

Clinical and Histological Studies on Lactation in Iranian Women

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Iran has a rapid rate of population growth. Many organizational units and family planning services have been established, but there are individuals in whom social, physical, religious or educational factors preclude any one particular method of contraception.

It is a common belief that the incidence of pregnancy in mothers who are breast feeding is lower than in women who are not. Hence, nursing mothers continue lactation for a long period as a safe, practical and natural way of contraception.

This study deals with the lactation pattern, menstrual function and histological findings.

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Material and Methods

This study covered 200 cases, all normal, healthy, nursing mothers of the low socioeconomic group attending the out-patient clinics at Jehan Shah-Saleh Hospital and Farah Maternity Hospital, Teheran University. All were chosen at random and all had minor gynecological disorders. Their ages ranged between 15 and 42 years; and their parity, from 1 to 12.

A special request form was set up asking a series of standard questions on personal, marital, menstruation and obstetric details, and on the last three lactation periods.

The present lactation periods were carefully studied. Investigations were made into:

1. Duration of lactation
2. Purpose of lactation and cause of nonlactation, if any
3. Cause of weaning
4. Menstrual pattern
5. Use of contraceptives
6. Occurrence of pregnancy during lactation; and the following examinations were carried out:
 7. Complete pelvic examination
 8. Endometrial biopsy by Novak's curette from the wall of the uterus.The endometrial biopsies were formalin fixed, paraffin embedded and stained by H. and E. method.

Result and Comment

Duration of Lactation

The average weaning age is about 15 months. Lactation periods vary according to parity and mother's age. Table 1 shows:

1. The greater the mother's age, the longer the duration of lactation.
2. About one quarter of the mothers aged over 20 will continue lactating up to 18 months.

Table 1. Lactation period and age of mothers.

Age	Lactation Period				
	-5	6-11	12-17	18-23	24+
No.	55(27%)	64(32%)	50(25%)	24(12%)	7(3.5%)
20	17(56%)	8(26%)	5(16%)	0	0
20-24	14(23%)	23(38%)	16(26%)	4(7%)	3(5%)
25-39	10(23%)	14(33%)	11(26%)	5(11%)	2(4%)
30-34	6(21%)	6(21%)	8(28%)	7(25%)	1(3.5%)
35+	8(20%)	13(33%)	10(25%)	8(30%)	1(2.5%)

3. Young mothers will apparently try to nurse their babies but this interest will gradually decline, especially among mothers aged under 20.
4. Mothers who are older when they start breast feeding will continue lactating for longer periods.

Table 2 reveals:

1. The higher the parity of the mother, the longer the lactation.
2. 27% of mothers of parity one will continue breast feeding up to one year but only 8% will continue for two years.
This shows that the lower parity has the shorter duration of lactation.
3. Those in parity 2-3 are interested in breast feeding constantly for almost $1\frac{1}{2}$ years, but by the end of two years only $\frac{1}{3}$ will continue breast feeding.
4. From parity 4 to 12, 14% of the lactating mothers will breast feed for two years and 5% will continue thereafter.

Table 2. Lactation period and parity.

Parity	Lactation Period				
	-5	6-11	12-17	18-23	24 +
No.	55(27%)	64(32%)	50(25%)	24(12%)	7(3.5%)
1	13(50%)	7(27%)	4(15%)	2(8%)	0
2-3	18(30%)	18(30%)	17(29%)	6(10%)	1(1.6%)
4-5	11(25%)	16(36%)	13(28%)	7(15%)	3(4%)
6 +	13(20%)	23(36%)	16(25%)	9(14%)	3(5%)

Our findings support reports by Kamal (6) and WHO that mothers who have previously experienced lactation will nurse their babies longer. Causes of weaning are shown in Fig. 1. The following causes were found:

1. Pregnancy was the major cause; lactation is therefore not a satisfactory contraceptive measure. Minawi (7) reports that the pregnancy rate is 18.7% by the end of the first month after the beginning of menstruation, and 82.3% at the end of the 12th month in the post partum period.
2. Poverty in breast feeding and milk insufficiency were the second cause of weaning. 30% were in this group.
3. Ageing and growing of the infant 25%, death of the baby 10%, maternal disease and breast illness 5% respectively, were considered the other causes of weaning.

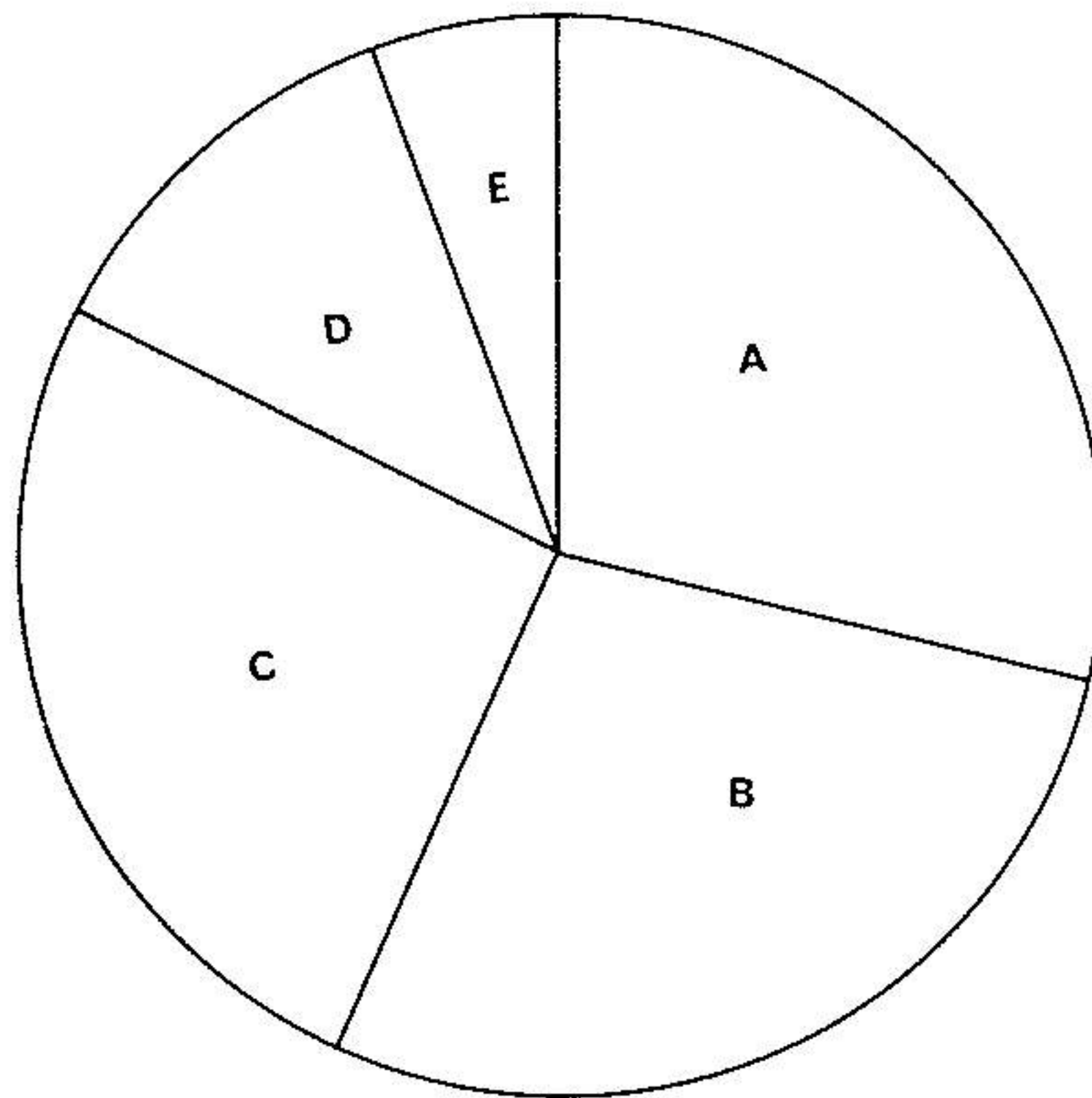


Fig 1. Causes and incidence of weaning

A (Pregnancy 30%). B (Poverty in breast feeding 30%).

C (Ageing and growing of the infant 25%).

D (death of the baby 10%). E (Maternal disease &

breast illness 5%).

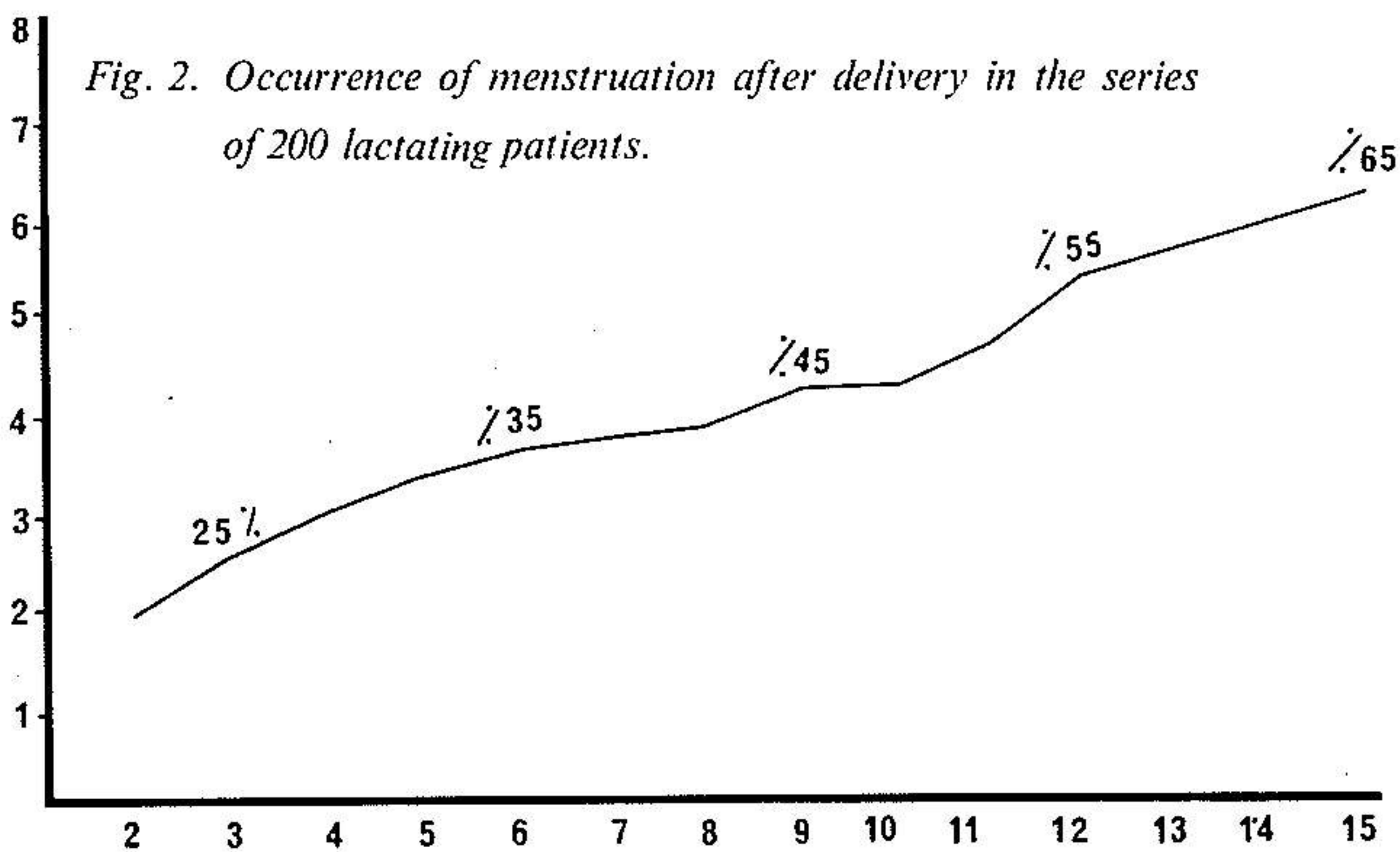
Menstrual Function

Fig. 2 shows occurrence of menstruation after delivery up to 15 months. After three 25% of the cases were menstruating, then every additional three months roughly 10% more commence. After one year 55% and after 15 months 65% of the patients have had their first menses.

The onset of menstruation after child birth is an individual function which does not occur before six weeks (1), is always anovulatory and after that ovulatory in 58% of the cases (9).

Among 200 nursing mothers chosen at random, 74 were found in the period of postpartum amenorrhea, an incidence of 37% and 126 cases were menstruating (63%). The duration of postpartum lactation amenorrhea in the study group ranged from 6 weeks to 30 months.

The duration of lactation amenorrhea and lactation length as compared with the weaning age (15 months) are shown in Fig. 3. This shows that 42% of the mothers who menstruate in the first 2 months after delivery are still nursing their babies at the weaning age (15 months), and that of those who started their menstruation at 6, 12 and 18 months, 34%, 64% and 71%



respectively were nursing their babies at the weaning age.

“Post partum amenorrhea” is regarded as physiological and as a safety mechanism (5), similar to what is found in patients who are suffering from chronic, wasting diseases (anemia, T.B.C., etc.) and unusual stress.

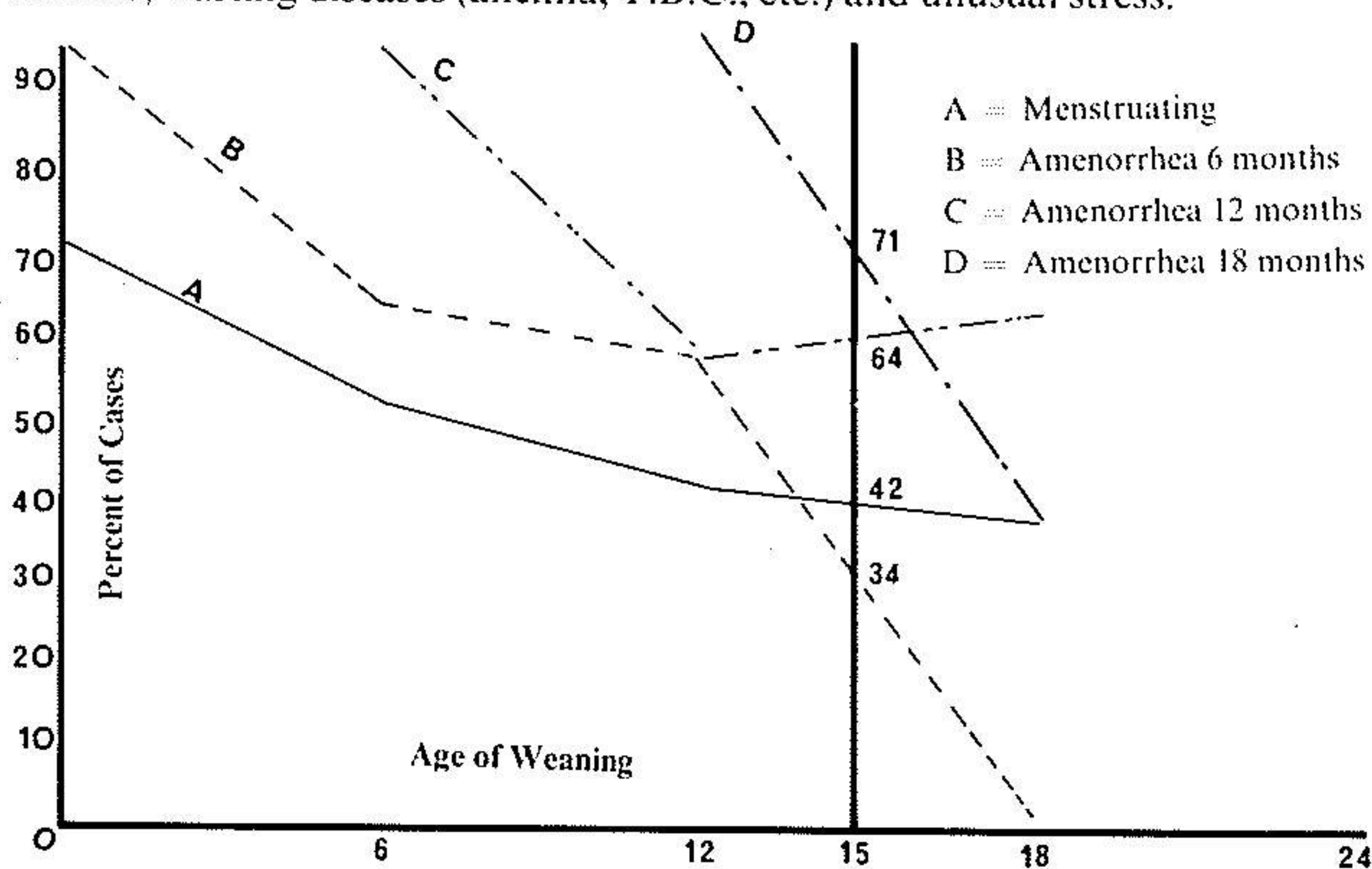


Fig. 3. Correlation between Postpartum amenorrhea and duration of lactation.

Endometrial Pattern

Of 126 (63 %) cases of menstruating nursing mothers who were biopsied successfully by the same person, the microscopic findings are as follows:

1. In the first few months after delivery a sort of endometritis which has been called “physiological endometritis” was observed. It was characterized by the presence of an area of hemorrhage, necrosis, and chronic inflammatory infiltration of plasma cells of lymphocytic type. The stroma were oedematous and contained elongated spindle-shaped cells. These microscopic aspects were so characteristic that it was possible to predict the approximate length of postpartum lactation.

2. If the endometrial biopsy was performed during the early phase of lactation in the estrogenic phase, no significant differences from that of a normal proliferative phase, with regard to gland, stroma and mitotic activity were observed. However, as the length of lactation increased there was

evidence of estrogenic under stimulation, namely, the gland was small, rounded and had an epithelium which was either low columnar or cuboidal.

3. The biopsies executed during the second (progesteron) phase of the period showed a normal secretory pattern with evidence of subnuclear vacuolation in the early stage, and tortuous sawteeth glands with intraluminal secretion in the later stage. This lack of discrepancy in endometrial dating shows that in lactating mothers, there is no evidence of luteal phase defect.

The presence of plasma cells and lymphocytes confirms the finding by El-Minawi (2) and Sharman (9) who have found this type of inflammatory infiltrate as late as the fourth month. However, if this infiltrate is present as late as the eighth month after delivery a case of true, mild or chronic endometritis would be the logical conclusion even in the absence of any clinical signs.

SUMMARY

Among 200 nursing mothers chosen at random, the average age of weaning was 15 months. There is some relationship between maternal age and parity. One quarter of the patients started to menstruate during the first 3 months of the postpartum period, and the number increased at a rate of 10% every three months. Thus by the end of the first year more than half of the lactating mothers had menstruated. The incidence of postpartum amenorrhea was 37%. The duration of amenorrhea ranged between 6 months and 30 months. Pregnancy was the commonest cause of weaning. Histological findings show a "physiological endometritis" in the early post partum period and evidence of estrogenic under stimulation in the proliferative phase in cases of long lactation. No evidence of luteal phase defect in the secretory pattern was observed in nursing mothers.

RÉSUMÉ

Les auteurs ont choisi par hasard 200 mères, qui allaitaient leur enfant, sur lesquelles ils ont effectué des études dont voici les résultats:

La durée moyenne d'allaitement était de 15 mois et dépendait directement de l'âge et de la multiparité de la mère. Dans $\frac{1}{4}$ des cas le cycle mensuel s'est renouvelé pendant les trois premiers mois après l'accouchement; et chaque trois mois, cette proportion a été augmentée de $\frac{1}{10}$ %; Ainsi, à la fin de la première année, plus de la moitié de ces femmes avaient retrouvé leurs règles. L'incidence d'amenorrhée après l'accouchement était de 37 %, pour laquelle la durée était de 6-30 mois. Une nouvelle grossesse était la cause la plus fréquente de l'interruption de la sécrétion du lait.

A l'examen histologique, une endométrite physiologique a été observé pendant les trois premiers mois qui ont suivi l'accouchement. Dans les allaitements de longue durée, un manque de stimulation estrogénique a été observé en phase proliférative. Aucun signe histologique concernant le mal fonctionnement du corps jaune n'a pas été considéré.

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