

## A Hospital-Based Study Assessing Knowledge Level and Practice of Lactational Amenorrhea Method (LAM) as a Method of Contraception: An Observational Study

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Received: 11-06-2023 Revised: 20-07-2023 / Accepted: 17-08-2023

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Conflict of interest: Nil

### Abstract

**Aim:** The aim of the present study was to assess the knowledge about lactational amenorrhea method (LAM) of women and determine the proportion of women use LAM was also investigated the factors determining practice of LAM.

**Methods:** The present study was conducted at Department of Obstetrics and Gynecology for one year and the knowledge and practice of lactational amenorrhea as a form of contraception among women visiting primary healthcare facilities were investigated in a cross-sectional study. 200 women of reproductive age completed a structured questionnaire. The participants were chosen using a simple random sample. Sample size was estimated to determine a prevalence of LAM usage and knowledge among lactating women.

**Results:** A total of 200 lactating women in reproductive age (15-49) were included in the study, the mean age was 28.34±6.4 years, 53% of them were in the age group (20-29) and 55% were from rural areas. Most of the lactating women were housewife (77%) and only (23%) were working. From the total number of studied women, 48% had attended at basic education. Concerning family size, among the studied women, 26 women with a family size 3-4 members use LAM. 30 women with a family size 5 members use LAM. 25 women with a family size of 6 members use LAM. 20 of women with a family size of 7 or more members use LAM. (p-value < 0.0001). 65% of women included in the study have used LAM, 64% have used correct LAM, 90% of lactating women know about LAM and 35% have failure of usage LAM and get pregnant. And 40% of studied women had breast feeding barriers. The mean of duration of breast feeding is 11.12 months ± 7.33 and the mean of duration of amenorrhea is 6 months ± 4.11 and the mean of exclusive BF duration 4.63±2.34.

**Conclusion:** The large majority of the participants in this study stated that breastfeeding can be used as a technique of family planning until menstruation returns. Only about two third of the women in the study said they had ever used LAM. Women from rural areas, not working, and educated with lower socioeconomic were more likely to practice LAM.

**Keywords:** Lactational Amenorrhea Method, Knowledge, Practice.

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### Introduction

Lactational Amenorrhea Method (LAM) is a recognized modern contraceptive method where postpartum amenorrheic women depend on the contraceptive effect of breastfeeding within the first six months after childbirth. LAM provides 98% protection against pregnancy if 1) the woman's menstrual period has not returned since childbirth, 2) the baby is fully or nearly fully breastfed, and 3) the baby is less than six months old. [1,2] The correct use of LAM provides an effective and

affordable contraceptive option for breastfeeding women, while also providing an opportunity for linkage and transition of mothers to other FP methods and services. Furthermore, LAM use does not require replenishment of contraceptive supplies or a healthcare provider after appropriate LAM counselling is given. Therefore, LAM can play an important role in preventing unwanted pregnancies during the postpartum period and consequently maternal death. [3] However, its effectiveness may

be undermined by factors or practices that affect the three criteria, especially breastfeeding. Evidence shows low breastfeeding rates [4,5] and a higher likelihood of exclusive breastfeeding (EBF) discontinuation before infants reach 6 months among adolescent mothers.6 A study of Nigerian adolescents found lower rates of early breastfeeding initiation and EBF compared to women 20-24 years.7 Education level, mode of delivery, antenatal care attendance, and postnatal breastfeeding counselling are some of the factors influencing breastfeeding practices among adolescents.[5,7]

Breastfeeding still accounts for a significant proportion of all fertility reduction, the average birth interval being longer among populations that breastfeed than among populations that do not breastfeed. [8] However, for the individual, breastfeeding per se is not reliable for fertility suppression. [9] The lactational amenorrhea method (LAM) is a tool for the individual woman to utilize breastfeeding physiology in order to help space her births. [10] Suckling induces a reduction in the pulsatile release of gonadotropin releasing hormone (GnRH) which almost suppresses luteinizing hormone (LH) and follicle stimulating hormone (FSH) secretions, which in turn increases the duration of the lactational amenorrhea. The mechanism seems to involve an intracerebral opioid pathway (local release of P-endorphin, inhibiting hypothalamic release of GnRH and suppressing dopamine secretion, thereby stimulating prolactin secretion). Prolactin maintains milk production, and thus encourages suckling, but has no major role in the lactational infertility. [11,12]

The aim of the present study was to assess the knowledge about lactational amenorrhea method (LAM) of women and determine the proportion of women use LAM was also investigated the factors determining practice of LAM.

**Materials and Methods**

The present study was conducted at department of Obstetrics and Gynecology Nalanda Medical College and Hospital, Patna, Bihar India for one year and the knowledge and practice of lactational amenorrhea as a form of contraception among

women visiting primary healthcare facilities were investigated in a cross-sectional study. 200 women of reproductive age completed a structured questionnaire. The participants were chosen using a simple random sample. Sample size was estimated to determine a prevalence of LAM usage and knowledge among lactating women.

**Inclusion Criteria:** All breastfeeding women between the ages of 15 and 49 who visited family planning clinics and gave their consent to participate in the study were included.

**Exclusion Criteria:** Not married women and those their age outside the reproductive age range (15-49 years).

**Data Collection**

Married women of reproductive age who were seeking primary healthcare were the target audience for the interviews. In the primary health care waiting room, interviews were done once a week with an average of 20 carefully chosen women per day. The following survey question applied to our study: Age, education level, family size, and socioeconomic status are the main demographic factors. Breastfeeding and LAM practices: usage of LAM, correct use and knowledge about LAM, failure of LAM, breastfeeding duration, duration of exclusive BF, duration of amenorrhea breastfeeding barriers. Pregnancy factors affect LAM usage: age of first pregnancy, number of pregnancies, number of miscarriage and unintended pregnancy.

**Statistical Analysis**

All statistical analyses were performed using IBM SPSS (Statistical Package for the Social Science; IBM Corp., Armonk, NY, USA) release 26 for Microsoft Windows. Comparing qualitative variables that were expressed as frequencies and percentages was done using chi-square tests. Comparing quantitative measurements that were supplied as means with standard deviation was done using the student t-test (SD). Regression analysis and the correlation of different variables were performed, as stated. P value under 0.05 was regarded as significant.

**Results**

**Table1: Demographic characteristics of the studied women**

Characteristics	
Age in years (Mean±SD)	28.34+6.4
Age group	N (%)
15-19	20 (10%)
20-24	68 (34%)
25-29	38 (19%)
30-34	16 (8%)
35-39	28 (14%)
40-44	30 (15%)

45-49	
<b>Residence</b>	
Rural	110 (55%)
Urban	90 (45%)
<b>Education level of women</b>	
Illiterate	68 (34%)
Basic education	96 (48%)
University	36 (18%)
<b>Women's occupation</b>	
House wife	154 (77%)
Employee	24 (12%)
Skill worker	22 (11%)
<b>Family size</b>	
3-4	34 (17%)
5	64 (32%)
6	32 (16%)
7 or more	70 (35%)
<b>Socioeconomic level</b>	
Mild	68 (34%)
Moderate	72 (36%)
High	60 (30%)

A total of 200 lactating women in reproductive age (15-49) were included in the study, the mean age was 28.34±6.4 years, 53% of them were in the age group (20-29) and 55% were from rural areas. Most of the lactating women were housewife (77%) and only (23%) were working. From the total number of studied women, 48% had attended at basic education.

**Table 2: Relationship between usage (LAM) and demographic characteristics of the studied women**

Demographic characteristic	Total	Use LAM N	Non-Use N	P-value
<b>Age group</b>				
15-19	20	16	4	
20-24	68	40	28	
25-29	38	17	21	
30-34	16	9	7	<0.0001
35-39	28	20	8	
40-45	30	30	0	
<b>Residence</b>				
Urban	110	75	35	0.010
Rural	90	50	40	
<b>Mother's education</b>				
Illiterate	68	60	8	
Basic education	96	60	36	
University education	36	16	20	<0.0001
<b>Mother's occupation</b>				
House wife	154	100	54	
Employee	24	16	8	0.034
Skill work	22	18	4	
<b>Family size</b>				
3-4	34	26	8	
5	64	30	34	<
6	32	25	7	0.0001
7 or more	70	20	50	

Concerning family size, among the studied women, 26 women with a family size 3-4 members use LAM. 30 women with a family size 5 members use LAM. 25 women with a family size of 6 members use LAM. 20 of women with a family size of 7 or more members use LAM. (p- value < 0.0001).

**Table 3: Breast feeding and usage LAM practice among studied women**

<b>Practices</b>	
<b>LAM: N (%)</b>	
<b>Yes</b>	130 (65%)
<b>No</b>	70 (35%)
<b>Correct use LAM: N (%)</b>	
<b>Yes</b>	128 (64%)
<b>No</b>	72 (36%)
<b>Knowledge about LAM: N (%)</b>	
<b>Yes</b>	180 (90%)
<b>No</b>	20 (10%)
<b>Failure of LAM usage: N (%)</b>	
<b>YES</b>	70 (35%)
<b>No</b>	130 (65%)
<b>Breastfeeding barriers: N (%)</b>	
<b>Yes</b>	80 (40%)
<b>No</b>	120 (60%)
<b>Mean of breastfeeding duration ±SD</b>	11.12 months ±7.33
<b>Mean of exclusive breastfeeding ±SD</b>	4.63 months ±2.34
<b>Mean of LAM duration ± SD</b>	6 months ± 4.11

65% of women included in the study have used LAM, 64% have used correct LAM, 90% of lactating women know about LAM and 35% have failure of usage LAM and get pregnant. And 40% of studied women had breast feeding barriers. The mean of duration of breast feeding is 11.12 months ± 7.33 and the mean of duration of amenorrhea is 6 months ± 4.11 and the mean of exclusive BF duration 4.63±2.34.

**Table 4: Relationship between usage LAM and breastfeeding and LAM practices of the studied women**

Practices	Total	LAM users N (%)	Non-users N (%)	P- value
<b>CorrectLAM</b>				
<b>Yes</b>	128	100	28	< 0.0001
<b>No</b>	72	22	50	
<b>Knowledge about LAM</b>				
<b>Yes</b>	180	120	60	0.01
<b>No</b>	20	12	8	
<b>Failure LAM</b>				
<b>Yes</b>	70	40	30	0.002
<b>No</b>	130	90	40	
<b>Breastfeeding barriers</b>				
<b>Yes</b>	80	60	20	< 0.0001
<b>No</b>	120	64	56	

Concerning correct use of LAM 100 studied women use LAM use it correctly while 28 women without correct use and variable was highly statistically significant. Concerning knowledge about LAM as contraception, 120 women use LAM know about LAM compared to 60 women not use LAM know about LAM as contraception. As

regard failure of LAM (women get pregnant) 90 women have used LAM as contraception get pregnant while 30 women using LAM as contraception not get pregnant. Concerning breastfeeding barriers 60 women have used LAM have breastfeeding barriers while 20 women not use LAM have breastfeeding barriers.

**Table 5: Relationship between usage LAM and breastfeeding duration and amenorrhea duration of the studied women**

Practices	Use LAM Mean±SD	Non-using Mean±SD	p- value
<b>Breastfeed ing duration</b>	13.7±6.4	6.14±3	< 0.0001
<b>Amenorrhea duration</b>	8.2±2.48	1.64±2.2	< 0.0001
<b>Exclusive Breastfeeding duration</b>	6.04±1.2	1.94±1.6	< 0.0001

Mean of duration of breastfeeding in the women use LAM was 13.7±6.4 while in the women not use LAM was 6.14±3, the mean of duration of amenorrhea in the women use LAM is 8.2±2.48 and in the women not use LAM was 1.64±2.2 and the mean of exclusive breastfeeding in women use LAM was 6.04±1.2 compare to 1.94±1.6 in non-LAM users.

**Table 6: Correlation between duration of amenorrhea and duration of breastfeeding in lactating women**

Variables	Duration of amenorrhea	
	r*	P value
Duration of breastfeeding	0.540	< 0.0001
Duration of exclusive BF	0.644	< 0.0001

By bivariate correlation analysis there is moderate positive correlation between duration of amenorrhea and duration of breastfeeding in lactating women ( $r^*=0.540$ ,  $P<0.0001$ ) and there is moderate positive correlation between duration of amenorrhea and duration of exclusive breastfeeding. ( $r^*=0.644$ ,  $P<0.0001$ ).

### Discussion

Family planning is important for women's health and the health of their families it can help a country and achieve development goals faster. One of the Sustainable Development Goals' objectives is to ensure that everyone has access to reproductive health services, including family planning, due to the significance of this goal. (SDGs). [13] It is estimated that roughly 40% of the 150 million pregnancies worldwide each year are unplanned, with the majority of them being unwanted. [14] According to epidemiological studies, postpartum women are among the most vulnerable to unwanted pregnancies. [15]

A total of 200 lactating women in reproductive age (15-49) were included in the study, the mean age was  $28.34\pm 6.4$  years, 53% of them were in the age group (20-29) and 55% were from rural areas. Most of the lactating women were housewife (77%) and only (23%) were working. From the total number of studied women, 48% had attended at basic education. Concerning family size, among the studied women, 26 women with a family size 3-4 members use LAM. 30 women with a family size 5 members use LAM. 25 women with a family size of 6 members use LAM. 20 of women with a family size of 7 or more members use LAM. ( $p$ -value  $< 0.0001$ ). 65% of women included in the study have used LAM, 64% have used correct LAM, 90% of lactating women know about LAM and 35% have failure of usage LAM and get pregnant. And 40% of studied women had breast feeding barriers. The mean of duration of breast feeding is  $11.12$  months  $\pm 7.33$  and the mean of duration of amenorrhea is 6 months  $\pm 4.11$  and the mean of exclusive BF duration  $4.63\pm 2.34$ . Any true increase in levels of knowledge about LAM may be attributed to various efforts that have been implemented over time by the Ugandan government including free primary education, family planning initiatives including the use of community health workers, and promoting the provision of adolescent and youth friendly services. [16,17] The percentage of eligible adolescents who were aware of LAM in this study was higher than

what has been reported among women of reproductive age in other SSA countries. [18-20]

Concerning correct use of LAM 100 studied women use LAM use it correctly while 28 women without correct use and variable was highly statistically significant. Concerning knowledge about LAM as contraception, 120 women use LAM know about LAM compared to 60 women not use LAM know about LAM as contraception. As regard failure of LAM (women get pregnant) 90 women have used LAM as contraception get pregnant while 30 women using LAM as contraception not get pregnant. Concerning breastfeeding barriers 60 women have used LAM have breastfeeding barriers while 20 women not use LAM have breastfeeding barriers. In other studies, violation of the exclusive breastfeeding and postpartum amenorrhea criteria have been reported to be the primary factors affecting the correct use of LAM. [14,21] This is particularly important in adolescents among whom, early initiation and exclusive breastfeeding have been reported to be low, with a higher likelihood of discontinuation. [6,7]

Mean of duration of breastfeeding in the women use LAM was  $13.7\pm 6.4$  while in the women not use LAM was  $6.14\pm 3$ , the mean of duration of amenorrhea in the women use LAM is  $8.2\pm 2.48$  and in the women not use LAM was  $1.64\pm 2.2$  and the mean of exclusive breastfeeding in women use LAM was  $6.04\pm 1.2$  compare to  $1.94\pm 1.6$  in non LAM users. By bivariate correlation analysis there is moderate positive correlation between duration of amenorrhea and duration of breastfeeding in lactating women ( $r^*=0.540$ ,  $P<0.0001$ ) and there is moderate positive correlation between duration of amenorrhea and duration of exclusive breastfeeding. ( $r^*=0.644$ ,  $P<0.0001$ ).

### Conclusion

The large majority of the participants in this study stated that breastfeeding can be used as a technique of family planning until menstruation returns. Only about two third of the women in the study said they had ever used LAM. Women from rural areas, not working, and educated with lower socioeconomic were more likely to practice LAM. Correct practice of LAM and fulfill the criteria: baby 6 month or less, exclusive breastfeeding with amenorrhea give good result of LAM as contraception. Unintended pregnancy was reported in about one third of LAM users due to incorrect practicing.

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