



Practices On The Prevention Of Iron Deficiency Anaemia Among Women Attending Antenatal Clinics In Tertiary Hospital In Port Harcourt

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ABSTRACT

This study assessed the practices on 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 most frequent anaemia preventive practice was eating of green vegetables like ugu (pumpkin) leaves, water melon and cabbage. The prevention of iron deficiency anaemia was related to the knowledge (X^2 -value = 125.56, df = 1, p-value = 0.00) and practice (X^2 -value = 139.17, df = 1, p-value = 0.00) of pregnant women towards anaemia. The study recommended among others that, more efforts should be made by the government by making fund available for the procurement of iron supplement for free distribution to pregnant women.

Keywords: Iron Deficiency, Antenatal Clients, foetomaternal

INTRODUCTION

Anaemia is considered an international health problem; playing an important role in increased morbidity and mortality among pregnant women, especially in developing countries (Kawaljit, 2014). Anaemia is the lack of functioning red blood cells (RBCs) that leads to a decrease in the ability to carry oxygen causing complications during lifetime (WHO, 2015). According to the Centres for Disease Control and Prevention (CDC) and World Health Organization, Anaemia in pregnancy is defined as haemoglobin concentration of less than 11g/dl in venous blood. It is said to be mild when the HB = 10.0-10.9%, moderate HB = 7.9g/dl and severe when the HB is < 7.9 g/dl (WHO, 2018). Women at the childbearing age are at the greatest risk, with a prevalence of anaemia estimates of 42% in pregnant women aged 15–49 and 30% in non-pregnant women, with Africa and Asia accounting for more than 85% in high- risk groups where its causes are multi-factorial (Chowdhury, Rahman, & Moniruddin, 2014). A pregnant woman is considered to be anaemic if her haemoglobin concentration during the first and third trimester of gestation is lower than 11.0g/dL or lower than 10.5g/dL in the second trimester of pregnancy (Kilpatrick *et al.*, 2014). In pregnancy, there is a physiological expansion of plasma volume beginning in the first trimester and plateauing by the third (Costantine, 2014), which exceeds the increased production of red blood cells and haemoglobin. The resulting haemodilution contributes to the fall in Hb during pregnancy. Several factors may restrict or curtail this expansion, including preeclampsia and some medical comorbidities. Anaemia in pregnancy can be caused by numerous other factors, including

vitamin B12 and folate deficiency, the presence of a variant haemoglobin or thalassaemia, inflammatory disorders, haemolysis and blood loss, and, most commonly, by deficiency of iron.

Anaemia, a low blood haemoglobin concentration, is a global public health problem affecting both developing and developed countries (Stevens et al., 2013). Globally, anaemia affects 273.2 million people (42.6%) and Africa represent the largest proportion of 84.5 million people which is 62.3% prevalence. A total of 32.4 million pregnant women of 15-49 years of age worldwide have anaemia at a prevalence of 38.2% whereas in Africa the prevalence of anaemia in pregnant women is 46.3% and 9.2 million are affected (WHO, 2015).

In developing countries like Nigeria, most pregnant women are characterized by iron deficiency with no nutritional or iron supplementation during pregnancy and thus resulting in higher perinatal maternal morbidity and mortality, and premature delivery and low birth weight (WHO 2015; Haider et al., 2013). There are two known factors which contribute to the development of iron deficiency anaemia (IDA) in pregnancy; the first is the woman's iron stores at the time of conception and the second is the amount of iron absorbed during gestation. The fact that anaemia frequently does occur in pregnancy among women in developing countries is an indication that pre-existing iron stores are often inadequate and physiological adaptations to pregnancy are insufficient to meet the increased requirements (McMahon, 2010).

A systemic analysis of population representative data of HB concentration and the prevalence of total and severe anaemia for 1995-2011 reported the prevalence of anaemia in pregnancy as 14.06% in High income regions and 23.0% in central and eastern Europe (Balarajan, 2011). In contrast to these developed countries, about 53.0% pregnant women in South Asia were diagnosed with anaemia, of whom 3.8% were found to be severely anaemic. Iron deficiency anaemia represented < 70.0% of these cases (Balarajan, et al, 2011). Insufficient quantity of Iron-rich foods, poor environmental sanitation, unsafe drinking water, iron loss due to parasitic load (Such as malaria or intestinal worms), and adolescent anaemia, along with teenage pregnancies and repeated pregnancies in low resource countries, are the predominant causes for the disproportionately increased prevalence of IDA in pregnancy in these nations. Prevention offers an alternative strategy to reduce the impact and prevalence of anaemia developing during pregnancy, although there are no clear data to inform the role of universal iron supplementation. Although current guidelines are based on prompt identification and treatment of anaemia and recognition of women at risk, practice audits indicate limited effectiveness of this approach. For example, one study of 14 001 pregnant women from two maternity hospitals found that 46% had an Hb<110 g/l at booking and/or at 28 weeks' gestation and 64% of those with anaemia in the first trimester were still anaemic at 28 weeks (Nair et al, 2017). Additional benefits to prevention may relate to cost-effectiveness, including reducing the need for iron supplementation, transfusions, family and social care for preterm births and stillbirths and support for infant neurodevelopment. The US Preventive Services Task Force (2015) stated that the current evidence is insufficient to assess the full balance of benefits and harms of routine iron supplementation during pregnancy. Regular antenatal iron supplementation will reduce the risk of maternal anaemia, but there is less clarity on the impact on maternal and infant clinical outcomes (Haider et al, 2013). In a Cochrane review on the use of intermittent iron (21 trials involving many developing countries) the quality of evidence on maternal and infant outcomes were overall assessed as low or very low (Pena-Rosas et al, 2015). A structured literature search against UK National Screening Committee criteria also confirmed uncertainty in the magnitude of the adverse outcomes associated with maternal anaemia and the need for research on the role of preventative strategies (Parker et al, 2012; Rukini et al, 2015). Thus, this study was focused on the practices on the prevention of iron deficiency anaemia among women attending antenatal clinics in tertiary hospital in Port Harcourt.

Research questions

The following research questions were stated to guide the study:

1. What are the preventive practices of iron deficiency anaemia among pregnant women attending the ante-natal clinic at the University of Port Harcourt Teaching Hospital?

2. What are the factors that influence the practice on 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 the practice of pregnant women on Iron Deficiency anaemia and the prevention of Iron deficiency anaemia?

Hypothesis

The following hypothesis were tested at 0.05 alpha level:

1. There is no significant relationship between the practice of pregnant women on 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: Practice of Respondents on the Prevention of IDA (n=163)

Items	Always	Sometimes	Never	Mean	S.D.
Takes iron pills during pregnancy	1	161	1	2.00	.11
Takes tea, coffee with meals	128	1	34	2.58	.81
Takes pills with orange juice	1	1	161	1.02	.17
Visits antenatal clinic regularly.	160	2	1	2.98	.19
Takes fruits containing vitamin C	2	160	1	2.01	.13
Eats meat, chicken, fish regularly.	130	32	1	2.79	.42
Eats green vegetables like ugu (pumpkin) leaves, water melon, cabbage.	129	33	1	2.79	.42
Practices child spacing as family planning	33	129	1	2.20	.41
Avoids taking tea after eating	161	1	1	2.98	.17
Takes three regular meal every day?	33	128	2	2.19	.42
Grand mean/Standard deviation				2.35	0.33

Criterion mean = 2.00. mean <2.00 is poor practice while ≥2.50 is good practice

Table 1 showed the practice of the respondents regarding the prevention of IDA. The result showed that the grand mean of 2.35±0.33 was greater than the criterion mean of 2.00 indicating that overall, the respondents had good practice towards the prevention of iron deficiency anaemia. One of the most frequent practices was eating of green vegetables like ugu (pumpkin) leaves, water melon, and cabbage.

Table 2: Factors that Influence the Practice of Prevention of IDA (n=163)

Variable*	Frequency (n)	Percentage (%)
Taking Iron drugs will make the baby to be big	129	79.1
Family planning of child spacing is important in preventing IDA	2	1.2
Eating red meat during pregnancy is not good for the baby	1	0.6
Culture forbid a pregnant woman to eat chicken	0	0.00

Multiple response

Table 2 showed the factors that influence the practice of prevention of IDA. The result showed that the factor that influenced the practice of prevention of IDA was the opinion that taking iron drugs will make the baby to be big.

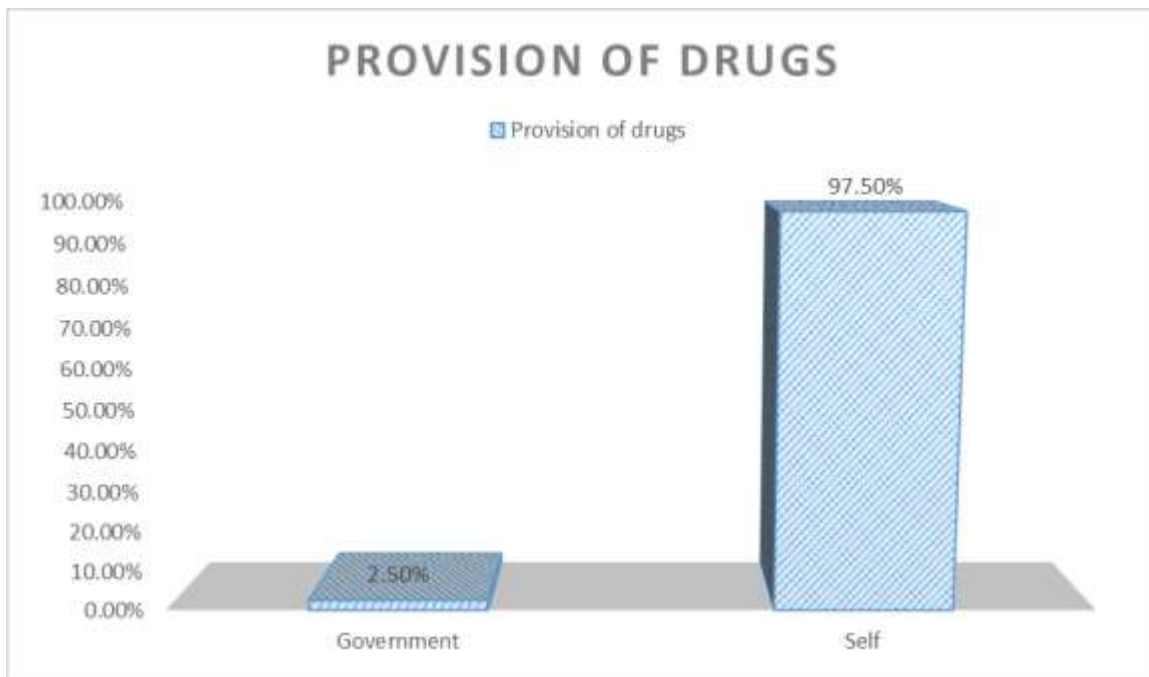


Fig 1: Who provides Iron drugs prescribed in the hospital?

The result showed that majority (97.5%) indicated that the anaemia drugs prescribed in the hospital are provided by themselves while very few (2.5%) indicated that the drugs were provided by the government.

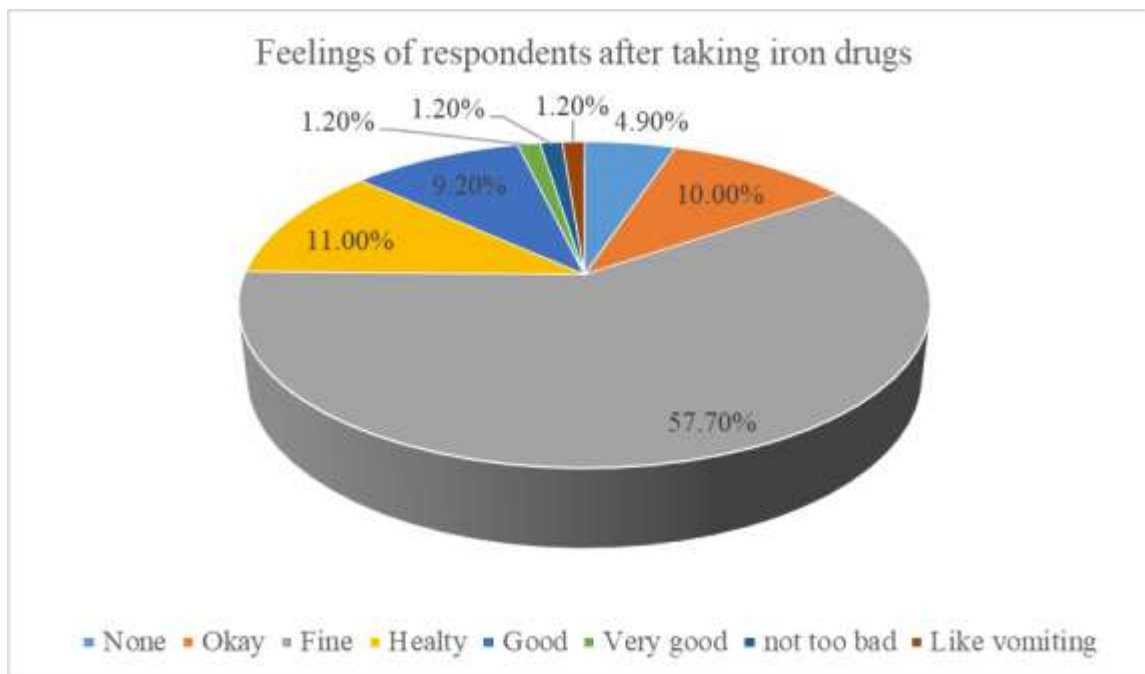


Fig 2: Percentage distribution showing how respondents feel when after taking iron drugs

The result showed that more than half 94(57.7%) feel fine, 18(11.0%) feel healthy, 16(9.8%) feel okay, 15(9.2%) feel good, 8(4.9%) did not feel anything, while 2(1.2%) felt very good, not too bad, and like vomiting.

Table 3: Chi-square test of relationship between practice of pregnant women and the prevention of Iron deficiency anaemia (n=163)

Practice	Prevention of IDA		Total	Df	X ² -value	p-value	Decision
	No	Yes					
Poor	31(93.9)	2(6.1)	33(100)	1	139.17	0.00	H ₀ rejected
Good	2(1.5)	128(98.5)	130(100)				H _a accepted
Total	33(20.2)	130(79.8)	163(100)				

Significant

The result showed the relationship between practice of pregnant women and the prevention of Iron deficiency anaemia. The result showed that there was a significant relationship (X^2 -value = 139.17, df = 1, p-value = 0.00) between practice 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 practice of pregnant women and the prevention of Iron deficiency anaemia was rejected and the alternate hypothesis accepted.

DISCUSSION OF FINDINGS

The findings of the study are discussed below:

The finding of this study showed that overall, the respondents had good practice towards the prevention of iron deficiency anaemia. One of the most frequency practices was eating of green vegetables like ugu (pumpkin) leaves, water melon and cabbage. The finding of this study is in agreement with that of Shahzad *et al.* (2017) whose study on related subject in Pakistan showed that 88% were in habit of taking citrus fruits as a usual practice, 75% taking tea/coffee and 47% were in habit of taking these beverages almost 02 hours after a meal. The finding of this study is also similar to that of Ajepe, et al., (2020) whose cross sectional study in Lagos, Nigeria showed good practices of pregnant women towards the prevention

of IDA. 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 majority of pregnant women take usual diet, while some of the pregnant women revealed that they take regular iron supplements. The finding of this study is at variance with that of Gowri et al. (2017) whose study conducted in a Tertiary care centre in South India showed poor practice towards the prevention of iron deficiency anaemia as less than half of the respondents regularly takes iron supplement to prevent anaemia.

The finding of this study showed that the factor that influenced the practice of prevention of IDA was the opinion that taking iron drugs will make the baby to be big. The finding of this study is in line with that of Gowri et al. (2017) whose study conducted in Tertiary care centre in South India showed that the respondents expressed wrong beliefs and myths about iron intake as also shown in the present study. The finding of this study is also in keeping with that of Ajepe, et al., (2020) whose study on the prevalence of IDA and its effects on foetomaternal outcomes among parturants in Lagos, Nigeria showed that routine antenatal iron supplementation have significant influence on the prevention of iron deficiency anaemia. The homogeneity of the study population might be implicated for the similarity found between the present study and the previous ones.

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, had good practices towards the prevention of iron deficiency with the most frequent practices being eating of green vegetables like ugu (pumpkin) leaves, water melon, and attending regular antenatal visits.

RECOMMENDATIONS

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

1. More efforts should be made by the government by making fund available for the procurement of iron supplement for free distribution to pregnant women.
2. The pregnant women should also make conscious effort to ensure that they consume iron rich foods in their diet.
3. Also, the health care workers should make proper nutrition during pregnancy as one of the frequently discussed subjects in the antenatal clinics such as things to avoid while taking Iron supplements.

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