



■ Original Research Article

Perception and Factors Influencing Willingness to Use Preconception Care Services among Urban-Dwelling Women of Reproductive Age in Ibadan North Local Government Area, Oyo State, Nigeria.

Uchendu Obioma C^{1,3}, Oyesanwo Funmilayo T², Olabumuyi Olayide O³, Green Pauline A.⁴

¹Department of Community Medicine, College of Medicine, University of Ibadan, Oyo State, Nigeria. ²Department of Community Medicine, Faculty of Public Health, University of Ibadan, Oyo State, Nigeria. ³Department of Community Medicine, University College Hospital, Ibadan, Oyo State, Nigeria. ⁴Rivers State University, Nkpulu Oroworukwu, Rivers State, Nigeria

ABSTRACT

Background: Preconception care (PCC) offers biomedical, behavioral, and social health interventions to women and couples before conception, with the potential to reduce maternal morbidity and mortality, particularly in low-income countries where pregnancy-related deaths are prevalent. This study assessed perception, willingness to use PCC services, and factors associated with willingness. **Methods:** The descriptive cross-sectional study utilized two-stage cluster sampling to recruit 509 women of reproductive age in Ibadan North Local Government Area. Data was collected using an interviewer-assisted questionnaire and analyzed with SPSS version 21. **Results:** Among respondents, 71.3% had good perceptions of PCC, and 84.7% were willing to use PCC services, although only 32.8% were aware of them. Willingness was significantly associated with the highest level of education ($p=0.002$), ANC attendance ($p=0.023$), routine drug use ($p<0.001$), health service utilization ($p=0.029$), and overall perception ($p=0.019$). Multivariate analysis showed that respondents with secondary education and those with fair or good routine drug use behavior were three and two times more likely, respectively, to be willing to utilize PCC compared to those with primary education or poor drug use behavior (OR=2.6 95%CI = 1.190-5.783; OR = 2.2 95%CI = 1.273-3.677). Women earning above the minimum wage were twice more likely to use PCC services willingly (OR = 2.4 95% CI = 1.002 - 5.515). **Conclusion:** Despite good perception and willingness to use PCC services, awareness was poor, highlighting the need for better health education to promote PCC utilization.

Correspondence

Uchendu Obioma Chukwudi

Department of Community
Medicine,
College of Medicine,
University of Ibadan, Oyo State,
Nigeria
+2348066717229, +2348023280468
obioma234@gmail.com

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INTRODUCTION

Many women enter into motherhood without appropriate knowledge or skills needed to go through the important milestones without adverse health outcomes. Poor maternal health is a key risk factor for adverse delivery outcomes, particularly among pregnant women.^{1,2} First-

time mothers, especially those with unexpected pregnancies and minimal support, are particularly vulnerable.³ Efforts to address maternal mortality have primarily focused on antenatal and delivery period but significant reductions in maternal mortality remain elusive, especially in Low and Middle-Income Countries (LMICs) like Nigeria.⁴

Preconception care (PCC) is a paradigm shift considering interventions beyond antenatal and delivery care to include those that could be delivered prior to conception.^{5,6} The World Health Organization (WHO) recognizes preconception care as a key preventive strategy in maternal and newborn health (MNH), deemed feasible for implementation in both developed and developing countries.⁷ Improving birth outcomes takes promoting maternal health not only during pregnancy, but before pregnancy is established, in between pregnancies and across the woman's lifespan.⁸ Findings show that adequate and proper PCC targeted at all women of reproductive age before their first pregnancy and between pregnancies can significantly improve maternal outcomes.⁹

According to the World Health Organization (WHO), Preconception care is the interventions that are given in order to identify and modify the biomedical, behavioural and social risks to a woman's health or pregnancy outcome through prevention and management of such identified risks.¹⁰ PCC encompasses the following services; assessment of nutritional status of mothers, identification of pre-existing medical conditions, infectious diseases, and, genetic conditions, counseling on family planning, immunization services, control of tobacco, alcohol, and psychoactive active substance use, provision of information and management of the underlying causes of infertility.¹⁰ Preconception care is a preventive strategy that could be delivered either at the facility or community level.^{11,12} It is the set of interventions to optimize women's health before pregnancy with the overall goal of improving maternal and newborn health outcomes.¹³

PCC could commence during the early stage of a woman's life since it is specifically targeted at girls and women of reproductive age (15-49 years).⁹ Preconception care helps to ensure that pregnancies occur when individuals are physically and emotionally ready, and it minimizes early pregnancies, particularly among young people.¹⁴ According to research, pregnancies spaced less than six months apart can increase risks for both the mother and the child, including issues such as premature birth and low birth weight. Preconception care includes family planning counseling, which assists couples in spacing their pregnancies appropriately, so lowering these risks.¹⁵ Because half of all pregnancies are unexpected, posing a high risk to mother and infant health, preconception care through contraceptive counseling enables people to make informed decisions about family planning and reproductive objectives.^{14,16} Hence, PCC would ensure less unwanted pregnancies occur and means of effective contraception are made available when needed.

Preconception services are underutilized among women of reproductive age in Africa, and actively planning for pregnancy before conception remains a

challenge in many cultural settings, including Nigeria.¹⁷ Preconception care rates in developing countries including Ethiopia,¹⁸ Nigeria,¹⁹ Bhutan,²⁰ Nepal,²¹ and Sri Lanka²² were found to be 22.3%, 23.4%, 21.8%, 2%, and 27.2%, respectively. Women's perception about preconception care (PCC),^{23,24} and willingness to uptake preconception care services have not been extensively studied despite these studies on utilization in different countries.^{25,26} However, perception of PCC and the level of awareness of the risk factors for pregnancy complications or being unaware of the need for preconception care²⁵ may affect the willingness to use PCC.

Findings from a Malaysian study revealed the perspective of preconception care among reproductive-age women.²⁷ The majority of the women agreed that preconception care is an important health concern during the reproductive age and was a priority prior to pregnancy. In a study in Nigeria, women who were aware of preconception care perceived it to be beneficial to maternal and child health while others (10.6%) were undecided about their perception about preconception care.²⁸ A study conducted among women with chronic health conditions found that the women reported preconception care services contributed to emotional stress for them.²⁹ Also, women of reproductive age (19-34 years) in the West Midlands of the UK reported preconception counseling as a factor associated with fear of pregnancy complications to a level that it made the decision to conceive more difficult.³⁰

The willingness to utilize PCC services was reported among women of reproductive age in the North West zone of Nigeria as they believed it had potential health benefits despite being unaware.²³ Another study in Southeast Nigeria reported that the majority of the women were willing to take up PCC in their subsequent pregnancies.³¹ However, because of the cultural diversity in Nigeria, this findings may not apply to the entire country, this study therefore aimed to assess the perception and willingness to uptake PCC among women of reproductive age group in a state in the Southwestern region of the country. Furthermore, it aimed to determine the factors associated with willingness to use PCC services.

MATERIAL AND METHODS

Study Area

The study was conducted in Ibadan North Local Government Area (IbNLGA), Ibadan, Oyo State. The 2006 National Population Census estimated the Ibadan metropolis to have a population of 1.34 million, while the total population of Ibadan exceeded 2.55 million. IbNLGA is the largest of the five LGAs located in the

Ibadan metropolis. IbNLGA occupies a land area of 27 Km², and had a population of 308,119 from the 2006 census with a projected population of 2.3% (440,400) in 2022.³² The inhabitants include Yoruba, Hausa, Igbo and many other Nigeria ethnic groups. All levels (primary, secondary and tertiary) of health facilities are available in the LGA, including the first tertiary hospital in Nigeria.

Study Design

The study was cross-sectional in design and conducted among women of reproductive age in Ibadan North Local Government Area.

Sampling Technique

This study utilized a two-stage cluster sampling technique to select women of reproductive age who had resided in Ibadan North LGA for at least 6 months excluding those who were severely ill. At the first stage, a random sampling technique by balloting was used to select four wards out of twelve, at the second stage, one community was selected per ward by balloting. All eligible women in communities were then selected for this study.

The sample size was determined using the Leslie Kish formula to estimate a single proportion. Using a prevalence of 72.2% (women willing to uptake PCC in Southeast zone, Nigeria),³¹ a 5% precision with a 10% non-response at standard normal deviate of 95%, and assuming a design effect of 1.5, the minimum sample size for this study was 463 women of reproductive age.

Study Instrument and Data Collection

An Interviewer-administered, semi-structured questionnaire was used to obtain information on socio-demographics and perception about preconception care services, utilization of preconception care services (ever utilized), and willingness to utilize preconception care services. The questionnaire was developed from the review of the literature.^{23,31} The questionnaire was pre-tested among women of reproductive age group located in a different LGA but similar to the study site. The pre-test was conducted after translating the questionnaire into the local language and back-translating it to ensure the original meaning was retained and to identify any potential ambiguities. Female research assistants who could read and speak in the local dialect (Yoruba) and English fluently were recruited and trained for the data collection process.

Face and content validity was done, and factor analysis was also conducted to identify questions that were used as a proxy for domains of preconception care

that were assessed. Questions with factor loading between 0.622 and 0.873 were used as proxies for the domains that assessed for willingness. Ambiguous questions identified were modified and a reliability test was thereafter conducted, the Cronbach alpha for the final instrument that was used for data collection was 0.84. A total of 544 questionnaires were administered and 509 that had complete information on all variables of interest were included in the analysis.

Ethical Considerations

Ethical approval for this study was obtained from the Ministry of Health Research Ethics Committee, Ibadan, Oyo state. The purpose of the study was explained to each participant, consent was obtained from each eligible participant before questionnaire administration.

Data Analysis

Data was analyzed using Statistical Package for Social Sciences (SPSS) version 21. Descriptive statistics was done using mean, standard deviation, frequency, proportions, and tables. Associations between variables was assessed using the chi-square test while predictors of willingness to uptake PCC were identified using multivariate logistic regression. The level of statistical significance for all tests was set at a 5% level of significance.

Measure of Variables

Age: Respondents were asked for their age at their last birthday, responses were then re-categorized into those between 15-24 years (young adult) and those 25-49 (older adult).

Marital status: Respondents' responses of either single, married, separated, widow, or cohabiting were dichotomized. Responses of single, separated, widowed, or co-habiting were categorized as "not currently married" while those that were married were categorized as "currently married".

Educational status: This was assessed by asking participants the highest level of education they had. Those that responded that they either had no formal education or had only primary education were categorized as "≤ primary level". Respondents who had secondary education were categorized as "secondary level" while those who had tertiary education were categorized as "tertiary level".

Average monthly income: Respondents were asked to estimate their average income in a month. Using the Federal government of Nigeria's minimum wage of 30,000 NGN/ \$72.95 by (\$1 = 411.20NGN), their responses was dichotomized into "< minimum wage" and "≥ minimum wage"

Age as at last pregnancy: was re-categorized into two groups that are 15-24 years and 25-49 years.

Previous eventful pregnancy experience: This was dichotomized into "Yes" and "No". Those that reported they had either anemia in pregnancy, hypertension in pregnancy, diabetes in pregnancy, pregnancy loss, preterm delivery or baby with birth defect were categorized as "Yes". Those that had never experience any of the above conditions were categorized as "No"

Previous eventful pregnancy experience in family member: This was dichotomized into "Yes" and "No". Those that reported to have at least one family member who had either hypertension in pregnancy, diabetes in pregnancy, pregnancy loss, preterm delivery or baby with birth defect were categorized as "Yes". Those that do not have any family member who had experienced any of the above conditions were categorized as "No"

Routine Drug Use Behaviour: This was assessed by asking respondents if they were routinely using folic acid tablet as the time of this study. They were also asked about use of medications without prescription as well as use of herbal preparation. Those that responded "Yes" to folic acid use, and "No" to the use of medications without prescription and "No" to the use of herbal preparation were categorized as having "Good" drug use behavior, those that responded "Yes" to folic acid use or "Yes" to the use of medications without prescription and "No" to the use of herbal preparation were categorized as having "Fair" drug use behavior, while those that responded "No" to the use of folic acid, and "Yes" to the use of medication without prescription and "Yes" to the use of herbal preparation were categorized as having "Poor" drug use behavior.

Health services use behaviour: History of having ever received tetanus toxoid (TT) and Hepatitis B Virus (HBV) vaccine as well as their history of routine medical checkup were used to assess this behaviour. Those that responded to had at least 1 dose of TT vaccine, and 1 dose of the HBV vaccine and also to have ever gone for routine medical checkup were categorized as having "Good" health service use behavior, those that responded "No" to the TT vaccine, or "No" to HBV vaccine or "No" to routine medical check-up were categorized as having "Fair" health service use behavior while those that responded "No" to the TT vaccine, and "No" to HBV

vaccine and "No" to routine medical check-up were categorized as having "Poor" health service use behavior. Respondents were further asked about awareness of their genotype as a proxy for health service utilization. This was dichotomized into "Yes" and "No".

Perception of preconception care (PCC): was assessed using 22 positively worded statements that were measured on a 5-point Likert scale (Strongly agree, agree, undecided, strongly disagree, and disagree. A score was awarded as follows: 5 points for every response of "strongly agree", 4 points for every response of "agree", 3 points for every response of "undecided", 2 points for every response of "disagree" and 1 point for every response of "strongly disagree". Thus, the maximum obtainable score was 110 while the minimum obtainable score was 22. An aggregate score of 88 (aggregate for response "agree" to all 22 questions) was used to dichotomize and those with scores < 88 were categorized as having "poor perception of PCC" while scores of ≥ 88 were categorized as "good perception of PCC".

Willingness to utilize PCC services: was assessed using the question "If preconception care services are available in our area, would you be willing to utilize any of the services". A response of "Yes" was categorized as "willing" and No as "not willing". Willingness to utilize in six domains namely; i) Counseling and screening for genetic conditions, ii) counseling and screening for tobacco and alcohol use, iii) counseling and testing for STIs including HIV, iv) uptake of family planning methods v) education on FGM/child marriage and vi) vaccination against vaccine-preventable disease of preconception, was assessed using one question each.

Furthermore, the study assessed respondents' willingness to use preconception care services, with or without financial assistance. For the multivariate analysis, willingness without conditions was utilized.

Predictors of willingness to utilize PCC services: The analysis was divided into two models. Model I included all women enrolled in the study, with variables significant up to 10% in the bivariate analysis included. Model II focused on women with a pregnancy history, and similarly included variables significant up to 10% in the bivariate analysis.

RESULTS

Socio-demographic Characteristics

The mean age of the respondents was 27.5 ± 8.0 years and a higher percentage (39.5%) were between 24 and 32 years. Respondents who were single and who had tertiary education were 55.2% and 53.3% respectively. (Table 1)

Obstetric History and Risks of Respondents

Respondents who had been pregnant before were 45.2% while the majority (93.0%) of these had antenatal care during their last pregnancy. Less than a fifth (18.7%) reported having had previous untoward pregnancy experience while 6.1% of them reported the use of alcohol during pregnancy (Table 2).

Table 1: Socio-Demographic Characteristics of Respondents

Variable	Frequency (N=509)	%
Age (in years)		
15 – 23	183	35.9
24 – 32	201	39.5
33 – 41	86	16.9
44 – 49	39	7.7
Mean (SD) years	27.5 (8.0)	
Highest level of education		
No formal education	24	4.7
Primary	21	4.1
Secondary	193	37.9
Tertiary	271	53.3
Average monthly income (Naira)		
≤ 5,000	140	27.5
> 5,000 to 20,000	221	43.4
> 20,000 to 50,000	127	25.0
> 50,000 to 100,000	21	4.1
Marital status		
Single	281	55.2
Married	214	42.0
Separated	8	1.6
Widowed	5	1.0
Co-habiting	1	0.2
Family type (n=214)		
Monogamy	190	88.8
Polygamy	24	11.2
Parent's family type		
Monogamy	395	77.6
Polygamy	114	22.4

they were aware of while genetic-related services were the most reported (80.2%) pre-conception services they were aware of (Fig 1).

Respondent's Health-Seeking Behaviour

Less than a quarter (23.6%) of the respondents reported the routine use of folic acid while 60.5% of the respondents reported they engage in habitual use of herbal preparation. With regards to their routine use of drug, the majority (64.4 %) of respondents had fair behavior while just a third had fair health service utilization behavior. (Table 3)

Table 2: Obstetric History and Risks of Respondents

Variable	Frequency (n=230)	Percentage
Ever been pregnant (N=509)		
Yes	230	45.2
No	279	54.8
Age as at last pregnancy (years)		
15-24	37	16.1
25-49	193	83.9
Last pregnancy was planned		
Yes	153	66.5
No	77	33.5
Attended ANC at last pregnancy		
Yes	214	93.0
No	16	7.0
Previous eventful pregnancy experience		
Yes	43	18.7
No	187	81.3
Previous eventful pregnancy experience in family member (N=509)		
Yes	128	25.1
No	381	74.9
Use of alcohol in pregnancy		
Yes	14	6.1
No	216	93.9

Respondent's Awareness of Preconception Care and Services

About (32.8%) of the respondents reported having ever heard of pre-conception care services before. Services related to substance abuse were the least reported (9.0%)

Perception of PCC by Respondents

Proportion of respondents with good perception of different components of the pre-conception services ranged between 31.2% and 87.6%. The proportion of women with good perception of nutrition related services was the least (31.2%) while those with good perception of management of infertility and sub-fertility as

preconception services was the highest (87.6%). Overall perception of pre-conception services was good among 71.3% of the women. (Table 4)

Willingness To Use Preconception Care Services

Willingness to utilize any of the pre-conception services ranged from 71.5% to 84.7% and the least proportion (71.5%) of the women were willing to utilize any of the services if it would require them having to pay a fee. Substance abuse related services was the pre-conception care respondents were least willing to utilize whether with a fee (25.1%) or even if free (61.0%) while genetic related services was the one they were most willing to utilize (71.5% if it would require payment and 91.4% if would not require payment). (Figure 2).

Table 3: Health-Seeking Behavior of the Respondents

Variable	Frequency (N=509)	%
Routine use of folic acid		
Yes	120	23.6
No	389	76.4
Practice of self-medication		
Yes	337	66.2
No	172	33.8
Habitual use of herbal preparation		
Yes	308	60.5
No	201	39.5
Overall routine drug use		
Poor	160	31.4
Fair	328	64.4
Good	21	4.2
Aware of your genotype		
Yes	333	65.4
No	176	34.6
Ever had the TT vaccine		
Yes	140	27.5
No	369	72.5
Ever had the HBV vaccine		
Yes	55	10.8
No	454	89.2
Ever had routine medical check-ups		
Yes	132	25.9
No	377	74.1
Overall health service utilization behavior		
Poor	302	59.3
Fair	180	35.4
Good	27	5.3

Factors Associated with Willingness to Utilize Any PCC Service (1)

With increasing levels of education, the proportion of women who were willing to utilize any pre-conception service was observed to significantly increase. While a third (66.7%) of those with a primary level of education were willing, 87.6% and 85.6% of those with secondary and tertiary levels of education respectively were willing to utilize the service ($p=0.002$). Also, even when the issue of payment was not categorically stated, a higher proportion (90.5%) of women whose average monthly earning was at least minimum wage or more were willing to utilize pre-conception care services compared to 82.3% of

Table 4: Perception of PCC by Respondents

Variable	Frequency (N=509)	%
Genetic services		
Poor	105	20.6
Good	404	79.4
Substance abuse services		
Poor	184	36.1
Good	325	63.9
Management of STIs/HIV		
Poor	85	16.7
Good	424	83.3
Contraceptive services		
Poor	143	28.1
Good	366	71.9
Education on harmful cultural practices		
Poor	90	17.7
Good	419	82.3
Vaccination services		
Poor	71	13.9
Good	438	86.1
Nutrition services		
Poor	350	68.8
Good	159	31.2
Management of infertility/ sub-fertility		
Poor	63	12.4
Good	446	87.6
Overall perception of PCC		
Poor	146	28.7
Good	363	71.3

those earning less than minimum wage monthly ($p=0.019$) (Table 5). The willingness of the respondents to utilize pre-conception care services was associated with their history of previous antenatal care (ANC) attendance. A significantly higher proportion (84.6%) of those who attended ANC during their last pregnancy were willing to utilize any of the pre-conception care services compared to 62.5% of those who did not attend ANC. Health service utilization and drug use behavior were found to be significantly associated with willingness to utilize any of the pre-conception care services. (Table 5).

There was significant association between perception of some of the pre-conception care services and the willingness of the women to utilize any of the services, with higher proportion of those with good perception being willing to use compared to those with poor perception. Similarly, a higher proportion (83.0%) of women with good perception of the overall preconception care services was willing to use the service compared to those (78.8%) with poor perception ($p=0.019$) (Table 6)

Factors Associated with Willingness to Utilize Any PCC Service (2)

Table 5: Socio-demographic, Obstetric and Health-seeking Characteristics associated with Willingness to utilize any PCC Service

Socio-demographic Variables	Willingness to utilize PCC services		P-value	Obstetric & Health-seeking Variables	Willingness to utilize PCC services		P-value
	No (n)%	Yes (n)%			No (n)%	Yes(n)%	
Age (years)				Ever pregnant			
15-24	32 (15.5)	175 (84.5)	0.944	No	39 (14.0)	240 (86.0)	0.353
25-49	46 (15.2)	256 (84.8)		Yes	39 (17.0)	191 (83.0)	
Level of education				Last pregnancy planned			
≤ primary	15 (33.3)	30 (66.7)	0.002*	No	18 (23.4)	59 (76.6)	0.066
Secondary	24 (12.4)	169 (87.6)		Yes	21 (13.7)	132 (86.3)	
Tertiary	39 (14.4)	232 (85.6)					
Average monthly income (Naira)				Had ANC during last pregnancy			
< minimum wage	64 (17.7)	297 (82.3)	0.019*	No	6 (37.5)	10 (62.5)	0.023*
≥ minimum wage	14 (9.5)	134 (90.5)		Yes	33 (15.4)	181 (84.6)	
Marital status				Previous poor obstetric history			
Not currently married	44 (14.9)	251 (85.1)	0.764	No	35 (18.7)	152 (81.3)	0.138
Currently married	34 (15.9)	180 (84.1)		Yes	4 (9.3)	39 (90.7)	
Family type				Routine drug use behavior			
Monogamy	28 (14.7)	162 (85.3)	0.195	Poor	39 (24.4)	121 (75.6)	<0.001*
Polygamy	6 (25.0)	18 (75.0)		Fair/ Good	39 (11.2)	310 (88.8)	
				Health service utilization behavior			
				Poor	55 (18.2)	247 (81.8)	0.029*
				Fair/ Good	23 (11.1)	184 (88.9)	

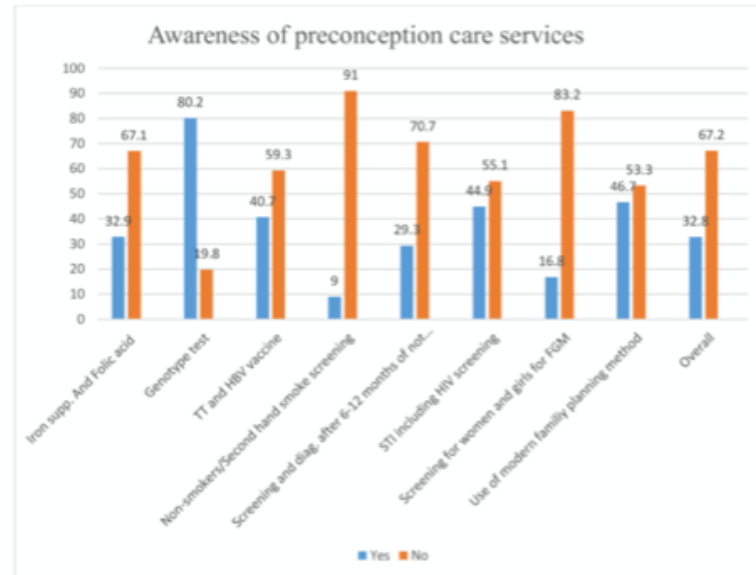


Figure 1: Awareness of Preconception Care Services among Respondents

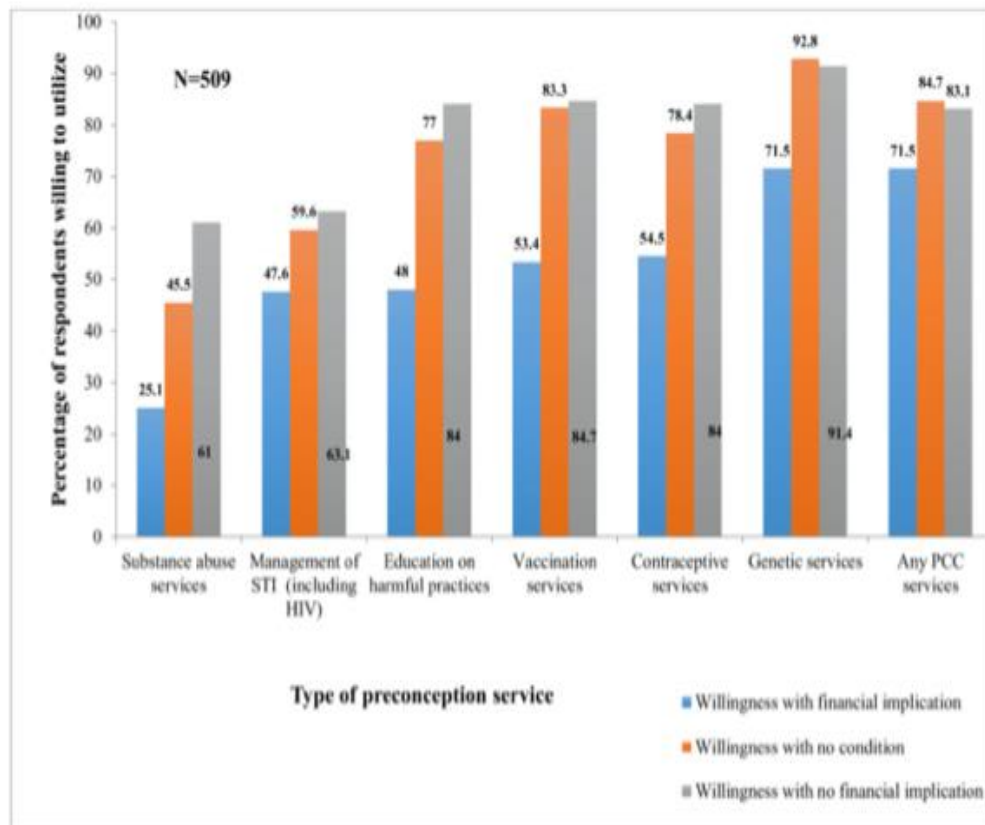


Figure 2: Respondents willingness to Utilize Components of PCC Services under three conditions, namely if there is no financial implication, if there is a financial implication, and without any conditions at all

CI=1.190 to 5.783). The odds of those with fair-good drug use behavior being willing to utilize PCC was two

Table 6: Association between perception of PCC services and willingness to utilize any PCC service

Variable	Willingness to utilize PCC services		P-value
	No (n)%	Yes (n)%	
Overall Perception of PCC services			
Poor	31 (21.1)	115 (78.8)	0.019*
Good	47 (12.9)	191 (83.0)	
Genetic services			
Poor	21 (20.0)	84 (80.0)	0.135
Good	57 (14.1)	347 (85.9)	
Substance abuse services			
Poor	31 (16.8)	153 (83.2)	0.473
Good	47 (14.5)	278 (85.5)	
Management of STIs/ HIV			
Poor	20 (23.5)	65 (76.5)	0.021*
Good	58 (13.7)	366 (86.3)	
Contraceptive services			
Poor	30 (21.0)	113 (79.0)	0.027*
Good	48 (13.1)	318 (86.9)	
Education on harmful cultural practices			
Poor	23 (25.6)	67 (74.4)	0.003*
Good	55 (13.1)	364 (86.9)	
Vaccination services			
Poor	23 (32.4)	48 (67.6)	< 0.001*
Good	55 (12.6)	383 (87.4)	
Nutrition services			
Poor	55 (15.7)	295 (84.3)	0.717
Good	23 (14.5)	136 (85.5)	
Management of infertility/ sub-fertility			
Poor	16 (25.4)	47 (74.6)	0.018*
Good	62 (13.9)	384 (86.1)	

Predictors of willingness to utilize any PCC Service

Level of education and drug use behavior were identified as independent predictor of willingness to utilize any of the pre-conception care (PCC) services among women of reproductive age in Ibadan North LGA. Women with secondary level of education were found to be about three times more likely to be willing to utilize PCC compared to those with primary level of education (OR=2.6; 95%

times higher than those with poor behavior (OR=2.2; 95% CI=1.273-3.677). Among the subset of women who had being previously pregnant, average monthly income was identified as a predictor of their willingness to utilize any of the PCC package. Those earning at least minimum wage were two times more likely to utilize PCC than those earning less (OR=2.4; 95% CI=1.002-5.515). (Table 7).

DISCUSSION

Preconception care (PCC) is a crucial aspect of reproductive health that improves obstetric outcomes for women. The study assessed women's perception and willingness to utilize preconception care and services. Nearly three-quarters of the respondents had good perception regarding preconception care and majority (84.7%) were willing to use any preconception care services without any

The success of preconception care largely depends on the willingness to participate just as attitude to it.²⁷ The utilization of preconception care (PCC) services has been explored in research, many of which indicate poor utilization. In the study among women in Abakaliki,³¹ Southeast Nigeria, only 10.3% utilized PCC services and only 14.05% of women utilized PCC services in another study in Enugu, Southeast Nigeria.²⁸ Studies

Table 7: Predictors of Willingness to Utilize any PCC Service

Variable	Willingness Yes (n)%	P-value	Model I (N=509)			Model II (n=230)		
			AOR	Lower	Upper	AOR	Lower	Upper
Level of education								
≤ primary	30 (66.7)	0.002*	1			1		
Secondary	169 (87.6)		2.6	1.190	5.783	1.7	0.633	4.660
Tertiary	232 (85.6)		1.8	0.809	3.779	1.1	0.360	3.250
Average monthly income (Naira)								
< minimum wage	297 (82.3)	0.019*	1			1		
≥ minimum wage	134 (90.5)		1.8	0.937	3.306	2.4	1.002	5.515
Routine drug use behavior								
Poor	121 (75.6)	<0.001*	1			1		
Fair/ Good	310 (88.8)		2.2	1.273	3.677	1.8	0.803	3.947
Health service utilization behavior								
Poor	247 (81.8)	0.029*	1			1		
Good	184 (88.9)		1.7	0.977	2.888	1.8	0.823	3.783
Overall perception								
Poor	115 (78.8)	0.019*	1			1		
Fair/ Good	191 (83.0)		1.5	0.894	2.545	1.3	0.580	2.981
Last pregnancy planned								
No	59 (76.6)	0.066				1		
Yes	132 (86.3)					1.2	0.527	2.555
ANC during last pregnancy								
No	10 (62.5)	0.023*				1		
Yes	191 (84.6)					1.7	0.510	5.000

conditions. The findings from this study showed that only 38.4% of the women were aware of preconception care which is comparable to those reported among Nigerian women in Southeast³¹, Southsouth³³ and among Saudi women.³⁴ However, a contradictory report among healthcare personnel in Zaria, Nigeria showed a high awareness of 83.3%.³⁵ This difference is expected because the latter study was conducted among healthcare workers, who are more likely to have medical knowledge of PCC²³ than the general population enrolled in previous studies. Despite the low awareness in this study, the majority of the women expressed willingness to utilize preconception care services.

conducted outside of Nigeria report a utilization rate of 14.5% in Ethiopia²⁶ and 15.8% in France.³⁶ However, despite the low utilization rates observed, the current study reveals a high willingness to use preconception care, similar to findings from a study among women in Sokoto, Northwest Nigeria.²³ The study conducted among women from Abakaliki also revealed that the majority expressed a willingness to receive preconception care before their subsequent pregnancies.³¹

The disparity between willingness to use and actual utilization of preconception care services as

indicated in these studies, may have been from low awareness and perception of the women about preconception care. In previous study, most women who learned about PCC from their healthcare providers used the service, demonstrating increased awareness leads to higher utilization hence influencing informed decision making.³¹ Furthermore, it is agreed that the perception of health care workers and prospective mothers can influence the provision and utilization of the service.³⁷

The majority of the respondents had good perception about preconception care. This result is in line with the finding from a study conducted among healthcare workers and women of reproductive age group in Malawi. About three-quarter (74.7%) of the women had positive perception towards preconception care.²⁴ The women in the study conducted in Sokoto State, Northwest Nigeria,²³ indicated they would utilize preconception care because they believed it would benefit them. This demonstrates that a positive perception of PCC influences the decision to use it. This finding supports the Health Belief Model (HBM), which suggests that perceived benefits can motivate individuals to seek preconception care.³⁸

Studies reporting the prevalence of willingness to utilize PCC services did not fully explore the factors affecting this willingness,^{23,31} unlike studies focusing on actual utilization.^{31,39} However, research indicates that the level of education and information from healthcare providers significantly influence the utilization of PCC service.³¹ In current study, level of education, monthly income, routine drug use behaviour, health service utilization and perception of PCC services were significantly associated with being willing to utilize PCC. However, only level of education, monthly income and drug use behaviour were independent predictors of willingness to utilize PCC services.

Regarding health service utilization behaviour among respondents, more than half (59.3%) demonstrated poor utilization in areas such as routine medical checkups, and receiving TT and HBV vaccines. This finding is crucial because it may impact the population's willingness to utilize or actual utilization of health services, including preconception care. Research has shown better healthcare utilization among females compared to males,⁴⁰ and among married and pregnant women compared to single women or women who have never been pregnant.⁴¹ The finding of poor health service utilization may be explained by the large percentage of the respondents who were single with nearly half that had never been pregnant. Hence, interventions to scale up health education among women cannot be overemphasized.

There was increased willingness to utilize PCC services among all the women who had higher education

and women who had ever been pregnant and who had higher income. Higher education is frequently associated with improved health literacy, which allows women to understand medical advice and successfully navigate healthcare systems. This increases the likelihood of seeking and receiving health care services such as PCC.⁴² Socioeconomic status also plays a significant role, as women from higher-income families would show greater willingness to use PCC services. Women with greater education levels frequently have better career opportunities and finances, making it easier to access healthcare services like as PCC. Economic stability can improve access to healthcare resources and reduce costs limitations.⁴²

It is well acknowledged that women who prioritize preconception care for couples intending to become pregnant are more likely to make use of these services. In a study, women overwhelmingly agreed that PCC needs to come first.³⁹ This supports the results of our study, which show that willingness to use PCC services is positively correlated with good perception. Perception of preconception care services can be greatly improved when people know about the components and benefits of the services and how to access them.

Limitations of the Study

Although the impact of the language barrier was mitigated by the measures implemented such as instrument translation, and education had no significant influence on the data collection process, one limitation of the study was that it did not account for participants' health literacy levels, which could influence their perception of PCC services.

Also, the current study focused solely on women, excluding their partners. This is significant because men also play a vital role in preconception care services, as emphasized by the WHO.⁴³ Furthermore, the study was purely quantitative and may not have fully explored some sociocultural factors that limit women's willingness to utilize PCC services. The cross-sectional nature of the study also makes it impossible to clearly establish causality. Future research could consider addressing these aspects of PCC raised.

CONCLUSION

This study revealed that most of the women had good perception towards preconception care and were willing to use preconception care services. Utilization of PCC in many parts of Nigeria remains low and since willingness to use preconception care does not automatically translate to actual utilization there is need for follow up measures in improving the education of women about preconception care services. This implies that,

preconception care services could be optimally utilized if there is improvement in the level of awareness and good perception among the female folks.

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