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A Cross-Sectional Study Investigates the Use of Lactational Amenorrhea for Contraception Among Women

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Abstract

Background: The Lactational Amenorrhea Method (LAM) is a natural contraceptive technique that combines breastfeeding with family planning, particularly for postpartum women. This study explores the prevalence, accuracy, and sociodemographic influences on LAM usage among women attending a health center.

Methods: A cross-sectional study was conducted among 300 postpartum women aged 15–45 years with at least one living child under five years old. Data collection involved structured interviews using a questionnaire covering sociodemographic characteristics, breastfeeding practices, and LAM usage. Statistical analysis included descriptive statistics and logistic regression to identify factors influencing LAM practice.

Results: Among participants, 42.7% were currently breastfeeding, and 33.1% of women who had ever breastfed reported using LAM for contraception. However, only 9.8% adhered to the ProperLAM criteria, while 90.2% practiced it incorrectly, leading to a 30.1% unintended pregnancy rate among inProperusers. Rural residence and

lower educational attainment were associated with higher LAM usage. Non-working women also demonstrated significantly higher adoption rates compared to working women.

Conclusion: This study identified mothers who had at least three children as being more likely to practice LAM in rural areas. Thus, the health providers would encourage mothers to breastfeed and dispel any misinformation with effective counseling on the lactational amenorrhea method.

Introduction

Family planning is an important method to improve health and well-being among women and their families. It helps in preventing unwanted pregnancies, since it helps to safeguard the health of mothers and children alike and contributes to poverty alleviation and hence social and economic development [1]. The Sustainable Development Goals (SDGs) have made a call for universal access to reproductive health services including family planning highlighting its importance. However, availability of such services is seriously undermined, especially in poor-resourced areas, where

maternal and child health outcomes can be greatly affected [2].

As many as 150 million pregnancies take place every year across the globe, of which 40% is unintended. A good number of these pregnancies are unwanted, which demand sustained attention to allow for the provision of quality, ready-to-use contraceptive methods [3]. The postpartum period has witnessed much vulnerability for unintended pregnancies. It is during this stage that a more or less laid-back attitude towards contraceptive use persists. The incorporation of family planning into postpartum care constitutes a great opportunity to fill in this gap and enhance the health of women and children through the prevention of unexpected pregnancies [4].

The postpartum period is also a prime opportunity to marry breastfeeding practices with family planning. It has been suggested for women how to space births and have healthy periods between births when both approaches are merged. An important example of this integration is the Lactational Amenorrhea Method (LAM). LAM supports exclusive breastfeeding, which is essential for an infant's nutrition and immunity. Furthermore, provided that Proper practices are utilized during the initial six months postpartum, this serves as an extremely effective natural contraceptive[5].

LAM has risen to recognize breastfeeding as a natural form of suppression of ovulation. This method becomes more relative for some women in some settings where access to conventional contraceptives is economically or logistically more difficult. LAM has been established as a practical option for cost-effective contraception in defined geographical areas like Egypt. It does, however, rely on strict adherence to certain criteria: exclusive breastfeeding, amenorrhea (no menses), and under six months postpartum. Provided each of these conditions is satisfied, the failure rate of LAM is reported to be a mere 5 %. However, this limited reliability can become more volatile if breastfeeding is not exclusive or if menstruation commences again [6].

Therefore, the integration of breastfeeding support and family planning services means that LAM offers a critical support role for maternal and child health, especially within the constrained resources of developing health systems. But it needs to be widely known and properly applied for its flowering. Women and health workers must be educated regarding primary LAM criteria and limitations to enhance its quality and wider acceptability so that the end result of healthier families and communities can be achieved.

The study intends to examine how women utilize LAM and the factors influencing their knowledge, normative beliefs, and practices. Its purpose is to explore knowledge deficits and barriers that might hinder effective usage of LAM. To solve these, there will be counsel directed toward caregivers and governments. Such findings would assist in fashioning better-designed programs that seamlessly link family planning and breastfeeding support into postpartum care to optimize health returns for mothers and children.

Methods

this study is a cross-sectional study targeted women aged 15 to 45 years who had at least one living child under five years old. These women had visited the health center for family planning, gynecological, or antenatal care during the study period.

Study Duration

The research was carried out over a six-month period, starting on (January 2024 to July 2024).

Sample Size and Sampling Technique

The sample size was calculated using EPI INFO version 7 (CDC, Atlanta, Georgia, USA). Based on a 95% confidence interval and 80% power, the required sample size was determined to be 284 women. To account for potential dropouts, the final sample size was increased to 300 participants.

Data collection was conducted on three selected days each week when the researcher was present. All eligible women attending the center on those days were invited to participate in the study.

Study Tool

A structured questionnaire was designed to collect data. It covered:

- **Socio-demographic characteristics:** Age, residence, employment status, education level, religion, and family type (nuclear or extended).
- **Practice of LAM:** Questions were asked about breastfeeding practices, LAM usage, and any pregnancies that occurred while using LAM to identify malpractice and estimate its failure rate.

Data Collection

Data were gathered through face-to-face interviews with participants, each lasting approximately 15–20 minutes.

Operational Definitions

Term	Definition
Lactational Amenorrhea Method (LAM)	Modern, temporary contraception based on nursing physiology and natural infertility. This works if the kid is under six months old, the lady is amenorrheic, and she breastfeeds 24/7.
Active LAM User	A breastfeeding woman relying on LAM at the time of the interview.
Former LAM User	A woman no longer breastfeeding but with prior experience using LAM.
Ever LAM User	A woman who has breastfed and used LAM at any point in time.
Proper LAM User	A self-reported LAM user meeting all three practice criteria.
Improper LAM User	A self-reported LAM user not meeting all three practice criteria.
Passive LAM User	Having all three LAM criteria but not actively identifying prolonged nursing as her family planning technique or using any other contraception.
Contraceptive Failure	A pregnancy occurs despite ProperLAM use.
User Failure	A pregnancy occurring due to inProperLAM use.

Statistical Analysis

The data for this study was analyzed using SPSS version 20 for Windows (SPSS Inc., Chicago, Illinois, USA). we started with descriptive statistics like percentages, means, and standard deviations, we used bivariate analysis, applying either the chi-square test or Fisher's exact test, depending on the data requirements. We also conducted multivariate logistic regression to account for multiple factors at once, providing a more comprehensive view of the determinants. Importantly, we considered any findings statistically significant if the P-value was less than 0.05, ensuring that our conclusions were based on robust evidence.

Results

Breastfeeding Practices

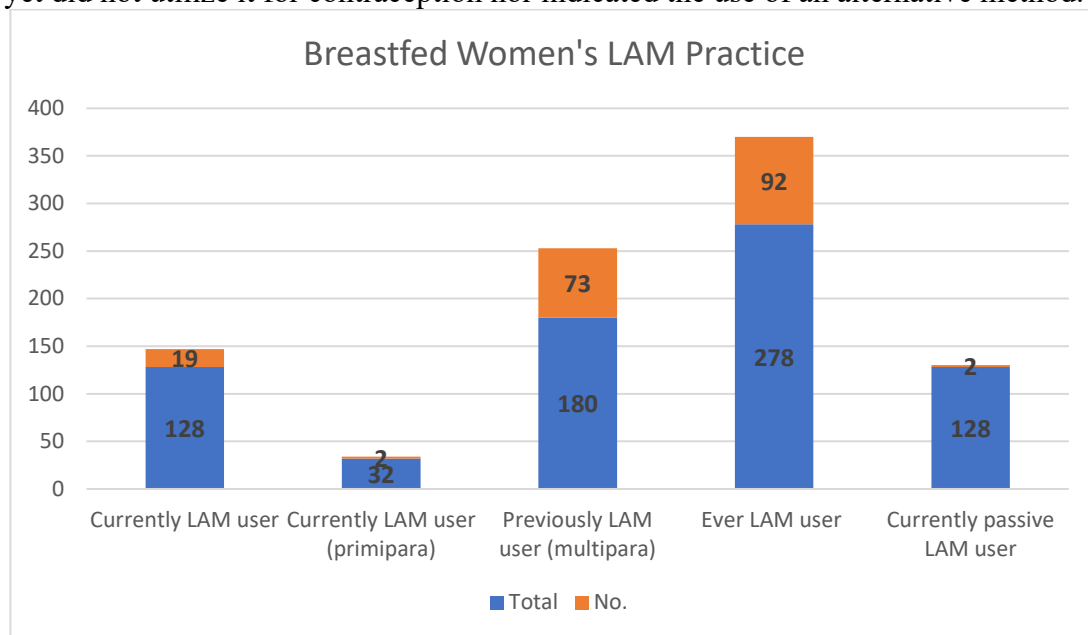
Table 1 summarizes the breastfeeding practices of the studied women. Approximately 42.7% of the participants were currently breastfeeding their children. Among primiparous women, 59.3% reported that they were breastfeeding at the time of the study. Notably, 96.1% of multiparous women had previously breastfed at least one child. Overall, a significant majority (92.7%) of all participants indicated that they had breastfed their children at some point.

Table 1: Breastfeeding Practices Among Studied Women

Category	N (%)	Total
Currently breastfed	128 (42.7)	300
Currently breastfed (primipara)	32 (59.3)	54
Previously breastfed (multipara)	173 (96.1)	180
Ever breastfed	278 (92.7)	300

Use of LAM

Table 2 presents the use of LAM among the breastfed women in the study. Of the participants currently breastfeeding, 14.8% indicated the use of LAM as a contraceptive method. Among multiparous women who previously breastfed, 40.6% reported having utilized LAM at some stage. In total, 33.1% of women who had previously breastfed indicated that they utilized LAM as a method of contraception. Furthermore, 1.6% of the women currently breastfeeding satisfied all criteria for LAM, yet did not utilize it for contraception nor indicated the use of an alternative method.

**Figure 1: Breastfed Women's LAM Practice**

Accuracy of LAM Use

Table 3 details the pattern of LAM practice among Former users in the study. Only 9.8% of the participants met all three criteria for ProperLAM use, while the majority (90.2%) practiced LAM incorrectly. Among those practicing LAM incorrectly, 30.1% reported unintended pregnancies, categorized as user failure. Notably, no pregnancies occurred among the participants who used LAM correctly, indicating no method failure.

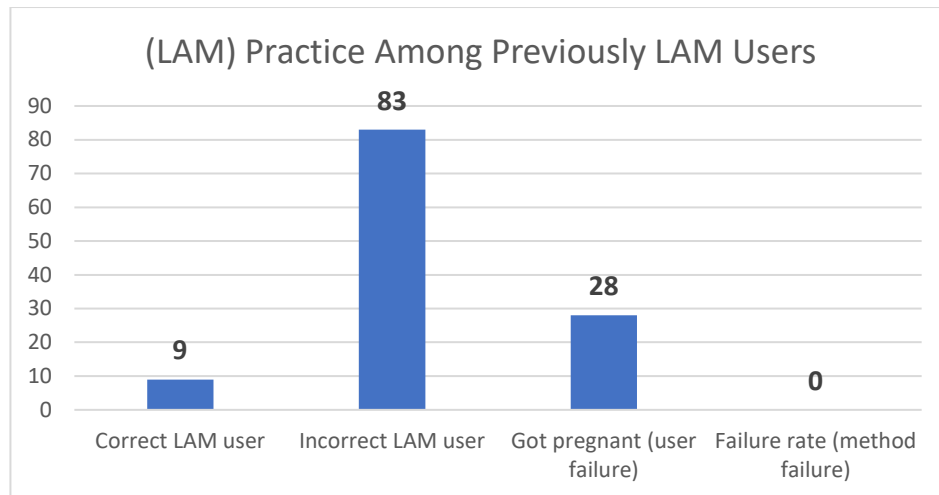


Figure 2: Lactational Amenorrhea Method (LAM) Practice Among Former Users

Sociodemographic Factors and LAM Use

The sociodemographic characteristics of women using LAM reveal several significant patterns. Age distribution showed no significant difference between LAM users and non-users ($p = 0.276$), but other factors played a more influential role. Rural women were significantly more likely to use LAM than urban women (71.7% vs. 28.3%, $p < 0.001$), and non-working women had higher LAM usage compared to those working for cash (85.9% vs. 14.1%, $p = 0.013$). Educational attainment also affected LAM practice, with women who were illiterate or had basic education showing higher use compared to university graduates ($p = 0.024$). These findings underscore the impact of sociodemographic factors on LAM adoption.

Table 2: Sociodemographic Characteristics of Women Using LAM

Variable	Using LAM (n = 92)	Not Using LAM (n = 208)	P-value
Age (years)			0.276
< 25	18 (19.6%)	48 (23.1%)	
25–35	49 (53.3%)	104 (50.0%)	
> 35	25 (27.2%)	56 (26.9%)	
Level of education			0.024
Illiterate/Read & Write	40 (43.5%)	91 (43.8%)	
Basic education	24 (26.1%)	67 (32.2%)	
Secondary	15 (16.3%)	27 (13.0%)	
University	13 (14.1%)	23 (11.1%)	0.103
Husband's education			
Illiterate/Read & Write	38 (41.3%)	85 (40.9%)	
Basic education	32 (34.8%)	72 (34.6%)	
Secondary	14 (15.2%)	27 (13.0%)	< 0.001
University	8 (8.7%)	24 (11.5%)	
Residence			
Urban	26 (28.3%)	97 (46.6%)	
Rural	66 (71.7%)	111 (53.4%)	0.013
Occupation			
Working for cash	13 (14.1%)	58 (27.9%)	
Not working	79 (85.9%)	150 (72.1%)	
Number of children			0.001
1	6 (6.5%)	47 (22.6%)	
2	28 (30.4%)	85 (40.9%)	
3	23 (25.0%)	45 (21.6%)	
More than 3	35 (38.1%)	31 (14.9%)	

Discussion

The Lactational Amenorrhea Method (LAM) is an impressive family planning model that combines the very benefits of breastfeeding with effective contraception. It takes advantage of the natural infertility associated with breastfeeding (although this is by no means exclusively so), uses LAM as an easy, non-invasive, and affordable support to postpartum women in spacing their pregnancies. It sheds light on the utilization of LAM-the proportions of users, appropriate use, and the factors associated with the adoption of LAM among the study participants. It provides additional insight into the other challenges that women encounter while using LAM such as, ignorance and logistic constraints, which would be an important guide for interventions to promote access and effectiveness [1, 6].

Breastfeeding Practices

Multiparous women (96.1%) were significantly more likely to breastfeed than primiparous mothers (59.3%), with an overall breastfeeding rate of 42.7%. In this context, 92.7% of all subjects had breastfed at some point, showing a rather high rate of breast feeding. On the other hand, first-time mothers will face unique challenges that may require specific assistance to help them breastfeed successfully.

These results have been shown to be consistent with research. A study by Lindblad et al. (2022) indicated that the relative risk of expressing doubts about infant feeding post-discharge for primiparous women was higher than for multiparous women. Their study found that early breastfeeding troubles were reported by 35% of primiparous women, compared to only 20% of multiparous women. This difference highlights the effect of experience and confidence-upon which multiparous women often draw to enhance their chances of breastfeeding successfully and for longer durations [7].

Alternatively, while Oberfichtner et al. (2023) mention that 58% of primipara exclusively breastfed for six months, 20% ceased their effort due to concerns about insufficient milk supply or infant weight. In our study, 59.3% of primipara were breastfeeding at the time of data collection, which indicates certainly a high temperature of initiation; however, continuation may equally be faced with challenges such as insufficient milk supply [8].

Evidence in support of our findings comes from the study Mohammad et al. (2018), which found that multiparous women living in an urban Indian slum had higher exclusive breastfeeding rates (55%) compared with primiparous women (48%). Moreover, compared to primiparous women, multiparous women were more likely to initiate breastfeeding within half an hour after delivery. This has led to evidence alongside confidence and prior experience influencing positively initiation and continuation of breastfeeding [9].

Use of LAM

The results of this study provide important information about the use of LAM among breastfeeding women. Among those, 14.8% of breastfeeding women reported using LAM as a method of contraception. Of the previously breastfeeding multiparous women, 40.6% were practicing LAM. The proportion of LAM use among all breastfeeding mothers was reported to be 33.1%. There were only 1.6% of women who met all criteria for LAM successfully, but did not use it for contraception or reported the use of another method, which access to the method possibly compromised.

The reliability of LAM has been previously shown to be another birth control method. In a Santiago study of 422 women, Valdés et al. (2000) found LAM to be 99.5% effective with only one pregnancy [10]. Our study showed that LAM is a promising postpartum contraceptive alternative owing to its efficacy. In a study by Kazi et al. (1995), the reported effectiveness of LAM was 99.42% in 391 Pakistani women; their work also confirmed the effectiveness of LAM when done correctly [11]. All these studies imply that LAM can be a reliable family planning option during nursing.

However, only 1.6% of the participants satisfying all criteria for LAM did not use it for contraception or reported using another method. This raises red flags. It seems that proper information about the use of LAM might not be highly convincing. According to the Institute for Reproductive Health, LAM works best when the mother is amenorrheic, exclusively or nearly exclusively breast feeding, and under six months postpartum. What has emerged from our study is low compliance to these criteria, indicating the urgent need for focused teaching and counselling. This means better dissemination and easy-about LAM uptake and accuracy by service providers should prioritize these criteria, which are commonly misapprehended.

Accuracy of LAM Use

Our study, therefore, evaluated the accuracy with which the participants employed the Lactational Amenorrhea Method, with 9.8% of the participants abiding by all three criteria for Properuse. Unfortunately, 90.2% of participants employed LAM incorrectly, resulting in an unintended pregnancy rate of 30.1%. Interestingly, there were no pregnancies among women who adhered strictly to the method, which affirms its efficacy when used correctly.

These findings were in concordance with earlier studies emphasizing the importance of proper adherence to LAM practice. Working women who could claim the grounds for LAM use-maybe amenorrheic, have infants less than six months of age, and breast-feed or express milk routinely-reported low rates of six-month pregnancy (5.2%). Observations like these point to the reliability of this method correctly as per laid down perimeters; and highlight the impact of strictly adhering to certain LAM criteria on its outcome [10].

The highly erroneous implementation of LAM that our study has found clearly signals a knowledge or understanding gap. This observation is supported by the Cochrane Review (2015), which identifies user error as a key limitation of LAM, particularly in situations where educational outreach and general awareness are minimal. Adding weight to the argument, the fact that pregnancies were absent among women who adhered strictly to LAM points further to its potential as an effective contraceptive method if used under Properguidance and comprehension [2].

Sociodemographic Factors and LAM Use

Our study examined the influence of sociodemographic factors on the use of the Lactational Amenorrhea Method (LAM) among postpartum women. There were no significant differences in the use of LAM by age ($p = 0.276$). Other risk factors showed substantially high associations, for example, rural women were more likely to use LAM than their urban counterparts (71.7% vs. 28.3%, $p < 0.001$). Non-working women used LAM at higher rates than those engaged in cash work (85.9% vs. 14.1%; $p = 0.013$). In addition, women with lower education levels were more likely to use LAM than those with university degrees ($p = 0.024$).

These findings agree with other studies that pointed to the influence of sociodemographic factors on contraceptive practices. For instance, Alo et al. (2020) found that, in Nigeria, certain plausible explanatory factors such as education, socioeconomic status, and awareness of family planning exert considerable influence on contraceptive use [12]. Women with fewer years of schooling and a lower socioeconomic background were less likely to use modern contraceptives, which coincides with our finding that LAM use was more prevalent among less-educated women.

Similarly, Birabwa et al. (2022) noted that, in Uganda, less than 1% of eligible adolescent mothers correctly practiced LAM, yet over half were passively benefiting from it. Their study highlighted the respective roles of age and education on LAM use, reinforcing our observation that lower education levels often correlate with greater reliance on LAM [13].

It indicates that women from rural backgrounds and those with fewer education levels may turn to LAM due to limited modern contraceptive options. Rural settings often lack complete family planning services, and lower educational levels may impair the grasp of other contraceptive methods by women. This means that it has to be on the agenda to institute better education and access to modern contraceptives where it is urgently needed.

Conclusion

In conclusion, our study shows that, while about one-third of postpartum women use LAM, adherence to the criteria is rarely found such that an unintended pregnancy is regarded as a hazard by 30.1%. The use of LAM is heavily affected by factors that influence women living in the rural areas, lower educational status, and those not in wage employment. This suggests that access to contraceptive methods other than LAM, together with full education on family planning, may be restricted to these groups.

References

1. Starbird E, Norton M, Marcus R. Investing in family planning: key to achieving the sustainable development goals. *Global health: science and practice*. 2016;4(2):191-210.
2. Van der Wijden C, Manion C. Lactational amenorrhoea method for family planning. *Cochrane database of systematic reviews*. 2015(10).
3. Huang Y-M, Merkatz R, Kang J-Z, Roberts K, Hu X-Y, Di Donato F, et al. Postpartum unintended pregnancy and contraception practice among rural-to-urban migrant women in Shanghai. *Contraception*. 2012;86(6):731-8.
4. Maternal I. Maximizing synergies between maternal, infant, and young child nutrition and family planning. 2011.
5. Ahmed S, Norton M, Williams E, Ahmed S, Shah R, Begum N, et al. Operations research to add postpartum family planning to maternal and neonatal health to improve birth spacing in Sylhet District, Bangladesh. *Global Health: Science and Practice*. 2013;1(2):262-76.
6. Khella AK, Fahim HI, Issa AH, Sokal DC, Gadalla MA. Lactational amenorrhea as a method of family planning in Egypt. *Contraception*. 2004;69(4):317-22.
7. Lindblad V, Melgaard D, Jensen KL, Eidhammer A, Westmark S, Kragholm KH, et al. Primiparous women differ from multiparous women after early discharge regarding breastfeeding, anxiety, and insecurity: A prospective cohort study. *European journal of midwifery*. 2022;6.
8. Oberfichtner K, Oppelt P, Fritz D, Hrauda K, Fritz C, Schildberger B, et al. Breastfeeding in primiparous women—expectations and reality: a prospective questionnaire survey. *BMC Pregnancy and Childbirth*. 2023;23(1):654.
9. Mohamed MJ, Ochola S, Owino VO. Comparison of knowledge, attitudes and practices on exclusive breastfeeding between primiparous and multiparous mothers attending Wajir District hospital, Wajir County, Kenya: a cross-sectional analytical study. *International breastfeeding journal*. 2018;13:1-10.
10. Valdés V, Labbok MH, Pugin E, Perez A. The efficacy of the lactational amenorrhea method (LAM) among working women. *Contraception*. 2000;62(5):217-9.
11. Kazi A, Kennedy KI, Visness CM, Khan T. Effectiveness of the lactational amenorrhea method in Pakistan. *Fertility and sterility*. 1995;64(4):717-23.
12. Alo OD, Daini BO, Omisile OK, Ubah EJ, Adelusi OE, Idoko-Asuelimhen O. Factors influencing the use of modern contraceptive in Nigeria: a multilevel logistic analysis using linked data from performance monitoring and accountability 2020. *BMC Women's Health*. 2020;20(1):191.
13. Birabwa C, Bakkabulindi P, Wafula ST, Waiswa P, Benova L. Knowledge and use of lactational amenorrhoea as a family planning method among adolescent mothers in Uganda: a secondary analysis of Demographic and Health Surveys between 2006 and 2016. *BMJ open*. 2022;12(2):e054609.