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# Barriers to Acceptance of Post-partum Family Planning among Women in Montserrado County, Liberia

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## Abstract

**Background:** Maternal mortality in Liberia is one of the highest in Sub-Saharan Africa. Post-partum family planning (PPFP) can reduce the risk of maternal mortality by preventing unwanted and closely spaced pregnancies. Yet, the uptake of PPFP is low in Liberia. **Objective:** We investigated the barriers to acceptance of PPFP use among women in Montserrado County, Liberia. **Materials and Methods:** A cross-sectional facility-based survey was conducted using a multistage sampling technique to select 378 women within 12 months' post-partum period. **Results:** About half of our respondents were <25 years (52.9%), 24.1% were married, 66.4% had at least secondary education and 92.1% were Christians. The most commonly reported barriers were the fear of side effects (22.0%) and the post-partum abstinence (22.2%). Binary logistic regression analysis showed that being within the early post-partum period, i.e., within the first 6 months (adjusted odds ratio [AOR] = 0.23, 95% confidence interval [CI] [0.09–0.60] and lack of access to PPFP [AOR = 0.22, 95% CI [0.09–0.52]]. Importantly, women who were married [AOR = 1.686, 95% CI (0.65, 4.36)] and those who were aware of PPFP [AOR 3.69, 95% CI (1.224, 11.096)] increased the likelihood of using PPFP. **Conclusion:** Important barriers to the utilisation of PPFP in Liberia were being within early post-partum period, lack of access and awareness of PPFP including myths and misconception. Therefore, health communication targeting mothers for PPFP at every contact with maternal and childcare services should be encouraged.

**Keywords:** Barriers, post-partum family planning, post-partum period, utilisation

## INTRODUCTION

The post-partum period provides a unique opportunity to meet the reproductive health needs of women particularly the need for family planning after childbirth. This is because some women resume ovulation and menstruation as early as 28 days post-delivery.<sup>[1,2]</sup> In addition, women's increased contact with health-care services after childbirth affords the opportunity to offer them post-partum care. Post-partum family planning (PPFP) refers to the prevention of unintended and/or closely spaced pregnancies in the period after delivery. Borda and Winfrey<sup>[3]</sup> suggested that women who desire to prevent or delay a subsequent pregnancy after delivery should commence contraceptive methods immediately after delivery and before the resumption of sexual activity. In addition, the 1<sup>st</sup> year post-partum period has been described as the riskiest periods for closely spaced pregnancies for mothers who have had childbirth.<sup>[4]</sup> However, only <10% of women 6–12 months' post-partum use any type of modern contraception in Liberia.<sup>[5]</sup>

Despite the importance of this post-partum period, there are factors that contribute to non-acceptance and low usage among mothers. According to Eliason *et al.*<sup>[6]</sup> education, social-cultural beliefs, and spousal communication are factors influencing the use of contraception. In addition, Mills *et al.*<sup>[7]</sup> opined that the fear of side effects, health concerns, cultural and religious objections, lack of knowledge and objections from a spouse are some reasons for non-use of family planning. In Liberia, it is reported that social stigma mitigates family planning services uptake, for example, for cultural reasons, women are not expected to resume sexual relations until their infants are 1-year-old.<sup>[4,5]</sup> However, this belief is no longer being rigidly

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adhered to thus, placing women at high risk of unintended pregnancy. Women in the postpartum period often do not pay adequate attention to family planning services necessary to ensure healthy mother and child during this vulnerable time. Gizaw and Nigatu<sup>[8]</sup> found that fertility-related barriers, husband opposition, method-related and knowledge related barriers were the major forms of barriers that militate against the uptake of family planning among Ethiopia women.

In general, access to maternal health-care services in Liberia remains a challenge. This is not unconnected to the nearly 14 years of civil unrest and the recent Ebola Viral Disease outbreak which have left Liberia with a weak health system that is unable to sustain the demand of maternal health needs. Hence, this has adversely affected maternal health outcomes. The Liberian Demographic and Health Survey (2013)<sup>[9]</sup> puts maternal deaths at 1072 per 100,000 live births. Active contraceptive use in Liberia can avert about 716,000 unintended pregnancies, 24, 000 unsafe abortions and 400 maternal deaths.<sup>[10]</sup> Liberia has low contraceptive prevalence rate of 20% among reproductive age (15–49 years) women.<sup>[9]</sup> Consequently, gaps existing meeting the demand for contraception among women of reproductive age, particularly in the post-partum period. We, therefore, conducted this study to explore the barriers to acceptance of PPF use among women within 12 months' post-partum period in Montserrado County, Liberia.

## MATERIALS AND METHODS

### Study setting

Montserrado County, where the country's capital Monrovia is located, is the most populous county in Liberia having about 33% of Liberia's total population. Montserrado County has five administrative districts: Careysburg, Todee, Greater Monrovia, St' Paul River district and commonwealth district. It also has seven health districts distributed within the five administrative districts. It has the highest number of healthcare facilities (261) in Liberia. Majority of the health-care facilities are within the urban region thus creating limited access to health and social services among rural inhabitants of the county. The study was conducted in the seven health districts of Montserrado County, Liberia, from February 2017 to January 2018.

### Study design and sample size determination

The study adopted a facility-based cross-sectional survey design to recruit 378 women who were within 12 months' post-partum period. Women who were pregnant and those with severe illness were excluded from the study. The sample size was estimated using the Lwanga and Lemeshow,<sup>[11]</sup> sample size formula. The parameters included standard value for  $Z = 1.96$  for 95% confidence level and maximum margin of error of 5%. The prevalence of 31% for PPF among post-partum women in low- and middle-income countries reported by Moore *et al.*, (2015) was used. The sample size obtained was 329 and adjusted to 365 for a non-response rate of 10%.

### Sampling procedure

Multistage sampling technique was used to select the study participants. Health-care facilities that provide family planning services in Montserrado County were identified within the seven health districts and one health-care facility was randomly selected from each of the districts. The total study population was proportionately allocated among the selected facilities based on client flow. Eligible women (i.e., being within the 1<sup>st</sup> year post-partum period) who attended the maternal and child health unit of the selected facilities within the study period were recruited by purposive selection until sample size was reached.

### Data collection instrument and procedures

A 21 items semi-structured questionnaire was adapted from the Demographic and Health Surveys Model Woman's Questionnaire. The questions were pretested among 39 (10%) post-partum women within the Soul clinic community. The pre-test helped to revise and fine-tune the research instrument. The officer-in-charge and staffs from the immunisation, maternal were trained to collect data from the health-care facilities. Data were cleaned, coded and entered using IBM SPSS Statistics for Windows, Version 23.0 (IBM Corp., Armonk, NY, USA)

. Frequency tables were used to display descriptive analysis. Binary logistic regression was used to determine factors that influence the PPF utilisation.

### Variables and measurement

#### Dependent variable

Postpartum Family Planning (PPFP) Utilization

#### Independent variable

Sociodemographic characteristics included indicators such as the age of respondents, religion, level of education and marital status, post-partum duration, number of children ever born to a woman, occupation, access to healthcare facility (measured by distance to health care facility) and knowledge of PPF.

### Ethical consideration

Ethical approval was obtained from the University of Ibadan and University College of Hospital Ethical Review Board, College of Medicine, Ibadan, Nigeria. The UI/UCH ethics number is (UI/EC/17/0086) and the protocol approval dates spanned from 09/05/2017 to 08/05/2018. The study followed the ethical standards guidelines on research involving the use of human subjects in accordance with the Helsinki Declaration. We obtained the permission to conduct the study in Montserrado County from the Liberian Ministry of Health, the county health officer and the administrators of the selected health-care facilities. Informed consent was obtained from each study participant.

## RESULTS

Table 1 shows the sociodemographic and reproductive health characteristics of the respondents. Majority of the respondents were <35 years (91.0%) and Christians were (92.1%). On the other hand, only 24.1% were married, 17.7% had primary education and more than half were unemployed (58.5%) and

**Table 1: Sociodemographic and reproductive characteristics of post-partum women in Liberia (n=378)**

Variables	Frequency (%)
Age of respondent	
<15-24	200 (52.9)
25-34	144 (38.1)
35 and above	34 (9)
Marital status	
Married	91 (24.1)
Single	287 (75.9)
Place of residence	
Urban	214 (56.6)
Rural	164 (43.4)
Level of education	
Primary	67 (17.7)
Secondary	206 (54.5)
Tertiary	45 (11.9)
None	60 (15.9)
Religion	
Christian	348 (92.1)
Muslim	30 (7.9)
Occupation	
Owned business	148 (39.2)
Formal employment	9 (2.4)
Unemployed	221 (58.5)
Children ever born	
1	141 (37.3)
2	104 (27.5)
3	69 (18.3)
4 and above	64 (16.9)
Post-partum duration (months)	
0-6	274 (64.6)
7-9	63 (16.7)
10-12	41 (10.8)
Distance to healthcare facility (min)	
0-30	231 (61.1)
31-60	87 (23)
Over 60	60 (15.9)
Awareness of PPF	
Yes	290 (76.7)
No	88 (23.3)
Awareness on fertility return	
Yes	120 (31.7)
No	258 (68.3)
Current use of PPF	
Yes	45 (11.9)
No	333 (88.1)

PPFP: Post-partum family planning

64.8% had one or two children. Almost 40% of respondents resided more than 30 min from the health-care facility. Even though 76.7% of the respondents were aware of PPF, 31.7% had awareness on fertility return within 12 months post-partum period and only 11.9% were current users of PPF.

Table 2 shows the reasons reported by respondents for not using PPF. These reasons were in four categories:

**Table 2: Reasons reported for not currently using PPF among Liberian women (n<sub>1</sub> = 333)**

Variable	Frequency (%)
Method-related barriers, n (%)	143 (42.9%)
Health concern	7 (2.1)
Health worker behaviour	1 (0.3)
Cost too much	5 (1.5)
Lack of access	5 (1.5)
Fear of side effect	83 (24.9)
Want baby to walk	42 (12.6)
Knowledge-related barriers, n (%)	49 (14.7)
Do not know any source to get PPF	9 (2.7)
Knows no method	40 (12.0)
Opposition of husband/others, n (%)	10 (3.0)
Partner oppose	5 (1.5)
Family member oppose	4 (1.2)
Religious restriction	1 (0.3)
Fertility-related barriers, n (%)	131 (39.3)
Post-partum amenorrhoea	13 (3.9)
Post-partum abstinences	74 (22.2)
Still breastfeeding	44 (13.2)

PPFP: Post-partum family planning

method-related barriers (37.2%), fertility-related barriers (37.9%), knowledge-related barriers (13.0%) and opposition of husband/relations (2.7%). Specifically, the fear side effects (22.0%) and the post-partum abstinence (22.2%) were the most common barriers against the use of PPF among Liberian women. Others included the desire for the baby to walk (11.1%), lack of the knowledge of PPF (10.6%) and the fact that they were still breastfeeding (11.6%).

Table 3 presents the result of the multivariate logistic results with unadjusted and adjusted odds ratios (AORs) and 95% confidence intervals (CIs) of the socio-demographic and reproductive factors that influence the use of PPF. Although not statistically significant, younger women below 35 years had a lower likelihood of using PPF compared to people aged 35 years and above; (AOR = 0.60, 95% CI [0.16–2.31]) for those 15–24 years and (AOR = 0.46, 95% CI [0.15–1.37]) for 25–34 years. Married women had higher odds of using PPF compared to those who were single (AOR = 1.69, 95% CI [0.65, 4.36]). Education, urban residence (AOR = 0.81, 95% CI [0.38, 1.71]) and Christian religion (AOR = 0.47, 95% CI [0.18, 1.27]) had a negative association with use of PPF.

Regarding the number of children ever born after adjusting for age and other confounders, those who have had two children (AOR = 1.269, 95% CI [0.377, 4.272]) and three children (AOR = 2.151, 95% CI [0.751, 6.156]) were more likely to use PPF as compared to those who have had 4 and above children. Post-partum duration was also associated with PPF – those in the early post-period being five times were less likely to use PPF – within the first 6 months [AOR = 0.232, 95% CI (0.90, 0.597)] compared with 10–12 months' post-partum duration, having adjusted for age children ever born and level of education. Distance to the health-care facility

**Table 3: Unadjusted and adjusted odds ratios and 95% confidence intervals of sociodemographic and reproductive factors associated with post-partum family planning**

Variables	Unadjusted OR (95% of CI)	Adjusted OR (95% of CI)
Age of respondent		
<15-24	0.11 (0.07-0.17)	0.60 (0.16-2.31)
25-34	0.14 (0.09-0.23)	0.46 (0.15-1.37)
35 and above (reference)		
Marital status		
Married	0.25 (0.15-0.41)	1.69 (0.65-4.36)
Single (reference)		
Level of education		
Primary	0.01 (0.04-0.23)	0.58 (0.17-2.03)
Secondary	0.14 (0.10-0.23)	0.95 (0.37-2.42)
Tertiary	0.13 (0.05-0.32)	0.94 (0.23-3.78)
None (reference)		
Place of residence		
Urban	0.11 (0.07-0.17)	0.81 (0.38-1.71)
Rural (reference)		
Religion		
Christian	0.13 (0.09-0.18)	0.47 (0.18-1.27)
Muslim (reference)		
Occupation		
Owned business	0.19 (0.16-0.30)	0.986 (0.242-4.014)
Formal employment	0.13 (0.02-0.10)	0.654 (0.042-10.151)
Unemployed (reference)		
Number of children ever born		
1	0.08 (0.40-0.15)	0.10 (0.27-3.70)
2	0.11 (0.06-0.20)	1.27 (0.38-4.27)
3	0.28 (0.16-0.49)	2.15 (0.75-6.16)
4 and above (reference)		
Distance to healthcare facility (min)		
0-30	0.08 (0.05-0.13)	0.22 (0.09-0.52)*
31-60	0.15 (0.08-0.27)	0.31 (0.12-0.83)*
Over 60 (reference)		
Awareness of PPF		
Yes	0.18 (0.13-0.25)	3.69 (1.22-11.96)*
No (reference)		
Awareness of fertility return		
Yes	0.13 (0.09-0.19)	1.47 (0.57-3.90)
No (reference)		
Post-partum duration (months)		
0-6	0.09 (0.06-0.14)*	0.23 (0.09-0.60)*
7-9	0.26 (0.14-0.48)	0.70 (0.25-2.00)
10-12 (reference)		

\*Statistically significant at  $<0.05$ . PPF: Post-partum family planning, OR: Odds ratio, CI: Confidence interval

was inversely associated with PPF use (AOR = 0.22, 95% CI [0.09, 0.52]) for those who lived close to the health facility. Importantly, women who had the awareness of PPF had a 4 times odds (AOR 3.685, 95% CI [1.224, 11.096]) of using PPF.

## DISCUSSION

The unmet need for PPF is high in Sub-Saharan Africa and particularly in Liberia whose health-care system had been challenged by years of civil unrest and a severe Ebola epidemic. Therefore, maternal health indicators particularly maternal mortality is very high in Liberia with a maternal mortality ratio of 1072 per 100,000 live births, being one of the highest in Africa<sup>[9]</sup> Besides the unmet need for PPF (which is a key strategy for maternal mortality reduction) has been estimated to be as high as 90% in Liberia. Lack of access to PPF results in unintended and poorly spaced pregnancies, which are associated with pre-term birth, low birth weight, adverse maternal and neonatal outcomes as well as childhood malnutrition.

In this study, the prevalence of PPF was very low (11.9%) and comparatively much lower than the prevalence of PPF estimated by Ross and Winfrey (2001)<sup>[12]</sup> for most African countries which ranged from 3.9% to 59.7%. It was only higher than countries like Mali (3.6%), Mozambique (4.0%) and Cote d'Ivoire (5.0%). This abysmal figures have not changed much even from recent data. The factors that influence PPF that were examined in this study included sociodemographic factors, children ever born, post-partum duration, awareness of post-partum and fertility return and distance to health facility.

We found that women who had an awareness of PPF were much more likely to use PPF. Specifically, women with an awareness of PPF had about four times higher odds (OR = 3.7) PPF use compared with women who lacked awareness. This positive association between knowledge and PPF is well reported by other studies.<sup>[9,13-15]</sup> Therefore, creating awareness and educating women on methods of family planning use after delivery are essential for enhancing uptake. The United States Agency for International Development-ACCESS report<sup>[16]</sup> reiterates that lack of awareness on health benefits of child spacing, post-partum abstinence that protect women from pregnancy and lack of knowledge about fertility return are reasons for non-use of PPF. A study on PPF use in Ethiopia, Malawi and Nigeria found that creating family planning awareness at every contact of care reduces missed opportunities and creates high demand for PPF family planning use.<sup>[17]</sup>

In addition, the lack of knowledge on family planning leads to the propagation of myths and misconceptions among women. In this study, we also found that women had high levels of myths and misconceptions about family planning. For instance, the fear of side effects, the desire for the baby to walk and the fact that they were still breastfeeding were reported barriers to PPF use. Such misconceptions should be addressed by evidenced-based health communication strategies that inform on family planning methods and their side effects and deals with myths and misconceptions. For instance, the Population Services of Kenya developed a mass media campaign to address key myths and misconceptions among Kenyan youths based on the research by Ochako *et al.*<sup>[18]</sup> that explored fear

of side effects and misconceptions about modern methods of family planning among young women in Kenya.

Furthermore, the post-partum duration was associated with PPFp with women within 0–6 months' post-partum period being less likely to utilise PPFp compared to women in 10–12 post-partum period after controlling for confounders such as age, level of education and number of children ever born. This also corroborates other studies Brunie *et al.*<sup>[19]</sup> reported that for women <6 months post-partum, the odds of non-use of PPFp are 5 times higher than women who had not recently given birth. Most post-partum women often have a less perceived need for contraception because they believe that they are protected by breastfeeding and post-partum abstinence. Therefore, use of family planning during immediate post-partum duration remains low. Therefore, post-partum mothers ought to be informed that breastfeeding is only effective as a means of family planning through lactation amenorrhoea, i.e., this is the woman should be amenorrhoeic and must practice exclusive breastfeeding for 6 months after birth.<sup>[20]</sup>

Unexpectedly, we found that women who lived farther away from health-care facilities were more likely to utilise PPFp compared to women who lived within a travel distance of 30 min to a healthcare facility. This is contrary to the previous findings that have shown that proximity to the health facility enhances the utilisation of health services. Agadjanian *et al.*<sup>[21]</sup> in their study on family planning access and utilisation in rural Mozambique found that women who lived farther from the clinic had less chances of using family planning. However, this inverse relationship between travel distance and PPFp utilisation found among the Liberia women was informed by the health policy of the Liberian government that sought to improve health services and contraceptives delivery to communities beyond 5 km away from health-care facilities. Most women at longer distances away from health-care facilities got their contraceptive needs met through the community-based health outreaches. Therefore, the findings in this study strongly support the complementary role of community-based services in improving health-care utilisation that includes family planning uptake.

Although not statistically significant, the marital status of respondents was related to the uptake of PPFp with the married being about twice more likely to use PPFp compared with singles. This may be because the married are more likely to have spousal support compared with the singles, as we found that only a very negligible proportion of our respondents (1.3%) claimed that their partners opposed their use of PPFp. However, some researchers found the opposite, Ndirangu *et al.*,<sup>[22]</sup> who reported that single women used contraceptives more than their married counterparts who tend to shy away from usage due to sociocultural implications.

## CONCLUSION

Post-partum contraceptive utilisation was low among Liberian women (12%) partly because they believed that they were

protected by breastfeeding and post-partum abstinence. The factors that influenced PPFp utilisation were awareness of PPFp. Cultural norms, myths and misconception are major knowledge barriers that need to be corrected through quality couple counselling, massive FP awareness to women and their social support systems and provision of evidence-based maternal services including family planning at all contact health services.

Furthermore, we discovered that women who lived farther away from health-care facilities were more likely to utilise PPFp compared to women who lived within a travel distance of 30 min to a healthcare facility. We found out that most of these women at longer distances away from health-care facilities got their contraceptive needs met through the community-based health outreaches. We, therefore, recommend that the community-based health outreaches that focus on family planning services should be provided for rural and urban dwellers. Our study had a few limitations for instance, we elicited information by self-report from respondents which are prone to bias. The cross-sectional study design makes it difficult to prove causality of relationships. The health system and other structural barriers against PPFp for example quality of counselling, waiting time in health facility drug-stock out, and other provider factors were not assessed in our study. We recommend that future studies should assess these issues.

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## Conflicts of interest

There are no conflicts of interest.

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