Original Article

Factors Associated with Knowledge of Lactational Amenorrhea as a Contraceptive Method

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Abstract

Objectives: To access the factors associated with knowledge of lactational amenorrhea as a contraceptive method among postpartum women dwelling in the Rajanpur district of Pakistan.

Methodology: A cross-sectional survey was conducted on 135 postpartum mothers residing in the Rajanpur District of Pakistan. Data were collected using a multistage purposive sampling technique from women who had given birth in the previous six months, were amenorrheic, exclusively breastfed their children, and had lived in the district for the previous two years. Data on sociodemographic profiles and a maternal health-related parameter was collected using a self-administered questionnaire.

Results: A total of 135 postpartum mothers of age (30.6 ± 5.89 years) were selected after the screening of 900 reproductive age group women in the district. Our study participants were recorded as illiterate (60.7%), lived in the extended family (65.9%), had a parity ≤ 3 (59.2%), and had a spontaneous vaginal delivery (70.4%). A total of 55.6% of mothers were exclusively breastfeeding, received family planning counseling (44.4%), and had no information about amenorrhea (80%). Chi-square analysis showed mother education, family income, lactational information, mode of delivery, and family planning counseling as significant factors ($p < 0.005$) in adopting lactational amenorrhea as a contraceptive method.

Conclusion: Women were lacking knowledge of LAM as an effective contraceptive method. Illiteracy, low socioeconomic status, duration of the marriage, parity, mode of delivery, and site of delivery are the important factors to address the LAM knowledge gap of mothers.

Keywords: Lactational amenorrhea, Exclusive breastfeeding, Postpartum mother.

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Introduction

The lactational amenorrhea method (LAM) effectively reduces the chances of subsequent pregnancy (98%) during the first six months of the postpartum period.[1] LAM criteria include exclusive breastfeeding of a child, a child age less than six months old, and a mother with amenorrhea.[2,3] During postpartum, breastfeeding suppresses ovulation and reduces fertility. LAM is a natural physiological lactational infertility with different efficacy levels among different ethnic groups.[4]

Breastfeeding has a contraceptive effect and is also beneficial for the health of the child and the mother.[5] LAM is a contemporary, simple, and effective contraceptive method that can be used by mothers who want to avoid modern contraceptive methods. The effectiveness of LAM as a contraceptive method is based on knowledge about breastfeeding and its role in the temporary suppression of fertility.[6] In a multinational study conducted by the World Health Organization (WHO) in 1999, it was found that breastfeeding

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mothers with lactational amenorrhea had a 0.9%-1.2% cumulative pregnancy rate, equally efficient to any temporary contraceptive method.[7]

The effectiveness of LAM decreases among postpartum women who failed to meet any of the three LAM criteria.[8] Insufficient knowledge about LAM and its related criteria as a conservative contraceptive method reduces its effectiveness among postpartum women and results in pregnancy. Globally, it is estimated that more than 90 % of postpartum women desire to delay their next pregnancy.[9] Unwanted pregnancy can be avoided by adopting LAM, which can be achieved by improving the knowledge among mothers about the importance of LAM and breastfeeding benefits to their child.[10]

Selection of contraceptive methods among postpartum women determined by the reliability of the contraceptive method.[8] The reliability of LAM as a contraceptive method cannot be questioned, but lacking sufficient information affects its reliability. LAM recorded a 100% efficacy rate during the first seven months after childbirth under real-world conditions.[1] Unable to comply with the LAM criteria results in unwanted pregnancy and advised for other family planning methods. Demographic health survey (DHS) data from third-world countries showed "Double Coverage" ranging from 6 to 67% when LAM is used in conjunction with the modern contraceptive methods.[11]

The total fertility rate (TFR, children/women) in Pakistan is 3.6 and 3.4 in Punjab.[12,13] Previous studies in Pakistan showed that knowledge regarding birth spacing has been increased, but still, it is low to achieve a targeted contraceptive prevalence rate (CPR). An expected contraceptive prevalence rate is 35% in Pakistan with 9% using the traditional method including LAM.[14]

According to the Multiple indicator cluster survey 2014, the modern CPR at district Rajanpur was 19.1%.[15] The situation is alarming, especially in remote and neglected areas of Punjab. The LAM knowledge status and practices in Punjab, particularly in remote areas have not been studied where the fertility rate is generally high with limited health resources.

The present study aimed to assess the factors associated with knowledge of LAM as a contraceptive method among post-partum mothers of district Rajanpur. This could help policymakers in developing strategies for family planning services and the prevention of closely spaced, unintended pregnancies, and maximizing the use of LAM for an effective contraceptive method in the first six months.

Methodology

A community-based, cross-sectional survey was conducted in the Tehsil Jampur, District Rajanpur, located in the Punjab Province of Pakistan, during the months of May-November 2019. The tehsil Jampur is further comprised of 19 union councils.

This Tehsil Jampur, District Rajanpur is underprivileged with a high prevalence of illiteracy and poverty.[16] The majority of the population is also dependent on agriculture for their livelihood and women work actively with their men in the field.[15] According to the Pakistan population census of 2017, the district was the place for two million inhabitants, and approximately 48 % were female.

A total of 900 mothers of reproductive-aged (15-45 years) were screened and 135 women were selected who gave birth in the last 6 months before the study period, were amenorrheic, exclusively breastfeeding their babies, and who living in the Rajanpur district at the time of data collection taken as sources population.

The sample size was calculated by using the WHO calculator considering the following assumptions considering no such study has previously been done in the study area of Rajanpur. A 5% margin of error, 95 percent confidence interval, and LAM frequency (9.7%).[17] The calculated sample size was n=135.

A two-stage sampling technique was used to select the study participants. At the first stage, two union councils of Tehsil Jampur including Kot Tahir and Kotla Diwan were selected by the lottery method. At the second stage, 900 participants were screened using the LAM selection criteria. Purposive sampling was used to select 135 participants, with the assistance of lady health workers from the selected union councils who met the three LAM criteria.

A community-based survey was done, two weeks before starting data collection for tracing of postpartum mothers and pilot testing of the pre-designed questionnaire. Because of the high illiteracy rate in the selected population, data were collected by the principal investigator through face-to-face interviews using a structured questionnaire at the residences of study participants. All the primary data on age, educational level, mode of delivery, knowledge about lactation, and family planning were inquired.

Data were analyzed using the IBM SPSS version 23.0 and the chi-square test was applied to estimate the level of significance ($p < 0.05$) between associated factors and lactational amenorrhea (LAM) as a contraceptive method.

Verbal consent was obtained from participants after introducing them to the purpose of the study in their native language. Ethical approval of the current study was obtained from the "Ethical Review and Departmental Doctoral Program Committee (DPCC) of the University of Punjab, Pakistan ("ref 646-ISCS").

Results

Women aged (30.61 ± 5.9 years) sociodemographic data showed that 69.6 % were housewives and 60.7% were illiterate. Family income was less than 30000 PKR per month for the majority (79%) of the participants, and they were living in extended (65.9%) families. Most of the participants (51.9%) had marriage duration between 6-15 years and 60.0% of the participants had 1-3 children aged (7.19 ± 2.7 months) as shown in Table I.

The reproductive health and knowledge of the participants about LAM as pregnancy protective methods revealed that 59.3% of the women had fewer than three children, with 70.4% of mothers having a spontaneous vaginal delivery (SVD). Participants preferred to deliver at home (60.7%) and had no proper family planning counseling (55.6%). The majority of the mothers (80%) had no information about LAM as a pregnancy protective method and using no prevention (43.0%) for delaying the next pregnancy as shown in Table II.

Chi-square test of independence was used to measure the relationship between associated factors and LAM as a pregnancy protective method as shown in Table III. The test showed significant results for mother's education (χ^2 =20.999, P= 0.000), occupation (χ^2 =16.954, P= 0.000), family income (χ^2 =35.700, P= 0.000), duration of the marriage (χ^2 =14.461, P= 0.001), parity (χ^2 =9.396, P= 0.002), mode of delivery (χ^2 =37.525, P= 0.000) and site of delivery (χ^2 =34.861, P= 0.000). Women's age (χ^2 =0.620, P= 0.733), family type (χ^2 =2.976, P= 0.069) and gestation week (χ^2 =0.185, P= 0.414) did not prove to be significant factors for knowledge about LAM as a pregnancy protective method.

Table I: Sociodemographic Features of Mothers and Children (n=135)

		N	(%)
Age of Mothers (Years) Mean ±SD 30.61± 5.9	19-30	70	51.9
	31-40	62	45.9
	41-50	3	2.2
Occupation of Mothers	House Wife	94	69.6
	Working omen	41	30.4
Family Income	≤ 10, 000	33	24.4
	10,001 – 20,000	59	43.7
	20,001 – 30,000	14	10.4
	> 30,000	29	21.5
Education of Mothers	Illiterate	82	60.7
	Literate	53	39.3
Duration of Marriage (Years)	< 5 years	58	43.0
	6-15	70	51.9
	16-25	7	5.2
Family Type	Nuclear	46	34.1
	Extended	89	65.9
Number of children alive	1-3 Children	81	60.0
	4-6 Children	44	32.6
	7-9 Children	10	7.4
Children Age (Months) Mean ±SD 7.19 ±2.7	Children age < 6 Months	58	43.0
	Children age > 6 Months	77	57.0
Sex of Children	Male	70	51.9
	Female	65	48.1

Table II: Reproductive Health and Information About LAM as Pregnancy Protective Method

		N	%
Gestational Weeks	<40 Weeks	65	48.1
	Normal	70	51.9
Parity	< 3 children	80	59.3
	> 3 children	55	40.7
Mode of Delivery	SVD	95	70.4
	C-Section	40	29.6
Site of Delivery	Home	82	60.7
	Healthcare Facility	53	39.3
Family Planning Counseling	Yes	60	44.4
	No	75	55.6
Pregnancy Prevention Method Used	COCS + Injections	39	28.9
	Conservative (Condom + Implants)	38	28.1
	No Prevention	58	43.0
Lactation Information	Yes	75	55.6
	No	60	44.4
Information about Amenorrhea	Yes	27	20
	No	108	80
Information on Breast-Feeding benefits	Yes	115	85.2
	No	20	14.8
Information on LAM as Pregnancy protective Method	Yes	27	20.0
	No	108	80.0

Table III: Comparison of Associated Factors with LAM as a Pregnancy Protective Method

		Information about LAM		Chi-square tests of independence
	Groups	**Yes**	**No**	**N=135**
Mother Age (Years)	19-30	15 (55.6%)	55 (50.9%)	χ^2 =0.620 P= 0.733
	31-40	11 (40.7%)	51 (47.2%)	
	41-50	1 (3.7%)	2 (1.9 %)	
Mother Education	Illiterate	6 (22.2%)	76 (70.4%)	χ^2 =20.999 P= 0.000*
	Literate	21 (77.8%)	32 (29.6%)	
Family Income	≤ 10, 000	1 (3.7%)	32 (29.6%)	χ^2 =35.700 P= 0.000*
	10,001 – 20,000	7 (25.9%)	52 (48.1%)	
	20,001 – 30,000	2 (7.4 %)	12 (11.1 %)	
	> 30,000	17 (63.0 %)	12 (11.1 %)	
Family Type	Nuclear	13 (48.1%)	33 (30.6%)	χ^2 =2.976 P= 0.069
	Extended	14 (51.9%)	75 (69.4 %)	
Duration of Marriage (Years)	< 5Years	20 (74.1%)	38 (35.2%)	χ^2 =14.461 P= 0.001*
	6-15 Years	6 (22.2%)	64 (59.3%)	
	16-25 Years	1 (3.7%)	6 (5.6%)	
Gestational Weeks	< 40 Weeks	14 (51.9%)	51 (47.2 %)	χ^2 =0.185 P= 0.414
	Normal	13 (48.1 %)	57 (52.8%)	
Parity	< 3 children	23 (85.2%)	57 (52.8%)	χ^2 =9.396 P= 0.002*
	> 3 children	4 (14.8%)	51 (47.2%)	
Mode of Delivery	SVD	6 (22.2%)	89 (82.4%)	χ^2 =37.525 P= 0.000*
	C-Section	21 (77.8%)	19 (17.6%)	
Site of Delivery	Home	3 (11.1%)	79 (73.1%)	χ^2 =34.861 P= 0.000*
	Healthcare Facility	24 (88.9%)	29 (26.9%)	

Discussion

The lactational amenorrhea method to control fertility proved to be effective when the mother has sufficient knowledge about how to use LAM as a contraceptive method.[18] The results of our study showed that 80% of the mother did not know about the LAM as a pregnancy protective method. A study conducted in Turkey showed that about 52% of the women did not know about LAM.[19] The results showed that the use of LAM is the subjective choice of the mother but its efficient use is not possible without sufficient knowledge about the LAM criteria.

LAM was the only contraceptive method used when modern contraceptive methods were not in practice. Breastfeeding was considered as the primary factor in determining the duration between two pregnancies.[6] Several contraceptive methods have been introduced, but LAM as a contraceptive method is still practiced in developing countries.[20] According to WHO the rate of LAM use as a contraceptive method rages from 17.2% to 68.4%.[7]

Turkey, a developing country with a high literacy rate has a prevalence of 16% of women using LAM as a contraceptive method.[21] The women of district Rajanpur had sufficient information on the benefits of breastfeeding (85.2%) which might be the reason they were not using any contraceptive method (43%) to delay their next pregnancy. Women were also using modern pregnancy prevention methods, including contraceptive drugs (28.9%) and conservative approaches, including condoms and implants (28.1%). Improving the knowledge about LAM can reduce the use of modern and conservative approaches, benefiting both the mother and child health.

Lack of LAM criteria knowledge can result in an unwanted pregnancy, harming mother and child health. Women in the district Rajanpur were housewives (69.6%) and illiterate (60.7%) living in extended families (65.9%). Their source of information was the elderly, women, who encouraged traditional norms and values of the regional culture. Only 39.3% of women had their delivery to the healthcare facility and had family planning counseling (44.4%) from the health professional. The effectiveness of LAM reduces as the women had no sufficient knowledge and they opted for the modern contraceptive methods.

The study results showed a significant relationship ($p < 0.05$) for the factors associated with education and access to authentic information about LAM. Mother education, occupation, family income, marriage duration, mode, and site of delivery are the important factors to improve the knowledge of LAM among women. Similar findings were reported in a study conducted on Turkish women, which showed that the

incidence of unwanted pregnancy was higher among women with low education and socioeconomic level.[6] A study reported that the use of LAM as a contraceptive method is low among highly educated women, but the risk of unwanted pregnancy is higher among illiterate women.[22]

The Demographic Health Survey (DHS) conducted a study in 2003 to evaluate the potential for LAM among Egyptian women who had a child below 6 months. Husband education was inversely associated with the use of passive LAM among mothers. The study reported that educated husbands living in urban areas preferred to use modern contraceptive techniques.[8]

Another study was conducted in Nigeria to establish the knowledge, attitude, and practice of family planning among women with unplanned pregnancies. The incidence was 30% among unmarried, school-going girls with a low socioeconomic status. Over 85% of the women with unplanned pregnancies had information of at least one family planning method.[23] Women had no knowledge about LAM and male partner considered modern contraceptives to cause infertility and ill health. The LAM could be a method of choice to prevent unwanted pregnancy naturally among these women.

The difference in knowledge among various regions might be because of the services provided by the governments and harmonized efforts done by a medical professional in the community. The other possible reason could be a deficiency of educational programs and advertisements regarding the effective use of this contraceptive method among the general population. Furthermore, mothers with better economic conditions and education can easily visit health facilities and have access to media. This association is consistent with the study's findings done in Ethiopia and Eastern Turkey.[24,25]

This study focused on addressing the individual associated factors with LAM. We could not extract information on unwanted pregnancy using LAM as contraceptive methods considering our cross-sectional study design. A longitudinal study could provide further information in understanding the LAM phenomenon and establishing a relationship with the associated factors.

Conclusion

No wide difference was observed between the two groups of management of PROM. So, both methods can be successfully employed for the management of term PROM. The choice of method should depend on the convenience of the obstetrician and the will of the patients. It is also shown that expectant management is more advantageous to nulliparous women in term of more spontaneous deliveries and lesser operative vaginal deliveries. However, expectant management required somewhat more monitoring and patience and practice of no digital examination of the cervix has to be employed at the start of management to reduce maternal and neonatal infectious morbidity.

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