

DURATION OF LACTATIONAL AMENORRHOEA: A HOSPITAL BASED SURVEY IN DISTRICT ABBOTTABAD

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Background: The study was carried out to investigate the duration of lactational amenorrhoea in women of district Abbottabad. The objective of this survey was to determine the duration of lactational amenorrhoea in female population of district Abbottabad, NWFP, Pakistan. **Methods:** A survey was conducted at Ayub Teaching Hospital from June to August 2006 by selecting admitted females and their attendants at random and subjecting them to questionnaires and interviews to collect relevant data. Majority of the sampled females belonged to different districts of Hazara division. **Results:** Fifty nine (59) mothers of parity 1–5 were included in the study. The frequency of breast feeding ranged from 60.0% to 100% (mean 66.1%) in different pregnancies; bottle feeding frequencies ranged from 10–12.5% (mean 6.8%); frequencies of combined breast and bottle feeding ranged from 25–30% (mean 27.1%) The mean duration of lactational amenorrhoea for different pregnancies ranged from 6.0±0.0 weeks to 22.6±25.1 weeks (overall mean 15.8±15.2 weeks). Weaning times ranged from 2 to 12 months, with the mean weaning time ranging from 4.8±1.5 to 5.1±1.8 months (overall mean 4.8±1.1 months). **Conclusion:** Inbuilt maternal hormonal cycles appear to be more involved in regulating the post partum amenorrhea observed in lactating mothers.

Keywords: Lactational Amenorrhoea, Weaning Time, Suckling Reflex

INTRODUCTION

Lactational amenorrhea, a normal postpartum physiological phenomenon, offers specific biologic advantages for both the mother and the baby. Nature appears to protect the mother from an immediate second pregnancy through this natural contraception method,^{1–3} while breast-feeding is a source of complete nourishment and immune protection for the baby.^{4,5}

Most research has focused on the role of the suckling reflex^{6,7} as a source of pituitary-regulated inhibition of the normal ovarian cycle, thereby preventing ovulation and initiation of the menstrual cycle. It would then appear that lactational amenorrhea should be maintained as long as suckling was maintained, albeit for an indefinite period!

However this does not happen to be the case, as most studies have documented lactational amenorrhea maintained by uninterrupted breast feeding for periods of 6–9 months only^{8–10} with few studies documenting times of up to 10–12 months. This would imply other mechanisms, in particular, inbuilt hormonal cycles, that maintain the period of lactational amenorrhea despite continued suckling reflex and breast feeding.¹¹

Considerable debate and controversy also exists in paediatric circles regarding the optimal duration of exclusive breast feed practices and the time to start weaning of the infant by providing supplemental foods.^{1,4,5} Breast feeding and weaning practices are reported to have considerable impact on the infant's health and development, and most researchers advocate as long a complete breast feeding program as is physiologically possible by the mother. Interventions of supplemental foods and

unwanted pregnancies are reported to interfere with the 'full' nourishment of the infant. However, some studies have reported development of iron deficiency anaemia and other deficiencies in essential micronutrients, if supplemental foods are not started at around 4–6 months.^{4,5} Studies have reported that supplemental feeding started right from the beginning with breast feeding have not adversely affected the duration of lactational amenorrhea or increased pregnancy rates during the breast feeding duration.¹²

Knowledge of the population with regard to the duration of lactational amenorrhea is thus of importance to a number of physiological parameters and also for implementation of suitable infant nutritional programmes and artificial contraception methods for mothers who are nourishing their infants. There is a dearth of national data on this topic in Pakistan in general and no data at all on this topic in Hazara Division, hence the need to undertake the present research survey in this area starting from the Ayub Teaching Hospital Abbottabad.

MATERIAL AND METHODS

Ayub Teaching Hospital Abbottabad is the 1000 bedded tertiary care hospital, getting referral from all of Hazara and other parts of NWFP. The survey was conducted from June to August 2006. Total 59 subjects were sampled and included in the study. The sample was obtained from admitted female patient and their attendants in different hospital wards. It was a cross sectional hospital based survey. The interview based proforma was designed and data were collected. Qualitative and quantitative data were analyzed on SPSS and calculations were done.

Inclusion Criteria

- All females of reproductive ages admitted to different wards of Ayub Teaching Hospital.
- Attendants of these patients, also of reproductive ages.
- All females who had lactated at least once.
- No major illnesses.
- Breast and bottle feeding or both.

RESULTS

Geographical distribution of the patients is presented in Table-1. Majority of the cases were from district Abbottabad (18) followed by Haripur (10). Parity of the patients is tabulated in Table-2. Most of the patients (20) had 1 child followed by patients having 2 babies (16).

Table-1: Geographical distribution.

| Area | No. of Cases | % |
|-------------------------|--------------|------|
| Abbottabad | 18 | 30.5 |
| Haripur | 10 | 17.0 |
| Mansehra | 5 | 8.5 |
| Other parts of Hazara | 8 | 13.5 |
| Other parts of NWFP | 6 | 10.2 |
| Azad Kashmir | 5 | 8.5 |
| Other parts of Pakistan | 7 | 11.8 |

Table-2: Parity groups.

| Parity | No. of Cases | % |
|----------|--------------|------|
| Parity 1 | 20 | 33.9 |
| Parity 2 | 16 | 27.1 |
| Parity 3 | 7 | 11.9 |
| Parity 4 | 1 | 1.7 |
| Parity 5 | 15 | 25.4 |

Feeding practice of the groups is shown in Table-3. Out of a total of 59 mothers, 39 (66.1%) were breast feeding their babies. Only 4 (6.8%) mothers were bottle-feeding their children and 16 (27.1%) were breast- and bottle-feeding the babies.

Table-3: Feeding practices of mothers for successive children.

| Feeding | First child | Second child | Third child | Fourth child | Fifth child | Total |
|----------------|-------------|--------------|-------------|--------------|-------------|------------|
| Breast feeding | 12 (60.0%) | 10 (62.5%) | 5 (71.4%) | 1 (100%) | 11 (73.3%) | 39 (66.1%) |
| Bottle feeding | 2 (10.0%) | 2 (12.5%) | - | - | - | 4 (6.8%) |
| Both | 6 (30.0%) | 4 (25.0%) | 2 (28.5%) | - | 4 (26.7%) | 16 (27.1%) |
| Totals | 20 | 16 | 7 | 1 | 15 | 59 |

Duration of amenorrhoea after delivery ranged between 3 and 104 weeks. Details are shown in Table-4.

Table-4: Duration of amenorrhoea in weeks after delivery (Mean±SD)

| Child No. | Duration of Amenorrhea | No. of cases |
|-----------------------|------------------------|--------------|
| 1 st Child | 22.6±25.1 | 20 |
| 2 nd Child | 22.2±25.8 | 16 |
| 3 rd Child | 6.4±1.6 | 7 |
| 4 th Child | 6.0±0.0 | 1 |
| 5 th Child | 21.6±23.9 | 15 |
| Over All | 15.8±15.2 | 59 |
| Range | 3–104 Weeks | |

Time of weaning ranged from 2 to 12 months after delivery. Weaning time for number of children is tabulated in Table-5.

Table-5: Weaning time in months after successive deliveries (Mean±SD)

| Child No. | Weaning Time | No. of cases |
|-----------------------|--------------|--------------|
| 1 st Child | 5.8 ± 2.4 | 20 |
| 2 nd Child | 4.7 ± 1.1 | 16 |
| 3 rd Child | 4.4 ± 1.2 | 7 |
| 4 th Child | 3.0±0.0 | 1 |
| 5 th Child | 5.1 ± 1.6 | 15 |
| Over All | 4.8 ± 1.2 | 59 |
| Range | 2–12 month | |

DISCUSSION

The present study, though hospital based, provides insights not only into the duration of lactational amenorrhea, but also gives a glimpse of mothers' feeding practices and weaning times of infants in this part of the world.

The majority of mothers prefer breast feeding over bottle feeding (66% vs 7%), with combined feeding practices (27%) being the second preference. This pattern is maintained throughout successive births with minor or non-significant variations (Table-3).

Resumption of menses occurred with a wide variation from 3 weeks to 104 weeks; however the overall mean duration of amenorrhea was 15.8±15.2 weeks, ranging from means of 6.0±0.0 to 22.6±25.1 weeks (Table-4).

Weaning times of infants ranged from 2–12 months with an overall mean time of 4.8±1.1 months; the mean times for different deliveries ranged from 3.0±0.0 to 5.8±2.5 months (Table-5).

This study showed that though exclusive breast feeding was the preferred method of infant feeding in our sample, the mean times of postpartum amenorrhea and weaning times of infants lasted for about 6 months rather than for the remaining duration of lactation and/or continued breast feeding. Even in the 39 cases who were exclusively breast fed the mean duration of amenorrhea ranged from 5.8±1.5 weeks to 30.3±29.9 weeks (mean time 19.3±17.8 weeks), while the mean weaning times ranged from 3.0±0.0 to 6.6±2.8 months (mean time 4.8±1.3 months).

The study agrees with many other international studies in terms of the duration of post partum amenorrhoea and weaning times in breast feeding mothers.⁸⁻¹⁰ The first 6 months of the infant's life are apparently protected by natural inbuilt maternal cycles lasting usually for about 6 months during which time infant nutrition and immunity are of prime importance.¹⁻³

CONCLUSION

Lactational amenorrhoea does not appear to be the sole explanation for the post partum amenorrhoea usually

attributed to the suckling reflex in lactating mothers. It appears more likely that inbuilt pre-programmed hormonal cycles influence or determine the duration of post partum amenorrhoea. Breast feeding is practiced by majorities of mothers and this practice must further be promoted in the community.

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