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Lactation and contraception

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SUMMARY

The contraceptive effect of breastfeeding has been quantified in population-based surveys, and decreases in breastfeeding would require increase in contraceptive practice in order to keep total fertility in check. A consensus was recently achieved on the use of lactational amenorrhea for family planning. Lactational amenorrhea during nearly-full breastfeeding for the first six months postpartum can be considered an appropriate complement to contemporary family planning methods. It is especially useful when compliance and continuation with other contraceptive methods are poor. Physicians have often undervalued the contraceptive effectiveness of lactational amenorrhea, yet obstetricians and gynecologists are ideally placed to promote both breastfeeding and family planning. They have unique opportunities to influence both hospital practices and societal perceptions regarding breastfeeding.

RESUMEN

El efecto anticonceptivo de la alimentación al seno materno se ha evaluado cuantitativamente en registros de población, y la disminución en la lactancia requiere aumentos en otras prácticas anticonceptivas para mantener la fertilidad total bajo control. Recientemente se logró un consenso acerca del uso de la amenorrea por lactancia para la planificación familiar. Esta amenorrea durante la lactancia en los primeros 6 meses post parto, puede considerarse un complemento apropiado para los métodos contemporáneos de planificación familiar. Esto es especialmente útil cuando la aceptación y la continui-

dad de otros métodos anticonceptivos son pobres. A menudo los médicos han subvaluado la efectividad anticonceptiva de la amenorrea por lactancia; sin embargo, los obstetras y los ginecólogos están en la posición ideal para promover tanto la alimentación al seno materno como la planificación familiar. Ellos tienen la oportunidad única de influir tanto en las prácticas hospitalarias como en la percepción social en relación a la lactancia materna.

Breastfeeding is the oldest contraceptive, still a very powerful one on a demographic level, yet one about which we are still quite ignorant. This overview of the topic of breastfeeding and family planning covers the contraceptive effects of breastfeeding on an individual level as well as on an aggregate level, appropriate contemporary contraceptives for use during lactation, and the complementarity between breastfeeding and other methods of contraception on an individual level and on a programmatic level. This discussion includes both current research and previously underemphasized findings in order to arrive at new ways of thinking about the contraceptive effect of breastfeeding. The purpose is not to diminish the value of other contraceptives during the postpartum period, but to introduce new perspectives on the role of breastfeeding for family planning providers.

THE CONTRACEPTIVE EFFECT OF BREASTFEEDING A DEMOGRAPHIC CONTRACEPTIVE

The contraceptive effect of breastfeeding has been known about for generations, but it has been only in

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the past two decades that researchers have attempted to quantify its role in the birth interval and its relative importance compared with the other determinants of fertility. We have been aware since at least the early 1970's that breastfeeding averts more births in the developing world (with the exception of mainland China) than all modern methods of family planning combined.¹ On a population level, age at marriage, the duration of breastfeeding (a proxy for the duration of postpartum amenorrhea), abortion, and contraceptive use are considered the most important factors that determine the total number of children a woman will have.²⁻³ To date, among the developing countries as a whole, breastfeeding still plays a more important role in spacing births than does modern contraception.

A recent review of the fertility survey data from Mexico and 28 other countries examined the effect of changing breastfeeding practices on fertility.⁴ Based on data from the Mexico World Fertility Survey (WFS) conducted in 1976-77, it was estimated that if the duration of breastfeeding decreased by 25% the total fertility rate (TFR) would rise by 5%. It would take an increase of 7% in contraceptive prevalence in order to balance such a decrease in breastfeeding just to keep the TFR at its current level. A worse scenario would be if breastfeeding duration dropped by 50%. In this case, the TFR would rise by 9%. A 20% increase in contraceptive prevalence would be required in order to keep the TFR from rising. This exercise points out that it is essential to consider the role of breastfeeding in fertility regulation. Fortunately, as the 1987 national fertility survey suggests, breastfeeding duration in Mexico has essentially remained constant.⁵ Further, because of the commitment of the Mexican government to planned parenthood and because of the extraordinary effort on the part of family planning providers, contraceptive prevalence in Mexico has increased from about 30% in 1977 to about 53% in 1987.^{5,6} Accordingly, the TFR decreased from about 5.7 to 3.8 over that period.^{5,7} These gains are impressive, yet we need to be aware that the decline in total fertility was made possible in part because breastfeeding was not reduced as in many other countries.

AN INDIVIDUAL CONTRACEPTIVE

Once the major demographic antifertility effect of breastfeeding became known, biologists became interested in learning about how breastfeeding postpones fertility. Several comprehensive reviews of current knowledge are available,^{8,9,10} yet in 1989, there are still many unanswered questions about the physiological mechanisms involved in ovarian suppression during lactation.

Although the neuroendocrine pathways remain only partially charted, we have learned many useful characteristics of lactational infertility. Two factors are especially important: (1) As a general tendency, the earlier in the postpartum period that a woman experiences menses, the less likely it is that bleeding episode is preceded by ovulation,^{11,12,13} and (2) the earlier in the postpartum period that the first *ovulation* occurs, the

less likely it is to be characterized by a luteal phase of adequate duration and progesterone production.¹⁴ These characteristics are especially useful in helping to explain what population-based survey research has suggested for many years, namely that lactational *amenorrhea* is a period characterized by a significant level of protection from pregnancy.¹⁵

Reviews of the international literature have concluded that between 3 and 10 percent of women conceive during lactational amenorrhea.^{16, 17, 18, 19} These percents are crude indices of the contraceptive efficacy of lactational amenorrhea, but are not directly comparable to Pearl pregnancy rates or lifetable rates. These percents are uncontrolled for time postpartum when the mothers conceived. (No doubt some may have been pregnant soon after delivery, but some may have been amenorrheic for up to two years before they conceived). They are also uncontrolled for other possibly important factors, such as the amount of suckling that was taking place. For example, some breastfeeding mothers nurse once or twice a day and their babies consume many other foods. Other mothers nurse 10 or 15 times a day and feed their babies breastmilk exclusively.

THE FHI STUDIES

In the 1970's radioimmunoassay techniques for ovarian hormones in sera and urine came into widespread use. When used in prospective studies, these tools made it possible to detect the recovery of fertility in lactating women. Following the lead of scientists such as those at the Reproductive Biology Unit at the Medical Research Council in Edinburgh, Scotland, Family Health International (FHI) and other research institutions began studies to measure breastfeeding patterns and their relationship to ovulation. This research was planned because it was recognized that the breastfeeding patterns of women in developing countries were markedly different from the breastfeeding styles in Europe, and that traditional patterns of breastfeeding were more often associated with long durations of amenorrhea. FHI chose to study small numbers of volunteers intensively in Mexico,²⁰ Egypt²¹ and Thailand,²² and the protocols are described in detail elsewhere.

The main objective of the FHI studies was to generate simple guidelines, (eg: a number of breastfeedings that would prevent ovulation), so that women would know when their natural protection from breastfeeding would expire. Studies in Scotland and Sweden, showed that no woman ovulated if she breastfed her baby at least 6 times a day.^{8, 21, 24}

The Mexican study was conducted by the Scientific Research Institute of the Juarez University of the State of Durango. Twenty-eight breastfeeding women were recruited with the help of midwives in the rural areas around Durango. Ten non-breastfeeding postpartum women were also studied as controls. Similar numbers were studied in Assiut, Egypt and Bangkok, Thailand. The women agreed to weekly follow-up visits. Depending on the center, they agreed to collect an over-

night urine sample or to give a serum once per week. The date of first postpartum ovulation was estimated from the ovarian hormone values. The breastfeeding mothers also filled out a simple pictorial chart with information on the number and type of feedings including breastfeedings, that they gave their babies each day and night.

The average amount of time from delivery until the first postpartum bleeding episode was about six or seven weeks for those *non*breastfeeding women in each setting (Table 1). There was more variation in this figure—about 4 to 6 months—across the three settings for the breastfeeding mothers. We think that in the Tahi center, some women may have disregarded some early bleeding episodes since these did not appear to be like the menses they had before their index pregnancy. All differences between breastfeeders and nonbreastfeeders were statistically significant.

The time from delivery until the first postpartum ovulation among the non-breastfeeding women was about two months in Egypt and Thailand and four months in Mexico (Table 1). The 3.9 month figure in Mexico is extraordinarily high, and we suspect it is not representative of the population. It may be due to the small N, to reporting bias or to the weekly sampling schedule for hormone assays. Nevertheless, all differences between the breastfeeding and nonbreastfeeding mothers were statistically significant. This comparison shows that breastfeeding played a significant role in delaying the recovery of ovulation.

We observed a tremendous variation in the frequency of breastfeedings at the time of ovulation. In each study there were some women who did not ovulate until after they had totally weaned their children. In other words, the breastfeeding frequency was zero at the time of the first ovulation. On the other hand, some women in each center ovulated in the presence of a great deal of breastfeeding, that is 15 or 17 episodes per day. Although ovulation returned at different times postpartum, this variation in breastfeeding frequency persisted after controlling for the time of the first ovulation. Although breastfeeding has a significant anti-ovulation effect compared to not breastfeeding, the number of breastfeedings did not prove to be a useful predictor of the time of ovulation nor was it a valid indicator of the amount of suckling stimulus.

Since ovulation does not always precede the first self-reported "menses" or vaginal bleed in many

breastfeeding mothers, the data were evaluated in order to learn the percent of mothers in which the first self-reported "menses" occurred *before* the first ovulation. In about two-thirds of the women, the first bleed came before the first ovulation (Figure 1). This means that if the women waited until the first vaginal bleeding episode to start contracepting, then at least two-thirds would have had full protection from pregnancy.

A close association between the time *supplement* are started and the time fertility returns has been observed by other researchers.^{23, 26, 27} When we looked at the time of the first ovulation compared with the time that regular supplements to the baby began, we found that if couples had waited until supplementation to use another method of family planning, then about 80% would have been protected because supplementation began before the first ovulation.

The period of six months postpartum was chosen, somewhat arbitrarily, to see in what proportion of women the baby's half-year birthday would precede the first ovulation. (It did not seem to be useful to choose a figure later than six months since at least half of all breastfed babies begin supplementation by this age.) In a little more than half of the volunteers, the six-month birthday occurred before the first ovulation.

Finally, the predictors were observed simultaneously to see whether the time of at least one of the three signs (bleeding, supplementation or six months) came before the time of the first ovulation. It was observed that if mothers neither bled nor initiated regular supplements, between 0 and 12% ovulated in the first six months postpartum.

It is important to stress that ovulation does not necessarily mean that conception is possible. In these as in other above referenced studies, there were many ovulations characterized by inadequate levels of progesterone or short luteal phases which are believed to be incompatible with pregnancy. The percents of women who ovulate, then, are overestimates of the percents women at risk for pregnancy.

USING BREASTFEEDING AS A CONTRACEPTIVE: A CONSENSUS

To determine whether the conclusions above were consistent with those of other scientists, FHI assembled a group of 25 research colleagues from many disciplines who had been studying lactational infertility. They were brought together at the Bellagio Study and Conference Center to see if they could come to a consensus on the use of breastfeeding as a contraceptive. The group did indeed arrive at a consensus,^{28, 29} the heart of which is this... "The maximum birth spacing effect of breastfeeding is achieved when a mother "fully" or nearly fully breastfeeds and remains amenorrheic... When these two conditions are fulfilled, breastfeeding provides more than 98% protection from pregnancy in the first six months." The full Bellagio consensus report²⁹ cites data from eleven studies in eight countries, including the three described above.

Table 1
MEDIAN TIME (MONTHS) UNTIL FIRST
BLEEDING EPISODE AND FIRST OVULATION
BY BREASTFEEDING STATUS AND BY COUNTRY

	First bleed		First ovulation	
	Not Breastfeeding	Breastfeeding	Not Breastfeeding	Breastfeeding
Mexico	4.6	1.5	8.5	3.9
Egypt	4.2	1.5	7.8	1.9
Thailand	6.1	1.3	8.2	1.9

The number of breastfeeding women who ovulated during amenorrhea in the first six months was put over a denominator of all women in each study observed under those conditions. This proportion was multiplied by 25% to estimate the likelihood of conception with the first ovulation. The 25% factor is based on fecundability studies which have shown that *not more than 25%* of normally cycling sexually active noncontracepting women will ordinarily conceive in a given cycle.^{30,31} Since the mothers in our studies are lactating and are not normally cycling, we have reason to believe that the 25% factor results in an overestimate of the likelihood of conception.³²

Four of 28 women in the Mexican study described above ovulated during amenorrhea in the first six months postpartum (Table 2). This fraction falls under the heading of "Any Breastfeeding". Three of those four mothers had already started to feed their babies regular supplements, which means that only one woman ovulated before bleeding and before giving regular supplements in the first six months. Multiplied by the 25% factor, the percent likely to conceive is less than 1. Comparable figures for the Egypt and Thai centers are also given. In Bangkok, three women ovulated during amenorrhea in the first six months while fully breastfeeding. In two of these cases the luteal phase was short (less than or equal to nine days) and the amount of progesterone measured barely passed the threshold compatible with ovulation. Only one of the three mothers was actually at risk for conception and again less than 1% were likely to conceive.

The Bellagio Consensus Conference concluded that:

1. Breastfeeding should be regarded as a potential family planning method in all maternal and child health programs in developing and developed countries.
2. Postpartum women should be offered a choice of using breastfeeding as a means of family planning, either to help achieve optimal birth spacing of at least two years, or as a way of delaying the introduction of other contraceptives. They should be informed of how to maximize the antifertility effects of breastfeeding to prevent pregnancy.
3. Breastfeeding provides more than 98% protection from pregnancy during the first six months postpartum if the mother is "fully" or nearly fully breast-

feeding and has not experienced vaginal bleeding after the 56th day postpartum.

4. Guidelines specific to a particular country or population for using breastfeeding as a postpartum family planning method can be developed based on this consensus. Local infant feeding practices, the average duration of amenorrhea and the ongoing changes, in women's status and health practices should be considered in adapting these general guidelines.^{32a, 32b}

One of the early studies in which ovulation was measured prospectively during lactation is by Heñawi.³³ In this study of 148 breastfeeding women in Cairo, the percent of women who conceived during lactational amenorrhea by six months postpartum is 2% (Table 3). This represents three women, and it is not reported whether any of these three was giving supplements to her baby before she conceived. Even if all three were fully breastfeeding, these early data, stratified by time and menstrual status, uphold the Bellagio consensus.

The total number of women who conceived during lactation is also presented from this study. In a year's time, one quarter of the unprotected breastfeeding mothers became pregnant. The proportion of mothers who conceived during breastfeeding at *any* time postpartum seems to have attracted far more attention than the fact that very few of them conceived during amenorrhea, especially while exclusively breastfeeding.

CONTEMPORARY CONTRACEPTIVES FOR USE DURING BREASTFEEDING

The difference in conception rates between those women who conceive during lactational amenorrhea (especially during exclusive breastfeeding in the first six months) and those who conceive while breastfeeding *any* time after menses return, (i.e. uncontrolled for time postpartum, menstrual status and supplementation status) underscores "one of the thorniest issues in family planning", i.e. the question of when lactating women should begin contraception.³⁴ Some combination of persons — woman, husband, physician, family planning worker, etc. will contribute to the decision. Different factors will weigh into the decision as well—

Table 2
PROBABILITY OF PREGNANCY DURING LACTATIONAL AMENORRHEA IN THE FIRST SIX MONTHS POSTPARTUM BY BREAST FEEDING STATUS AND BY COUNTRY

	Any Breastfeeding		Full Breastfeeding	
	No. ovulated No. observed	% likely to conceive	No. ovulated No. observed	% likely to conceive
Mexico	4/28	3.6%	1/28	0.9%
Egypt	6/26	5.8%	10/26	0.0%
Thailand	6/27	5.6%	3/26	2.9%*

* Two of the three women had short luteal phases, so the percent likely to conceive is less than 2%.

Table 3
INCIDENCE OF OVULATION AND PREGNANCY AMONG 148 LACTATING WOMEN
IN CAIRO BY MENSES STATUS AND BY MONTH POSTPARTUM

Month Postpartum	Menstruating women		Amenorrheic Women*		Total
	% Ovulating	% Pregnant	% Pregnant	% Ovulating	% Pregnant
3rd	2.2	2.2	0.0	1.3	1.3
4th	11.2	3.8	0.7	7.4	2.7
5th	14.6	4.5	0.7	9.4	3.3
6th	23.6	11.2	2.0	16.2	8.8
7th	34.8	15.7	2.7	23.6	12.8
8th	43.8	16.8	3.4	29.7	14.2
9th	48.3	21.3	4.7	33.8	18.2
10th	61.8	23.6	4.7	41.8	19.6
11th	70.7	29.2	6.1	48.6	24.3
12th	86.5	32.6	6.1	58.1	26.1

* Ovulation was detected in amenorrheic women only when they became pregnant.

Source: Hernawi F. et al. *Int J Gyn Obstet*, 15: 60-62, 1977.

whether the couple will contracept to space or limit births, availability and acceptability of the methods, etc. As family planning providers become more knowledgeable about the guidelines for the effective use of lactational amenorrhea to prevent unplanned pregnancy, (sometimes referred to as the Bellagio guidelines or the Lactational Amenorrhea Method), this will also contribute to the determination of appropriate timing of modern contraception. The Bellagio consensus includes the recommendation that breastfeeding women be accurately informed of the contraceptive effects of breastfeeding so that they may make informed contraceptive choices.

Given that the precise time for the introduction of other means of contraception may vary, a variety of methods for use during lactation can be considered. Several detailed discussions of the advantages and disadvantages of available methods for use during breastfeeding are available.^{35, 36, 37}

NONHORMONAL METHODS

Nonhormonal methods are generally the most appropriate contraceptives for breastfeeding mothers since all steroid hormones (natural and synthetic) have been shown to pass into the breastmilk.³⁸ If a couple has achieved its desired family size and wants to permanently prevent any future pregnancy, then sterilization may be appropriate. Provided that the couple is fully satisfied with the decision to use a permanent method, vasectomy would be ideally timed either during the pregnancy or in the first few months postpartum due to the period necessary to rid the male reproductive tract of viable sperm.

Nonhormonal intrauterine devices are another option. IUDs have been shown to have either no effect or a positive effect on the duration of lactation.³⁹ Breastfeeding women have recently been found to have easier and less painful insertions, fewer bleeding/pain prob-

lems and possibly higher IUD continuation than non-breastfeeding women.⁴⁰ To minimize the possibility of postpartum expulsion, insertion is best either immediately (within ten minutes) after delivery of the placenta or postponed for six weeks postpartum.^{41, 42, 43} Breastfeeding has not been found to increase the risk of expulsion when the device is inserted at these times.^{40, 44} A study of U.S. women found the risk of uterine perforation to be significantly elevated in women who were breastfeeding at the time of insertion,⁴⁵ although another large study was unable to confirm this.⁴⁶ Insertion by an experienced operator may minimize any possible risk of perforation.^{46, 47}

Barrier and/or spermicides may also be appropriate alternatives. Since condoms, diaphragms and spermicides are coitus-dependent methods, couples may find them especially acceptable if they are having intercourse infrequently. The lubricative effect of the spermicide may be a desirable side effect if a breastfeeding woman experiences vaginal dryness due to estrogen deficiency.

HORMONAL METHODS

Hormonal formulations containing both estrogen and progesterone are generally the very least appropriate during lactation. Combined oral contraceptive formulations are associated with decreases in milk volume,³⁹ although this effect has not been seen after the sixth month postpartum. The quality and composition of breastmilk do not appear to be affected by the use of oral contraceptives. The use of combined pills during postpartum amenorrhea has sometimes been shown to decrease the birth interval compared with non-use of contraception during lactation.^{48, 49, 50} Although combined oral contraceptives are generally the least recommended alternative for lactating women, in some settings they may be the only available alternative to high risk of pregnancy, which itself clearly has a

strong, detrimental effect on lactation. Particularly if a woman has begun menstruating or a relatively long time has elapsed since delivery, combined oral contraceptives may then be an appropriate alternative.

Since steroid hormones detectable in maternal serum have also been detected in the milk,¹⁸ infant uptake is a potential concern. Progesterone metabolism by the baby appears to vary across the various formulations of progestin-only contraceptives. Little is known about the amount of absorption of progesterone by the child. Long term effects are unknown but may be unimportant since the fetus is exposed to high concentrations of steroid hormones in utero. Although progestin-only pills, injectable and subdermal implants have generally not been associated with reduced milk volume,¹⁹ the commencement of progestin methods is recommended only after breastfeeding has been well-established, and then at the lowest practical effective doses.

NATURAL AND TRADITIONAL METHODS

Postpartum abstinence, lactational abstinence and terminal abstinence are highly effective in preventing pregnancy.^{51, 52} In some societies coitus is avoided because semen is believed to spoil the woman's milk. There may also be religious prescriptions for self-denial, such as fasting and sexual abstinence, believed to be spiritually beneficial. Sometimes a coitus taboo is practiced until menses return. In general, traditional abstinence practices are diminishing. Thus, an increase in fertility is likely if abstinence practices are not immediately replaced with other contraceptive methods.

Modern natural family planning methods (NFP), such as the Billings' Ovulation Method and the sympto-thermal method, can be adapted for use during breastfeeding, but the efficacy of modern NFP methods used during breastfeeding is unknown. Previous studies of the effectiveness of NFP have excluded lactating women,^{53, 54} but several studies of NFP use by breastfeeding women are currently in progress. Some couples use these methods with ease, but for others the methods require long periods of abstinence. One study of breastfeeding women found poor association between the cervical mucus symptom and estrogen levels.⁵⁵ Basal body temperature recording is impossible if a breastfeeding woman does not have six hours of uninterrupted rest. Until more is known, women should be cautioned about the potential problems with modern NFP methods used during breastfeeding.

The Lactational Amenorrhea Method (LAM), based on the Bellagio guidelines, suggests 98% effectiveness in the first six months postpartum during amenorrhea and nearly exclusive breastfeeding.^{26, 29} LAM can be used, as discussed, as a complement to other contraceptives or as a method in itself. In populations with long durations of breastfeeding and amenorrhea, the rules can be modified to help maximize the birth interval.

THE COMPLEMENTARITY BETWEEN BREASTFEEDING AND MODERN CONTRACEPTIVES

If couples are satisfied users of other family planning methods, or interested in starting a method, it would be inappropriate to talk them into non-contracepting even if they are exclusively breastfeeding and amenorrheic. However, several circumstances have been encountered in which the Bellagio guidelines appear to be useful for timing the initiation of family planning. For example, especially in rural areas, access to family planning services is limited, and commodities are not abundant. In this situation, if breastfeeding women were given a few cycles of progestin-only pills from "parteras" or TBAs after delivery, they could begin using them upon the appearance of a fertility sign (such as vaginal bleeding or regular supplementation). These women would not be *double* protected by using the pill when they were naturally infertile and then totally unprotected later. They would also have a several month supply when they really needed it, and the family planning program would be conserving its commodities appropriately.

Perhaps a more dramatic circumstance has been observed in places where family planning discontinuation rates are high. When permanent methods are not acceptable and temporary methods are discontinued after brief periods or used unreliably, this is another situation that results in double protection during infertility and no protection after fertility returns.⁴⁸ For example, an analysis of contraceptive use data in the Philippines⁵⁶ has shown that among ordinary couples, oral contraceptive pills are no more effective than rhythm used with withdrawal (Table 4). This has been attributed to high discontinuation of the pill and poor compliance with instructions for use. Observations such as this on the actual use of temporary methods (i.e., not their theoretical or clinical effectiveness) suggest that a failure rate of 3-10% for lactational amenorrhea, even disregarding the other two Bellagio guidelines (full or nearly full breastfeeding and six months postpartum), may be respectable.

BREASTFEEDING OR CONTRACEPTION

Breastfeeding continues to be an essential aspect of child survival in developing countries. Even partial breastfeeding provides significant protection from illness over artificial feeding.^{57, 58} The risk of mortality in the first years of life associated with bottlefeeding is also significant.⁵⁷ Especially when the natural birth spacing effect of breastfeeding is acknowledged in addition to the numerous health benefits to the baby, public health policy-makers would be remiss if they did not attempt to maintain high levels of breastfeeding incidence and duration. Given the objective of reducing the TFR in a context of limited resources for health care, the issue of breastfeeding promotion (or preservation) becomes a question to policy-makers: "What practices should be promoted? Breastfeeding or contraceptive use?" The answer seems simple -- "promote both". Yet a situation currently exists in which it is difficult to promote both.

Table 4
ESTIMATED ANNUAL CONTINUATION AND EFFECTIVENESS RATES PHILIPPINES, 1978

Method	Annual continuation rate*	Contraceptive effectiveness**
pill	42	83
IUD	70	96
rhythm	51	63
condom	10	42
withdrawal	43	51
rhythm + withdrawal	73	81
rhythm + condom	51	71

Source: Laing, *Stud Fam Plan* 1985, 16 (3): 138-153

* ACR = 100 (MCR), where MCR is the monthly continuation rate: the number of users in 2 adjacent months ÷ the total number of users of the method during the first of the 2 months

** CE = 100 (1-PPR/EPR), where PPR = Pearl pregnancy rate (or annual failure rate) and EPR is the expected pregnancy rate in the absence of contraceptive practice.

In a 1984 survey of rural Mexican health care providers, it was found that while all practitioners favored breastfeeding *per se*, in general they did not favor prolonged breastfeeding.⁵⁹ Over half felt that supplements should be introduced by age 2 months and that breastfeeding should end entirely at 6 months (Table 5). They were also somewhat ill-informed about factors that facilitate and inhibit breastfeeding. For example, more than two-thirds thought that breastfeeding should stop if the child has diarrhea.

The researchers suggested that one of the reasons the doctors and nurses were not supportive of pro-

longed breastfeeding concerns the perception that breastfeeding does little to prevent conception. Indeed, 80% thought that breastfeeding was no more than slightly effective as a contraceptive. Further, two-thirds thought that breastfeeding should stop if the mother uses a hormonal contraceptive. Doctors were far less supportive of exclusive or prolonged breastfeeding than the midwives, and 86% of midwives thought that breastfeeding was at least somewhat effective as a contraceptive (Table 6).

Misperceptions about breastfeeding on the part of the medical staff have been observed in many coun-

Table 5
OPINIONS OF MEDICAL PERSONNEL, RURAL MEXICO, 1984

	Percent	(N)
<i>Month supplements should be introduced</i>		
1	23	(32)
2	30	(41)
3	31	(43)
4+	16	(22)
<i>Month breastfeeding should stop</i>		
1-5	12	(17)
6	39	(53)
7-9	26	(36)
10+	23	(31)
<i>Breastfeeding should stop if child has diarrhea:</i>		
yes	68	(91)
no	32	(43)
<i>Effectiveness of breastfeeding as a contraceptive:</i>		
not at all	30	(40)
slightly	51	(69)
very	19	(26)
<i>Breastfeeding should stop if mother using hormonal FP:</i>		
yes	65	(89)
no	35	(48)

Source: Potter et al. *Stud Fam Plan* 1987, 18 (6): 316

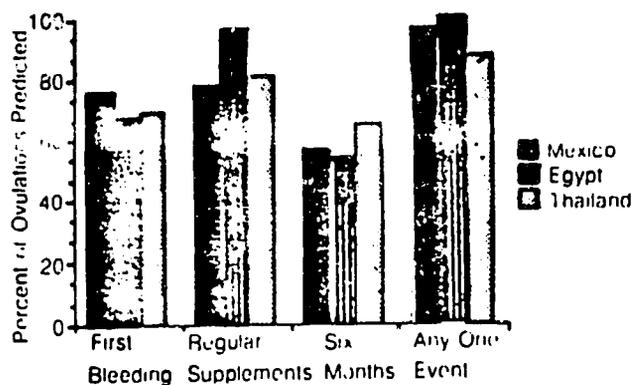


Figure 1. Event that predicted ovulation

tries.⁶⁰⁻⁶¹ At worst, breastfeeding promotion seems to conflict with other goals, such as promoting family planning and, unwittingly, combatting malnutrition. At best, breastfeeding women fall through the cracks of the health infrastructure. Breastfeeding as a contraceptive method does not fit neatly into the cafeteria of family planning methods.⁶² The method cannot be given to women as either a product (eg: pills) or a service (eg: tubal ligation). It requires an educational approach rather than a clinical one. When family planning workers earn money or credit according to how many acceptors they recruit, they may encourage women to stop breastfeeding so that the women can become family planning acceptors.

At least four legitimate problems and solutions can be mentioned regarding family planning services and breastfeeding:

1. Programs worry that if they do not provide a contraceptive at the time of delivery, they will never see the woman again. The Bellagio guidelines may be useful in this situation. Mothers can be given commodities at delivery and instructed as to when to start using them.

2. Many programs do not stock progestin-only pills, although an abundance of progestin-only commodities exist in the possession of donor agencies. If progestin-only formulations are not approved for use in public programs, health administrators should correct this situation.
3. Regarding compensation to family planning workers, they should receive fees or credit for giving correct information to lactating amenorrheic women as well as for providing appropriate family planning methods to them at the appropriate time.
4. Many family planning workers do not have information about what methods breastfeeding women should use. Fortunately, resources are now available oriented toward health workers.^{63,64,65} There are also guidelines for how to implement a breastfeeding component into family planning or child survival programs.^{64,65}

THE CHALLENGE TO PHYSICIANS

Physicians in obstetrics and gynecology, especially in urban areas, are well situated to promote both breastfeeding and family planning. Breastfeeding duration in the metropolitan areas of Mexico is significantly shorter than the national average,⁷ yet babies delivered in the large pockets of poverty, such as in Mexico City, stand to lose a great deal by bottlefeeding. By contrast, also in Mexico City, the status of women is probably greater than anywhere else in the country. Many obstetricians in Mexico City are, themselves, women working in jobs with respected status, or spouses of such women. The obstacles between working and breastfeeding to these women are numerous.⁶⁶ They are essentially economic, social and political in nature, and can result in low incidence and short duration of breastfeeding among women of status. Indeed, women in Mexico with secondary or higher education still breastfeed significantly less than average.^{6,7} In the

Table 6
OPINIONS OF DOCTORS VS MIDWIVES RURAL MEXICO, 1984

Month supplements should be introduced	Doctors	Midwives	
		Trained	Untrained
1-3	57%	11%	6%
3	28%	58%	25%
4-6	14%	26%	38%
8+	1%	5%	31%
Month breastfeeding should stop			
1-6	46%	43%	11%
7-11	27%	24%	11%
12-24	27%	33%	78%
Effectiveness of breastfeeding as a contraceptive:			
not at all	31%	All Midwives 14%	
slightly	52%	43%	
very	17%	43%	

Source: Potter et al. *Stud Fam Plan* 1987, 18 (6) 316

classic example of the breastfeeding transition, the more prosperous and better educated women lead the decline in breastfeeding. After a period of decline it is again the most prosperous and educated woman who set the trend and *increase* breastfeeding.⁶⁷ Twenty-five years ago, Margaret Mead posed a challenge to us: "Find a way that we can go from the peasant and working class breastfeeder to the elite, well-educated breastfeeder without a generation of bottles in between."⁶⁸ No group is better situated to "prevent a generation of bottles" than physicians in obstetrics and gynecology.

Hospital-based obstetricians have the particular opportunity and responsibility to influence breastfeeding practices through (1) their direct contact with mothers, before, during and after delivery; (2) their influence over hospital protocol; and (3) their influence over public information, policy and practices.⁶⁹ They are uniquely placed to make simple and inexpensive changes in hospital routines, such as immediate breastfeeding after birth, rooming-in, a spontaneous (not scheduled) breastfeeding, no supplements, no bottles, and no pacifiers. Nearly every known hospital-based intervention to promote breastfeeding or good breastfeeding practices has had a positive effect on the establishment or incidence of breastfeeding.

If family planning programs and providers are interested in the broader goal of enhancing family health rather than simply limiting fertility, then the promotion of breastfeeding should be an integral part of family planning delivery to postpartum women.⁷⁰ The successful integration of breastfeeding promotion with family planning services requires that allied health care providers become aware of the power of lactational amenorrhea. Only then can family planning workers be given credit for promoting breastfeeding as well as for appropriately advising mothers about contraception. With the endorsement of medical professionals, breastfeeding will be accepted as the ideal method of infant feeding, and be attributed the highest social status as a behavior to be modelled and as an example of responsible parenthood. If these behaviors become the status quo — with the doctors' seal of approval — legislation is more likely to follow, so that all women and babies are enabled to breastfeed for healthy durations.

CONCLUSION

Physicians in obstetrics and gynecology are encouraged to use current information about lactational infertility to the best advantage of their patients and their practices (for example, in the context of concurrent local contraceptive use-effectiveness, continuation and acceptability). Physicians are also encouraged to act on the opportunities to support breastfeeding through the ordinary, existing mechanisms available to them in their clinical situations since breastfeeding contributes to child health, child nutrition and child spacing.

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