





Knowledge and Utilization of Post-Abortion Care Services among Women of Reproductive Age in Rivers State University Teaching Hospital, Port Harcourt Nigeria

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Abstract	Article History
<p>The study assessed the knowledge and utilization of post abortion care services among women of reproductive age (15–49years) in Rivers State University Teaching Hospital. It was designed to determine women’s understanding of post-abortion care, the extent to which women use post abortion care services and identify reasons for non-use of post abortion care services among women of reproductive age. A simple sampling technique involving purposive sampling was used to randomly elicit 114 respondents. Data were collected with the aid of a structured questionnaire and analysed using frequency, means, percentages and regression analysis. The result showed that the respondents had an average age of 28years, 2 times deliveries and one abortion/miscarriage done averagely on the 11th-12th week. 50% were married, 43% were single, 91.2% were Christians and 74.6% have attended higher institution. The results showed the respondents had good understanding of post-abortion care. About 63.2% of the women were currently preventing pregnancy by regularly using barrier method e.g., Condom (1st in ranking/usage), Injectable (2nd), Pills (3rd) and Natural method (4th). The results also showed that the health facility’s distance (farness) from home, the cost of obtaining post abortion care services in the health facility, fear that some post abortion care services such as family planning injections can cause infertility, and healthcare providers’ attitude were the reasons for non-use of post-abortion care. The multinomial logistic regression analysis showed a highly significant difference of the effect of education on women’s knowledge of post-abortion care. The result of the multiple regression analysis however, showed no significant difference of the effect of occupation on the use of post-abortion care services. The study recommended that awareness programs on sex education/family planning and post-abortion care among women should be intensified.</p> <p>Keywords: <i>Post-abortion care, Reproductive health, Utilization of healthcare services, Women's health</i></p>	<p>Received: 28 Mar 2024 Accepted: 04 May 2024 Published: 01 Jul 2024</p> <div style="text-align: center;">  <p>Scan QR code to view*</p> </div> <p>License: CC BY 4.0*</p> <div style="text-align: center;">  <p>Open Access article.</p> </div>
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Introduction

Abortion poses a huge threat and burden to women’s reproductive health most especially in countries where it is illegal (Ajewole *et al.*, 2018, p. 1-5). In numerous developing countries, women resort to unsafe abortions due to the illegality or restrictive laws surrounding abortion, leading to severe complications like anaemia, septicemia, infertility, and even death. Around 73 million induced abortions take place worldwide each year. Six out of 10 of all unintended pregnancies, and 3 out of 10 of all pregnancies, end in induced abortion and global estimates demonstrate that 45% of all induced abortions are unsafe (Bearak *et al.*, 2020). 210 million

women become pregnant each year. Out of these, 19 million ends with unsafe abortion, leading to the death of 68,000 women due to unsafe abortion each year, thereby, leaving 5 million women to suffer from permanent or temporary disabilities (Gebremedhin *et al.*, 2018, p.1-5).

The World Health Organization (2014), defines unsafe abortion as a procedure of pregnancy termination either by persons lacking the necessary skills or in an environment that does not conform to minimal medical standards or both. The abortion law in Nigeria states that abortion is illegal unless done to save the life of the mother. If caught, those who violate

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the law risk a 7-year (the patient) or a 14-year (the performer) jail term (Okonofua, 2022). An estimated 1.2 million induced abortion take place annually in Nigeria, despite this law (Ajewole *et al.*, 2018, p. 1-5). Millions of mothers in certain developing countries have tragically lost their lives prematurely as a result of restrictive abortion laws, limited access to safe abortion, and inadequate post-abortion care (World Health Organization, 2021).

According to the National Demographic and Health Survey (2013), 40% of never-married women aged 15–19 have had sex, and had, on average, more children than they wanted, evidence from national surveys suggests that the number of abortions in Nigeria is likely to remain high in the absence of intervention. Since unintended pregnancy is the reason for most abortions, the most important step is to promote access to contraceptive services to prevent such unplanned pregnancies; an efficient process should also be established to enable eligible women to have access to safe legal abortion services, to help such women avoid long-term disability and even death, the government should continue to increase and improve access to appropriate, adequate and timely post abortion care (PAC) (Bankole *et al.*, 2015, p.170).

Post abortion care as a comprehensive approach consists of a series of medical and related interventions designed to manage complications of spontaneous and induced abortion, both safe and unsafe. The care was introduced in the public health systems around the world since the 1994 International Conference on Population and Development and was programmed to meet the needs of abortion complications and at the same time be cost effective. The concept of post-abortion care was formulated to mitigate maternal morbidity and mortality, particularly in regions where post abortion laws are restrictive (Suh, 2021).

The post-abortion care approach included: emergency treatment of incomplete abortion and its complications, family planning counselling and services, and linking the emergency treatment along with other reproductive health services, including STI evaluation and HIV counselling and/or referral for testing and partnerships between providers and communities (Ishoso *et al.*, 2021, p.1-11).

Post-abortion care consists of both curative care (treating incomplete abortion and its complications) and preventive care (contraceptive counselling and services) (Owolabi *et al.*, 2019). In developing countries with limited access to safe abortion and low awareness of family planning, Post-Abortion Care serves as one of the rare opportunities for women to access medical services and receive reproductive health and family planning services, especially given the challenges of severe poverty and lack of access to or inadequate healthcare services. The World Health Organization recommends that quality post abortion care be offered in all the health facilities in the country and by all trained health cadres. (World Health Organization, 2014).

In contrast to other maternal health services, the utilization of post-abortion care has remained low due to various reasons

such as discrimination at the point of care which discourages women from presenting for care, and discourages providers from freely offering post-abortion contraceptive guidance and services. Poor communication between facilities and communities continues to result in delayed care and access-related discrimination (Mutua *et al.*, 2018). Due to this limited utilization, a majority of women in their reproductive years are at risk of developing complications related to abortion. The study therefore, aims to assess the knowledge and utilization of post abortion care services among women of reproductive age in River State University Teaching Hospital.

Statement of the Problem

Of 210 million pregnancies that occur in each year, about 46 million (22%) end up being aborted. Approximately 20 million (43%) of those abortions are probably underwent by someone without having the skills or understanding the procedure (Lentiro *et al.*, 2019, p.1-7). Nearly 5.5 million African women undergo unsafe abortion. More than 36,000 of these women die from complications of the procedure, whereas millions more experience acute or chronic illness that may lead to disability (Lentiro *et al.*, 2019, p.1-7).

A study conducted in six Nigerian states (Ekiti, Gombe, Kaduna, Kano, Kogi, Lagos) revealed that 36% of women admitted for abortion-related reasons experienced severe complications. Women presenting with complications are usually in their twenties, unemployed and without formal education (Akande *et al.*, 2020).

Common complications such as haemorrhage, septicaemia, and anaemia often arise due to the absence of safe abortion services (Jelly *et al.*, 2023). The question is, whether the women are knowledgeable about post abortion care services or not? If they know, are these services being utilized? This challenge motivated the researcher to assess the knowledge and utilization of post abortion care services in Rivers State University Teaching Hospital.

Methodology

This section discussed the step-by-step approach used in conducting this research and included the study design, study area, population of the study, sample and sampling methods, source of data, study instrument and method of data collection, validity and reliability of tool, data analysis, and ethical considerations.

The study adopted a descriptive cross-sectional design to determine the knowledge and utilization of post-abortion care services among women of reproductive age in Rivers State University Teaching Hospital. A descriptive design aims at observing, describing and documenting aspects of a situation on the phenomenon of a life situation as it normally occurs (Hunter, 2019).

Study Area

The area covered in this study is Rivers State University Teaching Hospital, located in Port Harcourt, Rivers State, Nigeria. Its departments include Medicine, Paediatrics, Laboratories, Radiology, Family Medicine, Obstetrics &

Gynaecology, Anaesthesia, Surgery, Pathology, Ophthalmology, Accident Centre and the Surgical/Medical Emergency. Some other departments are Pharmacy, Finance, Maintenance, General Administration.

Population of the Study

Polit and Beck (2017), defines population as the entire aggregate of cases a researcher is interested in. World Health Organization (2014), states that women of child-bearing age (15-49 years) account for 22% of the entire population, thus, the study population was all reproductive age women seeking care in obstetrics and gynaecology ward, Rivers State University Teaching Hospital that were present during the study period.

Sample Size Determination

The population was calculated using Single Population Proportion Formula by Cochran (Mohamed *et al.*, 2018).

$$n = Z^2 \times p \times (1-p) / e^2$$

Where;

n = desired sample size

Z = Z-score corresponding to the researcher's desired confidence level of 95% (1.96)

p = estimated proportion of women of child bearing age (15-49) which is 22% will be used.

e = the margin of error (0.05)

Substituting these values;

$$n = (1.96)^2 \times (0.22) \times (1 - 0.22) / (0.05)^2$$

$$n = 3.8416 \times 0.22 \times 0.78 / 0.0025$$

$$n = 263.68$$

$$n = 264.$$

Therefore, thus number represents the target population.

Finite population correction will be done to produce a sample size that is proportional to the target population size. The final sample size will be made by correction formula;

$$n = n^{\circ} / 1 + (n^{\circ} - 1) / N$$

Where;

n = Correct sample size

n[°] = Desired sample size (264)

N = the estimate of the population size (200)

$$n = 264 / 1 + (264-1)/200$$

$$n = 264 / 1 + 263/200$$

$$n = 264 / 1 + 1.315$$

$$n = 264 / 2.315$$

$$n = 114.$$

Sampling Technique

Purposive sampling method was used to select respondents because the study subjects are rare (abortion clients are rare) at the time of data collection. All consecutive patients seeking care at randomly selected days (Monday, Tuesday, Thursday, Friday) from the obstetrics and gynaecology ward were included in the study. The respondents were obtained based on the inclusion criteria.

Inclusion Criteria

The inclusion criteria include: women of reproductive age (15 – 49years). Respondents who are willing to participate in the

study. Those located within Rivers State University Teaching Hospital as at the time of the study.

Exclusion Criteria

Women above reproductive age (50 years and above). Those absent during the period of study

Instrument for Data Collection

The instrument for data collection was a researcher developed questionnaire and e-survey consisting of 35 items presented in Sections A, B, C and D. Section A consists of 8 items on the demographic data of the respondents. While sections B, C & D are based on the objectives of the study. Section B consists of 8 close ended questions on the knowledge of post abortion care services. Section C consist of 6 items, While, section D consists of ten (10) questions based on a four-point Likert rating scale of strongly agree (4 points), Agree (3 points), Disagree (2 points) and Strongly Disagree (1 point) for questions on reasons for non-use of post abortion care services. Respondents were asked to tick the option that best suit them.

Validity of the Instrument

The questionnaire was submitted to the researcher's supervisor and two lecturers in the Department of Nursing Sciences which are clinical experts for face and content validity. They were given a copy of the instrument to critically assess the accuracy of the instrument. Corrections were affected to modify the instrument before it was administered to the respondent.

Reliability of the Instrument

The test re-test reliability study was employed to ensure the reliability of the instrument. To ensure its reliability, the questionnaire was pre-tested at another health care facility, Rivers State University medical centre, which is located in the same geographical area as the Rivers State University Teaching Hospital. To ensure reliability the same tools to collect data from the respondents and clarifications to attain correct information were used and ambiguous questions removed. The questionnaire content was reviewed for subjective questions and more objective questions were included. In order to establish the reliability of the instrument, a pilot test was also carried out. Hence, questionnaire was found to be reliable.

Method of Data Collection

The ethical approval was used to obtain permission from the Chairman, Research ethics committee in Rivers State University Teaching Hospital. The questionnaire was used as a guide to obtain information from the women who met the inclusion criteria. The researcher visited the hospital to collect data by distributing the questionnaires. Not forgetting the purpose of the study and instructed on the data collection procedure and how to approach the respondents. The respondents were met, consent was obtained and copies of the questionnaires given to them to fill. Completed questionnaires were collected on the spot. The entire exercise lasted for a period of one month.

All respondent information was maintained with the strictest confidentiality. The respondents filled in the questionnaire in

private and all data collected was kept safely by the researcher. Data was entered and protected on password protected computers and an excel data entry system was used to code the data collected. No participant names or social security numbers were utilized for identification.

Procedure for Data Analysis

The collected data was analysed using descriptive statistics (percentages, means, charts and frequency tables) and inferential statistics (regression analysis).

Objective (i) and (ii) was achieved using descriptive statistics such as frequency, percentage, and mean. Objective (iii) was achieved using mean score based on Likert scale rating. Hypothesis I was tested using multinomial logistics regression analysis and Hypothesis II was tested using multiple regression analysis. IBM SPSS Statistics Software 25 was used for the data analysis.

Ethical Consideration

A letter of introduction was collected from the Head, Department of Nursing Sciences. Ethical approval to carry out the study was obtained from the Chairman, Research ethics committee in Rivers State University Teaching Hospital.

The procedure and benefits of the study were explained to the participants after which an informed consent was obtained from each study participant at the beginning of the study after being informed of the objectives of the study. They were assured of strict confidentiality. The respondents' rights were respected at all times to discontinue the study at any time. The study was guided by the following ethical principles:

Informed consent: The participants faced few risks as a result of the research study. The questionnaire did not include any identifying information, ensuring anonymity. All participants provided informed consent.

Results

Demographic characteristics of the respondents

This section captured the respondents' (women of reproductive age (15 – 49 years) in Rivers State University Teaching Hospital) age, marital status, religion, level of education, occupation, number of deliveries and number of abortions/miscarriages.

Age

The result showed that 5.3% of the respondents were under 18years, 64.9% were within the age bracket of 18-30years, 22.8% were between the age bracket of 31-40years while 7.0% were within the age range of 41-50years. The average age of the women of reproductive age in Rivers State University Teaching Hospital was 28years.

Marital status

The results from Table 1 revealed that 43.0% of the women were single, 50.0% were married while 7.0% were divorced. The result could be an indication that abortion/miscarriages were most common among married persons, followed by single people and least among divorcees.

Religion

About 91.2% of the women were Christians, 2.6% were Muslims while 6.2% were traditional worshippers. The result indicated that majority of the women of reproductive age in Rivers State University Teaching Hospital were Christians.

Education

The result on Table 1 also showed that 5.3% of the respondents had no formal education, 2.6% have had primary school education, 17.5% have had secondary school education while 74.6% have attended tertiary institution. The result indicated that abortion was more common among tertiary institution students which may be an indication they were more exposed reckless sexual activities and unwanted pregnancies. The result therefore, points to the need for intensive awareness programs on sex education/family planning among tertiary institution students.

Occupation

About 36.0% of the respondents were employed, 20.2% were self-employed, 24.6% were students while 19.3% were unemployed.

Number of deliveries

The result showed that 48.2% of the women were yet to have any delivery, 35.1% have had between 1-3 deliveries, 10.5% have had between 4-9 deliveries while 6.1% have had 7-9 deliveries. On average, the respondents have had 2 deliveries.

Number of abortions/miscarriages

The result also showed that 48.2% of the women have not had any abortion/miscarriage, 43.0% have had between 1-2 abortions/miscarriages while 8.8% have had over 2 abortions/miscarriages. On average, the respondents have had 1 abortion/miscarriage.

There is however, limited research works on the demographic characteristics of women of reproductive age (15 – 49 years) in Rivers State University Teaching Hospital vis-à-vis post-abortion care.

Respondents' Understanding of Post Abortion Care

The results on Table 2 showed (in order of decreasing ranking) the respondents understanding that post-abortion care is the care given to a woman following an abortion/miscarriage (1st), family planning can prevent an unplanned pregnancy (1st), counselling is an important element of post abortion care (2nd), family planning and contraceptives can be offered during post abortion care (3rd), post-abortion care comprises of emergency treatment following an abortion/ miscarriage (4th), post-care services can be provided by any trained person (5th). Although they were aware of the complications associated with an abortion (6th), 50.9% of the respondents have had an abortion/miscarriage (7th). The result showed a good level of awareness and understanding of post-abortion care among the respondents.

There is however, limited research works on the level of awareness of women of reproductive age (15 – 49 years) in Rivers State University Teaching Hospital vis-à-vis post-abortion care.

Table 2 showed of the respondents' (women of reproductive Hospital) understanding of post-abortion care using age (15 – 49 years) in Rivers State University Teaching frequencies, percentages and ranking.

Table 1: Distribution of the respondents according to their demographic characteristics

Variables	Category	Freq uenc y	Percent age (%)
Age (years)	Under 18	6	5.3
	18 - 30	74	64.9
	31- 40	26	22.8
	41- 50	8	7.0
	Total	114	100.0
Marital status	Single	49	43.0
	Married	57	50.0
	Divorced	8	7.0
	Total	114	100.0
Religion	Christianity	104	91.2
	Islam	3	2.6
	Traditional religion	7	6.2
	Total	114	100.0
Level of education	No formal education	6	5.3
	Primary	3	2.6
	Secondary	20	17.5
	Tertiary	85	74.6
	Total	114	100.0
Occupation	Employed	41	36.0
	Self employed	23	20.2
	Student	28	24.6
	Unemployed	22	19.3
	Total	114	100.0
Number of deliveries	None	55	48.2
	1-3	40	35.1

Source: Field Survey, 2023

Table 2: Respondents' Understanding of Post Abortion Care

Variables	Frequency	Percentage (%)	Ranking
Post abortion care is the care given to a woman following an abortion/miscarriage	109	95.6	1 st
Post abortion care comprises of emergency treatment following an abortion/ miscarriage	104	91.2	4 th
Post care services can be provided by any trained person	75	65.8	5 th
Counselling is an important element of post abortion care	108	94.7	2 nd
Family planning and contraceptives can be offered during post abortion care	105	92.1	3 rd
Family planning can prevent an unplanned pregnancy	109	95.6	1 st
I am aware of the complications associated with an abortion	71	62.3	6 th
Have you had a miscarriage/abortion before?	58	50.9	7 th

Source: Field Survey, 2023.

Utilization of Post-Abortion Care Services Instructions among Women of Reproductive Age (15 – 49 years) in Rivers State University Teaching Hospital

The results on Table 3 showed that 43.9% of the respondents had an abortion within the first twelve weeks of pregnancy, 20.2% had it between the thirteenth to 13th-24th weeks while 6.1% had abortion between the 25th- 36th weeks. 29.8% gave null responses indicating that they had never utilized post-abortion services. On average, the respondents had their abortion around the 11.45 (12th) week.

About 13.2% of the respondents who have had abortion performed the procedure at home, 9.0% had it at the chemist shop, 43.0% performed the procedure at the hospital while 3.5% had their abortion procedure at nursing homes.

About 10.5% of the respondents who have had abortion reported having the procedure performed by a Chemist, 43.9% had the procedure done by a medical doctor, 0.9% of the abortion was reportedly done by a native doctor, 7.9% of the abortion was carried out by a nurse while 7.0% of the procedure was done by a traditional birth attendant.

Among the respondents who have had an abortion, 47.4% reported have it done by method of dilatation and curettage/manual vacuum aspiration, 15.8% had it through injections, 0.9% had it done using native herbs while 6.1% had their abortions by taking oral drugs.

According to the result, 63.2% of the women were currently preventing pregnancy by regularly using barrier method e.g., Condom (1st in ranking/usage), Injectable (2nd), Pills (3rd) and Natural method (4th).

Table 3 showed the utilization of post abortion care services instructions among women of reproductive age (15 – 49 years) in Rivers State University Teaching Hospital using frequencies, percentages and means.

Reasons for Non-use of Post-Abortion Care Services among Women of Reproductive Age

The results from Table 4 showed that the health facility's distance (farness) from home (2.95), the cost of obtaining post abortion care services in the health facility (2.85), fear that some post abortion care services such as family planning injections can cause infertility (2.88), insufficient money to go for manual vacuum aspiration following a spontaneous abortion (2.89), post-abortion care service providers are always in the health facility (2.80), the healthcare providers attitude makes me to dislike the service (2.79), were the reasons (as indicated by their means which were greater than 2.50) for non-use of post-abortion care services among women of reproductive age (15 – 49 years) in Rivers State University Teaching Hospital. However, lack of readily available post-abortion care services in the health facility (2.46), lack of needed support from husband to seek post-abortion care services like counselling (2.20), religious barrier which does not accept family planning as a method of birth control (2.49) and cultural barrier which forbids child spacing through artificial family planning method (2.47) were disregarded as the reasons (as indicated by their means which were less than 2.50) for their non-usage of post-abortion care services.

According to Thompson *et al.* (2021), greater distance from an abortion facility is associated with delays in obtaining abortion care and inability to receive desired abortion care. Traveling long distances for abortion care can result in incurring transportation costs, needing time off work, needing to disclose an abortion, and needing to find child care.

Women who are low-income earners and lack insurance coverage for abortion and post-abortion care often struggle to come up with the money to pay for the procedure. As a result, they often experience delays obtaining post-abortion care (Boonstra, 2016). According to Netshinombelo *et al.* (2022), women may be reluctant to seek post-abortion care due to fear of ill-treatment from healthcare providers. The study found that women who had abortions were often afraid of being stigmatized and judged by health care providers and society.

Table 3: Utilization of Post-Abortion Care Services Instructions by the Respondents

Variables	Category	Frequency	Percentage (%)	Mean
At what period (weeks) of pregnancy did you have an abortion	Null responses	34	29.8	11.45weeks
	0- 12	50	43.9	
	13- 24	23	20.2	
	25 - 36	7	6.1	
	Total	114	100.0	
Where was the abortion performed	Null responses	35	30.7	
	At home	15	13.2	
	Chemist shop	11	9.6	
	Hospital	49	43.0	
	Nursing home	4	3.5	
	Total	114	100.0	
Who was your service provider?	Null responses	34	29.8	
	Chemist man	12	10.5	
	Doctor	50	43.9	
	Native doctor	1	0.9	
	Nurse	9	7.9	
	Traditional birth attendant	8	7.0	
	Total	114	100.0	
What method was used for the abortion?	Null responses	34	29.8	
	Dilatation and curettage/ manual vacuum aspiration	54	47.4	
	Injections	18	15.8	
	Native herbs	1	0.9	
	Oral drugs	7	6.1	
	Total	114	100.0	
Are you currently doing anything to delay or avoid pregnancy?	Null responses	14	12.3	
	No	28	24.6	
	Yes	72	63.2	
	Total	114	100.0	

How often do you utilize the following methods of family planning?

Method	Never	Rarely	Regularly	Sometimes	Null responses	Ranking
Pills	36 (31.6%)	29 (25.4%)	18 (15.8%)	22 (19.3%)	9 (7.9%)	3 rd
Natural method	37 (32.5%)	28 (24.6%)	12 (10.5%)	29 (25.4%)	8 (7.0%)	4 th
Injectable	40 (35.1%)	13 (11.4%)	20 (17.5%)	31 (27.2%)	10 (8.8%)	2 nd
Barrier method	19 (16.7%)	12 (10.5%)	33 (28.9%)	41 (36.0%)	9 (7.9%)	1 st

Source: Field Survey, 2023.

Table 4 showed the reasons for non-use of post-abortion care services among women of reproductive age (15 – 49 years) in Rivers State University Teaching Hospital using sum, mean score and remark.

Table 4: Reasons for Non-use of Post-Abortion Care Services among Respondents

Reasons	Strongly agree (4)	Agree (3)	Disagree (2)	Strongly disagree (1)	Sum	Mean	Remark
The health facility's distance (farness) from home	47	33	15	19	336	2.95	Agree
The cost of obtaining post abortion care services in the health facility	39	35	24	16	325	2.85	Agree
Post abortion care services are not readily available in the health facility	10	41	55	8	281	2.46	Disagree
Fear that some post abortion care services such as family planning injections can cause infertility	26	57	22	9	328	2.88	Agree
My husband does not give me the needed support to seek post abortion care services like counselling	12	30	41	31	251	2.20	Disagree
Insufficient money to go for manual vacuum aspiration following a spontaneous abortion	37	44	16	17	329	2.89	Agree
Post abortion care service providers are always in the health facility	10	75	25	4	319	2.80	Agree
The healthcare providers attitude makes me to dislike the service	29	48	21	16	318	2.79	Agree
My religion does not accept family planning as a method of birth control	41	11	25	37	284	2.49	Disagree
My culture forbids child spacing through artificial family planning method	37	16	25	35	282	2.47	Disagree
Grand mean = 2.68							

Source: Field Survey, 2023.

Criterion Mean: ≥ 2.50

Women's Knowledge of Post-Abortion Care Based on their Educational Qualification

The result of the multinomial logistic regression analysis showed a highly significant difference ($p < 0.01$) of the effect of education on women's knowledge of post-abortion care especially in their awareness that post abortion care is the care given to a woman following an abortion/miscarriage and comprises of emergency treatment following an abortion/miscarriage, family planning and contraceptives can be offered during post abortion care and can prevent an unplanned pregnancy.

According to Väisänen (2015), women with higher education levels may have better access to family planning services, which can help prevent unintended pregnancies and the need for abortion. Women who are knowledgeable about the risks of pregnancy following an abortion are more likely to seek post-abortion care services and take steps to avoid unintended pregnancy (Wang *et al.*, 2020).

From the result, it was concluded that level of education significantly affected women's knowledge of post-abortion care hence, the null hypothesis which states that there is no significant difference in the women's knowledge of post abortion care based on their educational qualification was therefore, rejected.

6 Women's Use of Post-Abortion Care Services Based on their Occupation

The result of the multiple regression analysis showed no significant difference ($p > 0.05$) of the effect of the respondents' occupation on the use of post-abortion care services as indicated by the significance value of 0.266 which is greater than 0.05. The R-square value of 0.084 indicated that the respondents' occupation only had 8.4% influence on their use of post-abortion care services.

The result agrees with the findings of Adde *et al.* (2021) which reported that there is no evidence to suggest that occupation affects women's use of post-abortion care services. However,

other factors such as stigma and poverty can prevent women from seeking early post-abortion care services. From the result, it was concluded that level of occupation does not significantly affect women's use of post abortion care

services hence, the null hypothesis which states that there is no significant difference in the women's use of post abortion care services based on their occupation was therefore, accepted.

Table 5 showed the multinomial logistic regression analysis of women's knowledge of post-abortion care based on their educational qualification.

Table 5: Women's Knowledge of Post-Abortion Care Based on their Educational Qualification

Likelihood Ratio Tests Women's Knowledge	Model Fitting Criteria		Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.	
Intercept	51.199	-	3	-	
Post abortion care is the care given to a woman following an abortion/miscarriage	901.981	805.219	3	0.000**	
Post abortion care comprises of emergency treatment following an abortion/ miscarriage	126.107	29.345	3	0.000**	
Post care services can be provided by any trained person	93.481	-	3	-	
Counselling is an important element of post abortion care	52.991	-	3	-	
Family planning and contraceptives can be offered during post abortion care	194.490	97.728	3	0.000**	
Family planning can prevent an unplanned pregnancy	110.739	13.976	3	0.003**	
Awareness of the complications associated with an abortion	100.303	3.540	3	0.316	
Have you had a miscarriage/abortion before?	104.131	7.368	3	0.061	

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model.

- The respondents had knowledge of post-abortion care irrespective of their educational qualification.

** Significant at 1% (0.01) level

Source: Field Survey, 2023.

A summary of the statistics from Women's Use of Post-Abortion Care Services Based on their Occupation were presented in Table 6.

Table 6: Women's Use of Post-Abortion Care Services Based on their Occupation

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.319	0.847		3.918	0.000
	Period of pregnancy when abortion was done	-0.023	0.200	-0.014	-0.115	0.908
	Place the abortion performed	-0.105	0.173	-0.071	-0.610	0.543
	Abortion service provider	0.160	0.096	0.194	1.672	0.099
	Method used for the abortion	-0.065	0.206	-0.036	-0.314	0.755
	Unwanted pregnancy prevention	-0.553	0.314	-0.206	-1.761	0.082
R		0.290				
R square		0.084				
Sig		0.266				

Source: Field Survey, 2023.

Discussion

The result showed that 5.3% of the respondents were under 18years, 64.9% were within the age bracket of 18-30years, 22.8% were between the age bracket of 31-40years while 7.0% were within the age range of 41-50years. The average age of the women of reproductive age in Rivers State University Teaching Hospital was 28years. About 43.0% of the women were single, 50.0% were married while 7.0% were divorced. About 91.2% of the women were Christians, 2.6% were Muslims while 6.2% were traditional worshippers. 5.3% of the respondents had no formal education, 2.6% have had primary school education, 17.5% have had secondary school education while 74.6% have attended tertiary institution. About 36.0% of the respondents were employed, 20.2% were self-employed, 24.6% were students while 19.3% were unemployed. 48.2% of the women were yet to have any delivery, 35.1% have had between 1-3 deliveries, 10.5% have had between 4-9 deliveries while 6.1% have had 7-9 deliveries. On average, the respondents have had 2 deliveries. About 48.2% of the women have not had any abortion/miscarriage, 43.0% have had between 1-2 abortions/miscarriages while 8.8% have had over 2 abortions/miscarriages. On average, the respondents have had 1 abortion/miscarriage.

The results showed the respondents understanding that post-abortion care is the care given to a woman following an abortion/miscarriage (1st), family planning can prevent an unplanned pregnancy (1st), counselling is an important element of post abortion care (2nd), family planning and contraceptives can be offered during post abortion care (3rd), post-abortion care comprises of emergency treatment following an abortion/ miscarriage (4th), post-care services can be provided by any trained person (5th). Although they were aware of the complications associated with an abortion (6th), 50.9% of the respondents have had an abortion/miscarriage (7th).

It was shown that 43.9% of the respondents had an abortion within the first twelve weeks of pregnancy, 20.2% had it between the thirteenth to 13th-24th weeks while 6.1% had abortion between the 25th- 36th weeks. 29.8% gave null responses indicating that they had never utilized post-abortion services. On average, the respondents had their abortion around the 11.45 (12th) week. About 13.2% of the respondents who have had abortion performed the procedure at home, 9.0% had it at the chemist shop, 43.0% performed the procedure at the hospital while 3.5% had their abortion procedure at nursing homes. About 10.5% of the respondents who have had abortion reported having the procedure performed by a Chemist, 43.9% had the procedure done by a medical doctor, 0.9% of the abortion was reportedly done by a native doctor, 7.9% of the abortion was carried out by a nurse while 7.0% of the procedure was done by a traditional birth attendant. Among the respondents who have had an abortion, 47.4% reported have it done by method of dilatation and curettage/manual vacuum aspiration, 15.8% had it through injections, 0.9% had it done using native herbs while 6.1% had their abortions by taking oral drugs.

According to the result, 63.2% of the women were currently preventing pregnancy by regularly using barrier method e.g., Condom (1st in ranking/usage), Injectable (2nd), Pills (3rd) and Natural method (4th). The results also showed that the health facility's distance (farness) from home, the cost of obtaining post abortion care services in the health facility, fear that some post abortion care services such as family planning injections can cause infertility, insufficient money to go for manual vacuum aspiration following a spontaneous abortion, post-abortion care service providers are always in the health facility, the healthcare providers attitude makes me to dislike the service, were the reasons for non-use of post-abortion care services among women of reproductive age in Rivers State University Teaching Hospital. However, lack of readily available post-abortion care services in the health facility, lack of needed support from husband to seek post-abortion care services like counselling, religious barrier which does not accept family planning as a method of birth control and cultural barrier which forbids child spacing through artificial family planning method were disregarded as the reasons for their non-usage of post-abortion care services.

The multinomial logistic regression analysis showed a highly significant difference ($p < 0.01$) of the effect of education on women's knowledge of post-abortion care hence, the null hypothesis which states that there is no significant difference in the women's knowledge of post abortion care based on their educational qualification was therefore, rejected. The result of the multiple regression analysis however, showed no significant difference ($p > 0.05$) of the effect of the respondents' occupation on the use of post-abortion care services hence, the null hypothesis which states that there is no significant difference in the women's use of post abortion care services based on their occupation was therefore, accepted.

Implications of findings with literature support

The findings from the study (Table 2) indicates that the respondents had a good level of awareness and knowledge of post-abortion care. Lin, (2019) conceptualized knowledge is the sum of ideas, and it is the sum of people's concepts of nature, society, and thinking phenomena and essence. Also Lin (2019) asserted that from the perspective of information theory, knowledge is the accumulation of similar information, and it is the abstraction and generalization of information to help to achieve a specific purpose. This implies that high level of awareness and knowledge of post-abortion care can make women develop a positive attitude towards utilization of this services

The findings of the study (Table 3) also found that respondents had positive attitude towards post-abortion care, as majority of respondents utilized healthcare facilities and used family planning methods. According to Alfonso *et al.* (2016) attitude can be defined as the way in which a person views and evaluates something or someone, a predisposition or a tendency to respond positively or negatively toward a certain idea, object, person, or situation. This implies that respondents who have had an abortion, can prevent complications due to positive attitude towards post-abortion care services.

In contrast, Table 4 revealed that the major reasons for non-use of post-abortion care services include health facility's distance (farness) from home, cost of obtaining post-abortion care services, fear of post-abortion care services and healthcare providers attitude. Distance is a factor that may limit the utilization of this services. According to Thompson *et al.*, (2021), greater distance from an abortion facility is associated with delays in obtaining abortion care and inability to receive desired abortion care. Also according to Netshinombelo *et al.* (2022), women may be reluctant to seek post abortion care due to fear of ill-treatment from healthcare providers. The better the attitude, the higher the utilization by women, leading to better reproductive health outcomes.

Alignment of findings to previous studies cited

The findings of this study showed that majority (95.6%) of the respondents understood post-abortion care. This agrees with the findings of Assefa (2019) who observed that mid-level providers in the study had adequate knowledge of safe abortion care. Baffour-Duah *et al.* (2023) also supports the findings, as his study revealed that the post-abortion care contraceptive uptake in the facility was high. However, the results does not agree with the findings of a study conducted by Wani *et al.*, (2019) which revealed that the level of knowledge and attitude towards family planning and Post-abortion care was relatively low.

Findings from the study revealed that majority of the respondents utilized healthcare facilities. Only few women used other means like chemist shop. Majority utilized the methods of family planning. The findings agree with the assertion of Millimouno *et al.*, (2020) that uptake was high due to high rate of women's satisfaction. Teklennencha *et al.*, (2022) in their study disagreed with the findings of this study as their study revealed that the utilization of Post-abortion family planning was low.

Findings of the study showed that the reasons for non-use of post-abortion services were, distance to health facility, cost of obtaining post-abortion care services, fear of post-abortion care services, and attitude of healthcare providers. The findings of this study agrees with that of Asubiojo *et al.* (2021), who found in their study that misinformation and misconception about modern contraceptives, lack of knowledge and fear of side effects were barriers to uptake of post-abortion family planning. Netshinombelo *et al.* (2022) also supported the findings of the study by identifying themes that emerged challenges, the themes are transportation barriers, long waiting queues, stigma and mistreatment. Awoyemi and Novignon (2014), also agrees that income was a significant determinant of abortion and post-abortion care demand.

Implications of findings to Nursing

It was observed from the study that majority of reproductive age women who had miscarriage/abortion did not use any health facility or any method of family planning which could have resulted to complications associated with abortions such as sepsis. More so non- use of family planning could also result to unwanted pregnancy. The problem identified has

implications for nursing practice. To this end there is need for nurses and midwives to create awareness on the existence of Post abortion care services in health care facility and strengthen the use of family planning services through workshops and conferences. Maintain adequate records of reproductive age women who utilize existing post abortion care services in the area of study as this will enable the care provider to assess the extent of utilization of these services so as to take necessary actions.

Nurses and Midwives should also make recommendations to government on the provision of equipment for existing health facilities in order to reduce the cost of post abortion care services thereby improving on the utilization of such services. The study also showed that reasons such as distance to health facility, fear of post abortion care services, healthcare providers' attitudes, cost of obtaining post abortion care services in the health facility influenced the utilization of post-abortion care services. This implies that Nurses and Midwives need to strengthen counseling services and educate women of reproductive age on the relevance of family planning towards the reduction of maternal mortality associated with unsafe abortion.

Limitations of the study

The sample size of 114 respondents might limit the generalizability of the findings. To mitigate this limitation, rigorous randomization techniques were employed during participant selection, ensuring a diverse and representative sample from the target population, enhancing the study's applicability to the broader context.

Summary

This study assessed the knowledge and utilization of post abortion care services among women of reproductive age (15 – 49 years) in Rivers State University Teaching Hospital. This study was designed to determine:

1. What women understood as post abortion care
2. The extent to which women used post abortion care services
3. Identify reasons for non-use of post abortion care services

Literature was reviewed under conceptual, theoretical and empirical review which was based on the objectives of the study. The research design was a descriptive cross-sectional design and a structured questionnaire was used for data collection from a sample of 114 women of reproductive age. The respondents were selected using a purposive sampling technique. Data obtained from the study was analyzed using the Statistical Package for Social Sciences (SPSS) version 25, Frequency, means, and percentages were used to analyze questions on understanding and use of post abortion care services. Regression analysis was used to test the hypotheses. Major findings of this study showed that majority of the respondents had good understanding of post-abortion care. About 63.2% of the women were currently preventing pregnancy by regularly using barrier method e.g. condom (1st in usage), injectable (2nd), pills (3rd), natural method (4th). Reasons for non-use of post-abortion care services were, distance to the health facility, cost of obtaining post abortion

care services, fear that some post abortion care services can cause infertility, post-abortion care service providers inaccessibility and healthcare providers attitude. There was a highly significant difference in the effect of education in women's knowledge of post-abortion care. However, there was no significant difference of the effect of occupation on the use of post abortion care services. The study recommended that awareness programs on sex education/ family planning and post-abortion care among women should be intensified

Conclusion

The result showed that, although the respondents had a good level of awareness and understanding of post-abortion care, they were often afraid of being stigmatized and judged by health care providers and society which militated against their utilization of such services. The educational level had significant influence on the level of awareness of post-abortion care among women of reproductive age in the study area. However, the result showed that their occupation had no significant effect on their awareness and utilization of such services. Improving women's awareness of post-abortion care services is therefore, crucial to ensure that they receive the care they need to prevent complications and promote their health.

Recommendations

Based on the results of the research, the following were recommended:

1. Awareness programs on sex education/family planning and post-abortion care among women should be intensified.
2. Effective counseling can enhance a woman's understanding of the psychosocial circumstances surrounding her reproductive past and future, and improve her knowledge of post-abortion care.
3. Policymakers and healthcare providers can work to promote comprehensive and inclusive health education that includes information on abortion and post-abortion care.
4. Improving access to post-abortion services may require innovative approaches to abortion provision, such as telemedicine, and improved transportation infrastructure, building more health facilities to reduce travel time and costs.
5. Providing insurance coverage for abortion services can help low-income women access the care they need.

Suggestions for further studies

Qualitative In-depth Investigations: Conduct qualitative in-depth interviews or focus group discussions with women who have experienced post-abortion care services. Exploring their personal narratives, challenges faced, and perceptions about the care received can offer a deeper understanding of their experiences. Qualitative insights can shed light on emotional, psychological, and social factors influencing women's decisions, providing valuable context for developing more empathetic and patient-centered approaches in reproductive healthcare.

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