125(76.7%) of the respondents had high level of knowledge about iron deficiency anaemia while 38(23.3%) had poor knowledge.

Table 2: Attitude of Pregnant Women Regarding Prevention of IDA (n=163)

Items	SA	A	D	SD	Mean	S.D.
Iron is important in food	134	1	13	13	2.99	.08
Regular visit to the clinic for ANC is good for the mother and baby.	160	2	1	0	2.99	.11
Iron supplement can affect the mother and baby's health.	105	41	16	1	2.81	.61
Drinking of tea, coffee, milk can affect iron absorption.	129	1	3	30	2.61	.78
Iron supplement can prevent IDA	159	4	0	0	2.98	.13
Pregnant mothers should take iron supplement in spite of healthy diet.	130	32	1	0	2.80	.41
Any pregnant woman can be affected by IDA	129	32	2	0	2.79	.42
Spacing of pregnancy can prevent IDA	2	31	2	128	1.41	.81
Iron deficiency can be prevented during pregnancy	158	4	1	0	2.98	.15
It is important to get information on IDA	161	2	0	0	2.99	.07
Grand mean/Standard deviation					2.73	0.35

Criterion mean = 2.50. <2.50 is negative attitude while ≥2.50 is positive attitude

Table 2 showed the attitude of the respondents regarding the prevention of IDA. The result showed that the grand mean of 2.73±0.35 was greater than the criterion mean of 2.50 indicating that overall, the respondents had positive attitude towards the prevention of iron deficiency anaemia.

Table 3: Chi-square test of relationship between Knowledge of Pregnant Women and the Prevention of Iron deficiency anaemia (n=163)

Knowledge	Prevention of IDA		Total	Df	X ² -value	p-value	Decision
	No	Yes					
High	1(0.8)	124(99.2%)	125(100)	1	125.56	0.00	H ₀ rejected
Poor	32(84.2)	6(15.8)	38(100)				H _a accepted
Total	33(20.2)	130(79.8)	163(100)				

Significant

The result showed the relationship between knowledge of pregnant women and the prevention of Iron deficiency anaemia. The result showed that there was a significant relationship (X^2 -value = 125.56, df = 1, p-value = 0.00) between knowledge of pregnant women and the prevention of IDA as the p-value of 0.00 was lesser than the alpha level of 0.05. Thus, the null hypothesis which stated that there is no significant relationship between knowledge of pregnant women and the prevention of Iron deficiency anaemia was rejected and the alternate hypothesis accepted.

Table 4: Chi-square test of relationship between attitude of pregnant women and the prevention of Iron deficiency anaemia (n=163)

Attitude	Prevention of IDA		Total	Df	X ² -value	p-value	Decision
	No	Yes					
Positive	29(22.5)	100(77.5)	129(100)	1	1.91	0.23	H ₀ accepted
Negative	4(11.8)	30(88.2)	34(100)				H _a rejected
Total	33(20.2)	130(79.8)	163(100)				

Not significant

The result showed the relationship between attitude of pregnant women and the prevention of Iron deficiency anaemia. The result showed that there was no significant relationship (X^2 -value = 1.91, df = 1, p-value = 0.23) between attitude of pregnant women and the prevention of IDA as the p-value of 0.23 was greater than the alpha level of 0.05. Thus, the null hypothesis which stated that there is no significant relationship between attitude of pregnant women and the prevention of Iron deficiency anaemia was accepted and the alternate hypothesis rejected as there was no significant relationship.

DISCUSSION OF FINDINGS

The findings of the study are discussed below:

The findings of this study showed that, majority 145(89.0%) have ever heard about iron deficiency anaemia, the top in the list of sources of information was health workers (79.8%), followed by print materials and radio (33.7%) each; overall, 125(76.7%) of the respondents had high level of knowledge about iron deficiency anaemia while 38(23.3%) had poor knowledge. The finding of this study is in line with that of Shahzad *et al.* (2017) whose study on related subject in Pakistan showed that majority of the respondents (75%) had good knowledge about the symptoms of anaemia, knew its causes, knew about prevention and iron-rich food source, knew about the food and beverages that aided or hindered the absorption of dietary iron. The signs and symptoms of IDA known to the respondents were weakness (97.5%), dizziness (95.7%), shortness of breath (83.4%) and fatigue (81.6%) among others. The cause of IDA known to the respondents were poor nutrition (97.5%) and bleeding during pregnancy. The effects of IDA on mother known were foetal death (98.8%), low birth weight (97.5%) and complication during birth (82.8%) among others while effects on babies mentioned included anaemia in infancy (98.8%), low birth weight (84.0%) and preterm delivery (82.8%). The sources of iron rich foods known to the respondents included vegetables (100%), eggs (98.8%), and liver (20.9%) among others. The finding of this study is also similar to that of Muhammed (2018) whose study on the knowledge, Attitude and practices of pregnant women regarding iron deficiency anaemia in a rural area of Lahore, Pakistan showed that the participants had great information towards anaemia, iron-rich foods and iron supplementation and 79.74% had properly said that green vegetables are a decent well spring of iron. The finding of this study is also in

line with that of Hewawaduge et al, (2019) whose study among pregnant women in District General Hospital, Matara, Sri Lanka revealed a considerable knowledge of pregnant mothers with respect to meaning, causes, signs and iron-rich food sources of IDA. This similarity found between the present study and the previous ones could be due to the fact that the both studies were conducted among similar population which are pregnant women.

The finding of this study showed that the grand mean of 2.73 ± 0.35 was greater than the criterion mean of 2.50 indicating that overall, the respondents had positive attitude towards the prevention of iron deficiency anaemia. This finding may not be surprising as it is possible that the good knowledge the respondents had about iron deficiency anaemia was expressed in their attitude towards its prevention. The findings of the study is in consonance with that of Shahzad *et al.* (2017) whose study on related subject in Pakistan showed that the respondents had a positive attitude towards iron deficiency anaemia. The finding of this study is also in line with that of Muhammed (2018) whose study on the knowledge, Attitude and practices of pregnant women regarding iron deficiency anaemia in a rural area of Lahore, Pakistan showed that the pregnant women showed positive attitude regarding prevention of anaemia. However, the finding of this study is not in line with that of Gowri et al. (2017) whose study conducted in Tertiary care centre in South India showed negative attitude of respondents which were expressed in wrong beliefs and myths about iron intake. The variation in the present study and that of Gowri and colleagues could be explained by the difference in the study location.

CONCLUSION

Based on the findings of the study, it was concluded that the pregnant women attending ante-natal care at the University of Port Harcourt Teaching Hospital, Port Harcourt, have high level of knowledge about iron deficiency anaemia including its causes, signs and symptoms of IDA, its effects and sources of iron rich foods. The respondents also showed positive towards the prevention of iron deficiency anaemia.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations were put forward:

1. Despite the fact that there was high level of knowledge among the respondents, health talk on the prevention of iron deficiency anaemia should be one of the frequently discussed subjects in the antenatal clinics by the health care workers.
2. Some of the reason given by mothers for not taking Iron supplement was the belief that Iron drugs will make their baby big hence, proper counselling by health care personnel to correct this misconception.
3. The government should make more effort to ensure the prices of foods are reduced to enable pregnant women, even those at the grass root to be able to purchase the necessary foods they needed for the prevention of iron deficiency anaemia.

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