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Original Article

Determination of the attitude and the perceptions of pregnant mothers towards folic acid supplementation at Kagote Health Centre III, Kabarole District. A cross-sectional study.

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Abstract

Background

Folic acid supplementation is essential for preventing neural tube defects in developing fetuses. Understanding attitudes and perceptions at Kagote Health Centre III is crucial for developing effective health interventions and improving maternal and child health outcomes. Therefore, this study seeks to assess the attitude and the perceptions of pregnant mothers towards folic acid supplementation at Kagote Health Centre III, Kabarole District.

Methodology

The study employed a descriptive cross-sectional study design, and questionnaires comprising both structured and unstructured questions were used. Data collected was entered into Microsoft Excel 2013 and analyzed.

Results

Findings also revealed that 2 (7%) of the respondents had a poor pregnancy outcome, while the majority, 28 (93%), had no poor pregnancy outcome. Among those who had a bad pregnancy, one had a miscarriage while the other had a newborn with a neural tube defect. In addition, the majority, 28(93%) of the respondents will continue using folic acid supplements throughout the pregnancy since they had better perceptions of folic acid. Furthermore, findings revealed that 2(7%) of the respondents had a bad pregnancy outcome, while the majority, 28 (93%), had no bad pregnancy outcome. Among those who had a bad pregnancy, one had a miscarriage, while the other had a newborn with a neural tube defect, and so cannot continue using folic acid supplements throughout the pregnancy.

Conclusion

Most respondents had positive pregnancy outcomes and plan to continue using folic acid supplements. However, a few experienced adverse outcomes, influencing their decision against continued supplementation.

Recommendation

The researcher recommends that nurses conduct another study on factors that promote adherence to folic acid supplementation so that neural birth defects and miscarriages are prevented.

Keywords: *Attitude and Perceptions, Pregnant Mothers, Folic Acid, Kagote Health Centre III*
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Background of the study

Kasim et al. (2016) conducted a study of knowledge, attitudes, and practices of preconception care among women attending a maternal health clinic in Kelantan, Saudi Arabia. They reported that the attitude of the study population toward advising other women who wish to become pregnant to take folic acid was variable. 76% of women responded affirmatively to the question of whether they would advise other women who wished to become pregnant to use folic acid, while 88% of the interviewed pregnant women had a positive attitude towards taking folic acid supplements again in future pregnancies (Kasim et al., 2016).

Contrary to Kasim et al (2016), a study by Alblowi and Alomayri (2017) about the assessment of knowledge, awareness, and behavior of folic acid use among females during the childbearing period in Tabuk City, Egypt, reported that the attitude of pregnant women about folic acid was not satisfactory. According to the result of this study, almost 50% women did not use folic acid. Though the most disturbing situation was that more than half a percent of women also don't use green foods in their diet (Alblowi & Alomayri, 2017).

Similarly, in Tanzania, an analysis of data from the 2015 to 2016 Tanzania Demographic and Health Survey and Malaria Indicators Survey by Moshi (2021) about factors associated with uptake of IFA supplement during pregnancy among women of reproductive age, findings established that many women (51%) had a negative attitude towards IFA and were not using IFA supplements due to various reasons. Some of the reasons given were bad taste (46.7%), nausea (45.2%), and other reasons (8.1%), including constipation, dark colour of the stool, vomiting, long administration time, and unavailability of the supplements.

A systematic review and meta-analysis of adherence to iron and folic acid supplementation and determinants among pregnant women in Ethiopia reported that the majority of the participating women had a positive perception of antenatal IFA supplementation (Desta et al., 2019). The rural women knew the supplements by names such as 'tablets to provide strength' or 'red tablets'. The rural women had limited information about the IFA

supplements and their benefits. A few of the rural women reported about the supplements as providing strength to their weak bodies during the pregnancy; curing dizziness, lethargy and the back pain; improving maternal health and wellbeing; needing to be taken once daily and continued throughout the pregnancy; and to prevent complications during the pregnancy and at the time of delivery, (Desta, et al., 2019).

However, Nankinga (2019), women in this study reported that family members, such as mother-in-law, husband, or mother, did not allow them to use the supplements because they perceived them as contraceptives, and they did not know about the benefits, and they had no education. Similarly, Kiwanuka et al. (2017) reported that women were afraid of the supplements or had experienced side effects (like vomiting, nausea, or constipation), and they considered them to be like contraceptives.

However, the perception of the importance of IFAS to prevent anemia during pregnancy, and the perception of risk of not taking IFAS were positive among women in Kasulu communities in northwestern Tanzania, where a study of adherence to folic acid supplementation and associated factors among pregnant women was conducted (Lyoba et al., 2020). This study reported that women were able to mention that the tablets were good to provide strength to their bodies, which are weak during pregnancy, and also improve the feeling of dizziness, and were able to confirm that the tablets were good for their health (Lyoba et al., 2020).

Methodology

Study Design and Rationale

The study employed a descriptive cross-sectional study design. It was a cross-sectional study because data collection and management were done within a short period of time. Additionally, a sectional survey design was used because it helped the researcher to gather data from a sample of a large population at a specific time, and the data collected can be used to make inferences about the general population.

Study Area and Rationale

The study was conducted at Kagote HC III in the Kabarole district. Kabarole district is found in the mid-western part of the country, Uganda, approximately 290 kilometers west of the capital city of Uganda, Kampala. It's bordered by Ntoroko district to the North, Kibale district to the Northeast, Kasese to the South, and Bundibugyo district, across the mountains to the West, Kyenjojo to the East, and Kamwenge to the South East.

Study population

The study focused precisely on pregnant mothers attending antenatal care at Kagote Health Centre.
III, Kabarole District.

Sample Size Determination

A sample of 30 respondents was used in this study because it is the recommended sample by UNMEB guidelines for diploma students.

Sampling Procedure

The study employed a non-probability convenience sampling approach where the interviewer administered questionnaires to any available respondents who met the required inclusion criteria and consented and accepted to participate in the study.

Inclusion Criteria

The study considered all pregnant mothers attending antenatal care at Kagote Health Centre III, Kabarole District. Who voluntarily consented to participate in the study on the day of data collection.

Study Variables

Independent variables in this study included demographic characteristics such as age, education level, marital status, and religion, number of children in the family, employment, mothers' knowledge, attitude, and perception of pregnant mothers towards folic acid supplementation.

The dependent variable was folic acid supplementation.

Research Instruments

The questionnaires consisted of both structured and unstructured questions. The purpose of the study was explained to the respondents within the questionnaire.

Data Collection Procedure

An introductory letter from the school administration was obtained and presented to the Kagote Health Centre III administration for permission to conduct this study. The Questionnaires were administered to the respondents who filled them out at their time of convenience, and for those who might not fill them out, the interviewers helped them to fill them out while they answered. During data collection, the rights of individuals were respected.

Data Management

Data collected was entered into Microsoft Excel, cleaned, and corrected for outliers. After the collection of data, responses from the questionnaires will be studied so as to make sure that the information obtained is complete, consistent, accurate, and reliable.

Data analysis

Analysis of the data was done using quantitative methods in order to make the findings easy to understand and draw conclusions for the stakeholders. Continuous data was analyzed using descriptive statistics such as mean and median. Data was entered and analyzed using Microsoft Excel 2013. The results were presented in the form of narratives, tables, graphs, and charts.

Ethical Considerations

The study was done following the guidelines of the Uganda Nurses and Midwives Examination Board standard research guidelines for Diploma Nursing Programmes. The development of the research proposal and report was under the supervision of a staff member assigned by Lubaga Hospital Training School. A letter was issued introducing the researcher to the Kagote Health Centre III administration for the purposes of

granting permission to interact with the participants. After getting permission, the researcher went ahead to obtain the required information.

Quality Control.

Discussion of the research tools was done with the research supervisor, and pre-testing of the research tools was done in Lubaga Hospital, Lubaga Division, Kampala District, before the questionnaire was adapted for final data collection.

Results

Background Characteristics of Respondents

The study sought to analyse the background characteristics of respondents, and the results are presented below.

Presentation and analysis of the age, education level, and religion of respondents

Table 1: The Age, education level, and religion of respondents (n = 30)

Characteristics	Details	Frequency	Percentage
Age	Below 18 Years	3	10
	18 - 21 Years	6	20
	21 - 35 Years	21	70
Total		**30**	**100**
Education Level	No formal education		0
	Primary Level	6	20
	Secondary Level	11	37
	Tertiary Level	9	30
	University Level	4	13
Total		**30**	**100**
Religion	Anglican	9	30
	Catholic	11	37
	Muslim	1	3
	Born Again	9	30
Total		**30**	**100**

Source: Primary Data

From table 1, the results show that 3(10%) of the respondents were below the age of 18 years, 6(20%) were between 18 – 21 years, and the majority, 21(70%), were between the ages of 21 – 35 years. Regarding education, at least all the respondents had formal education, with 6(20%) of the respondents having primary level, 11(37%) attained secondary level, 9(30%) attained tertiary level, and the minority 4(13%) reached university level. About religion, 9(30%) of the respondents were Anglicans, 11(37%) were Catholic only 1(3%) was Muslim and 9(30%) were Born Again.

Presentation and analysis of the Marital Status of respondents

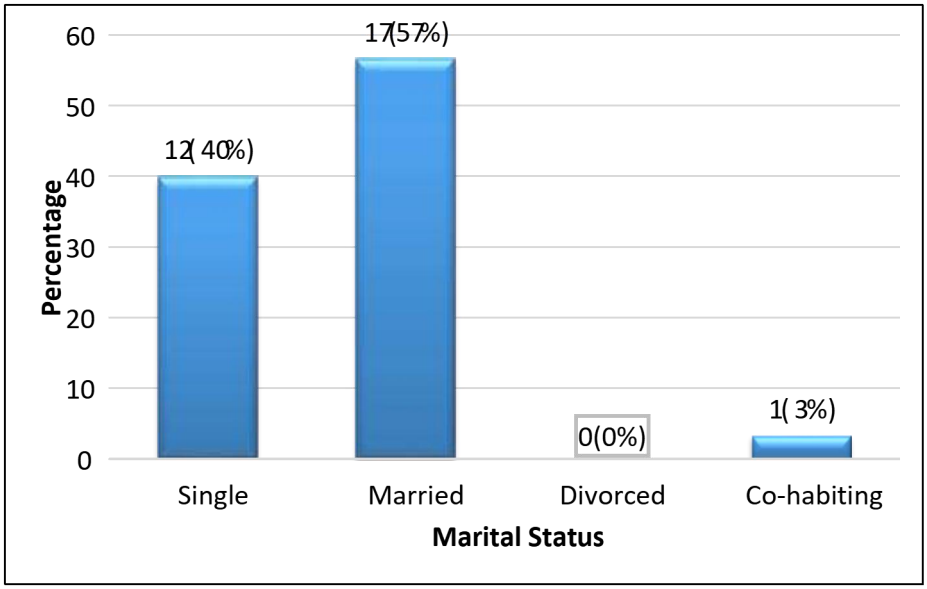


Figure 1. Marital Status of respondents (n = 30)

Results in figure 1 show that a sizable number 12(40%) of the respondents were single, meaning that they were still not yet married to their partners, the majority 17(57%) were married, no one was divorced, and the minority 1(3%) were cohabiting, meaning were staying together with their partners but not yet married.

Presentation and analysis of the Occupation Status of the respondents

Figure 2 Occupation Status of the respondents (n = 30)

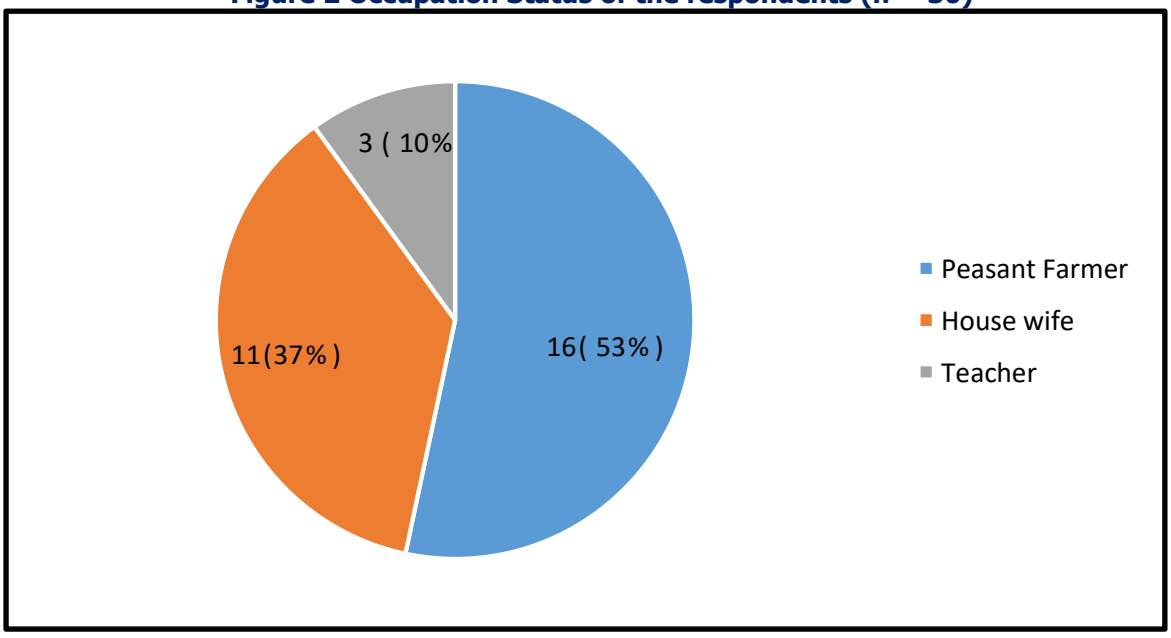
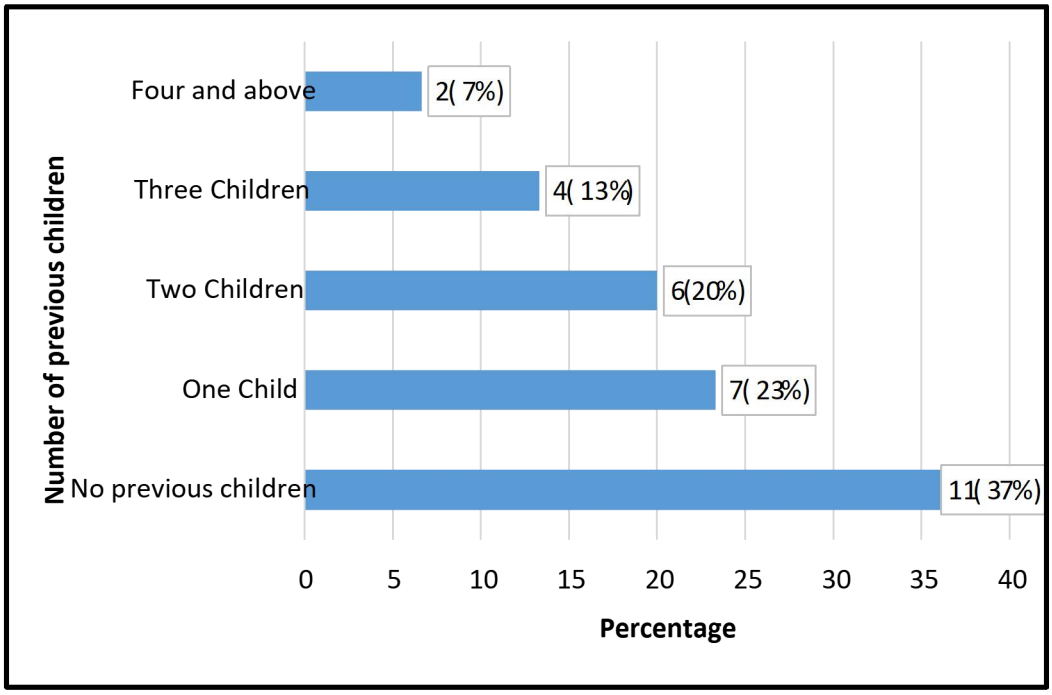


Figure 2 shows that the majority, 16(53%) of the respondents were peasant farmers, 11(37%) were housewives, while the least 3(10%) were teachers. This shows that 63% of the respondents at least engage in some income-generating activities.

Number of previous children

Figure 3 Number of previous children (n =30)



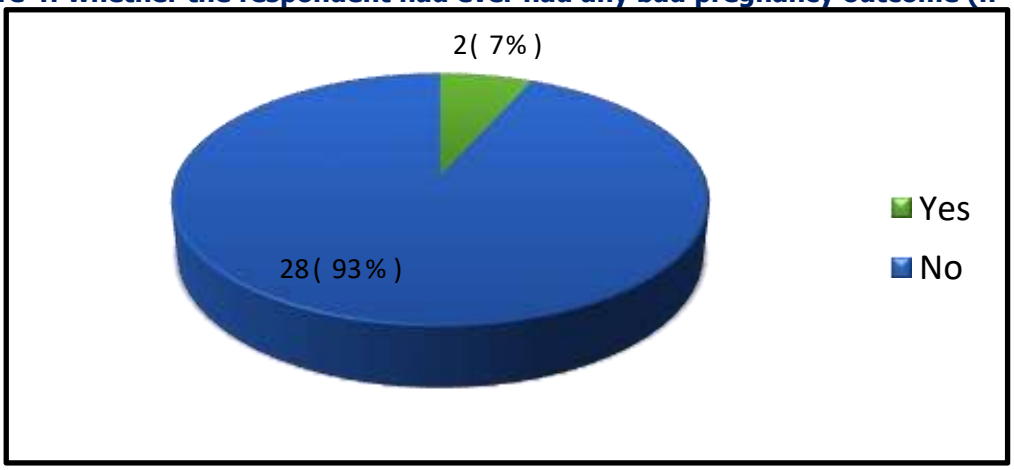
Results in figure 3 above revealed that 11(37%) of the respondents had no previous children meaning this was their first time pregnancy, 7(23%) had one previous child, 6(20%) had two previous children, 4(13%) had three previous children and only 2(7%) had four and above previous children. This implies that the majority (63%) had previous pregnancies and would know what folic acid supplementation is and how it helps in pregnancy.

Attitude towards Folic Acid Supplementation

The study wanted to establish the attitude of pregnant mothers towards folic acid supplementation at Kagote Health Centre III, Kabarole District. Findings are presented below.

Whether the respondent had ever had any bad pregnancy outcome

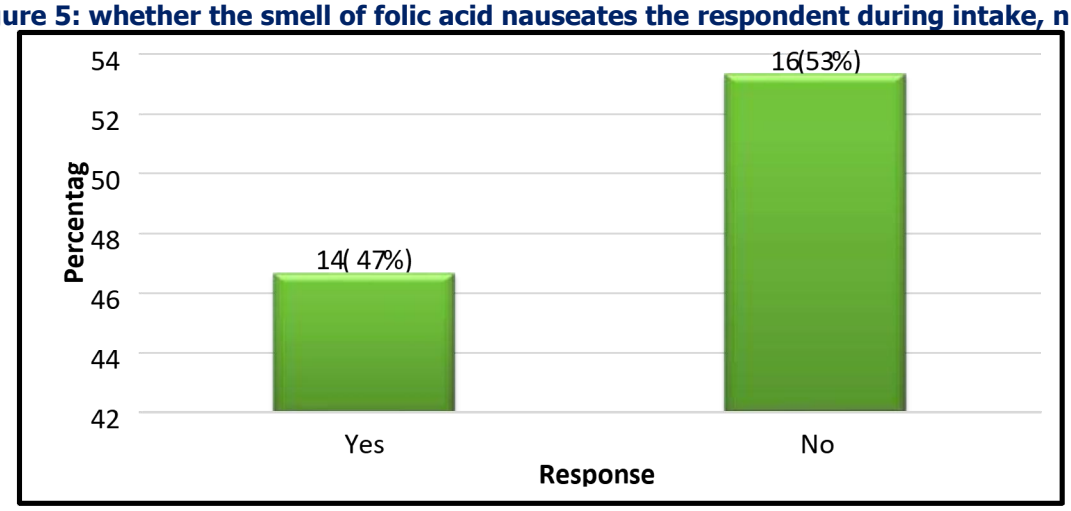
Figure 4: whether the respondent had ever had any bad pregnancy outcome (n = 30)



Results in Figure 3 show that 2(7%) of the respondents had a bad pregnancy outcome, while the majority, 28 (93%), had no bad pregnancy outcome. Among those who had a bad pregnancy, one had a miscarriage while the other had a newborn with a neural tube defect.

Whether the smell of folic acid nauseates the respondent during intake

Figure 5: whether the smell of folic acid nauseates the respondent during intake, n=30



Results in figure 4 show that nearly half 14(47%) of the respondents, when they take folic acid supplementation, the smell of it nauseates them; however, the majority 16(53%) of the respondents, when they take folic acid supplementation, the smell of it does not nauseate them.

Respondents' attitude towards taking folic acid supplements

Table 2 Respondents' attitude towards taking folic acid supplements n=30

Variable	Dose	Frequency	Percentage
How respondents take folic acid	1tab/day	19	63
	2tabs/day	5	17
	3tabs/day	1	3
	No idea	5	17
Total		30	100
Whether the respondent recommends another person to take folic acid during pregnancy?	Yes	25	83
	No	5	17
Total		30	100
If yes to 16, why?			0
	Prevention of anemia	21	84
	Good for the baby's growth and health	22	88
	Prevents complications during delivery	23	92

Source: Primary Data.

Table 3 shows the number of respondents who knew the recommended daily intake of folic acid. More than half of the respondents, 19(63%), knew the recommended daily intake of folic acid for preconceptional

supplementation purposes. 5(17%) thought the recommended intake is 2tabs per day, while 1(3%) thought that the recommended intake is 3tabs per day; however, 5(17%) of the respondents had no idea whatsoever of the recommended daily intake of folic acid.

Concerning whether respondent would recommend another person to take folic acid during pregnancy, majority 25(83%) agreed that they would recommend another person to take folic acid during pregnancy, and when asked why, 21(84%) of those who will recommend said that because it prevents anemia, 22(88%) they would recommend folic acid because it's good for the baby's growth and health and 23(92%) said they would recommend folic acid because it prevents complications during delivery while a few 5(17%) would not recommend another person to take folic acid during pregnancy and their reasons for not recommending were bad pregnancy outcome, and smell of folic acid which nauseates the respondent.

Perception of Pregnant women towards Folic Acid Supplementation.

The study also wanted to assess the perceptions of pregnant mothers towards folic acid supplementation at Kagote Health Centre III, Kabarole District. Findings are presented below.

Perception of Pregnant women towards Folic Acid Supplementation

Table 3 Perception of Pregnant Women towards Folic Acid Supplementation (n = 30)

Variable	Detail	Frequency	Percentage
What the respondent says about the use of IFA supplements.	Causes vomiting	6	20
	God for all pregnant women	15	50
	Important for the growth of the baby	6	20
	Nothing to say	3	10
Total		**30**	**100**
What religion says regarding the usage of folic acid supplements, according to respondents	Nothing	3	10
	Encourage the use of Folic acid	7	23
	Encourage women to go for antenatal	20	67
Total		**30**	**100**

Source: Primary data.

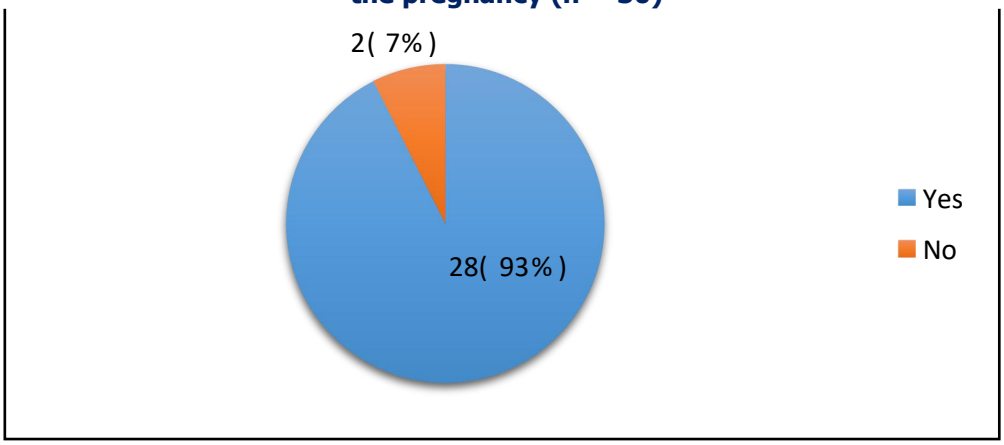
Results in Table 4 revealed that respondents' perception towards folic acid supplementation before and during pregnancy was good. This was exhibited in what the respondent said about the use of IFA supplements. A few 6(20%) of the respondents said that folic acid causes vomiting; however, half 15(50%) of the respondents said that folic acid is good for all pregnant women.

6(20%) said that it is important for the growth of the baby, and the minority 3(10%) had nothing to say. These show that nearly three-quarters (70%) perceived folic acid supplementation as good for both the mother and the baby.

Regarding what religion says concerning the usage of folic acid supplements, a few of the respondents 3(10%) said that religion say nothing about folic acid usage, 7(23%) said that religion encourage use of Folic acid because they get advice and counseling from the healthcare worker about the good effects of IFAS and knowledge about the health benefits of IFAS such as preventing anemia, and majority of the respondents 20(67%) said that religion encourages women to go for antenatal.

Whether the respondent will continue using folic acid supplements throughout the pregnancy

Figure 6: whether the respondent will continue using folic acid supplements throughout the pregnancy (n = 30)



Results in Figure 6 show that the majority, 28(93%) of the respondents will continue using folic acid supplements throughout the pregnancy, while very few, 2 (7%) will not continue using folic acid supplements throughout the pregnancy. When asked why they would not continue using folic acid, respondents cited taking too many pills, not knowing the usefulness of iron and folic acid supplementation, fear of the side effects of the medication, and not getting the supplement from the hospital.

Discussion

Findings also revealed that 2 (7%) of the respondents had a poor pregnancy outcome, while the majority, 28 (93%), had no poor pregnancy outcome. Among those who had a bad pregnancy, one had a miscarriage, while the other had a newborn with a neural tube defect similar to that of Lamers et al. (2018) in their study. In addition, the majority, 28(93%) of the respondents will continue using folic acid supplements throughout the pregnancy since they had better perceptions of folic acid. These findings harmonize with those of Desta et al. (2019). While very few 2 (7%) will not continue using folic acid supplements throughout the pregnancy, citing that taking too many pills is not easy daily, and not knowing the usefulness of iron and folic acid supplementation, similar to the results found by Kiwanuka et al. (2017). Comparable findings were reported in a study by Desta et al. (2019) about the perception of folic acid supplementation, which revealed that respondents' perception towards folic acid supplementation before and during pregnancy was good. This was exhibited in what the respondent said about the use of IFA supplements, however half 15(50%) of the respondents said that folic acid is good for all pregnant women, 6(20%) said that it is important for growth of baby These shows that nearly three quarters (70%) perceived folic acid supplementation as good for both the mother and the baby. Furthermore, findings revealed that 2 (7%) of the respondents had a poor pregnancy outcome, while the majority, 28 (93%), had no poor pregnancy outcome. Among those who had a bad pregnancy, one had a miscarriage, while the other had a newborn with a neural tube defect, and so cannot continue using folic acid supplements throughout the pregnancy.

Conclusion

There are poor attitudes and perceptions about folic acid. The majority of respondents (93%) had positive pregnancy outcomes and intend to continue using folic acid supplements due to their favorable perceptions. However, 7% experienced adverse outcomes, including miscarriage and a neural tube defect, influencing their decision against continued supplementation. These findings highlight the overall positive impact of folic acid awareness while acknowledging individual adverse experiences.

Recommendation

The researcher recommends that nurses conduct another study on factors that promote adherence to folic acid supplementation so that neural birth defects and miscarriages are prevented.

Ensure that pregnant women attend antenatal care and are educated on the relevance of taking folic acid during and after pregnancy.

Acknowledgement

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List of Abbreviations

ANC : Antenatal clinic
DHS : Demographic Health Survey

UBOS : Uganda Bureau of Statistics
UDHS : Uganda Demographic Health Survey
UK : United Kingdom
UNICEF : United Nations Children's Fund
USA : United States of America
WHO : World Health Organization
FA : Folic Acid.
NTDs : Neural tube defects
IFAS : Iron and Folic Acid Supplements

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This study was not funded

Conflict of interest
No conflict of interest declared

Author Biography
Judith Karungi is a student of a diploma in Midwifery at Lubaga Hospital Training Schools, Claire Mukomuzibu is a tutor at Lubaga Hospital Training Schools, and Jane Frances Namuddu is a principal tutor at Lubaga Hospital Training Schools.

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