

The Prevalence of Anemia among Mothers Attending Antenatal Clinic in Kapchorwa District Hospital, Kapchorwa District- Uganda

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ABSTRACT

The study assessed the prevalence of anemia among pregnant women attending antenatal clinic in kapchorwa district Hospital, and the specific objectives were to determine the prevalence of anemia among pregnant women attending antenatal clinic, to establish the socio-demographic characteristics associated with anemia and to determine the pregnancy related maternal factors associated with anemia among pregnant women attending antenatal clinic in kapchorwa district Hospital. A retrospective study design involving quantitative study methods were conducted. The study found out that there was a high prevalence of 42(19%), most of them were between the ages of 36-45 years with most of them having attended only primary level of education, 25(59.5%). The study found out that most of them were in their second trimester, 22(52%) and about 11(26.2%) had history of worm infection while 18(42.9%) had suffered from malaria as well as 6(14.3%) of the women who had a positive HIV serostatus. In conclusion, there is a higher prevalence of anemia and the following are recommendations, Pregnant mothers should be advised to attend all the ANC visits in order to be availed with information on prevention of anemia, mothers should be encouraged to observe all measures for prevention of malaria, health workers should health educate the pregnant mothers on poor feeding practice.

Keyword: prevalence, anaemia, mothers, antenatal care

INTRODUCTION

Current estimates from the World Health Organization (WHO) report the prevalence of anemia at 41.8% among pregnant women, with the highest prevalence rate (61.3%) found among pregnant women in Africa and 52.5% among South East Asia. It is further revealed that sub-Saharan Africa is the most affected region, with anemia prevalence among pregnant women estimated to be 17.2 million, which corresponds to approximately 30% of total global cases [1]. According to [2], anemia in pregnant women remains one of the most unresolved public health problems in developing countries because of various socio-cultural problems like illiteracy, poverty, lack of awareness, cultural and religious taboos, poor dietary habits, and high prevalence of parasitic infestation.

Estimates indicate that anemia affects 41.8% of pregnant women globally, with the

highest prevalence in Africa [3]. Fifty seven percent of pregnant women in Africa are anemic, which corresponds to nearly 17 million affected women, with severe consequence on health, social, and economic development [4, 5]. Studies in Africa have shown a high prevalence of anemia in pregnancy ranging from 41-83% in different settings [6, 7, 8, 9].

In Uganda, the prevalence of anemia among women of child bearing age has been reported to be 24 % overall and 13.1, 14.3 % and 18.8 % in Northern, Central and Western Uganda, respectively (Uganda Bureau of Statistics, [10]). The prevalence of anemia is associated with several factors; poverty is one of the risk factors for iron deficiency in pregnant women and given the world poverty rankings, anemia in pregnancy cannot be down played [10].

METHODOLOGY

Study design

A retrospective study design involving

quantitative study methods were conducted. This involved reviewing the

hospital records for the period of time under study and deriving numerical quantities that were further transformed into consumable data and findings.

Study area

The study was carried out in KDH. It was specifically conducted in the Antenatal Clinic among pregnant mothers who attended the mentioned hospital for antenatal care services.

Study population

This study included records of patients admitted with anemia in pregnancy, with a clear history, physical examination and appropriate investigations done.

Sample size determination

To arrive at the sample size, "Fishers et al 1990" formula was used in calculating and the population of more than 1000 will be applied.

$$N = \frac{Z^2 PQ}{D^2}$$

Where;

N=Derived Sample size

Z= Standard normal deviation usually set at 1.96 (or simpler rounded to 2.0) which corresponds to 95% confidence level.

P= Estimated prevalence (proportion of the targeted population estimated to have a particular problem or characteristics. =30% [11] D= Acceptable error e.g. 0.05

Q= 1-P=0.6

Estimated prevalence= 60%

$$N = \frac{Z^2 PQ}{D^2}$$

$$N = \frac{1.96^2 \times 0.3(1 - 0.3)}{0.05^2} = 323$$

Sample size = 323 patients

Sampling technique

A Retrospective study design was used which involved collecting data from patients records between months of May and November.

The researcher cross checked the records and included clients whose information cleared and met the eligibility criteria for the study.

Data collection procedure

The researcher conducted a review of records while collecting the data for the study. This involved perusing through the records and noting the variables of the study.

The study focuses on all pregnant mothers attending antenatal clinic in Kapchorwa District Hospital, it also excludes all women who are not pregnant or those having antenatal visits out of the mentioned hospital.

Data analysis and presentation

Data was analyzed starting with sorting it, tallying and finding, putting the data in tables, figures and paragraphs. The findings were presented thematically in line with the specific objectives of the study.

Ethical Consideration

A letter of introduction was obtained from the university administration that the researchers sought permission from the hospital superintendent to conduct research in the record department, got permission from the records officer who was assured of confidentiality of the information collected [12].

RESULTS

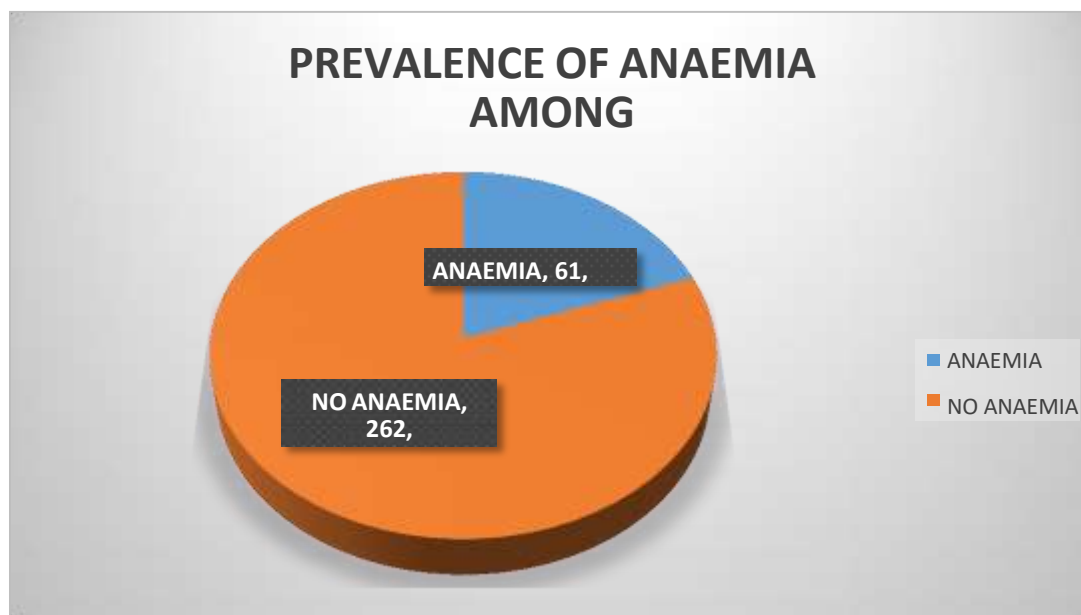


Figure 1 showing the prevalence of anaemia among pregnant mothers

From the figure 1 above it is shown that among the 323 pregnant mothers, those

with anemia were 61(19%) as compared to those without anemia, were 262(81%).

Table 1 showing the classification of anemia among pregnant women attending antenatal clinic in Kapchorwa district hospital

| CLASSIFICATION | QUANTITY(N) | PERCENTAGE (%) |
|-----------------|-------------|----------------|
| SEVERE ANEMIA | 09 | 14.3% |
| MODERATE ANEMIA | 30 | 50% |
| MILD ANEMIA | 22 | 35.7% |

From table 1 above, it is shown that among 61 pregnant women attending ANC at KDH who had anemia, majority of them had moderate anemia, 30(50%). Those with mild

anemia were 22(35.7%) as compared to those with severe anemia who were 09 participants (14.3%).

Table 2 showing the association of social demographic characteristics with anemia among pregnant mothers attending ANC at KDH

| CHARACTERISTIC | CATEGORY | Quantity(n) | Percentage (%) |
|----------------|------------------------|-------------|----------------|
| AGE | 18-25 | 12 | 19% |
| | 26-35 | 16 | 26.2% |
| | 36-45 | 33 | 54.8% |
| EDUCATION | No formal education | 10 | 16.7% |
| | Primary education | 36 | 59.5% |
| | Post primary education | 15 | 23.8% |
| OCCUPATION | Formerly employed | 06 | 9.5% |
| | Un employed | 25 | 40.5% |
| | Self employed | 30 | 50% |

From the table 2 above, it is shown that among the 61 anemic pregnant mothers, most of them were between the ages of 36-45 years, 33(54.8%), Those with ages between 18-25 years were the least, 12(19%) as compared to those with ages of 26-35 who were 16(26.2%).

The table further reveals that among the anemic pregnant mothers, most of them had attended only primary level of education,

36(59.5%). Those who had attended above primary level of education were 15(23.8%) as compared to those anemic pregnant mothers who had no formal education, 10(16.7%). The table further reveals that most anemic pregnant mothers were self-employed, 30(50%) and those who unemployed were 25(40.5%) as compared to the ones formerly employed, 06(9.5%).

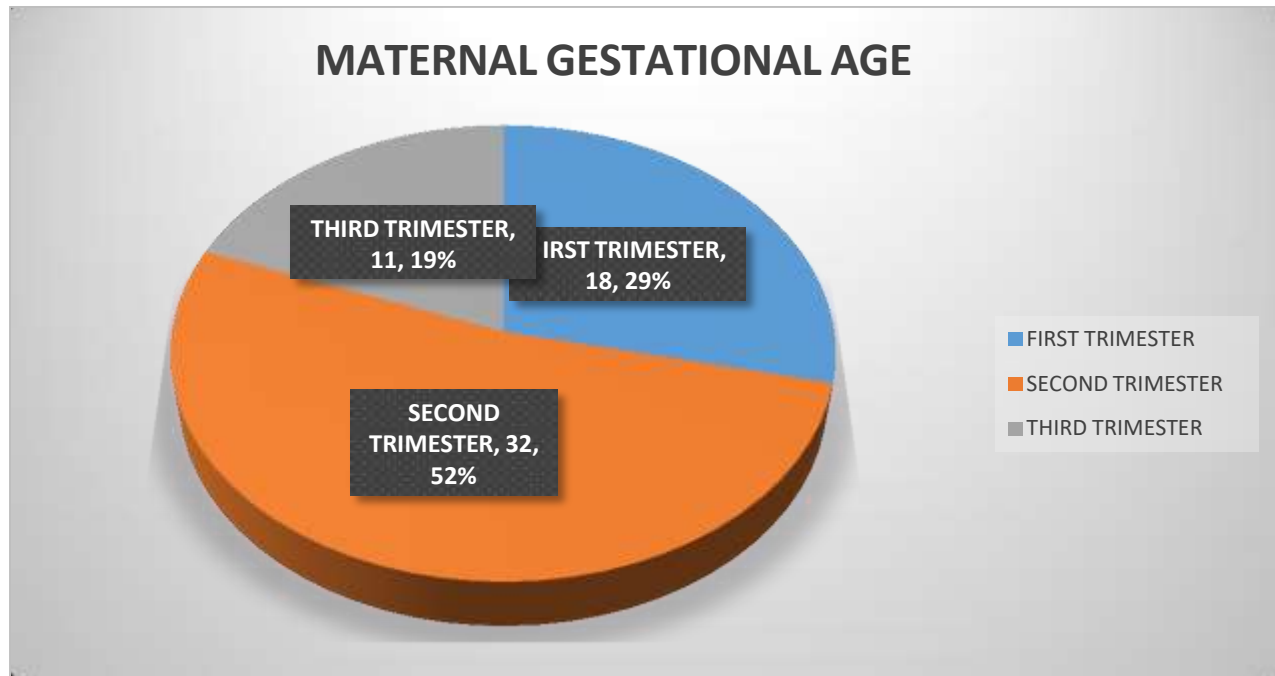


Figure 2 showing the association of maternal gestational age and anemia among pregnant mothers attending ANC at KDH

From the figure 2 above, it is shown that among the 61 anemic pregnant mothers attending ANC at Kapchorwa district hospital, most of them were in their second trimester, 32(52%). Those anemic pregnant

women who were in their third trimester were the least number, 11(19%) as compared to those in their first trimester, 18(29%).

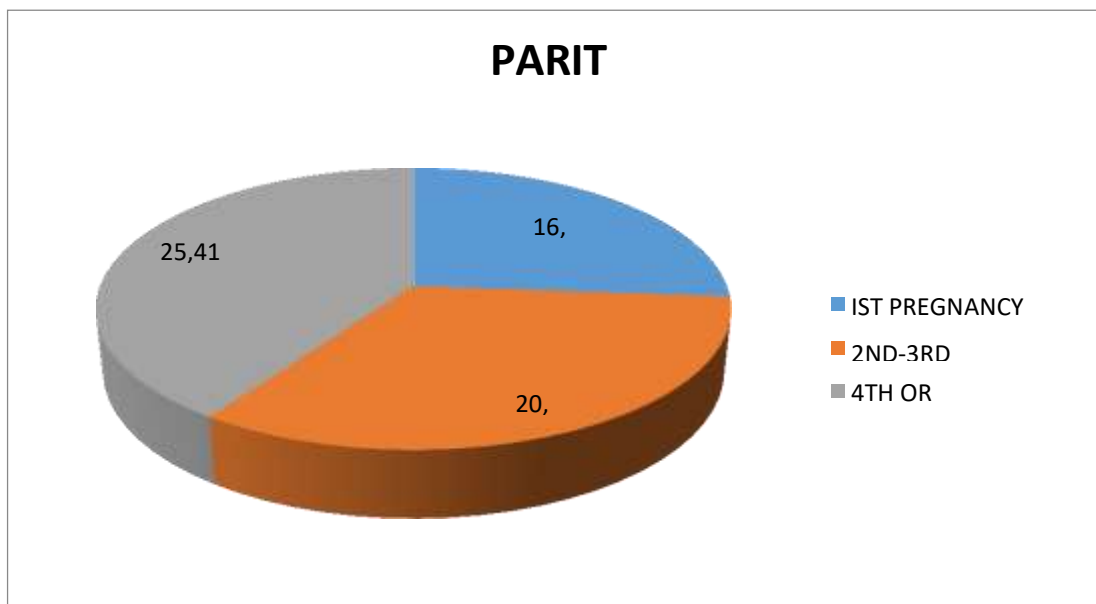


Figure 3 showing the association of parity and anemia among pregnant mothers attending ANC at KDH

When the patient mothers who had had malaria were evaluated for parity, 25(41%)

were in 4th or more pregnancy, 16(26%) were having first pregnancy while at least 20(33%) were having 2nd to 3rd pregnancy.

Table 3: Other related medical condition

| Factor | category | Figure | Percentage |
|----------------------------------|----------|--------|------------|
| History of worm infection | Yes | 16 | 26.2 |
| | No | 45 | 73.8 |
| History of malaria | Yes | 26 | 42.9 |
| | No | 35 | 57.1 |
| Positive HIV serostatus | Yes | 09 | 14.3 |
| | No | 52 | 85.7 |

When assessed for any other medical condition, 16(26.2%) had history of worm infection while 45(73.8%) had not had worm infections.

Also, when assessed for history of malaria

26(42.9%) had suffered from malaria, while 35(57.1%) had not suffered from malaria. Furthermore only 9(14.3%) of the women had a positive HIV serostatus while 52(85.7%) were HIV sero-negative.

DISCUSSION

From the study, it is shown that among the 323 pregnant mothers, those with anemia were 61(19%) as compared to those without anemia, were 262(81%). The study also found out that among 61 pregnant women attending ANC at KDH who had anemia, majority of them had moderate anemia, 30(50%). Those with mild anemia were 22(35.7%) as compared to those with severe anemia who were 09 participants (14.3%), this study reveals that the prevalence of anemia is still high with most cases being moderate anemia, this could be as a result of lack of knowledge on its prevention, when compared with other studies, this study shows a positive correlation with study results by [13], in Ethiopia who indicated that the overall prevalence of anemia among pregnant women was 23.2%; 66.6% had mild anemia and 33.3% had moderate anemia but there was no case of severe anemia.

The study found out that among the 61 anemic pregnant mothers, most of them were between the ages of 36-45 years, 33(54.8%), Those with ages between 18-25 years were the least, 08(19%) as compared to those with ages of 26-35 who were

16(26.2%), this study shows that elder mothers are prone to becoming anemic than youthful mothers, this could be because their hematopoietic stem cells are not quick at replication as in younger counter parts, when the study was compared with other studies, this study differs from study by Brazil Ministério da Saúde, in 2009 in the National Survey on the Demography and Health of Children and Women who reported that 30 % of the women of child bearing age are anemic.

The study further revealed that among the anemic pregnant mothers, most of them had attended only primary level of education, 36(59.5%). Those who had attended above primary level of education were 15(23.8%) as compared to those anemic pregnant mothers who had no formal education, 10(16.7%)., this study shows that those with lower educational levels were more prone to becoming anemic than those with higher education, when this study is compared with other studies, a study conducted by [14], in Somalia, had also found that the proportion of anemia among pregnant women was higher among women with lower educational attainment; the literate

had a percentage of 25.8% and the illiterate had a percentage of 48.1%.

The study further reveals that most anemic pregnant mothers were self-employed, 30(50%) and those who are unemployed were 25(40.5%) as compared to the ones formerly employed, 6(9.5%), a higher number of anemic mothers said they were in self-employment such as peasantry, this means some of these mothers become too busy to look for appropriate health, when compared with other studies, [15-19], in a study conducted in Nepal, had found out that anemia was more than five times higher among women who were unemployed than their employed counterparts.

The study found out that among the 61 anemic pregnant mothers attending ANC at Hoima regional referral, most of them were in their second trimester, 32(52%). Those anemic pregnant women who were in their third trimester were the least number, 11(19%) as compared to those in their first trimester, 18(29%), this could be because it is the time that anemia usually manifests and it becomes clinically observed, in comparison with other studies these study results show a positive correlation with a study by [13], found that pregnant women in the second trimester were 3.09 times while those in the third trimester were 3.68 times more likely to be anemic than those in the first trimester [20-26].

When the patient mothers who had had malaria were evaluated for parity, 25(41%) were in 4th or more pregnancy, 16(26%) were having first pregnancy while at least 20(33%) were having 2nd to 3rd pregnancy, this study shows that the multi parous mothers of more than four deliveries are more prone to becoming anaemic than those with two pregnancies or prime gravidae mothers, in comparison with other studies, [16], had indicated that mothers carrying their first pregnancy were at an increased risk of anemia as compared with multi-parous mothers. However, the difference in risk for anemia among primi-para mother when compared with the prevalence of anemia among those carrying the second, third and

CONCLUSION

The study concludes that there was a high prevalence of 61(19%), most of them were between the ages of 36-45 years with most of them having attended only primary level of education, 36(59.5%)

fourth pregnancy was significantly higher, than among multi

- parous mothers.

When assessed for any other medical condition, 16(26.2%) had history of worm infection while 45(73.8%) had not had worm infections, worms feed on the already digested nutrients and reduce nutritional entry into the body, when these study results were compared with other studies, [17], showed that intestinal parasites particularly hookworm infection has long been recognized as the major cause of anemia in poor communities. It has further been stressed that hook worm infestation has substantially increased as precipitated by low coverage of anthelmintic treatment in maternal health programs in many countries and is associated with the lower hemoglobin levels in pregnant women [20-26].

Also, when assessed for history of malaria 26(42.9%) had suffered from malaria, while 35(57.1%) had not suffered from malaria, plasmodium destroy red blood cells the oxygen carrying cells of the body, and this reduces the body's ability to circulate oxygen and gradually becomes anaemic, when compared with other studies, [18], reported that having a history of malaria during pregnancy is associated with a significant risk of increased prevalence of anemia in pregnancy. They further found that the magnitude of anemia among studied women increased with previous history of malarial attack compared with those having no attack of malaria; women who had history of malaria were 8 times more likely to be anemic as compared to those having no attack of malaria [20-26].

Furthermore only 9(14.3%) of the women had a positive HIV serostatus while 52(85.7%) were HIV seronegative. Being HIV positive lowers immunity of the body and this creates a chance for opportunist diseases, in comparison with other studies, [19] has revealed that pregnant women who are HIV sero-positive are five times more likely to be anemic compared with HIV sero-negative pregnant women.

The study concludes that most of them were in their second trimester, 32(52%) and about 16(26.2%) had history of worm infection while 26(42.9%) had suffered from malaria as well as 9(14.3%) of the women who had a

positive HIV serostatus.

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