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Return of Menstruation and Perceived Risk of Pregnancy among Exclusive Breastfeeding Women in South West Nigeria: Implications for Timely Introduction of Active Contraception

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Abstract

This study was conducted among 500 exclusively breast-feeding women in Ife Central Local Government Area, Osun State, Nigeria. The objectives of the study are to assess the pattern of resumption of menstruation, identify the determinants of variations in the resumption of menstruation and determine the proportion of women at risk of pregnancy. Quantitative data was collected using semi- structured interviewer administered questionnaire. Data entry and analysis was done using SPSS (version 20). Univariate, bivariate and multivariate analyses done. Chi-Square were used where appropriate. P value was set at < 0.05 Four sessions of Focus Group Discussion were held. Results showed that 50 % were sexually active 125 (25%) were using Modern Contraceptive which included Condom (75); IUCD (25); Injectables (25); Implanon (10). Majority relied on Lactational amenorrhea method 375 (75%). Unplanned Pregnancy occurred among those 4 women not on contraception. Three-quarter of the primiparous women breastfed their babies every 2-3 hours day and night. Majority of multiparous women breast feed mostly on demand. Only increasing age and parity is positively associated with early resumption of menses. In conclusion increasing age and increasing parity increases risks of early menstrual resumption.

Keywords*: menstrual resumption, pregnancy risk.*

Introduction

Exclusive breastfeeding has been known to offer some contraceptive protection due to associated amenorrhea (Orji *et al* 2004, Foster, 2006, Kuti *et al* 2007, Chudasama *et al* 2008 Labbok, 2013). Studies have also shown that majority of postpartum women in developing countries who would have wanted to delay their next pregnancies or even stop having children, eventually end up with unplanned pregnancies (Singh *et al* 2003). It has been shown that high proportion of breastfeeding mothers in Nigeria have knowledge about modern contraceptive methods but in spite of this, levels of contraceptive use remain low (Ijadunola 2005Allagoa and Nyengidiki, 2011, Adeyemi *et al*. 2005).

Women's low perception about risk of pregnancy has been identified as one of the main reason responsible for the low or non-use of modern contraceptive among postpartum women. Findings in a prospective study on the unmet need for Contraception among Nigerian women in the first-year post-partum by Adeyemi *et al.* (2005) revealed that there was high level of unmet need for modern contraceptive methods (59.4%) despite a high level of awareness of common modern contraceptive methods. In this study, only a third of the women correctly admitted that they were at risk of unplanned pregnancy in the post-partum period. Studies have also shown that women generally experience varying period of delay in the return of menstruation following child birth and the length of this time is affected by the woman's physiology as well as the pattern of feeding chosen for her baby (Labbok, 2013, Foster, 2006, Guido 2003, Liu *et al* 2004). There is however a dearth of information on determinants of return of menstruation after delivery, factors responsible for variations

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in the duration of amenorrhea among women practicing exclusive breastfeeding in this region, hence this study among exclusive breast-feeding women in Ife Central Local Government Area, Osun State, South West Nigeria.

Materials and methods

This was a descriptive cross-sectional non –experimental study using both qualitative and quantitative design. The study was conducted in Ife Central Local Government Area, Osun State, South-West Nigeria. Ile Ife (believed to be the Cradle of the Yorubas: a major ethnic group in Nigeria) is one of the most important historical town in Southwest Nigeria as well as one of the largest urban centers in Osun state, Nigeria and probably the oldest town of the Yoruba people. Other ethnic groups like Hausas and Igbos constitute minorities in the town.

Data collection for the quantitative survey was done by semi-structured interviewer administered questionnaire. The questionnaire was used to obtain information on socio-demographic variables of exclusively breastfeeding women, pattern of resumption of menstruation, factors influencing duration of postpartum amenorrhea and the women's perceived risk of pregnancies**.** The women's perception about risk of pregnancy was assessed while criteria were established to assess the women's actual risk of pregnancy. In assessing the actual risk of pregnancy among the breastfeeding women, women who have resumed sexual intercourse were scored one point, while those who have not resumed sexual intercourse were scored zero point. However, women who are not using any form of contraception were also scored one point, while those using any form of contraceptive method(s) were scored zero. A total score of two points were rated 'high risk' for pregnancy, while a total score of between zero to one point were rated 'low risk' for pregnancy.

The study employed Fisher's formula for estimating sample size to determine the sample size. Assuming a 95% level of confidence, an estimate of true proportion of women who breastfed exclusively at 72% (Adeyemi *et al*, (2005) and with degree of accuracy desired put at 0.05**,** the minimum estimated sample was 310**,** this was eventually upgraded to 500, The sampling frame involved ten major health facilities (consisting of Primary, Secondary and Tertiary health facilities) in the Local Government Area. Two-stage sampling technique was employed to select respondents for the quantitative study: In the first stage, five health facilities were randomly selected from total of ten health facilities in the Local Government Area. The second stage involved a generation of a list of breastfeeding women in the daily attendance register from the selected facilities. Selection of respondents daily at the clinics in each facility was proportionate to the estimated number of breastfeeding women attending each clinic until a total of 500 participants were obtained. Two sessions of focus group discussion (FGD) were held in each of the two health facilities randomly selected. Participation at the FGD sessions was based on women's parity: one session involved primipara and another session for multipara in each selected health facility.

The data collected were fed into SPSS Version 22 and analysed at three levels: univariate, bivariate and multivariate levels and each level requires different analytical procedures. The first stage involved the use of frequency tables to examine the distribution of the respondents according to the socio-demographic characteristics and other variables of interest. The second stage involved the use of chi-square to test association between return of menses and selected socio-demographic variables (women's age, parity, marital status, religion, and ethnicity). In the third level, which is the multivariate level, data were analysed using multiple regression to identify the odds of the determinants of return of menstruation among the women on exclusive breastfeeding. The Qualitative data were analysed using detailed content analysis to complement the quantitative data. Ethical clearance was obtained from the authorities of the Local Government Area where this study was conducted as well as the ethics and research committee of the Obafemi Awolowo University Teaching Hospital Ile-Ife Nigeria. The above authorities approved the research protocol and study instruments.

Results

Results showed that 35.6% of the women were within age 15-24 years, 53.2 % of the women were within the age 25-34 years, while only 11.2 % were within the age range 35-44 years. Ninety one percent of the women were married, 26.6% have only one child while 73.4% have between two and

five children. Three hundred and seventy-five (75%) of the women-initiated breastfeeding within thirty minutes after birth, while 1.6% commenced breastfeeding more than twenty-four hours after delivery (Table 2). However, eighty nine percent of the women breastfed their babies approximately 2-3 hours while 10.6% (table3) breastfed on demand. These findings were similar to those reported from focus group discussion (FGD) where majority of the discussants reported commencement of breastfeeding within thirty minutes after delivery.

Sixty seven percent of the women had not resumed menstruation after delivery while 165 breastfeeding women (33.0%) had resumed menstruation at the time of this study (Table 4) out of which 12.8% resumed menstruation within first two months after delivery,14.8% resumed within third to fourth months and 5.4% resumed between fifth to six months (Table 5) while the remaining. However, none of the breastfeeding women in all the FGD groups had resumed menstruation at the time of the study. Seventy five percent of the woman studied relied on Lactational Amenorrhea (LAM) while others reported use of at least one form of modern contraceptive methods. Similar finding was reported from the FGD.

While 46.8% of the women solely chose their contraceptive method, 25.0% of the women made their choice in conjunction with their spouse /partners. Furthermore, forty one percent of the women perceived themselves to be at risk of pregnancy while 58.6% did not.

Assessment of women's' actual risk of unplanned pregnancy revealed that 70% of the women were assessed to be at low risk of pregnancy while 30.0% were assessed to be at high risk of pregnancy. However, only Four (0.8%) of the women were confirmed pregnant (urine pregnancy test) at the time of this study. However, none of the women using modern contraceptive method was confirmed to be pregnant (Table 3 and Table 4).

Findings also showed that only 100 women who perceived to be at risk of pregnancy were actually assessed to be at high risk of pregnancy, while 243 women who did not perceive to be at risk of pregnancy were actually assessed to be at low risk of pregnancy while still breastfeeding exclusively.

One hundred and ninety (38.0%) overweight women have not resumed menstruation as at the time of the study, while 14 (2.8%) of the obese women were yet to resume menses at the time of the study. There is statistically significant relationship between BMI of the breastfeeding women and return of menstruation after delivery. (Table 5).

Table 6 showed that one hundred and fifty-three (30.6%) of the women age group 15-24 years have not resumed menstruation as at the time of the study compared with 31 (6.2%) of women age group 35-44 years There is significant association between age of breastfeeding women and resumption of menstruation after delivery. Although body mass index, parity and age of women were found to have significant association with the women's resumption of menstruation at the bivariate level of analysis, only age and parity remained significant determinants of return of menstruation at the multivariate level of analysis (Table 7).

Discussion

This study revealed that 75% of the women-initiated breastfeeding within thirty minutes after delivery, while 89.4% breastfed their baby frequently every 2-3 hours, day and night. The pattern of resumption of menstruation obtained in this study showed that only 33.0% of the women had resumed menstruation at the time of the study while 67.0% of the women remained amenorrhoeic. This was closely related to the findings observed in a Nigerian study where 62.6% of exclusively breastfeeding women remained amenorrhoeic as at sixth month post-partum (Kuti *et al.* 2007). Majority of the breastfeeding women (58.6%) studied did not perceive themselves to be at risk of pregnancy. This is not surprising since 75.6% relied on Lactational Ammenorrhea Method (LAM) as they did not use any additional form of modern contraception after delivery. This assertion was corroborated in the FGD where about two-third of the breastfeeding women reported non- use of any form of contraception with reasons ranging from the awareness that exclusive breastfeeding (LAM) confers protection against pregnancy in the first six months after delivery, while a few reported non resumption of sexual activities as the reason for their non-use of active contraception. This finding about contraceptive protection of exclusive breastfeeding observed in this study corroborated the report of previous studies on postpartum women (Ijadunola *et al* 2005, Kuti *et al* 2007, Kinga *et al*

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2009). Our study showed that 46.0% of the breastfeeding women solely chose the contraceptive method used while a quarter (25%) of them decided with their spouse/partners. Responses from the FGD also indicated that two-third of the women solely decided the choice of contraceptive method, while a third jointly made such decision with their spouse/partners. These suggest a high level of autonomy and informed decision making among this category of women in this sub region. This however contrast with the reports from studies of African women where finding showed that major hindrance to use of modern contraceptive method among women in Africa includes opposition from partners and family members (Orji *et al*., 2007a Orji *et al*., 2007b).

Body mass index (BMI) of the women studied was found to be significantly associated with resumption of menstruation after delivery; thirty-eight percent of the women who were overweight and more than half of the obese women were yet to resume menstruation at the time of this study. This is consistent with previous documentations that obesity impairs ovulation and consequently resumption of a woman's fertility (Kulie *et al* 2011, Teresa et al., 2011). Parity and age of the women were also found to be significantly associated with the women's resumption of menstruation after delivery. The odd of primiparous women who resumed menstruation was 0.57 times less than the odd of multiparous women who resumed menstruation. This is supported by responses from FGD in which majority of the multiparous women reported that age of women could influence the duration of amenorrhea while, half of the primiparous women identified parity as a factor that could influence the duration of postpartum amenorrhea This may be due to the fact that primiparous women adhere strictly to the guideline of effective exclusive breastfeeding practices. This finding was further strengthened by responses from the FGD where three-quarter of the primiparous women responded breastfeeding their babies between 2-3 hours day and night, each breastfeeding episode lasting more than ten minutes. The finding was corroborated by the report of previous study of multiparous women resuming menstruation earlier than primiparous women (Guido, 2003). This study further showed that older women resumed menstruation earlier than women of younger age groups. The odd of women in age group 25 – 34 years resuming menstruation is 0.9 times less than the odd of women age group 35-44 years resuming menstruation. This was in contrast to previous study in which younger women resumed menstruation earlier than older women (Guido, 2003). This finding is probably due to the fact that younger women adhere strictly to guidelines on exclusive breastfeeding which ultimately results in prolong period of ammenorrhea (Guido 2003, Labbok, 2013). However, after logistics regression only age and parity retained significant association with resumption of menstruation.

While forty one percent of the breastfeeding women perceived themselves to be at risk of pregnancy, on assessment only 30.0% were observed to be at high risk of pregnancy and 70.0% were observed to be at low risk of pregnancy. This was similar to what was reported in a study conducted in Southwest Nigeria in which only a third of breastfeeding women correctly admitted being at risk for unplanned pregnancy in the post- partum period (Adeyemi *et al.*, 2005). However, only four women (0.8%) were confirmed pregnant out of the five hundred women studied, though there was no confirmed pregnancy among women who participated in the FGD.

Conclusion

The study observed that one than two-third of the women remained amenorrhoeic six months after delivery. Age and parity of the breastfeeding women were the significant determinants of resumption of menstruation after delivery. Majority of the breastfeeding women perceived themselves to be at low risk of pregnancy and were similarly observed to be at low risk of pregnancy when assessed but the risk still remained as four of them became pregnant despite having locational amenorrhea.

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Table 1. Commencement and frequency of breastfeeding after delivery

Commencement of breastfeeding (Total 500)	**Frequency**	**Percent (%)**
Immediately after birth (within 30 minutes)	375	75.0
Some hours after birth (within 24 hours)	117	23.4
More than 24 hours after birth	8	1.6
Frequency of breastfeeding (Total 500)		
Approximately every 2-3 hours (day and night)	447	89.4
Only when baby cries (breastfeeding on demand)	53	10.6
Total	500	100.0

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Table 2. Resumption and pattern of menstruation after delivery

Resumption of menstruation after delivery (500)	**Frequency**	**Percent (%)**
Yes	165	33.0
No	335	67.0
Pattern of resumption of menstruation after delivery (500)		
1- 2 months after delivery	64	12.8
3-4 months after delivery	74	14.8
5 – 6 months after delivery	27	5.4
Not resumed menses	335	67.0

Table 3. Respondents perception and assessed risk of pregnancy after delivery

Perceived risk of pregnancy	**Frequency**	**Percent (%)**
I perceived to be *risk*	207	41.4
I do not perceive to be at risk	293	58.6
Assessed risk of pregnancy		
Low risk	350	70.0%
High risk	150	30.0%
Total	500	100.0%

Table 4. Participants' perception about risk of pregnancy and assessed risk of pregnancy

Perceived risk	**Assessed risk**		**Total**
	High	Low	
I perceived to be at risk	100	107	207 41.4%)
I do not perceive to be at risk	50	243	293 (58.6%)
Total	150	350	500 (100.0%)

Sensitivity of perceived risk of pregnancy = 100/150 x 100 = 68%
Specificity of perceived risk of pregnancy = 243/350 x100 = 69%
Negative predictive value of perceived risk = 243/293 x 100 =83%

Table 5. Association between body mass index (BMI) of respondents and resumption of menstruation after delivery

BMI (kg/m^2)	**Resumption of menstruation after delivery**		**Total**
	Yes	**No**	
Normal BMI (18.5-24.)	43 (8.6%)	131(26.2%)	174(34.8%)
Overweight (25- 29.9)	11 (22.2%)	190(38.0%)	301(60.2%)
Obese (30- 34.9)	11 (2.2%)	14 (2.8%)	25 (5.0%)
Total	165 (33.0%)	335(67.0%)	500 (100.0%)

X^2 = 6.814 df= 2 P value =0.033 (significant)

Table 6. Association between age of respondents and resumption of menstruation after delivery

Age group (years)	**Resumption of menstruation after delivery**		
	Yes	**No**	**Total**
15 – 24	25 (25.2%)	153 (30.6%)	178 (35.6%)
25 – 34	115 (23.0%)	151 (30.2%)	266(53.2%)
35 - 44	25(5.0%)	31(6.2%)	56(11.2%)
Total	165(33.0%)	335 (67.0%)	500(100.0%)

Table 7. Odds ratios from logistic regression analyses of the determinants of return of menstruation among women on exclusive breastfeeding

Variable	Odds Ratio (95% CI)	P Value
BMI		
Normal	0.618 (0.246-1.552)	0.306
Overweight	0.897(0.376-2.140)	0.806
Obese	**RC**	
Age		
15-24	0.248(0.121-0.508)	0.000
25-34	0.941(0.514-1.723)	0.845
Parity		
Primipara	0.574(0.334-0.987)	0.045
Multipara	**RC**	