PREVALENCE OF IRON DEFICIENCY ANAEMIA AMONG PREGNANT WOMEN ATTENDING PRIMARY HEALTH CARE CENTER MALALA DUKKU LOCAL GOVERNMENT AREA OF GOMBE STATE, NIGERIA

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ABSTRACT: *Iron deficiency anaemia in pregnancy is an important health issue resulting in high maternal morbidity and mortality. The purpose of the current study was to identify the prevalence of iron deficiency anaemia among pregnant women attending primary healthcare center malaladukku local government of Gombe state, the researcher pick interest on the topic as a result of high rate of anaemia in pregnancy in the research setting primary healthcare center malala, a cross sectional descriptive non-experimental design was adopted by the researcher. Questionnaire was used as a tool for data collection various literature were review which include conceptual review, theoretical review, and empirical review of prevalence, causes and preventive measures. The study assesses the prevalence iron deficiency anaemia among pregnant women, causes of iron deficiency anaemia, and the preventive measures of the condition. The result of the study shows that the prevalence of iron deficiency was high at (74.9%) many factors were considered responsible with the condition as revealed by the research work which includes previous history of the condition, imbalanced nutrition 66.6% () and malaria in pregnancy. Supplementary iron therapy during pregnancy 83.3% (), antenatal services as soon as pregnancy is confirmed, sleeping under mosquito treated net (58.3%) s and chief alternative of healthy diet (46.6%) are the preventive measures of iron deficiency anaemia as revealed by the study. There is also need for further studies on ways of preventing and reducing the rate of iron deficiency anaemia. The research work will help in enlightening the midwives, healthcare providers on the disease and its preventive measures wsith regards to clinical practice and it will also add to the body of knowledge in the medical field and the researcher's knowledge on the condition.*

KEYWORDS: Anaemia, pregnancy, women, antenatal, haemoglobin, packed cell volume.

BACKGROUND

Iron deficiency (ID) is the most common and widespread nutritional deficiency in both developing and developed countries. Women of childbearing potential are at highest risk of ID due to regular menstrual losses as well as the increased iron demands of pregnancy and lactation. During pregnancy, the risk for ID and iron deficiency anemia (IDA) increases due to the additional iron requirements to support expansion of blood volume/red cell mass and growth of the fetus and placenta (Gang et al, 2019). Among pregnant women, iron deficiency anaemia is also associated with adverse reproductive outcomes such as preterm delivery, low-birth-weight infants, and decreased iron stores for the baby, which may lead to impaired development (WHO, 2021) Poor prenatal iron status is also associated with diminished cognitive performance, language ability, and motor functions in the child. Despite international recommendations and guidelines on the screening and management of ID in pregnancy, it remains a problem of epidemic proportions and is often left unrecognized and untreated (Ugwu, Uneke, 2020). Anemia in pregnancy is defined as a hemoglobin level of <11 g/dl. It is further classified into mild, moderate and severe, when the hemoglobin level is between 10.0 to 10.9, 7.0 to 9.9, or <7.0 g/dl, respectively. The prevalence of anemia in pregnancy has been reported as 29.9% globally. Despite efforts to reduce the incidence of anemia especially in developing countries, it is still widespread globally resulting in major health consequences if not adequately managed (Rahmar et al, 2022; Laekago, Paulos & Handiso, 2021).

Globally iron deficiency anaemia has been identified as a major public health problem in both developed countries as about two billion people suffer from anaemia (WHO, 2018). The World Health Organization (WHO), in 2019, global anaemia prevalence was 29.9% (95% uncertainty interval (UI) 27.0%, 32.8%) in women of reproductive age, equivalent to over half a billion women aged 15-49 years. Prevalence was 29.6% (95% UI 26.6%, 32.5%) in non-pregnant women of reproductive age, and 36.5% (95% UI 34.0%, 39.1%) in pregnant women, iron deficiency accounts for about half the world's anemia burden (WHO,2021). The highest prevalence was found in Africa (47.5%) and South East Asia (35.7%). It is 17.8% in Americans (Laekago, Paulos & Handiso, 2021).

In Africa as of 2020 the prevalence of iron deficiency anaemia among pregnant women is 41.82%, In eastern Africa with a large difference between specific countries which ranges from 23.36%, In Rwanda 57.1%, In Tanzania 47.4% (Tesema et al, 2021). In Nigeria 2020 iron deficiency anaemia is a common problem, this review has shown evidence that the prevalence of iron deficiency anaemia in Nigeria is still high ranging from 25% to 45% (Ugwu et al, 2020). In Gombe, the prevalence of iron deficiency anaemia at booking 51.8%, and majority of these clients are severely anaemic (Bukal et al, 2019). Thus, the researcher seeks to assess the prevalence of iron deficiency anaemia among pregnant women attending primary health care centre Malala Dukku local Government area.

METHODOLOGY AND MATERIAL

Research design

The study employed was non-experimental cross-sectional design,

Study setting

The study was carried out in PHCC Malala, Dukku LGA, of Gombe State. In 17 Century, Mal. MuazuMizon establish the community in that and named it as Malalari which later became Malala. Malala is a Fulani word which means are characterize by flooding of water. Fulani and Kanuri are people living the area and their occupation is farming, fishing and trading. Malala is 30km away from Dukku town and 119km away from Gombe. Malala is having a population of 7190 as of 2006 census and now over 9000 at the current growth rates of 3.7% as of 2000 NPC. The PHC was established during the Menial era by Col. Yakubu Usman FSS, MSS, PCS on 30th January, 1996 and the end of department of military secondary bonny camp Lagos Anguwan Madaki with five units which later the facility expanded to eight units which are outpatient department, pharmacy, laboratory unit, TBL unit, immunization unit and security unit and three wards (paediatric, female medical and male medical ward), due to the high population of residence living at Dukku West. The facility is getting their resources from Gombe State Government and some non-governmental organization, having sixteen bed space the facility comprises of thirty health professionals with permanent contracted, N-power, volunteers' staff and cleaners.

Sample size/ sampling technique

Using simple random sampling to select a sample size of 60

Instrument for data collection

The instrument of data collection was questionnaire

Method of data collection

A letter of introduction was collected from the college management to the area of the study before conducting the study. Verbal informed consent was sought and obtained from the participants with explanation of the objectives and importance of the study before the administration of the questionnaire.

Method of data analysis

Data was analysed using SPSS version 25 and results are presented in frequency and percentage table.

Ethical consideration

Ethical consideration was taken into account because no single subject was expose to harm. The information obtain was treated will absolute confidentiality and only be use for academic purpose.

RESULTS

Table 1: demographic data

ITEM	FREQUENCY	PERCENTAGE %
1.AGE RANGE		
A.15-20 years	10	16.66 %
B.20-25 years	22	36.66%
C.25-30 years	18	30.00%
D.30-35 years	10	16.66%
TOTAL	60	100%
2. RELIGION		
A.Islam	53	88.31%
B.Christianity	7	11.61%
C.Others	0	0%
TOTAL	60	100%
3.NUMBER OF CHILDREN		
A.1-5	23	38.3%
B.5-10	32	53.3%
C.10 Above	5	8.3%
TOTAL	60	100%
4. GESTATIONAL AGE		
A. 1-3 month	12	20%
B. 4-5 month	28	46.66%
C. 6-7 month	15	25%
D. 8-9 month	5	8.3%
TOTAL	60	100%
5. HB OF THE RESPONDENT		
A. 3-4g/dl	29	48.3 %
B. 5-6g/dl	17	28.3%
C. 7-10g/dl	14	23.3 %
Above 10g/dl	4	0 %
TOTAL	60	100%

Table 2: prevalence of iron deficiency anemia

S/N	STATEMENT	A		SA		UD		D		SD		TOTAL
		F	%	F	%	F	%	F	%	F	%	
1	Iron deficiency anaemia is one of the maJor nutritional health problems.	20	33.3	25	41.6	5	8.3	5	8.3	5	8.3	100%
2	Income of a household affects their Health style.	15	25	40	66.6	5	8.3	0	0	0	0	100%
3	Frequent antenatal visit to access paleness, haemoglobin level to detect sign of anaemia.	30	50	25	41.6	3	5	2	3.3	0	0	100%
4	Eating habit of pregnant women can contribute to anaemia	20	33.3	15	25	7	11.6	15	25	3	5	100%

Table 3: causes of iron deficiency anaemia

S/N	STATEMENT	A		SA		UD		D		SD		TOTAL
		F	%	F	%	F	%	F	%	F	%	
1	The nature of work you do daily can affect your health.	10	16.6	35	58.3	3	5	7	11	5	8.33	100%
2	Eating fresh fruits and vegetables can improve your health status during pregnancy	18	30	12	20	22	36.6	4	6.6	4	6.6	100%

3	Did you agree pregnant women need double diet?	17	28.3	30	50	10	16.6	3	5	0	0	100%
4	Imbalance nutrition during pregnancy can cause aneamia.	15	25	40	66.6	5	8.3	0	0	0	0	100%
5	Stress and lack of rest can be a major factor to unhealthy pregnancy.	15	25	45	75	0	0	0	0	0	0	100%

Table 4: preventive measures of iron deficiency anaemia

S/N	STATEMENT	A		SA		UD		D		SD		TOTAL
		F	%	F	%	F	%	F	%	F	%	
1	Taking of iron supplement can prevent iron deficiency anaemia.	10	16.6	50	83.3	0	0	0	0	0	0	100%
2	Did you know chief alternative of healthy diet can prevent iron deficiency anaemia?	14	23.3	28	46.6	10	16.6	6	10	2	3.3	100%
3	Sleeping under mosquito treated nets plays a vital role in prevention of iron deficiency anaemia	25	41.6	35	58.3	0	0	0	0	0	0	100%
4	Iron rich foods are easily absorbed	8	13.8	30	50	20	33.3	2	3.3	0	0	100%
5	Do you think attending a regular visit to a midwife you feel quite better than previous?	10	16.6	50	83.3	0	0	0	0	0	0	100%

DISCUSSION OF FINDINGS

The findings in table 1 shows that majority of the respondents in the age range 20-25(36.66%) and they are mostly Muslims (88.3%) and their number of children 5-10(53.3%), with gestational age 4-5 months (46.66%), with haemoglobin level of respondents 3-4g/dl (48.3%).

The study in table 2 reveals the prevalence of iron deficiency in primary health care center Malala community, where(41.6%)of the respondents strongly agreed that iron deficiency anaemia is one of the major nutritional health problems and (8.3%)do not, (66.6%)strongly agreed that income of a household affects their health style while(0%)strongly disagreed, (50%) strongly agreed that frequent antenatal visit to access paleness, haemoglobin level to detect sign of anaemia helps, (0%)strongly disagreed, eating habits of pregnant women can contribute to anaemia (25%)strongly agreed and (0%)strongly disagreed. This is also in line with a study conducted by Ranshankar, Suryanarayana et al (2017) which reveals that prevalence of anaemia was 62.3% in pregnant women and it was observed that anaemia was common in the age group of 21 – 30 years. High prevalence of anaemia continues to be a major public health problem in rural areas of India.

The study in table 3 reveals the causes of iron deficiency anaemia in primary health care center Malala community, where(58.3%)strongly agreed the nature of work you do daily can affect your health, (8.3%)strongly disagreed, (20%) strongly agreed eating fresh fruits and vegetables can improve your health status during pregnancy (6.6%)strongly disagreed, (50%)strongly agreed pregnant women need double diet(0%)strongly disagreed, (66.6%)strongly agreed imbalance nutrition during pregnancy can cause anaemia (0%)strongly disagreed, (75%) strongly agreed stress and lack of rest can be a major factor to unhealthy pregnancy (0%)strongly disagreed. This also agreed with a study conducted by Akinwaare, Chinyere (2019) which shows that the result of the study unveiled majority 282 (78.4%) of the respondents have adequate knowledge of anaemia in pregnancy. Majority 242 (63%) of the respondents adopt use of iron supplements and folic acid as a preventive measure against anaemia in pregnancy. However, a large percentage (79.9%) of them avoid eating culturally forbidden fords rich in iron. Also, a good proportion 252 (62%) of the respondents have good perception on anaemia in pregnancy.

The study in table 4 reveals the preventive measures of iron deficiency anaemia in primary health care center Malala community, (83.3%)strongly agreed taking of iron supplements can prevent iron deficiency anaemia, (0%)strongly disagreed, (46.6%)strongly agreed cheap alternative of healthy diet can prevent iron deficiency anaemia, (3.3%)strongly disagreed, (58.3%)strongly agreed sleeping under mosquito treated net plays a vital role in prevention of iron deficiency anaemia (0%)strongly disagreed, (50%)strongly agreed iron rich foods are easily absorbed (0%)strongly disagreed, (83.3%) strongly agreed attending a regular antenatal visit can prevent anaemia (0%)strongly disagreed. Inline with the study carried out by Dr. Haber (2018), shows that in antenatal care protocol of pregnant women to facilitate the diagnosis and monitoring of iron deficiency anaemia should be included. In antenatal care protocol of pregnant women to facilitate to diagnosis and monitoring of iron deficiency anaemia, we advocate for the implementation of WHO recommendation that anthelmintic and intermittent preventive treatment (IPTP) to protect pregnant women in the area against hookworm infestation and malaria there is also the oved for prevention of insecticide heated

bed net (ITNs) and interventions such as mass media campaigns, peer/outreach education life skill programmes to educate women on the advantages of early ANC booking and compliance with the use of prescribed medications.

Thus, several implications should be of interest to the midwife care provider, take proper history during first booking visit thus, assess and identify those that are at risk of developing anaemia in order to prompt intervention. Assess the utilization of routine antenatal drugs by the woman. Encourage family planning after delivery to allow rest for a period of time and regain blood loss during child birth.

CONCLUSION

The study is limited to Malala community of Dukku local government area, Gombe state, various challenges encountered at the course the research work thus limiting wider coverage includes financial constraint and time.

Hence, based on this study, conclusion have been made that adequate nutritional diet and health education should be encouraged to avoid frequent occurrence, effort should be made toward early detection of those factors' women at risk of developing iron deficiency anaemia in pregnancy and applying those preventive measures to prevent it from occurring in order to achieve this, some of the factors associated with anaemia in pregnancy have to be eliminated and treated accordingly.

Base on the findings of this research work, the following recommendations were made; the midwives and health care providers should take their time during the booking visit as it is the initial contact with the women to take proper history in order to rule out risk of developing iron deficiency anaemia.Only qualified, skilled and competent midwives should be employed by the government to ensure delivery of quality care and services.Enlighten pregnant women on the complications associated with iron deficiency anaemia.In service training like workshops and seminars should be intensified in other to improve the skills of midwives and other health care providers.

CONFLICT OF INTEREST

The research work declared no conflict of interest

AUTHORS' CONTRIBUTION

Umar M. conceptualization and methodology, Dauda R. S analysis, discussion of findings and manuscript, Doka J. S. supervision and manuscript. All authors read and approved manuscript

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