

# GSC Advanced Research and Reviews

eISSN: 2582-4597 CODEN (USA): GARRC2 Cross Ref DOI: 10.30574/gscarr Journal homepage: https://gsconlinepress.com/journals/gscarr/

(RESEARCH ARTICLE)



Check for updates

# Perception and practice of family planning in the extended postpartum period

Yusuf Abisowo Oshodi \*, Morenikeji Oluwakemi Olaniyi, Fatimat Motunrayo Akinlusi, Tawaqualit Abimbola Ottun, Joy Onyinyechi Chionuma and Samuel Abiodun Adegoke

Department of Obstetrics and Gynaecology, Lagos State University Teaching Hospital, Ikeja. Lagos. Nigeria.

GSC Advanced Research and Reviews, 2022, 13(03), 148-161

Publication history: Received on 04 November 2022; revised on 12 December 2022; accepted on 15 December 2022

Article DOI: https://doi.org/10.30574/gscarr.2022.13.3.0363

# Abstract

**Background**: During the postpartum period, family planning (FP) can prevent about 30% of maternal mortality and 10% of child mortality if couples space their pregnancies more than 2 years apart. Conversely, closely spaced pregnancies within the first year postpartum increase the risks of preterm birth, low birth weight, and small-for-gestational-age babies.

**Objective**: To determine the perception and practice of family planning in the extended postpartum period.

**Methodology**: A cross-sectional descriptive study was conducted among women in the extended postpartum period, attending the Gynaecology clinic, family planning clinic, and infant welfare clinic of the Lagos State University Teaching Hospital, Ikeja, Lagos. Information obtained includes socio-demographic data, spouse education, and income, knowledge of, attitude towards, and utilization of family planning methods along with the partner's involvement in decision-making towards arrival at choice methods. The data obtained were processed and analyzed using SPSS version 16.0

**Results**: The majority of the respondents (92.7%) were aware of family planning but only 33.7% are currently using a modern method. The most known methods were condoms (72.4%) and injectable (60.5%) while the predominant source of information was the electronic media in 78.4% of respondents. About half of the respondents (53.1%) had their male partners using condoms while three-quarters used them to space children. Three-quarters of those women not currently on contraception intended to adopt a method anytime within the extended postpartum period. Only the progressive increase in infant age showed a statistically significant relationship with contraceptive use.

**Conclusion**: Despite the high incidence of awareness of family planning, only one-third of the respondents were currently using a method. It was recommended that repackaged antenatal and postnatal health talks should address various methods of family planning and their safety.

Keywords: Extended postpartum period; Awareness; Practice; Non-use

# 1. Introduction

Pregnancy and childbirth change a woman's priorities, attitudes, lifestyle, sexual behaviors, decisions for contraceptive uptake, and the preferred contraceptive method [1]. During the postpartum period, family planning (FP) can prevent about 30% of maternal mortality and 10% of child mortality if couples space their pregnancies more than two years apart [2]. Conversely, closely spaced pregnancies within the first year postpartum increase the risks of preterm birth, low birth weight and small-for-gestational-age babies. The risk of child mortality is highest for very short birth-to-

Copyright © 2022 Author(s) retain the copyright of this article. This article is published under the terms of the Creative Commons Attribution Liscense 4.0.

<sup>\*</sup> Corresponding author: Yusuf Abisowo Oshodi

Department of Obstetrics and Gynaecology, Lagos State University Teaching Hospital, Ikeja. Lagos. Nigeria.

pregnancy intervals of less than 12 months [3]. It would also contribute substantially to women's empowerment, achievement of universal primary schooling, and long-term environmental sustainability [4].

The overall contraceptive prevalence amongst women in Nigeria is 16%, and about 15% have an unmet need for contraception.[5] Recent estimates from 21 developing countries, including Nigeria, indicated that only 31% of women use a FP method within the first 2 years of delivery. [6] The situation is further compounded by the persisting challenge of a high fertility rate of about 5.3% and an annual growth rate of 2.6% in face of a large population size of about 195 million persons [7]. Family planning also brings huge potential health and survival benefits for children, mainly because of wider intervals between births. The finding of studies in high and low-income countries show that conceptions taking place within 18 months of a previous live birth are at greater risk of fetal death, low birth weight, prematurity, and being of small size for gestational age [8,9]. Family planning is one of the most cost-effective ways of reducing infant and child mortality, but this contribution has been overlooked too often [10].

The year after a woman gives birth (extended postpartum period) presents a rising risk of unwanted conception and a frustrated desire for contraception. At present, contraceptive use levels during this period fall short, resulting in unplanned pregnancies and unwanted childbearing. The postpartum period rests upon the return of menstruation which ranges widely among women and across societies. It is very dependent upon the length and intensity of breastfeeding [11]. Unweighted country averages indicate that two-thirds of women who are within one year of their last birth have an unmet need for contraception and nearly 40% plan to use a method in the next 12 months but are currently not doing so. While 40% of sexually active women are at risk of pregnancy during the first six months postpartum, this risk increases to 79% of women 6–11 months postpartum [12].

The concept of implementing particular family planning programs for postpartum women is not new [2]. However, there has not been much promotion for family planning programs targeting this crucial stage of a woman's life [13]. A number of serious complications and over half of all maternal deaths occur in the postpartum period, especially in developing countries [14]. Improved use of family planning services during the postpartum period can reduce maternal and child morbidity and mortality [15].

The one-year period post-delivery serves as a useful framework for pursuing the interplay of contraceptive use and intention to use [11]. Therefore, this study was designed to explore the perception and practice of family planning in the extended postpartum period among nursing mothers in our facility.

# 2. Methodology

The study was of cross-sectional descriptive design conducted among women in the extended postpartum period, attending the Gynaecology clinic, family planning clinic, and infant welfare clinic of the Lagos State University Teaching Hospital, Ikeja, Lagos, Southwestern Nigeria. The Health Ethics and Research Committee of our institution approved the study protocol. The respondents were briefed on the research protocol in the language they understand and were informed of their right of refusal to take part in the study. They were encouraged to ask questions on any aspect of the study they did not understand. The respondents were assured that all information given would be treated as confidential. The benefits of the study were explained to give an insight into the challenges of unmet needs of contraceptives and ways of solving them.

The sample size was determined using the formula for simple proportion:

$$(n = Z^2 x p. (1-p)/d2)$$

n = sample size required for the study,

z = the standard normal deviate, usually 1.96 at 95% confidence level,

p = prevalence rate (50% was used in this case)

d = precision rate (5%); degree of accuracy required Type of test

The sample size was 383 with an additional 10% (39 subjects) attrition rate came to 422.

### 2.1. Recruitment Criteria

These include women with last childbirth within one year and not using contraception attending the gynecology clinic, family planning clinic, and those who brought their infants (aged 12 months or less) to the infant welfare clinic for immunization and other care. Exclusion criteria include denial of consent, women already on contraception, and those with last childbirth of more than 12 month-old.

Eligible and consenting respondents were recruited via convenient non-probability sampling until the desired sample size was reached. The study protocol and benefits were explained by three trained research assistants and a twenty-three stem-structured interviewer-administered questionnaire (see appendix) was applied after pretesting it among 20 mothers whose last childbirth was within one year attending the infant welfare clinic at Ifako Primary Healthcare Centre. Information obtained include socio-demographic data, spouse education and income, knowledge of, attitude towards, and utilization of family planning methods along with the partner's involvement in decision-making towards arrival at choice methods.

### 2.2. Data processing and statistical analysis

The data obtained were processed and analyzed using SPSS version 16.0 (Chicago Inc, III). Frequency and percentages were calculated for categorical variables. Descriptive statistics (minimum, maximum, mean, and standard deviation) were applied for continuous variables. Pearson's Chi-square test was applied to assess relationships and statistical significance between respondents' use of contraceptives and the age of the last baby, age of respondents, parity, educational status, and average monthly income. P-value than 0.05 was considered to be statistically at a Confidence level of 95%

# 3. Results

All the 422 questionnaires administered were completely filled and returned for analysis. The socio-demographic characteristics of the respondents are illustrated in Table 1. The mean age of the respondents was  $29.74\pm4.80$  years with almost three-quarters of the respondents aged between 25-34 years. The majority of the respondents (92.0%) were married with the majority in a monogamous family setting (94.6%). Most respondents were Christians (85.0%) while 94% had secondary education or higher. About half of the respondents were skilled workers (48.8%) while (13.7%) were housewives. The average monthly income of the majority (65.2%) was well below 50,000, while 25.2% of respondents earned 50,000 – 100,000. More than half of the respondents (57.7%) had between 2 – 7 living children. Considering ethnicity, the majority (69.3%) of the respondents were Yorubas while minor ethnic groups accounted for 10.6%. Most respondents' spouses (96%) had secondary education and above. Most of these spouses (63.9%) were skilled workers with 3.3% being unemployed.

# 3.1. Knowledge of family planning methods and sources of information

A large proportion of the respondents (92.7%) were aware of family planning and (87.3%) knew about at least one method. The most known methods were condoms (72.4%), injectable (60.5%), oral pills (49.7%) and intra-uterine contraceptive devices (IUCD) (40.5%) respectively. The commonest source of information was the electronic or mass media (78.4%) while others were health personnel (62.1%), friends (37.9%), and relatives (20.6%), Table 2.

### 3.2. Practice and perception of contraception amongst respondents

About one-third of the respondents (33.7%) were currently using a method of family planning. The observed trend was a progressive increase in respondents directly proportional to an increase in their babies' age. This association was statistically significant (P < 0.001). Above half of the respondents (53.1%) adopted the use of condoms and natural methods (23.8%). About three-quarters (78.3%) of the respondents are on family planning to space children, to limit the number of children (12.5%) and (9.4%) for other reasons which include education, health etc.

About one-quarter of current users of modern contraceptives have experienced at least one or more side effects that include irregular menstruation (21.1%) and weakness (15.8%). Most of the respondents (93.6%) were of the opinion that family planning is very essential and important during the extended postpartum period for limiting and birth control (45.2%), for spacing children (30.8%), economic stability and health reasons (8.7%). Moreover (6.4%) of the respondents believed that family planning was not necessary because of its health implication (52.6%) and lack of interest (42.1%), Table 3.

### 3.3. Determinant of attitude and timing of contraception.

The couple (88.5%) made family planning decisions jointly, while the women (10.6%) made the decision solely. For non-current users, (74.4%) of the women intend to adopt a method of family planning at one time or the other within the one-year extended postpartum period (Table 4).

### 3.4. Relationship between respondent's characteristics and contraceptive use

The relationship between the characteristics of the respondents and contraceptive use was depicted in Table 5. Only the progressive increase in infant age showed a statistically significant relationship with contraceptive use (P < 0.001) while others like the age of the respondents (P = 0.96), parity (P = 0.069), number of living (P = 0.182), educational status (P = 0.747), the average income of the respondents (P = 0.231) and spouse (P = 0.906) showed no significant association.

 Table 1 Socio-demographic characteristics of respondents

Variables	Frequency (N)	Percentages (%)
Age (years)		
< 25	48	11.4
25-29	169	40
30-34	137	36.5
35-39	55	13
≥ 40 years	13	3.1
Marital status		
Single	16	3.8
Married	389	92.2
Separated	3	0.7
Cohabit	13	3.1
Widowed	1	0.2
Family structure		
Monogamy	386	91.5)
Polygamy	22	5.2
Others (cohabit, separated etc)	14	3.3
Religion		
Christian	358	84.9
Muslim	63	14.9
Traditional	1	0.2
Educational status		
No formal education	6	1.4
Primary	19	4.5
Secondary	122	28.9
Tertiary	275	65.2
Occupational status		
Skilled	199	47.2
Semi-skilled	21	5.0
Unskilled	146	34.6
Not currently working	56	13.2
Average monthly income (366)(Na	iira)	
<50,000	210	57.4

50,000-100,000	108	29.5
>100,000	48	13.1
No of living child(ren)		
1	84	19.9
2-4	328	77.7
<u>≥</u> 5	10	2.4
Tribe		
Yoruba	275	65.2
Igbo	102	24.2
Hausa	3	0.7
Minority	42	9.9
Spouse educational status		
No formal education	2	0.5
Primary	14	3.3
Secondary	103	24
Tertriary	303	71.8
Spouse occupational status		
Skilled	276	65.4
Semi-skilled	24	5.7
Unskilled	107	25.4
Not currently working	15	3.5
Spouse's average monthly income (Naira) (408)		
<50,000	65	16
50,000-100,000	184	45.2
>100,000	158	38.8

 Table 2 Knowledge of family planning methods and sources of information

Variables	Frequency (N)	Percentages (%)
Had previous knowledge of family planning/contraceptive	393	92.7
Knowledge of types of family planning methods	370	87.3
Types of family planning methods		
Condom	268	72.4
Oral Contraceptive Pills	184	49.7
Intra-uterine contraceptive Device	150	40.5
Injectables	224	60.5
Implant	108	29.2
Sterilization	89	24.1
Traditional	59	15.9

# GSC Advanced Research and Reviews, 2022, 13(03), 148-161

Natural	117	31.6
Source of information (393)		
Print Media (Newspapers & Books)	80	20.4
Electronic Media (Radio, *Tv, internet)	309	78.6
Friends & Relatives	237	60.3
Healthcare Personnel	245	62.3

\*Tv - television

**Table 3A** Practice and perception of contraception/ Currently on family planning and Methods adopted (Profiles on<br/>Contraceptive Acceptability)

	Frequency (N)	Percentages (%)
Currently on any family planning method	143	33.9
Family planning method currently being used		
Male Condom	76	52.1
Oral Contraceptive Pills	14	9.8
Intra-uterine contraceptive Device	7	4.9
Injectables	15	10.5
Implant	1	0.7
Sterilization	1	0.7
Traditional	1	0.7
Natural		
Reasons for adopting family planning		
To space child(ren)	109	76.2
Do not want any more children	19	13.3
Others reasons	15	10.5
Experiencing a problem with the current method		
Side effects		
Irregular Menses	8	21.1
Weakness	6	15.8
Haedache	5	13.2
Cramps	4	10.5
Backache	2	2.6
Missing string IUCD	2	2.6
Other side effects		
Weight Gain	1	2.6
Infertility	1	2.6
Vaginal Discharge	1	2.6

Abdominal Pain/Discomfort	1	2.6	
Heavy Menstrual Flow	1	2.6	
Pain in Vagina	1	2.6	
Rashes	1	2.6	
Secretion of Breast milk	1	2.6	
Perception about family planning			
It is necessary	397	94.1	
It is not necessary	25	5.9	
Respondent's reason why family planning is necessary(397)			
To limit and control birth rate	166	45.2	
To space	113	30.8	
To limit and space	56	15.3	
For economic stability and health reasons	32	8.7	
Respondent's reason why family planning is not necessary	(25)		
Not interested in having it	8	32	
It could lead to other health problems	10	40	
Unaware of it	1	4	
No reponse	6	24	

Table 3B Respondent's mode of decision taking and intentions for family planning

	Frequency (N)	Percentages (%)
Decision-making among respondents who are on family	planning (143)	
Respondents and spouse	120	83.9
Personal decision	16	11.2
Chosen by health provider after counseling	7	4.9
Intention to adopt any method (279 – not using FP)		
Have intention	209	74.9
No intention	70	25.1
Likely time to adopt a method after delivery (209)		
1.5 – 3 months	39	18.7
3 – 6 months	55	27.1
6 – 9 months	34	16.3
9 – 12 months	21	9.6
12 – 24 months	45	21.5
Undecided	15	7.2

**Table 4** Reasons for not using family planning/ Respondent's reason for not intending to/have never used family planning (70)

	Frequency (N)	Percentages (%)
Husband opposition	17	24.3
Fear of side effects	35	50
Lack of knowledge	17	24.3
Desire for more children	28	40
Religious reason	9	12.9
Do not have access to it	9	12.9
Level of education	2	2.9
Inadequate income	1	1.4
Cultural reason	2	2.9
Lack of ideal contraceptive	9	12.9

 Table 5 Relationship between respondent's characteristics and Contraceptive Use

Characteristic	Currently on contraceptive n (%)	Not on Contraceptive n (%)
Current age of baby (months)		
1.5 - 3	59 (22.8%)	200 (77.2%)
3 - < 6	27 (46.6%)	31 (53.4%)
6 - < 9	30 (56.6%)	23 (43.4%)
9 - < 12	27 (51.9%)	25 (48.1%)
Total	143 (33.9%)	279 (66.1%)
$X^{2}(3) = 40.140, p < 0.001^{*}$ (two-tailed)		
Age at last birthday (years)		
< 25	14 (29.2%)	34 (70.8%)
25-29	58 (34.3%)	111 (65.7%)
30-34	47 (34.3%)	90 (65.7%)
35-39	19 (34.5%)	36 (65.5%)
$\geq$ 40 years	5 (38.5%)	8 (61.5%)
Total	143 (33.9%)	279 (66.1%)
$X^{2}(1) = 0.610, p = 0.962$ (two-tailed)		
Parity		
1	19 (22.6%)	65 (77.4%)
2-4	121 (36.9%)	207 (63.1%)
<u>≥</u> 5	3 (30%)	7 (70%)
Total	143 (33.9%)	279 (66.1%)
X <sup>2</sup> (1) = 3.351, p = 0.069 (two-tailed)		

Educational status		
Not up to tertiary education	48 (32.4%)	99 (67.6%)
Tertiary	95 (34.5%)	180 (65.5%)
Total	143 (33.9%)	279 (66.1%)
$X^{2}(1) = 0.192$ , p = 0.747 (two-tailed)		
Average monthly income responden	t (Naira)	
≤100,000	105 (33.0%)	213 (67.0%)
>100,000	22 (45.2%)	26 (54.8%)
Total	127 (34.2%)	239 (65.8%)
X <sup>2</sup> (1) = 1.845, p = 0.231 (two-tailed)		
Average monthly income of spouse (	Naira)	
≤100,000	87 (34.9%)	162 (65.1%)
>100,000	56 (34.6%)	102 (65.4%)
Total	133 (33.5%)	264 (66.5%)
X <sup>2</sup> (1) = 0.013, p = 0.906 (two-tailed)		

\*Significant at 95% confidence level with Pearson Chi-square test (X<sup>2</sup>)

# 4. Discussion

This study explored the perception and practice of family planning among nursing mothers in the extended postpartum period. The mean age of the respondents was  $29.74 \pm 4.80$  years with about three-quarters (76.5%) of the respondents aged between 25-34 years. This was higher than the 25.2 ( $\pm$  9.0) years reported by Okoeguale et al [16]. This implied that the majority of the respondent was within the younger age group who are yet to complete their family but were aware of the importance of family planning in spacing their children. These women can be encouraged to adopt family planning to limit the number of children.

The majority of the respondents (92.7%) were aware of family planning. Our finding on awareness was lower than that reported in other studies [17-19] but higher than 54.3% reported in Edo state [20]. Most of the respondents (87.3%) had knowledge of at least one type of family planning. This finding was lower than 93% reported by Tuladhar et al [21] but higher than 75.0% reported by Kumar et al [22]. The knowledge of male condoms at 72.4% in this study was comparable to 74% by Tuladhar et al [21] but lower than 67.8% and 25% reported by Romero et al [23] and Duoget et al [24] respectively. Similarly, the 60.5% knowledge of injectables was lower than 78% reported by Riley [19] et al. The choice of condom being the commonest method could be due to its ready availability, affordability, and easy reversibility with almost no side effects. More so, it is used by the male partners and hence does not delay the return to fertility upon discontinuation.

The major source of information was the electronic/mass media in about three-quarters of our respondents, followed by health personnel (62.1%) and friends (37.9%). However, our reported information source via electronic/mass media was high than that of other workers (18,21,25). Our report of friends being a source of information among the respondents was lower than 44.4% reported by Mao [26] et al. Furthermore, this study showed that only about one-third (33.7%), were currently using a family planning method, in contrast to the high level of awareness exhibited by the respondent. A similar prevalence rate of 33.5% current users of family planning was reported by Tuladhar et al [21] in contrast to 62% reported by Renjhen et al [18]. This suggests that the number of children, adequate awareness and information about women's level of education, are key determinants in acceptance of family planning methods.

Most of the current users of family planning made a joint decision with their spouse (88.5%), and (10.6%) made a personal decision. This implies that men are supportive of those using contraception and can actually go a long way in actualizing family planning in the extended postpartum period.

Among the non-current users of family planning, almost three quarter (74.4%) intend to adopt a method within the one-year postpartum period, 47.7% of whom were within 1.5–3 months. Similarly, Okeguale et al 2015[16] observed that 48.8% of their respondents intended to commence contraception during a similar period. This may imply that the demand for effective contraception was high immediately after delivery and drops as the baby grows older when the couple is planning for another pregnancy. Contrary to our findings, other workers have also observed that women in the extended postpartum period with the duration from 6-12 months were more likely to utilize postpartum contraceptives than duration between 1.5 weeks and 3 months postpartum [4].

Most (93.6%) of the respondents are of the opinion that family planning is very essential and important, especially in limiting birth (45.2%), to space children (15.3%) and for economic stability and health implication (8.7%). However, fear of side effects (16.3%), desire for more children (13.0%), husbands' opposition and lack of knowledge (7.9%) are the commonest reasons for non-intention to adopt contraceptive use. The reasons attributed to non-use were fear of side effects in 56.7%, lack of awareness of contraceptives in 11.7%, and disapproval of the husbands in 3.3% of similar subjects by Kenate et al [27]. Other workers have reported side effects in 20% [28] and 20.6% [29] respectively. These may imply the necessity for improved counseling and the provision of quality information on possible side effects and the correct use of family planning that can help address the reasons for its non-use [17]. The desire for more children in 31.3% of respondents by Neelu et al [29] was higher than 13% in this study. Berta et al [4] also observed that husband approval of contraception was significantly affecting women's use of contraceptive methods during the extended postpartum period in their study. This highlights the need for husbands or male partners to be involved in maternal health services [30].

One possible limitation of this study was synchronizing the actual mindset of respondents to the responses given while answering the questions during the study. However, the information obtained was relevant to the audit of knowledge and utilization of contraception in the extended postpartum period.

# 5. Conclusion

This study observed that despite the high incidence of awareness of family planning, only one-third of the respondents were currently using a method. The most known methods were condoms (72.4%) and injectable (60.5%) while the predominant source of information was the electronic media in 78.4% of respondents. About half of the respondents (53.1%) had their male partners using condoms while three-quarters used them to space children. Three-quarters of those women not currently on contraception intended to adopt a method anytime within the extended postpartum period. Only the progressive increase in infant age showed a statistically significant relationship with contraceptive use.

It is hereby recommended that repackaged antenatal and postnatal health talk should address various methods of family planning and their safety. Other important contributors to achieving better uptake include dispelling prevailing misinformation and misconception about family planning, continuous education along with counseling of women and their partners.

# **Compliance with ethical standards**

### Acknowledgments

The authors acknowledged all mothers who participated in this study.

### Disclosure of conflict of interest

The authors declared no conflict of interest.

### Authors Contribution

YAO & MOO conceived the study & reviewed the literature, YAO, MOO, FMA, TAO & JOC were involved in data collection and statistical analysis, YAO, MOO & SAA wrote the first draft of the manuscript. All authors read and approved the final draft of the manuscript. The research was self-funded.

### References

[1] WHO. Programming strategies for postpartum family planning. Geneva: WHO 2013.

- [2] Cleland J, Bernstein S, Ezeh A, Faundes A, Glasier A, Innis J. Family planning: the unfinished agenda. The Lancet. 2006;368(9549):1810-27.
- [3] Demie TG, Demissew T, Huluka TK, Workineh F, Libanos HG. Postpartum Family Planning Utilization among Postpartum Women in Public Health Institutions of Debre Berhan Town, Ethiopia. J Women's Health Care 2018;7:426.
- [4] Berta M, Feleke A, Abate T, Worku T, Gebrecherkos T. Utilization and Associated Factors of Modern Contraceptives During Extended Postpartum Period among Women Who Gave Birth in the Last 12 Months in Gondar Town, Northwest Ethiopia. Ethiop J Sci. 2018;28(2):207.
- [5] Do M and Hotchkiss D. Relationships between antenatal and postnatal care and postpartum modern contraceptive use: Evidence from population surveys in Kenya and Zambia. BMC Health Services Research 2013;13(1):1.
- [6] Moore Z, Pfitzer A, Gubin R, Charurat E, Elliott L, Croft T. Missed opportunities for family planning: an analysis of pregnancy risk and contraceptive method use amongst postpartum women in 21 low- and middle-income countries. Contraception. 2015;92(1):31–9.
- [7] National Demographic and Health Survey 2018.
- [8] Conde-Agudelo, A, Rosas-Bermudez A, Kafury-Goeta, AC. Birth spacing and risk of adverse perinatal outcomes: a meta-analysis. JAMA 2006 295:1809-23.
- [9] Zhu, BP. Effect of inter-pregnancy interval on birth outcomes: findings from three recent US studies. Int J Gynaecol Obstet 2005;89:S25-S33.
- [10] Black R.E, Morris S.S, Bryce J. Where and why are 10 million children dying each year? Lancet 2003;361:2–10.
- [11] John, A, Ross and Williams L. Winfrey. Contraceptive use, Intention to use and unmet need during the extended postpartum period. International family planning perspectives. 2005:27:1
- [12] Kozuki N, Lee AC, Silveira MF, Victoria CG, Adair L, Humphrey J, et al. The associations of birth intervals with small-for-gestational-age, preterm, and neonatal and infant mortality: A meta-analysis. BMC Public Health. 2013:13(Suppl 3):S3.
- [13] Mackaig C. Chase R (eds). Postpartum family planning technical consultation meeting report. Washington, DC.2006. JHPIEGO: Baltimore Maryland. 2007
- [14] Singh S, Darroch J E. Adding it up: costs and benefits of contraceptive services. Guttmacher Institute and UNFPA. 2012.
- [15] Ameyaw EK, Budu E, Sambah F, et al. Prevalence and determinants of unintended pregnancy in sub-Saharan Africa: analysis а multi-country of demographic and health surveys. PLoS ONE. 2019;14(8):1-8.
- [16] Okoeguale J, Osagiede F.E, Idumwonyi O, Ehigiegba A.E. Factors influencing the use of modern contraceptives amongst postpartum women in a rural tertiary hospital in South-South Nigeria. African Journal of Reproductive Health January 2022;26 (1):15-23
- [17] Zafar MI, Ford N, Ankomah A. Significance of beliefs and values predicting fertility and contraceptive behavior in Pakistan. J Biol Soc Sci .1995;27: 301-18
- [18] Renjhen P, Gupta SD, Barau A et al. A study of knowledge, attitude and practice of family planning among women of reproductive age group in Sikkim. J Obstet Gynecol India. 2008;58:63-7.
- [19] Riley A.P, Stewer M.K, Chakarborty J. Programme and methods related determinants of the first DMPS use duration in rural Bangladesh. Study in FP 1994;25: 255-67.
- [20] Slyvia Osayi Osemwenkha. Gender issues in contraceptive use among educated women in Edo State, Nigeria. African Health Sci 2004;4: 40-9.
- [21] Tuladhar H, Marahatta R. Awareness and practice of family planning methods in women attending Gyne OPD at Nepal Medical College Teaching Hospital. Nepal Med Coll. J. 2008;10(3) 184-191.
- [22] Kumar C. Contraceptives practices of women living in rural area of Bihar. Brit J family planning 1998 24: 75-7.
- [23] Romero-Gutierrez G, Garcia Vazquez, G.M, Huerta Vargas L.F, & Ponce de Leon, A.I. Factors influencing contraceptive acceptance or refusal in pueperium.2001;69:406-412.

- [24] Duoget, D.V, Lee A.H, Binnis C.W. Contraception within six months postpartum in rural Vietnam: Implications of family planning and maternity services .European Journal of contraception and reproductive Health Care. 2005;10(2):11-118.
- [25] Takkar N, Goel P, Saha PK, Dua D. Contraceptive practices and awareness of emergency contraception in educated working women. Indian J Med Sci 2005;59:143-9.
- [26] John Mao. Knowledge, Attitude and Practice of family planning. A study of Tezu village, Manipur (India). The Internet J of Biol Anthropol 2007;1
- [27] Kenate, W., Amenu, D. Assessment of contraceptive needs and practices of women during the extended postpartum period in Kiramu Woreda, Western Ethiopia. International journal of Advanced Biological and Biomedical Research, 2015;3(4):341-350.
- [28] Bongaarts J. and Bruce J. The cause of unmet need for contraception and the social content of services. Studies in family planning 1995;26(2): 57-75
- [29] Neelu S, Seema G, Mani P, Meenakshi K. Epidemiological correlates of contraceptive prevalence in rural area of Haryana. Internet journal of health. 2011;12(1).
- [30] Jumaine Gahungu, Mariam Vahdaninia and Pramod R. Regmi. The unmet needs for modern family planning methods among postpartum women in Sub-Saharan Africa: a systematic review of the literature. Reprod Health 2021 18:35.

### **Appendix 1: Questionnaire**

Section One: Socio-demography

- Age as at last birthday (years) .....
- Age at first marriage (years) .....
- Religion: (a) Christianity (b) Islam (c) Traditional (d) Others.....
- Educational status: (a) No formal education (b) Primary school (c) Secondary school (d) Tertiary (e) above tertiary
- Marital status: (a) Single (b) Married (c) Separated (d) Cohabiting (e) Divorced (f) Widowed
- Occupational status: .....
- Average monthly income: (a) < N50,000 (b) N50,000 N100,000 (c) > N100,000
- Parity.....
- Number of living children.....
- Tribe: (a) Yoruba (b) Igbo (c) Hausa (d) Others (specify please).....
- Family structure: (a) Monogamous (b) Polygamous
- Spouse educational status: (a) No formal education (b) Primary school (c) Secondary school (d) Tertiary (e) above tertiary
- Spouse occupational status: .....
- Spouse average monthly income: (a) < N50,000 (b) N50,000 N100,000 (c) > N100,000

#### Section Two: Knowledge of and Attitude towards family planning

- Have you heard of family planning or contraceptives before? (1) Yes (2) No
- If yes to (15), what was your source of information?
  - o Radio
    - Television
    - o Newspaper
    - $\circ \ \ Friends$
    - Health personnel
    - o Relatives
  - Others (specify).....
- Do you know there are different types of family planning methods?
  - o Yes
  - o No
- If yes to (17), which one(s) do you know?

- $\circ$  Condom
- OCP {tablets}
- o IUCD
- o Injectables
- Implants
- Sterilization {surgery}
- Traditional method
- Natural method (ix) None
- How old is your last baby now?
  - $\circ$  0 3months
  - $\circ$  3 6 months
  - o 6 9months
  - o 9 12months
- Are you currently on any family planning method? (1) Yes (2) No
- If yes to (20), which of the following family planning methods are you on?
  - Condom
    - OCP {tablets}
    - o IUCD
    - o Injectable
    - o Implants
    - Sterilization {surgery}
    - Traditional method
    - Natural method
- What informed your decision (what made you to have family planning)?
  - Do not want any more child(ren)
  - To space child(ren)
  - Other reasons .....
  - Have you experienced/experiencing any problem(s) with the current method you are using?
    - o Yes
    - o No
  - What type of problems did you experience
    - Weakness
    - o Irregular menses
    - Headaches
    - o Backache
    - Weight gain
    - Cramps
    - Infertility
    - missing IUCD {IUCD user}
  - o others(specify).....
  - Do you think it's necessary to have family planning
    - o Yes
    - o No
- If YES, why.....
- If NO, why.....
- If you have had family planning, was it a joint decision between
  - $\circ$  You and your husband
  - personal decision
- chosen by a health provider after counseling
- If you have not had family planning, do you have intentions of adopting any method
  - o Yes
  - o No
- If yes, about what month after delivery (birth) do you think you are likely to use family planning
  - $\circ ~~1.5 \ 3 \ months$
  - $\circ$  3 6months
  - o 6 9months
  - o 9 12months
  - o 12-24months

o Not all

• If you don't intend to use family planning/ you have never used it, what are your reasons (tick all that apply)

	Reason	Yes	No
а	Husband opposition		
b	Fear of side effect from family planning method (e.g., headache, abdominal pain)		
с	Lack of knowledge		
d	Desire for more children		
e	Religious reason		
f	Do not have access to it		
g	Level of education		
h	inadequate income		
i	Cultural reason		
j	Lack of ideal contraceptive		
k	Have an unwell child(ren)		