### **Research Article**

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# Knowledge of lactational amenorrhea as a contraceptive method among mothers of infants aged 0-6 months in a district, Eastern Turkey

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#### **ABSTRACT**

**Background:** Lactation is a natural defense against pregnancy. As long as a mother is nursing, she is delaying the return of fertility. This study aimed at evaluating the state of knowledge, among mothers of infants aged 0-6 months, on lactational amenorrhea as a contraceptive method, as well as these women's breastfeeding habits.

**Methods:** In this descriptive study 646 mothers were included. A questionnaire was used to interview one-on-one the mothers of infants aged 0-6 months, who had consented to such an interview. The data were evaluated by using the SPSS program; percentage, mean, and chi-square analyses were used.

**Results:** To the question: Does lactating protect you from pregnancy? 82.5% answered in the negative. While 28.6% of the subjects who had received family planning counseling postpartum had answered "yes" to this question, in subjects who had not received such counseling this proportion was 14.9% (p=0.001). Those who had first done so within half an hour from delivery made up 81.4% of the sample. The proportion of those who had not yet resumed menstruations was 62.3%. All of the mothers who had not resumed menstruating were still nursing; 99.2% were breastfeeding also at night.

**Conclusions:** A rural area of Turkey, the use of LAM as a contraceptive method remains low, even though the breastfeeding ratio is high.

**Keywords:** Breastfeeding, Lactational amenorrhea, Family planning, Turkey

#### INTRODUCTION

Lactation is a natural defense against pregnancy. As long as a mother is nursing, she is delaying the return of The natural mechanism triggered by fertility. breastfeeding interrupts ovulation and the menstrual cycle. According to family planning researchers, breastfeeding, as a traditional method to increase the interval between births, provides protection from pregnancy to a larger number of women than all other Many investigations of the contraceptive methods.<sup>1</sup> efficacy of lactational amenorrhea method (LAM) have shown that this is an efficient and reliable method when specific criteria are met.<sup>2-4</sup> Three criteria define LAM: a) feeding exclusively or almost exclusively with mother's milk; b) postpartum amenorrhea; c) infant younger than six months. The risk of pregnancy in the first six months for a breastfeeding mother who meets the LAM criteria is 2%. <sup>5,6</sup> Women breastfeeding for longer than 6 months post-partum should initiate other modern methods of contraception to avoid unplanned pregnancy irrespective of breastfeeding style or menstrual status <sup>7</sup>.

The World Health Organization (WHO) recommends starting breastfeeding as soon as possible following delivery. Even though breastfeeding is a natural event, most mothers feel the need of reliable counseling and family and support. Therefore, in addition to pediatricians and obstetricians, mother-child health center personnel as well as physicians and nurses working in primary care should be knowledgeable on breastfeeding, its benefits, its contraceptive use and its techniques. This study aimed

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at evaluating the state of knowledge, among mothers of infants aged 0-6 months, on lactational amenorrhea as a contraceptive method, as well as these women's breastfeeding habits.

#### **METHODS**

This descriptive study performed in the Dogubeyazit district of the province of Agri, all public health care stations were visited in order to prepare a list of families with infants aged 0-6 months. Agri is an eastern Turkish city. In Dogubeyazit; the study population consisted in all 0-6 months old children, 1454 in total.

The sample including 50% of the population was selected by simple randomization, 727 infants' mothers being candidates for the study. Of these, 636 could be reached since participation was voluntary, resulting in the study participation rate of 87.5%. The researchers prepared the

questionnaire by reviewing the literature. The comprehensibility of questionnaire was verified by a pilot test with 15 infants' mothers who were not included in the research and was revised accordingly. The surveys were administered in face-to-face interview by trained pollsters in their homes. The data were analyzed using the SPSS program. The statistical analysis used percentages, means and chi-square tests depending on the quality of the variables. Means include their standard deviations and p<0.05 was used as the threshold of significance.

#### **RESULTS**

The average age of the mothers in the study was 27.48 (SD=5.59)years, (min:17, max:50) years; 45.9% were illiterate or barely literate and 43.1% had completed primary school, while 18.4% of the fathers were illiterate or barely literate and 56.8% had finished elementary school.

Table 1: Distribution of demographic characteristics of the mothers interviewed.

Characteristics	Number	Percentage	
Age groups (years)			
≤ 19	34	5.3	
20-29	426	67.0	
30-39	148	23.3	
≥ 40	28	4.4	
Mother's education level			
Illiterate-literate	292	45.9	
Primary school	274	43.1	
High school-university	70	11.0	
Mother's occupation/work status			
Working	593	93.2	
Not working (Housewife)	43	6.8	
Father's education level			
Illiterate-literate	117	18.4	
Primary school	361	56.8	
High school-university	158	24.8	
Monthly income*			
≤500 TL	315	49.5	
501-1000 TL	256	40.3	
1001-2000 TL	52	8.2	
2001 ≥	13	2.0	
Mode of delivery			
Normal delivery	581	91.4	
Caesarean section	55	8.6	
*\$1_1 0 TI (Turkish Liro)			

<sup>\*\$1=1.9</sup> TL(Turkish Lira)

The mothers were homemakers in 93.2% of the cases; 49.5% had a monthly income under 500 Turkish Liras (Table 1). The average age of the babies was 3.41 (SD=1.53) months. The 17.5% of mothers in the study stated that mother's milk protects from pregnancy. When

those mothers answering Mother's milk protects from pregnancy were asked under which conditions does mother milk protect from pregnancy?, 0.7% answered only if feeding is exclusively with mother's milk and 16.8% as long as breastfeeding is continued. While there

was no significant difference (p>0.05) with regard to age, occupational status, number of live children, place of birth or monthly income among subjects who believed that lactation protects from pregnancy and those who did

not, educational status and postpartum counseling did make a statistically significant difference (p<0.05) (Table 2).

Table 2: Distribution of the answers to the question: "does breastfeeding protect from pregnancy?" according to some of the subject characteristics.

	To pro	ovide protec	breastfeeding		
Characteristics	Yes			No	
Onur uctor is tres	n	%	n	%	P-value
Age groups (years)					
≤ 19	5	14.7	29	85.3	
20-29	73	17.1	353	82.9	$\chi^2 = 0.87$
30-39	29	19.6	119	80.4	p=0.83
≥ 40	4	14.3	24	85.7	
Mother's education level					
Illiterate-literate	63	21.6	229	78.4	.2_6 27
Primary school	38	13.9	236	86.1	$\chi^2 = 6.37$ p=0.04
High school-university	10	14.3	60	85.7	p=0.04
Mother's occupation/work status					
Working	106	17.9	487	82.1	p=0.20**
Not working (Housewife)	5	11.6	38	88.4	p=0.20**
Number of live children					
1	29	15.6	157	84.4	2 4 50
2	31	14.5	183	85.5	$\chi^2=4.58$ p=0.10
≥3	51	21.6	185	78.4	p=0.10
Postpartum Menstruation Status					
Menstruating	38	15.8	202	84.2	p=0.45**
Amenorrhea	73	18.4	323	81.6	p=0. <del>4</del> 3
Postpartum family planning counseling					
Received	34	28.6	85	71.4	p=0.001**
Not received	77	14.9	440	85.1	p=0.001 · ·
Site of delivery					
Home	24	21.8	86	78.2	p=0.21**
Health care facility	87	16.5	439	83.5	p=0.21**
Monthly income *					
≤1000 TL	98	17.2	473	82.8	2-0.56
1001-2000 TL	11	21.2	41	78.8	$\chi^2 = 0.56$ p=0.75
≥ 2001 TL	2	15.4	11	84.6	p=0.73
*\$1=1 0 TI (Turkish Lira) **Eighar's Event Test					

<sup>\*\$1=1.9</sup> TL(Turkish Lira), \*\*Fisher's Exact Test

The proportion of subjects who had not resumed menstruations among subjects who had been informed postpartum about breastfeeding was 72.8%, compared to 55.1% for those who had not (p<0.0001). All the mothers had suckled their infants after birth, 81.4% had started within half an hour from delivery and 99.2% gave breast at night. Babies were weaned from mother's milk by 0.6% of subjects, the reason being expressed as "I had not

enough milk". The proportion of subjects who had not resumed menstruations yet was 62.3%. Among those who fed supplementary food to their children, 20.8% had not resumed menstruating, compared to 64.2% of those who used breastfeeding only. No statistically significant correlation was detected between menstrual status on the one hand and the first feeding after birth, feeding at every demand by the infant or the average interval among feedings (p>0.05) (Table 3).

Table 3: Distribution of breastfeeding data for the study subjects (mothers of infants aged 0-6 months).

Mens	Menses resumed Continuing			g amenorrhea				
Num	ber %	Numb	er %	P-value				
Received information on lactation from health care personnel? (n=636)								
70	27.2	187	72.8					
170	44.9	209	55.1					
196	37.8	322	62.2	$\chi^2 = 0.019$				
30	37.0	51	63.0	p=0.99				
14	37.8	23	62.2	_				
)*								
231	37.6	384	62.4	p>0.05**				
5	29.4	12	70.6					
233	37.2	394	62.8	***				
3	60.0	2	40.0					
How long does the infant suckle a single breast at one time?(n=632)*								
171	38.6	272	61.4	p>0.05**				
65	34.4	124	65.6					
r's milk	? (n=632)*							
19	79.2	5	20.8	p<0.0001**				
217	35.7	391	64.2					
	Number   Num	Number % are personnel? (n=6) 70 27.2 170 44.9  196 37.8 30 37.0 14 37.8  *  231 37.6 5 29.4  233 37.2 3 60.0 at one time? (n=632) 171 38.6 65 34.4 er's milk? (n=632)* 19 79.2	Number         %         Number           are personnel? (n=636)         70         27.2         187           170         44.9         209           196         37.8         322           30         37.0         51           14         37.8         23           *         231         37.6         384           5         29.4         12           233         37.2         394           3         60.0         2           at one time?(n=632)*         171         38.6         272           65         34.4         124           cr's milk? (n=632)*         19         79.2         5	Number         %         Number         %           are personnel? (n=636)         70         27.2         187         72.8           170         44.9         209         55.1           196         37.8         322         62.2           30         37.0         51         63.0           14         37.8         23         62.2           *         231         37.6         384         62.4           5         29.4         12         70.6           233         37.2         394         62.8           3         60.0         2         40.0           at one time?(n=632)*         171         38.6         272         61.4           65         34.4         124         65.6           cr's milk? (n=632)*         19         79.2         5         20.8				

<sup>\*4</sup> subjects weaned her baby for the reason expressed as "not enough milk"; \*\* Fisher's Exact Test; \*\*\*No statistical test applied here, as the proportion of an expected frequency smaller than 5 within the slot exceeded the 20%

While working women among the mothers used some method of birth control, this proportion among homemakers was 35.4% (p<0.05). The use of contraception after delivery was correlated with the mothers' age, their educational status, number of live children, monthly income and the fact of having received postpartum family planning counseling or not (p<0.05), while no significance could be determined for the fathers' educational status or the postpartum resumption of menstruation (p>0.05) (Table 4).

In answer to the question regarding which method they believed was the most effective in the breastfeeding period, 41.5% of subjects indicated intrauterine devices (IUD), 23.7% condoms, 11.6% withdrawal, 8.6% (55) LAM, 6.3% (40) birth control pills, 4.4% (28) tubal ligation and 3.1% (20) injectable contraception; 4 (0.8%) expressed no opinion (Table 5).

A proportion of 36.5% of all subjects had started postpartum contraception; the remaining 63.5 did not use any protective method (Table 6). Of those who did, 10.7% preferred condoms, 9.7% LAM 8.5% withdrawal; the fourth most used method was IUD.

#### **DISCUSSION**

Breastfeeding plays an important role in the suppression of ovulation. In the process are protected from pregnancy. When asked the question does breastfeeding protect from pregnancy? 82.5% of subjects answered in the negative. When asked why they gave this answer, 54.1%) said that they did not trust the method and 28.4% that they had heard that it did not protect. In a study reported that almost 52% of the women were unaware of the contraceptive effect of lactation for 25.7% who were knowledgeable about it. <sup>10</sup> In the publication by Lopez-Martinezet MG et al the main reason given for not accepting LAM for purposes of contraception was a lack of trust in the method for 62.2%. Our results are consistent with these. <sup>11</sup>

The proportion of mothers with low educational status answering yes to the question: does breastfeeding protect from pregnancy? was significantly higher than in those with high educational status (p<0.05). While 28.6% of the subjects who had received family planning counseling postpartum had answered "yes" to this question, in subjects who had not received such counseling this proportion was 14,9% (p=0.001).

The rate of use of this method was found to be high among women who were given family planning education in the early postpartum and followed up for two years, as reported in a study performed in Russia. 12 Studies performed in the UK and the USA have also shown that postpartum family planning education positively influences the women's decision about the use of the method. 13,14 A multi-center study conducted in developing countries showed high contraception use among women receiving postpartum family planning

counseling.<sup>15</sup> These results are consistent with our findings. One of the factors influencing the adequacy of family planning services is the timeliness of counseling. The prenatal, perinatal and postpartum periods are not only those when women receive the most health care service but also those in which they are most open to receive family planning counseling. Of the subjects in our study, 82.7% had delivered in a health care facility. The proportion of those who received family planning counseling was 18,7%, a very low percentage.

Table 4: Distribution of the use of contraception according to some subject characteristics.

	Contraception	Contraception method in the first six months following delivery				
Characteristics	Users Non-users					
Characteristics	n	%	n	%	P-value	
Age groups (years)						
≤ 19	15	44.1	19	55.9		
20-29	138	32.4	288	67.6	$\chi^2 = 10.37$	
30-39	64	43.2	84	56.8	p=0.01	
≥ 40	15	53.6	13	46.4		
Mother's education level					_	
Illiterate-literate	108	37.0	184	63.0	$\chi^2 = 10.77$	
Primary school	87	31.8	187	68.2	p=0.005	
High school-university	37	52.9	33	47.1		
Father's education level						
Illiterate-literate	41	35.0	76	65.0	$\chi^2 = 0.12$	
Primary school	133	36.8	228	63.2	p=0.93	
High school-university	58	36.7	100	63.3		
Mother's occupation/work status						
Working	22	51.2	21	48.8	p=0.03**	
Not working (Housewife)	210	35.4	383	64.6	p=0.03	
Number of live children						
1	70	37.6	116	62.4	$\chi^2 = 7.73$	
2	63	29.4	151	70.6	p=0.02	
≥ 3	99	41.9	137	58.1		
Postpartum menstruation status						
Menstruating	78	32.5	162	67.5	p=0.10**	
Amenorrhea	154	38.9	242	61.1	— p=0.10**	
Postpartum family planning counseling						
Received	90	75.6	29	24.4	~_0 0001**	
Not received	142	27.5	375	72.5	p=0.0001**	
Site of delivery						
Home	195	33.6	386	66.4	~_0.0001**	
Health care facility	37	67.3	18	32.7	p=0.0001**	
Do you feed the baby any other food than	mother's milk?					
Yes	22	81.5	5	18.5	~_0 0001**	
No	210	34.5	399	65.5	p=0.0001**	
Monthly income*						
≤ 1000 TL	193	33.8	378	66.2	$\chi^2 = 17.88$	
1001-2000 TL	30	57.7	22	42.3	p=0.0001	
≥ 2001 TL	9	69.2	4	30.8	p-0.0001	
Total	232	36.5	404	63.5		
1 0 vm	232	56.5	101	03.3		

<sup>\*\$1=1.9</sup> TL(Turkish Lira), \*\*Fisher's Exact Test.

Table 5: Distribution of the contraceptive method found to be most reliable by the subjects, all mothers of 0-6 month-old infants.

The contraceptive method found to be most reliable by the subjects, all mothers of 0-6 month-old infants	n	%
IUDs	264	41.5
Condoms	151	23.7
Withdrawal	74	11.6
Lactationalamenorrhoea method	55	8.6
Oral contraceptives	40	6.3
Tubal ligation	28	4.4
Injectables	20	3.1
No opinion	4	0.8

This finding indicates that family planning was not effective. The rate of agreement with the statement that breastfeeding protects from pregnancy, among those subjects who had received family planning counseling,

was 28.6%. A study conducted in the Philippines showed insufficient knowledge about LAM of the part of family planning service providers in a situation in which 16% only of women to whom LAM had been suggested by a large majority of these same service providers. <sup>16</sup>

Table 6: Use of contraceptive methods by amenorrheic and nonamenorrheic, all mothers of 0-6 month-old infants.

	Not an	Not amenorrheic		Amenorrheic		
Methods	n	%	n	%	n	%
Not use any protective method	162	40.1	242	59.9	404	63.5
Condoms	26	38.2	42	61.8	68	10.7
Lactational amenorrhoea method	14	22.6	48	77.4	62	9.7
Withdrawal	17	31.5	37	68.5	54	8.5
IUDs	10	38.5	16	61.5	26	4.1
Oral contraceptives	7	50.0	7	50.0	14	2.2
Tubal ligation	2	50.0	2	50.0	4	0.6
Injectables	2	50.0	2	50.0	4	0.6
Total	240	37.7	396	62.3	636	100.0

Therefore an insufficiency both in the numbers of subjects receiving family planning counseling and, in parallel with the Philippines study, in the adoption of the method may be present in our study.

This should make it appropriate re-examine the service providers' knowledge level. One of the criteria for the efficacy of breastfeeding as a family planning method is the absence of menstruation in the mother. <sup>17</sup> In present study, 37.7% of women was menstruating. Of these, 72.1% had already resumed menstruating for 1-2 months. This also indicates that the women did not see breastfeeding as an effective method. Mother's milk is the ideal food for infants aged 0-6 months, appropriate for their growth and development and superior to all other foods. Even though the habit of initial breastfeeding is widespread in our country, early intake of food supplements is a major problem. <sup>18</sup>

All the mothers in our study did suckle their newborn after delivery, 81.4% doing so within half an hour. At the time of study, 4 subjects (0.6%) had weaned their infants from breast feeding, while 3.8% had started supplementing breast milk with other foods. One of the most important factors of lactational amenorrhea is the duration of suckling.

To prevent a new pregnancy, suckling must last 65 minutes or longer daily, while each episode of suckling must be of 4 minutes at least. 19 When examining the suckling in our study, we see that 97.3% of the subjects fed their infant on every demand and that the suckling period for a single breast was four minutes or longer in 29.9% of cases. Taylor HW et al, report in their study that women suckled for a total of 180 minutes daily in the first three months, becoming progressively shorter. As for Tommaselli GA et al they indicated the presence of a considerable difference between the first quarter and the

sixth month in breastfeeding time, which totaled 192 minutes on the average.<sup>2</sup> While suckling frequency in our study was good, the feeding time was short. This could also suggest that the women were insufficiently knowledgeable in this matter.

While the rate of exclusively breastfeeding and amenorrhea, at the same time, was 55.3% among mothers who had work outside their home, it increased to 64.9% for homemakers. The respective rates in the study by Valdes V et al were 28.2% and almost 50%. Amenorrhea among women who feed their infants exclusively with their milk is higher than in those who combine it with supplementary foods (p<0.0001). Informing mothers about lactation and its effects is highly significant for increasing the acceptance of LAM as a contraceptive method.

In our study, the contraceptive methods favored by the mothers of 0-6 month-old infants as being most trustworthy were, in the order of preference, the IUD, the condoms and withdrawal. LAM was trusted as a reliable contraceptive method by 8.6% of the subjects. A study conducted in Egypt showed a reliance on lactation as a contraceptive method in 4.0%. Susu B et al.<sup>20</sup> also reported that only 17% of women who used traditional methods relied on LAM. What all this suggests to us is that LAM as a contraceptive method may find acceptance among women, provided that an educational program about the method is implemented.

When asked about the family planning method they are using postpartum, 63.5% of the mothers answered that they were not using any. Of those women who did not use protection, 0.9% expressed the wish to become pregnant again. As for those who were using any method, the order of preference was condoms, LAM and withdrawal. The contraceptive method judged reliable by the mothers before delivery is different than the one used postpartum. Several studies determined that most couples did not adopt a modern contraceptive method but relied on amenorrhea resulting from lactation in this period as being efficient and safe.<sup>2, 21,22</sup> According to the results of the Turkey demographic and health survey (TNSA) 2008, 73% of married women use some contraceptive method, modern in 46% and 27% traditional in character. The most used of the modern methods is UTI, followed by condoms, while the most favored among traditional methods is withdrawal.<sup>23</sup>

Even though the use of contraception among our study subjects was not high, the high proportion of users of withdrawal, a traditional method, leads to believe that the success wished for family planning services has not been achieved. It is therefore particularly important for the health care personnel of antenatal service units and delivery clinics, in order to increase the use of efficient contraception, to provide a standard of family planning information complemented, if need be, by individual counseling. The LAM user proportion among the

illiterate and barely literate women in our study was 12% while among the high school and university graduates it amounted to 4.3%; the contraceptive use of lactation moved inversely to the educational level. A study by Khella AK et al showed that 52% of illiterate women used breastfeeding as a contraceptive method; versus. 35% of the ones with higher education.<sup>24</sup> Our study is consistent in this with Khella AK et al's report.

#### CONCLUSION

In Dogubeyazit, a rural area of Turkey, the use of LAM as a contraceptive method remains low, even though the breastfeeding ratio is high. Our study findings also indicate that the subjects used lactation with contraceptive intent, without complying with the LAM criteria. Therefore the primary stage health care personnel, and through it the delivering women, should be educated about starting and maintaining successful breastfeeding, lactation before and after delivery, and the contraceptive use of breastfeeding.

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