

Knowledge, Attitude and Practice of Preconception Care Among Women Attending Fertility Clinic at Federal Medical Centre, Ebute Metta, Lagos

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Abstract: *The study assessed knowledge, attitude and practice of preconception care among women attending fertility clinic at Federal Medical Centre, Ebute metta. A descriptive cross-sectional quantitative research design was used. The population of the study consists of pregnant women attending antenatal clinic at Federal Medical Centre, Ebute Metta. The instrument for data collection was a self-structured questionnaire which was divided into four sections (sections A-D). The instrument was subjected to face and content validity. Reliability was done using test re-*

test method. The data for this study were collected primarily by the researcher and two recruited research assistants. Data obtained were processed and analyzed using statistical package for social sciences version 27. Research questions were answered using descriptive statistics of mean standard deviation and percentages while hypotheses were tested using inferential statistics of Pearson Product Moment Correlation test at 0.05 level of significance. The finding of the study revealed that 38.4 percent had moderate knowledge of preconception care. Most of the respondents have moderate knowledge of preconception care. There was significant relationship between knowledge of and attitude towards preconception care among women attending fertility clinic at Federal Medical Centre, Ebute Metta ($r = .319, p < 0.05$), also there was significant relationship between attitude towards and practice of preconception care among women attending fertility clinic at Federal Medical Centre, Ebute Metta ($r = .486, p < 0.05$). Conclusively, it was concluded that knowledge of and attitude towards preconception care was related to practice of preconception care. It was therefore recommended that there is need to provide preconception care to all adolescents at every healthcare visit.

Keywords: preconception care, knowledge, practice, fertility clinic

INTRODUCTION

Utilization of preconception care is an important health issue related to both maternal and child survival as it reduces maternal mortality and morbidity as well as improving the wellbeing of mothers and their children before, during and after birth (Wajala, et al., 2016). Approximately 99% of the global maternal deaths in 2025 took place in developing regions, with sub-Saharan Africa alone accounting for roughly 66% followed by Southern Asia (Doe et al., 2026). Nigeria and India are the two countries which are evaluated to represent more than 33% of every maternal demise worldwide in 2015, with an estimate of 58,000 (19%) maternal demises, and 45,000 (15%) maternal demises respectively (Jonathan & John, 2019; Doe et al., 2026). Despite the importance of preconception care services, the level of utilization has not been encouraging, especially in developing countries which include Nigeria. Globally, the utilization rate of preconception care services in 2019 was 14.6 percent while it ranges from 0.7 to 9.2 per cent in sub-Saharan Africa (UNICEF, 2021).

Morbidity and mortality that are related to pregnancy and puerperium are still unimaginably high; an estimated 303, 000 women died from pregnancy-related causes, 2.7 million babies died during the first 28 days of life, and 2.6 million babies were stillborn (Oketch et al., 2021; Doe et al., 2026). Access to high-quality maternal healthcare irrespective of economic position and social group is the right of every woman around the globe (Scholl & Johnson 2020; Hristova-Atanosova et al., 2025). Though global maternal mortality and morbidity is on the lower trajectory, Sub-Sahara Africa and Asia are still at the receiving end with the duo of Nigeria and Indian contributing about 35% of total global figures. Nigeria alone contributes about 20% of global maternal mortality and morbidity, with about 10 million women suffering from various body weakening illnesses and life-long disabilities across the globe in addition to 3.3million babies who died annually during infancy

or as stillborn Ekem et al., 2018). According to World Health Organization (WHO, 2022), about 80% of maternal mortality worldwide occurs due to hemorrhage, sepsis, induced abortion, hypertensive disorders of pregnancy and obstructed labour among others. Of course, such happenings are unpleasant and can be avoided by key health interventions such as preconception care (Akinajo et al., 2019; Akute et al., 2021).

Preconception health is a woman's health before she becomes pregnant. It means knowing and understanding how preexisting health conditions and risk factors could affect a woman or her unborn child if she becomes pregnant. Every year, approximately 28,000 infants die during the first year of life (WHO, 2024). Despite advances in medical and prenatal care, about 1 in 8 babies are born too early. Preconception care can help detect conditions that are predictors of negative outcome of pregnancy; however, there are no guidelines that include a follow-up plan for women with the risk predictors (Ejioye & Gbenga-Epebinu 2021). Researchers have found that only one out of six physicians provide preconception care for most women to whom they provide prenatal care (Ekem et al., 2018). Improving preconception health care and education can result in improved reproductive health outcomes and has the potential to reduce societal costs as well (WHO, 2020). Acting on health issues and risks before pregnancy can prevent problems that may affect women and their babies in the future.

Births resulting from unintended pregnancies are associated with adverse health outcomes, including delaying prenatal care and premature birth (Kost, 2015). There is a need to shift care to the time before a child is conceived, which will allow for greater potential to prevent birth defects and other adverse pregnancy outcomes. Risk factors for adverse pregnancies include poor nutrition, low intake of folic acid, weight problems, medical conditions, use of alcohol, tobacco, and other drugs (Kost, 2015). Because reproductive capacity spans several decades for most women, optimizing women's health before and between pregnancies is an ongoing process that requires full participation of all segments of the health care system. "Preconception care is part of a larger health-care model that results in healthier women, infants, and families" (Johnson, & John, 2019). Despite the high maternal mortality rate of over 800 maternal deaths per 100 000 live births (MMR) in Nigeria and the importance of healthcare in curbing this, preconception care utilization in Nigeria has not been encouraging (Ekem et al., 2018; NDSH, 2018). While several studies have been conducted to unravel the factors responsible for low preconception care among mothers in Nigeria, the results have been inconsistent. Furthermore, most of these studies were limited to socioeconomic factors while ignoring other factors such as knowledge, attitude and practice that can influence utilization of preconception care among mothers. This study bridged the gap by investigating knowledge, attitude and practice of preconception care among women attending antenatal clinic at Federal Medical Centre, Ebute Metta. The study specifically:

1. determined respondents level of knowledge about preconception care in fertility clinic;
2. identified respondents attitude towards preconception care in fertility clinic Federal Medical Center Ebute Metta; and
3. assessed respondents level of practice of preconception care in fertility clinic.

Research Questions

1. What is the level of knowledge of preconception care among women attending fertility clinic at Federal Medical Centre, Ebute Metta?
2. What is the attitude towards preconception care among women attending fertility clinic at Federal Medical Centre, Ebute Metta?
3. What is the level of practice of preconception care among women attending fertility clinic at Federal Medical Centre, Ebute Metta?

Research Hypotheses

H₀1: There is no significant relationship between knowledge of and attitude towards preconception care among women attending fertility clinic at Federal Medical Centre, Ebute Metta

H₀2: There is no significant relationship between knowledge and practice of preconception care among women attending fertility clinic at Federal Medical Centre, Ebute Metta

H₀3: There is no significant relationship between attitude towards and practice of preconception care among women attending fertility clinic at Federal Medical Centre, Ebute Metta

Research Method

A quantitative design using descriptive cross sectional survey method was utilized to determine the knowledge, attitude and practice of preconception care among women attending antenatal clinic at Federal Medical Centre, Ebute Metta. The population of the study consists of women attending fertility clinic at Federal Medical Centre, Ebute Metta. There are 213 women on the registered list of the fertility clinic. Women within childbearing age (15- 49 years) who accessed care and gave consent in Federal Medical Centre, Ebute Metta during the period of study were included while the women of childbearing age who are between 15 - 49 years who refused to give their consent for the study were excluded from the study. Convenience sampling was used to choose the sample for this study. The sample size of 153 respondents was calculated using Slovin's formula. The instrument for data collection was a structured questionnaire which was divided into four sections (sections A-D). The questionnaire was validated through face and content validity by experts in the field of tests and measurement. Reliability of the questionnaire was ascertained by pre-testing it among 20 pregnant mothers attending clinic in another health centre outside the sample health centre. The internal consistency approach based on Cronbach Alpha was used in the calculation of reliability coefficient which yielded 0.82.

Informed consent was obtained from the respondents after which they were asked to fill the copies of the questionnaire. The researchers ensured that the copies of the questionnaire were properly filled before retrieval from the respondents. The data obtained were processed and analysed using the Statistical Package Social Science (SPSS) software package version 27. Frequency table was made and data were presented on it. The research questions 1-3 were answered using descriptive statistics of frequency counts. However, all the three (3) research hypotheses were tested at 0.05 as level of significance using Pearson's Product Moment Correlation analysis

RESULTS**Socio-demographic Characteristics of Respondents****Table 1 showing distribution of respondents by socio-demographic characteristics N= 146**

Socio-demographic characteristics	Frequency	Percentage
Age		
Below 20 years	13	8.9
21-30 years	42	28.8
31-40 years	65	44.5
Above 40	26	17.8
Total	146	100
Highest Educational Status		
None	8	5.5
Primary	24	16.4
Secondary	60	41.1
Tertiary	54	37
Total	146	100
Religion		
Christianity	76	52.1
Islam	56	38.4
Traditional	5	3.4
Others	9	6.2
Total	146	100
Ethnic Group		
Yoruba	80	54.8
Hausa	26	17.8
Igbo	27	18.5
Others	13	8.9
Total	146	100
Parity		
One	20	13.7
Two	53	36.3
Three and above	73	50
Total	146	100
Occupation		
Teaching	5	3.4
Self-entrepreneur	10	6.8
Civil Servant	28	19.2
Unemployment	43	29.5
Full housewife	50	34.2
Retiree	10	6.8
Total	146	100
Marital Status		
Single	19	13
Married	109	74.7
Separated	8	5.5
Widow	5	3.4
Co-habiting	5	3.4
Total	146	100

On age distribution of respondents, 13(8.9%) were below 20 years, 42(28.8%) were between 21-30 years, 65(44.5%) were between 31-40 years, while 26(17.8%) were above 40 years of age. On highest educational status, 8(5.5%) had no education, 24(16.4%) had primary education, 60(41.1%) had secondary while 54(37%) had tertiary education. On religion, 76(52.1%) were Christians, 56(38.4%) were Muslims, 5(3.4%) were traditional worshippers while others were 9(6.2%). On ethnic group, 80(54.8%) were Yoruba, 26(17.8%) were Hausa, 27(18.5%) were Igbo while others were 13(8.9%). Only 20(13.7%) had one child, 53(36.3%) had two children while 73(50%) had three above. On occupation, 5(3.4%) were into teaching, 10(6.8%) were self-entrepreneur, 28(19.2%) were civil servants, 43(29.5%) were unemployed, 50(34.2%) were full housewife while 10(6.8%) were retiree. On marital status, 19(13%) were single, 109(74.7%) were married, 8(5.5%) were separated, 5(3.4%) were widowed while 5(3.4%) were cohabiting.

Research Question 1: What is the level of knowledge of preconception care among women attending fertility clinic at Federal Medical Centre, Ebute Metta?

Table 2: Knowledge of respondents as regards preconception care N=146

S/N	ITEMS	Correct Answer (%)	Wrong Answer (%)	Mean	Standard Dev.
1.	Do you know about preconception care?	107 (73.3)	39 (26.7)	0.73	0.44
2.	Have you engaged in preconception care activities before?	68 (46.6)	78 (53.4)	0.47	0.50
3.	Do you eat a diet with higher iron content?	108 (74.0)	38 (26.0)	0.74	0.44
4.	Do you eat a diet with higher calcium content?	98 (67.1)	48 (32.9)	0.67	0.47
5.	Can smoking cause harm to the baby?	126 (86.3)	20 (13.7)	0.86	0.35
6.	List three risks of poor birth spacing	38 (26.0)	108 (74.0)	0.26	0.44
7.	Do you eat balanced diet but not frequently than non-pregnant women?	70 (47.9%)	76 (52.1%)	0.48	0.50
8.	Are herbal supplements and herbal teas typically considered safe to consume during pregnancy?	61 (41.8%)	85 (58.2%)	0.42	0.49
9.	Can a pregnant woman has an active case of a sexually transmitted disease such as genital herpes or syphilis deliver the baby already infected with the disease?	63 (43.2%)	83(56.8%)	0.43	0.50
10.	Can serious birth defects occur to a fetus if the mother drinks too much alcohol during pregnancy?	69 (47.3)	77 (52.7%)	0.47	.50097

On knowledge of respondents as regards preconception care, 107(73.3%) answered correctly while 39(26.7%) answered wrongly. Only 68(46.6%) had engaged in preconception care activities before while 78(53.4%) have not. Only 70(47.9%) ate balanced diet frequently than non-pregnant women while 76(52.1%) did not. Majority 126(86.3%) knew smoking can cause harm to the baby while 20(13.7%) did not. Only 69(47.3%) knew birth defects can occur to a woman who drink too much alcohol in pregnancy while 83(56.8%) did not.

To summarize respondents' level of knowledge on preconception care:

Table 3: Summary of level of knowledge on preconception care

Level	Frequency	Percent
Low	48	32.9
Moderate	56	38.4
High	42	28.8
Total	146	100.0

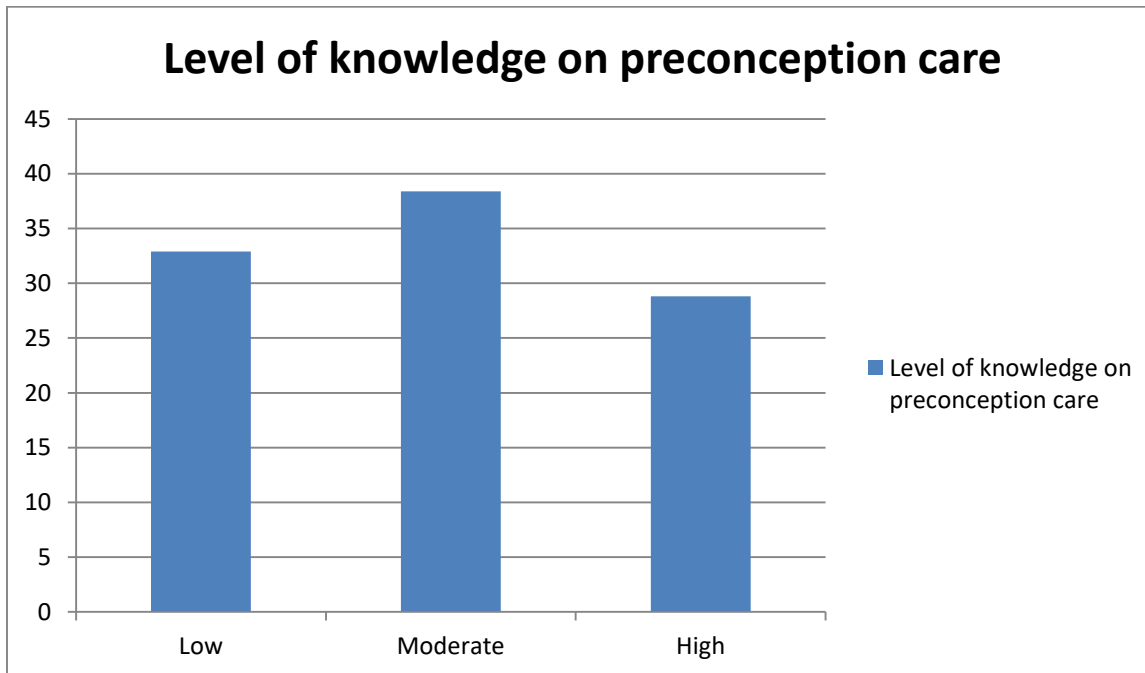


Figure 1: Bar chart showing level of knowledge on preconception care

Table 3 and Figure 1 summarises the level of knowledge on preconception care. From the table, 48 respondents representing 32.9 percent had low knowledge of preconception care, 56 respondents representing 38.4 percent had moderate knowledge of preconception care while 42 respondents representing 28.8 percent had high knowledge of preconception care. It could be concluded that the level of knowledge of preconception care was moderate.

Research Question 2: What is the attitude towards preconception care among women attending fertility clinic at Federal Medical Centre, Ebute metta?

Table 4: Attitude towards preconception care N= 146

S/ N	ITEMS	SA (%)	A (%)	D (%)	SD (%)	Mean	SD
1.	Preconception care is important during the reproductive age	57 (39.0)	60 (41.1)	14 (9.6)	15 (10.3)	3.09	0.95
2.	Preconception care has implications for pregnancy and delivery	52 (35.6)	45 (30.8)	32 (21.9)	17 (11.6)	2.90	1.02
3.	Government facilities are the best place to receive preconception care	41 (28.1)	65 (44.5)	35 (24.0)	5 (3.4)	2.97	0.81
4.	Private health facilities are the best place to receive preconception care	52 (35.6)	65 (44.5)	17 (11.6)	12 (8.2)	3.08	0.90
5.	Folic acid supplementation and risk reduction of congenital malformation	72 (49.3)	61 (41.8)	11 (7.5)	2 (1.4)	3.39	0.69

SA – Strongly Agree; A – Agree; D – Disagree; SD – Strongly Disagree

On attitude of respondents as regards preconception care in Table 4, 57(39%) strongly agreed Preconception care is important during the reproductive age, 60(41.1%) agreed, 14(9.6%) disagreed while 15(10.3%) strongly disagreed. Only 52(35.6%) strongly agreed preconception care has implications for pregnancy and delivery, 45(30.8%) agreed, 32(21.9%) disagreed while 17(11.6%) strongly disagreed. Only 41(28.1%) strongly agreed government facilities are the best place to receive preconception care, 65(44.5%) agreed, 35(24%) disagreed while 5(3.4%) strongly disagreed. Only 52(35.6%) strongly agreed Private health facilities are the best place to receive preconception care, 65(44.5%) agreed, 17(11.6%) disagreed while 12(8.2%) strongly disagreed.

Table 5: Summary of attitude towards preconception care

Level	Frequency	Percent
Negative (< mean mark)	80	54.8
Positive (> mean mark)	66	45.2
Total	146	100.0

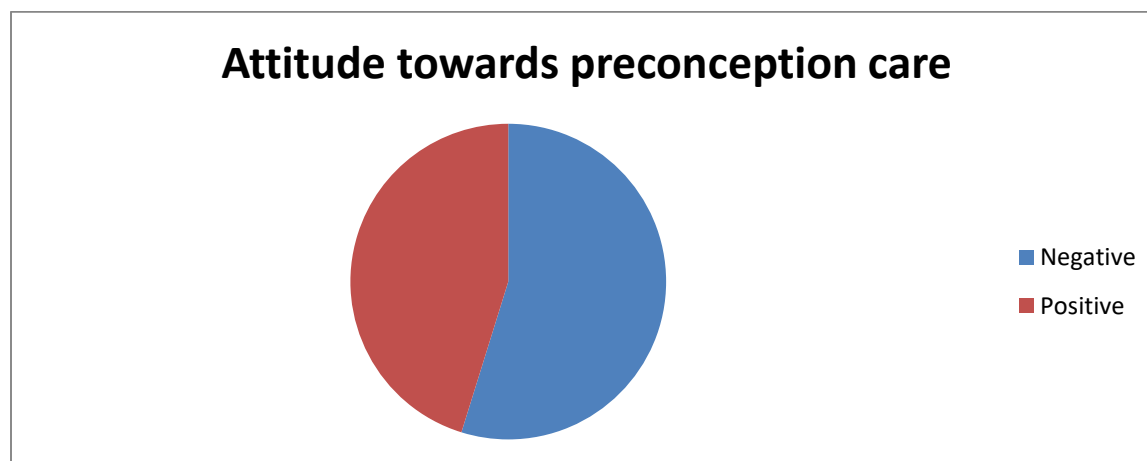
**Figure 2: Pie chart showing attitude towards preconception care**

Table 5 and Figure 2 summarizes the attitude towards preconception care. From the table, 80 respondents representing 54.8 percent had negative attitude towards preconception care, while 66 respondents representing 45.2 percent had positive attitude towards preconception care. It could be concluded that a little above average had negative attitude towards preconception care.

Research Question 3: What is the level of practice of preconception care among women attending fertility clinic at Federal Medical Centre, Ebute Metta?

Table 6: Practice of preconception care N= 146

S/ N	ITEMS	Always (%)	Sometimes (%)	Never (%)	Mean	SD
1.	Engages in exercise	51 (34.9)	84 (57.5)	11 (7.5)	2.27	0.59
2.	Exercises more than 2 times per week	37 (25.3)	99 (61.6)	10 (6.8)	2.18	0.54
3.	Consumed folic acid supplementation before pregnancy	11 (7.5)	117 (80.1)	18 (12.3)	1.95	0.44
4.	Eat daily meals and vegetables	16 (11.0)	122 (83.6)	8 (5.5)	2.05	0.40
5.	Receives health information weekly	31 (21.2)	97 (66.4)	18 (12.3)	2.09	0.57
6.	Frequently follow all doctor's advice	31 (67.1)	98 (67.1)	17 (11.6)	2.10	0.57
7.	HIV screening completion	27 (18.5)	99 (67.8)	20 (13.7)	2.05	0.57
8.	Frequently eat junk foods while planning for pregnancy	9 (6.2)	133 (91.1)	4 (2.7)	2.03	0.30
9.	Consumed drugs without doctor's advice while planning for pregnancy	53 (36.3)	86 (58.9)	7 (4.8%)	2.32	0.56

Mean Cut-off: 2.00 Source: Field survey, 2022

On practice of preconception care, 51(34.9%) always engages in exercise, 84(57.5%) sometimes while 11(7.5%) never did. Only 37(25.3%) always exercise more than 2 times per week, 99(61.6%) sometimes while 10(6.8%) never did. Only 11(7.5%) always consumed folic acid supplementation before pregnancy, 117(80.1%) sometimes while 18(12.3%) never did. Only 16(11%) always eat daily meals and vegetables, 122(83.6%) sometimes while 8(5.5%) never did. Only 9(6.2%) frequently eat junk foods while planning for pregnancy, 133(91.1%) sometimes while 7(4.8%) never did. Only 53(36.3%) always consumed drugs without doctor's advice while planning for pregnancy, 86(58.9%) sometimes while 7(4.8%) never did.

Table 7: Summary of practice of preconception care

Level	Frequency	Percent
Low	115	78.8
High	31	21.2
Total	146	100.0

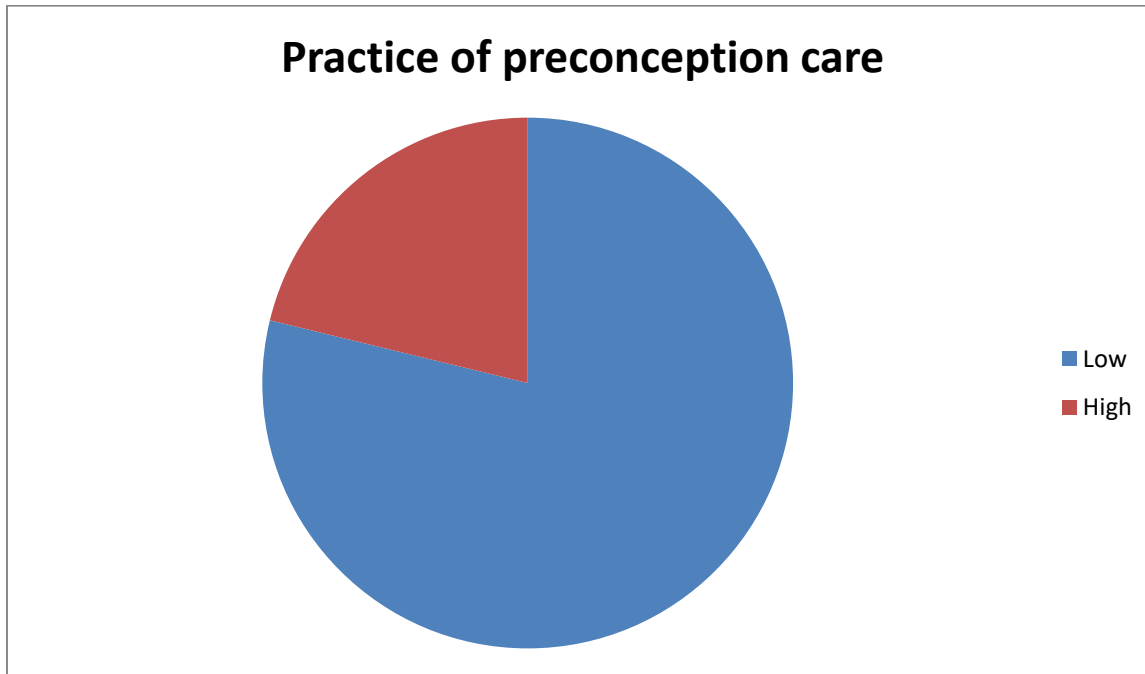


Figure 3: Pie chart showing practice of preconception care

Table 7 and Figure 3 summarises the practice of preconception care. From the table, 115 respondents representing 78.8 percent had low practice of preconception care, while 31 respondents representing 21.2 percent had high practice of preconception. It could be concluded that most of the respondents had low practice of preconception care.

Test of Hypotheses

H₀1: There is no significant relationship between knowledge of and attitude towards preconception care among women attending fertility clinic at Federal Medical Centre, Ebute Metta

Table 8: Pearson Correlation between knowledge of and attitude towards preconception care

		Knowledge	Attitude
Knowledge	Pearson Correlation	1	.076
	Sig. (2-tailed)		.360
	N	146	146
Attitude	Pearson Correlation	.076	1
	Sig. (2-tailed)	.360	
	N	146	146

The results in Table 8 revealed that there was no significant relationship between knowledge of and attitude towards preconception care among women attending fertility clinic at Federal Medical Centre, Ebute Metta ($r = .076, p > 0.05$). This implies that knowledge of and attitude towards

preconception care are not related. Therefore, the hypothesis stating no significant relationship between knowledge of and attitude towards preconception care among women attending fertility clinic at Federal Medical Centre, Ebute Metta is hereby not rejected. The null hypothesis is retained.

H₀2: There is no significant relationship between knowledge and practice of preconception care among women attending fertility clinic at Federal Medical Centre, Ebute Metta

Table 9: Pearson Correlation between knowledge and practice of preconception care

		Knowledge	Practice
Knowledge	Pearson Correlation	1	.319**
	Sig. (2-tailed)		.00
	N	146	146
Practice	Pearson Correlation	.319**	1
	Sig. (2-tailed)	.000	
	N	146	146

The results in Table 9 revealed that there was significant relationship between knowledge of and attitude towards preconception care among women attending fertility clinic at Federal Medical Centre, Ebute Metta ($r = .319$, $p < 0.05$). This implies that knowledge of and practice of preconception care are related. Therefore, the hypothesis stating no significant relationship between knowledge and practice of preconception care among women attending fertility clinic at Federal Medical Centre, Ebute Metta is hereby rejected.

H₀3: There is no significant relationship between attitude towards and practice of preconception care among women attending fertility clinic at Federal Medical Centre, Ebute Metta

Table 10: Pearson Correlation between Attitude towards and practice of preconception care

		Attitude	Practice
Attitude	Pearson Correlation	1	.486**
	Sig. (2-tailed)		.000
	N	146	146
Practice	Pearson Correlation	.486**	1
	Sig. (2-tailed)	.000	
	N	146	146

The results in Table 10 revealed that there was significant relationship between attitude towards and practice of preconception care among women attending fertility clinic at Federal Medical Centre, Ebute Metta ($r = .486$, $p < 0.05$). This implies that attitude towards and practice of preconception care are related. Therefore, the hypothesis stating no significant relationship between attitude towards and practice of preconception care among women attending fertility clinic at Federal Medical Centre, Ebute Metta is hereby rejected.

DISCUSSION

The finding of the study revealed that 38.4 percent had moderate knowledge of preconception care. Most of the respondents have moderate knowledge of preconception care. Ekem et al., (2018) and Coonrod et al. (2019) demonstrated that the younger the age of the woman the less knowledgeable she was regarding positive and negative health behaviors affecting pregnancy. Mitchell, et al (2018) conducted similar research that examined 1,796 men's and 940 women's awareness of exposure to preconception health information and of specific preconception health behaviors. When asked if they had seen, heard, or read anything about recommendations for preconception in the past year, 52 percent of men and 43 percent of women said they had not (Mitchell et al., 2018).

It was revealed that 80 respondents representing 54.8 percent had negative attitude towards preconception care, while 66 respondents representing 45.2 percent had positive attitude towards preconception care. Kaiser and Hays (2015) found that the attitude towards preconception care among was negative. Although they concluded that majority of participants quit engaging in detrimental health-risk behaviors once they knew they were pregnant. These findings help establish the need to provide adolescents with routine preconception care. It was revealed that 115 respondents representing 78.8 percent had low practice of preconception care, while 31 respondents representing 21.2 percent had high practice of preconception. It could be concluded that most of the respondents had low practice of preconception care.

CONCLUSION

Sequel to the findings of this study, it is concluded that majority of the respondents have moderate knowledge of preconception care while majority had negative attitude towards preconception care. The study further concluded that majority of the respondents have low practice of preconception care. Conclusively, it was concluded that knowledge of and attitude towards preconception care was related to practice of preconception care.

Recommendations

Based on the findings of this study, the following recommendations were made;

1. There is need to provide preconception care to all adolescents at every healthcare visit.
2. Preconception care, knowledge and perception deficits should be addressed in healthcare visits prior to a pregnancy to encourage healthy behaviors before conception and early in their pregnancy.
3. Physicians and health workers should distribute preconception health information

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