Contraceptive Use, Intention to Use and Unmet Need During the Extended Postpartum Period

By John A. Ross and William L. Winfrey

Context: *The year after a woman gives birth presents a rising risk of an unwanted conception and an often frustrated desire for contraceptive protection. At present, contraceptive use levels during this period fall short, resulting in unplanned pregnancies and unwanted childbearing.*

Methods: *Data from 27 surveys conducted as part of the Demographic and Health Surveys series between 1993 and 1996 are analyzed to assess intentions to practice contraception and unmet need for it, both in the first year after birth. Unmet need is partly redefined here to focus on future wishes rather than on past pregnancies and births.*

Results: *Across the 27 countries, there is much unsatisfied interest in, and unmet need for, contraception. Unweighted country averages indicate that two-thirds of women who are within one year of their last birth have an unmet need for contraception, and nearly 40% say they plan to use a method in the next 12 months but are not currently doing so. Moreover, of all unmet need, on average nearly two-fifths falls among women who have given birth within the past year. Similarly, nearly two in five women intending to use a method are within a year of their last birth. The two groups—those with an unmet need and those intending to use a method—overlap; their common members include nearly all of those intending to use a method and about two-thirds of those with an unmet need (which is the larger group of the two). Only trivial proportions of both of these groups want another birth within two years. Between 50% and 60% of pregnant women make prenatal visits or have contact with health care providers at or soon after delivery, and additional contacts occur for infant care and other health services.*

Conclusions: *Women who have recently given birth need augmented attention from family planning and reproductive health programs if they are to reduce their numbers of unwanted births and abortions and to lengthen subsequent birth intervals. Prenatal visits, delivery services and subsequent health system contacts are promising avenues for reaching postpartum women with an unmet need for and a desire to use family planning services.*

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In this article, which focuses on unmet need for family planning services and women's stated intention to use them (both during the first year after a birth), we seek to answer two main questions. First, what proportion of women during this period experience unmet need for contraception and what proportion express an intention to use a method? Second, how much do these women account for all unmet need in an entire population, and how much do they represent all women who intend to practice contraception? If much unmet need occurs soon after birth, and if many women who have recently given birth have an unmet need or wish to use contraceptives, these situations have important implications for health and family planning programs.

The 12-month interval that follows a birth includes the "postpartum period," which has been defined variously. Biologically, the postpartum period rests upon the return of menses, which ranges widely among women and across societies; it is very dependent upon the length and intensity of breastfeeding. No single definition can be satisfactory for all programs, but a one-year period serves as a useful framework for pursuing the interplay of contraceptive use, intention to use and unmet need. For convenience, we term it here the "extended postpartum period."

Background

While the literature on both unmet need and the general postpartum period is extensive, rather little has been written about the overlap between the two. Moreover, women's intention to use a method has not been taken fully into account. If most women with an unmet need for family planning have recently had a birth, and if most women with a recent birth have an unmet need, this calls for further exploration to refine the nature of the relationship and the ways in which joint services might be provided. In particular, to our knowledge nothing has been written about the three-way connection among unmet need, intention to use a method and the general postpartum period.

Pilot trials in the mid-1960s at a network of prominent hospitals in a number of developing countries were the impetus to large-scale provision of contraceptives around the time of delivery. That activity, known as the International Postpartum Program,[1] gained worldwide attention and led to the general acceptance and widespread implementation of early provision of contraceptive information and services. For some years thereafter, however, little was written about the approach, since it seemed to have become a settled and normal part of obstetric services. Finally, though, analysts began to ask where things stood, and interest in the subject was somewhat reawakened, as at the International Postpartum Conference, held in Mexico City in 1990. At about the same time, other reviews broached the question of service priorities soon after birth, arguing that contraceptive needs should not crowd out attention to other concerns of new mothers.[2]

The International Postpartum Program was launched prior to the vast accumulation of national survey data that began with the World Fertility Surveys, and before the concept of unmet need came into prominence. Further, only in recent years have women's own statements as to their intentions received attention as an alternative or supplement to information about unmet need. It seems timely, therefore, to review these issues in combination, using survey data to assess both women's need for and interest in contraceptive use soon after delivery.

Previous research established that many postpartum women have an unmet need for contraception, and that much of unmet need falls within the general postpartum period.[3] Moreover, unmet need and postpartum status overlap substantially. This reflects in part the failure to obtain contraceptives soon after giving birth. By 7–9 months after birth, most women become

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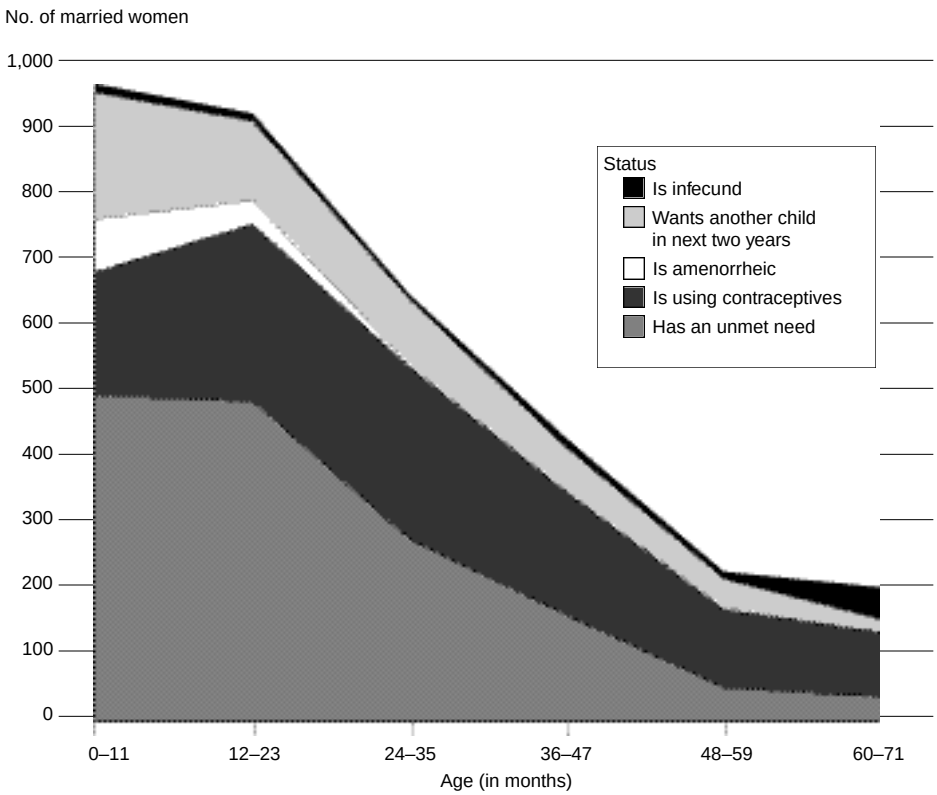
exposed to pregnancy but do not want to become pregnant again so soon, yet still have not obtained contraceptive protection.[4] Such women have experienced a return of menses, are not abstaining from intercourse and are unprotected from conception. Very high proportions of these women say they wish to avoid pregnancy. One study showed that among 24 countries for which there were data, in 13 more than 80% of these women wished to stop childbearing or space their next birth, and in 21 more than 60% did so.[5]

Moreover, substantial proportions of women who give birth conceive again within nine months, and even more do so within 15 months, leading to shorter birth intervals than many women want. According to an analysis of data from 25 countries collected as part of the Demographic and Health Surveys (DHS) project, 17% of births (or one in six) were conceived within nine months of the previous birth, and 35% were conceived within 15 months of the previous birth.[6] Many of these births were not wanted nearly so soon: Only 11% of women wanted intervals of fewer than 24 months, on average, whereas 35% actually experienced them. That research also documented that mortality risks are elevated for both the previous child and for the newborn infant. Evidence from 17 countries in three developing regions, as well as from the four geographic regions of India, reveals that in every country birth intervals are substantially shorter than wanted.[7] For India as a whole, birth intervals would be four months longer, on average, if women had their preferences.

Unmet need is remarkably concentrated among women who have given birth within the last year or two. As the interval from the last birth lengthens, the absolute numbers of women with an unmet need drop dramatically. Data from the Kenya DHS, using the DHS definitions of unmet need, illustrate this pattern (Figure 1): When women with no births are omitted, the number of married women with an unmet need is highest in the 24 months following the last birth; only a few with a child older than 48 months have an unmet need.[8] Because women with no birth for many years tend to be in the older age-groups, the total number of women declines toward the right of the figure, as does the number wanting another child within two years.

Another group that is not well counted consists of women who have recently had an abortion, essentially all of whom may be considered to be in need. Adding these postabortion women to those with an unmet need would shift the total even closer toward the end of the last pregnancy.

Figure 1. Number of married women with at least one child, by age of youngest child (in months), according to fertility and intention status, Kenya, 1998



Unfortunately, past DHS reports have in one respect underestimated the amount of unmet need, especially among new mothers. Respondents who were pregnant or amenorrheic and who said they wanted that pregnancy or their last birth have been classified as not having an unmet need, regardless of their attitude toward their next pregnancy. Clearly, some amenorrheic women who say that they welcomed their last child are firm about wanting none in the future. Further, from a dynamic perspective rather than a snapshot view, many women without an unmet need today will soon move into such a group in the future. (These issues are discussed in detail elsewhere.[9])

Finally, there is an emerging understanding of the importance of women's own statements regarding their intention to use a method.[10] One stated objection to unmet need is that it is only a statistical construct, composed of replies to partially unrelated questions.[11] Women's own direct statements about their intention to use a method in the future are free of this problem. A further difference is that unmet need rests on fertility preferences, whereas statements of intentions pertain to actual contraceptive use.

Further, stated intentions to use contraceptives come from somewhat different women than do statements about unmet need: Of women intending to use a method within the next year, some have an unmet need and some do not. In DHS reports, women are classified as not being in need if they say they want a child within the next two years. Yet many of these same women say they plan to practice contraception within the next year.[12]

One purpose of this article is to determine where intention to use contraceptives is positioned within the birth interval. Those intending to use and those with an unmet need clearly overlap only partially, with some women in either group falling outside the other. That makes for a three-way relationship, when placement within the extended postpartum period is included.

Data Sources and Methods

The analyses presented here use data from 27 DHS surveys conducted in the period 1993–1996. Twelve countries are in Sub-Saharan Africa, seven are in Latin America, six are in Asia and two are in the Mid-

Table 1. Percentage distribution of all women in the extended postpartum period, by unmet need, contraceptive use and reproductive intention status, according to region and country

Country	% with unmet need			% using a method				% wanting to give birth within 2 yrs.
	Total	To space	To limit	Total	Modern		Traditional	
					To space	To limit		
Total	**64.6**	**39.1**	**25.5**	**29.2**	**9.1**	**10.3**	**9.8**	**5.4**
Sub-Saharan Africa	**73.8**	**55.0**	**18.8**	**18.1**	**5.9**	**3.1**	**9.0**	**7.6**
Benin	80.3	66.8	13.5	14.6	1.5	0.5	12.6	4.2
Central African Rep.	64.6	53.5	11.0	25.0	1.1	0.7	23.2	9.7
Comoros	71.7	48.8	22.9	20.0	6.1	1.6	12.3	6.4
Côte d'Ivoire	88.0	69.3	18.7	5.0	1.7	0.4	2.8	6.7
Ghana	84.5	55.6	28.8	11.7	2.9	1.9	6.9	3.7
Kenya	75.2	40.0	35.3	19.5	6.1	8.5	4.9	4.3
Mali	86.8	74.8	12.0	3.6	1.3	0.2	2.2	9.3
Mozambique	77.1	66.4	10.7	4.0	2.3	1.0	0.7	18.8
Senegal	82.7	66.2	16.5	12.2	2.9	1.3	8.1	5.1
Uganda	76.7	52.3	24.4	12.4	2.7	1.8	8.0	10.7
Zambia	60.8	43.2	17.6	29.0	9.3	2.8	16.9	9.5
Zimbabwe	37.8	23.4	14.5	59.7	33.4	16.8	9.5	2.1
Middle East	**51.8**	**23.2**	**28.6**	**43.7**	**10.4**	**17.6**	**15.8**	**4.3**
Egypt	57.4	25.5	31.9	37.8	13.7	20.6	3.5	4.5
Turkey	46.1	20.8	25.3	49.6	7.0	14.6	28.0	4.0
Asia	**62.3**	**33.2**	**29.1**	**32.2**	**13.4**	**11.6**	**7.2**	**4.5**
Bangladesh	74.3	35.3	39.0	20.9	9.1	7.4	4.4	4.1
Indonesia	54.2	30.7	23.5	42.1	23.2	17.0	1.9	3.3
Kazakhstan	49.4	29.1	20.3	43.5	13.1	14.3	16.0	4.2
Nepal	84.0	40.4	43.6	11.4	2.6	6.9	1.9	4.4
Philippines	66.4	30.2	36.1	29.3	4.8	9.4	15.1	3.0
Uzbekistan	45.8	33.6	12.2	46.0	27.7	14.6	3.8	7.7
Latin America	**54.4**	**21.4**	**32.9**	**41.6**	**10.5**	**19.2**	**11.9**	**3.1**
Bolivia	65.9	15.6	50.3	31.0	2.1	7.1	21.8	2.6
Brazil	27.9	8.7	19.2	68.1	19.2	40.1	8.8	2.5
Colombia	29.1	10.0	19.2	68.6	18.0	29.2	21.3	1.9
Dominican Republic	40.2	24.0	16.2	54.0	17.4	24.5	12.2	4.0
Guatemala	79.2	46.1	33.2	14.8	4.4	7.7	2.7	4.7
Haiti	85.3	31.7	53.6	9.7	2.0	4.2	3.5	4.5
Peru	52.8	14.0	38.8	45.2	10.5	21.8	12.9	1.2

Notes: Percentages shown in total and regional subtotal rows are unweighted means. Columns do not add to 100% because small percentages of infecund women are omitted.

dle East. We focus on experience in the 12 months following the most recent birth, with some attention to experience beyond that period. All zero-parity women are excluded from our analyses.

We used the common definition of unmet need, as has been employed in most DHS surveys,[13] but with adjustments to look to future preferences rather than past ones. Instead of basing unmet need status for amenorrheic women upon the wantedness of their last child, we relied on their expressed desire for an additional child, as is done for most nonamenorrheic women. Additionally, amenorrheic and pregnant women whose last birth or current pregnancy resulted from contraceptive failure were classified with need according to their attitude toward a future pregnancy or the current pregnancy, respectively. All of these women will be at risk of an unwanted pregnancy over the near term and should be taken into account in the planning of appropriate services. Finally, in a refinement of unmet need, users of traditional methods are often kept separate from users of modern methods, in recognition of the former group's higher failure rates and the recourse that many women have to a traditional method after frustrating experiences with modern methods. We observe this distinction in parts of this article.

An alternative to the unmet need measure that is used in this article is women's expressed intention to use a contraceptive method. This measure will produce a somewhat different picture from that of unmet need, since some women classified as having an unmet need say they never intend to use a method, while other women who might be classified as not in need say they intend to use a method, due primarily to the DHS definition. By excluding from the unmet need category women wanting a child within the next two years, it leaves out many women planning to use a method soon.

The typical question in these surveys, addressed to those not using any contraceptive method, was "Do you intend to use a method to delay or avoid pregnancy at any time in the future?" Replies were coded as yes, no or don't know. Those answering yes were then asked, "Do you intend to use a method to delay or avoid pregnancy within the next 12 months?" Replies were again coded as yes, no or don't know. In our analyses, we use only the replies to the second question, since those probably indicate a firmer intent to use a method than the replies to the first item. They also pertain to the near term rather than to an open-ended period in the future.

Results

Overall Unmet Need

Among women who are 0–12 months postpartum, the unweighted average level of unmet need for contraception across the 27 countries is 65% (Table 1). This proportion ranges from 54% in Latin America and 62% in Asia to 74% in Sub-Saharan Africa. The only two Middle Eastern countries included, Egypt and Turkey, showed relatively low levels of unmet need, at 57% and 46%, respectively.*

In the Asian countries for which there are data, about half of unmet need among postpartum women is for spacing births and half is for limiting future childbearing. In Sub-Saharan Africa, in contrast, about three-quarters of unmet need in this group is for spacing, while in Latin America, three-fifths is for limiting.

About 30% of postpartum women are already using a method; this proportion varies sharply among the three major regions, however, ranging from 42% in Latin America and 32% in Asia to 18% in Sub-Saharan Africa. (The Middle Eastern countries with data averaged the highest levels of postpartum method use—44% overall.)

Approximately one in three of these women (10% overall) rely on traditional methods. Depending on the region, 7–12% of women in the postpartum period use such methods. Thus, traditional methods account for about half of contraceptive use in the postpartum period in Sub-Saharan Africa, but for only about one-fourth of all method use in Asia and Latin America.

*All regional means give equal weights to all countries; they indicate the average country situation. Means with population weights would be somewhat different and can be obtained by applying those weights to the figures given.

Table 2. Percentage of all women in the extended postpartum period who intend to use contraceptives in the next year, by number of months since last birth

Region and country	0–12	0–-3	3–6	6–9	9–12	≥12
Total	**38.5**	**53.6**	**37.8**	**33.2**	**30.9**	**16.9**
Sub-Saharan Africa	**40.6**	**49.5**	**40.6**	**38.6**	**34.2**	**23.3**
Benin	37.1	44.4	39.9	36.5	27.7	23.1
Central African Rep.	48.6	57.9	53.0	42.2	41.3	23.3
Comoros	42.1	50.0	46.3	47.6	26.5	20.2
Côte d'Ivoire	30.7	31.8	27.5	30.4	33.1	14.1
Ghana	40.2	47.2	37.4	42.2	33.1	22.2
Kenya	50.8	66.7	48.8	46.1	45.0	24.1
Mali	42.2	41.4	44.3	39.7	43.0	25.6
Mozambique	34.7	34.7	34.9	36.8	32.7	20.0
Senegal	33.9	42.8	33.8	30.3	28.0	19.5
Uganda	44.1	51.1	43.9	41.9	41.2	30.4
Zambia	51.2	62.6	53.4	47.9	41.4	33.4
Zimbabwe	31.0	63.4	23.5	21.3	17.6	24.2
Middle East	**34.8**	**61.6**	**30.5**	**27.0**	**24.0**	**10.6**
Egypt	37.9	59.0	36.3	28.9	27.9	13.9
Turkey	31.8	64.1	24.6	25.1	20.1	7.4
Asia	**38.6**	**56.2**	**40.8**	**29.6**	**29.8**	**10.6**
Bangladesh	57.6	70.0	61.9	52.3	44.0	13.7
Indonesia	35.3	60.6	35.7	24.5	21.4	8.6
Kazakhstan	38.8	65.5	38.2	20.6	36.1	7.8
Nepal	44.7	57.5	47.8	38.8	35.0	16.5
Philippines	34.9	51.8	36.7	29.4	25.6	9.7
Uzbekistan	20.0	31.6	24.7	12.1	16.7	7.1
Latin America	**35.8**	**56.2**	**32.6**	**29.0**	**28.2**	**13.1**
Bolivia	44.3	57.5	48.4	38.5	35.0	16.8
Brazil	25.3	55.8	18.2	17.8	14.9	6.8
Colombia	24.3	50.6	22.0	17.9	13.3	9.3
Dominican Republic	34.6	62.0	22.4	21.9	31.1	11.4
Guatemala	32.4	44.9	28.4	28.1	28.9	12.0
Haiti	47.1	58.2	45.2	41.9	44.5	23.7
Peru	42.8	64.1	43.7	36.8	29.9	11.7

Very few postpartum women (about 5% overall) care to conceive again soon. (This is a rather low level, considering that it is an average across all durations up to 12 months since the last birth; the proportion may be higher toward the end of the postpartum period.) This proportion varies across the three large regions, with 3–8% wanting another child within two years.

Within regions, however, both unmet need and intention to have another child soon vary substantially by country. In Sub-Saharan Africa, the proportion of postpartum women with an unmet need mostly ranges from 61% in Zambia to 88% in Côte d'Ivoire. (The exception is Zimbabwe, where only 38% have an unmet need.) The percentage of postpartum women who want to have another child within two years generally ranges from about 2% to 11%, with Mozambique (19%) an outlier in this respect.

Within Asia, 46–49% of postpartum women in Kazakhstan and Uzbekistan have an unmet need; in the other four Asian countries for which we have data, levels of unmet need vary widely, from 54% to 84%. However, in five of these six countries, only 3–4% of postpartum women want another birth within two years.

Variation in unmet need is great among the Latin American countries represented, from 28–29% in the high-prevalence countries of Brazil and Colombia to 79–85% in the low-prevalence countries of Guatemala and Haiti. Again, very few postpartum women in the seven Latin American countries with DHS surveys want another child within two years (1–5%).

Having delivered recently, nearly none of these postpartum women declared themselves infecund; thus, the felt possibility of another conception is clearly present. In sum, in nearly all of the sampled countries, no more than about one in 10 postpartum women either want a child within 24 months or are infecund (not shown). The rest state an interest in contraception, either by using it or by expressing a desire to delay another birth.

Intention to Use Contraceptives

For all countries, nearly 40% of women in the extended postpartum period intend to use a method within the next year (Table 2). The regional averages differ very little, ranging only from 35% in the Middle East to 41% in Sub-Saharan Africa. In contrast, the proportions with an unmet need differ appreciably by region. However, beneath these regional averages are large country variations, so the individual countries warrant particular attention. For Asia, in Uzbekistan only 20% of postpartum women intend to use a method in the next year, but in Bangladesh 58% plan to do so. A 20-point range is seen among the countries of Sub-Saharan Africa and of Latin America.

Over the four quarters of the first year postpartum, the proportion of women using a contraceptive rises, reducing the base of nonusers. As a result, the overall percentage intending to use declines with time, from 54% in the first three months postpartum to 31% in months 9–12 (Table 2). This decline is sharpest between the first and second quarters.*

Breakdown by Postpartum Phase

Earlier, we separated women in the postpartum period into various categories of unmet need. Here, we reverse that approach, by separating all women with an unmet need by the various periods of time following the birth, and doing the same for all women intending to use a method. On average, nearly two-fifths of all women with an unmet need were within 12 months of their last birth, and about three-fifths were within 24 months of their last birth (Table 3, page 24).

Regional averages are close for the distribution of all unmet need: Between 37% and 41% of unmet need is in the first year after birth, 20–27% is in the second year and 32–41% is later. Individual countries vary over a wider range. The proportion of all women with an unmet need who were within 12 months postpartum lies between 30% and 48% in 26 of the 27 (all but Kazakhstan). Similarly, the proportion of women with an unmet need who were 12–23 months of their last birth was in the 20–30% range for 22 of the 27, while the proportions at 24 months or more were 20–39% in 20 of 27 countries.

As with unmet need, we can ask what proportions of all women who intend to use a method fall into the first year after birth (Table 3). Overall, about two-fifths of those intending to do so were within 12 months of having given birth, while about one-quarter were in the second year following childbirth and one-third were beyond that. Regional averages differ hardly at all, with 37–40% of those intending to use in the first 12 months postpartum. As with unmet need, there was greater variation among countries—from 25% to 42% in Sub-Saharan Africa, from 33% to 48% in Asia and from 30% to 46% in Latin America.

Does Intention Predict Use?

We also explored the extent to which intention to practice contraception predicted actual levels of contraceptive use. This estimate is produced by comparing the proportion who said at 0–3 months that they intend to use contraceptives with the increase in use by the period 9–12 months after the last birth.† A positive relation appears across

*However, in most countries, based on all women not practicing contraception rather than on all women, the percentage intending to use a method remained relatively even across the four quarters of the first year.

†The percentage increase is calculated with the following formula: $(CU_{9-12}–CU_{0-3})/(100–CU_{0-3})$, where CU is contraceptive use among all women at the interval in question. This is not a strict longitudinal analysis, but a comparison of different women at different times. It assumes a relatively stable time trend.

Table 3. Percentage distribution of all women in union who have ever given birth and who have an unmet need, and percentage distribution of all women in union who have ever given birth and who intend to use a contraceptive method within the next 12 months, by number of months after birth, according to region and country

Region and country	With unmet need				Intending to use			
	0–11	12–23	≥24	Total	0–11	12–23	≥24	Total
Total	**39.3**	**25.1**	**35.7**	**100.0**	**38.3**	**25.1**	**36.6**	**100.0**
Sub-Saharan Africa	**41.3**	**27.2**	**31.5**	**100.0**	**37.3**	**27.2**	**35.5**	**100.0**
Benin	45.1	26.6	28.3	100.0	36.5	25.1	38.4	100.0
Central African Rep.	43.4	27.7	28.9	100.0	40.3	27.8	31.9	100.0
Comoros	38.9	25.7	35.4	100.0	41.7	25.6	32.7	100.0
Côte d'Ivoire	45.8	28.4	25.8	100.0	40.5	27.8	31.6	100.0
Ghana	38.3	24.1	37.6	100.0	37.4	25.3	37.3	100.0
Kenya	37.9	28.9	33.2	100.0	38.3	30.8	31.0	100.0
Mali	47.7	27.4	24.9	100.0	38.6	26.5	34.8	100.0
Mozambique	40.4	29.0	30.6	100.0	35.5	29.3	35.2	100.0
Senegal	35.3	27.7	37.0	100.0	37.8	29.5	32.7	100.0
Uganda	43.9	34.3	21.8	100.0	37.8	35.8	26.4	100.0
Zambia	42.9	27.8	29.3	100.0	36.7	27.5	35.8	100.0
Zimbabwe	35.7	18.4	45.8	100.0	25.1	14.3	60.6	100.0
Middle East	**40.0**	**20.0**	**40.0**	**100.0**	**39.0**	**19.7**	**41.3**	**100.0**
Egypt	41.2	21.3	37.5	100.0	37.7	21.2	41.1	100.0
Turkey	38.7	18.8	42.6	100.0	40.1	18.2	41.7	100.0
Asia	**36.5**	**22.8**	**40.7**	**100.0**	**40.4**	**23.2**	**36.4**	**100.0**
Bangladesh	44.0	22.3	33.6	100.0	45.0	21.6	33.3	100.0
Indonesia	40.0	19.2	40.7	100.0	38.7	15.4	46.0	100.0
Kazakhstan	23.4	15.2	61.4	100.0	36.4	23.8	39.9	100.0
Nepal	38.3	30.1	31.6	100.0	40.9	29.6	29.6	100.0
Philippines	40.4	26.0	33.6	100.0	47.6	23.5	28.9	100.0
Uzbekistan	33.7	23.9	42.4	100.0	33.2	24.9	41.9	100.0
Latin America	**38.0**	**24.7**	**37.4**	**100.0**	**38.1**	**24.4**	**37.5**	**100.0**
Bolivia	41.7	26.5	31.8	100.0	42.4	26.0	31.6	100.0
Brazil	31.0	21.6	47.5	100.0	31.3	21.7	47.1	100.0
Colombia	33.3	20.3	46.4	100.0	29.8	19.7	50.5	100.0
Dominican Republic	37.1	24.4	38.6	100.0	35.1	26.3	38.7	100.0
Guatemala	45.5	29.7	24.8	100.0	45.5	26.2	28.3	100.0
Haiti	34.7	27.1	38.2	100.0	38.6	27.9	33.5	100.0
Peru	41.8	22.8	35.4	100.0	41.6	22.1	36.3	100.0

Note: As elsewhere, the table excludes women who have never given birth.

the 27 countries: Where the stated intention to use contraceptives is high, actual use rises substantially (Figure 2). On average, for each increase of 1% in intention, there is nearly a 1% rise in contraceptive adoption.

The solid line in Figure 2 shows the linear relationship that fits the data best. However, Figure 2 also indicates that certain countries fall well above the line. Turkey, Colombia, Zimbabwe and Brazil all exhibit larger-than-expected increases in contraceptive use between 0–3 months and 9–12 months postpartum.

What distinguishes these countries? Turkey, Colombia and Brazil have high levels of contraceptive prevalence, with an active private sector for supply; Turkey also has many users of traditional methods. In addition, Zimbabwe is exceptional for a Sub-Saharan African country in its high contraceptive prevalence (as well as in its high life expectancy, per capita income and literacy). Uzbekistan and Kazakhstan, which also show somewhat larger increases than would be expected, inherited the comprehensive health infrastructures of the Soviet system.

In contrast, several countries are well below the line. Haiti suffers from severe service constraints and limited development. Kenya shares in some development problems, but its location on the chart is otherwise an anomaly, since contraceptive services are relatively advanced there. The Central African Republic has large numbers of women at 0–3 months postpartum who said they intended to practice contraception, but very small proportions who had converted this intention into actual use by 9–12 months. (This difference may due in part to only 20% of women 9–12 months postpartum in that country reporting that menses had returned.[14])

Intersection of Unmet Need and Intention

Not surprisingly, in essentially every country, more than 90% of women intending to use a method also have an unmet need (Table 4); the remainder include the few who say they want a child within the next two years, who are classified as not being in need. On the other hand, only some women with an unmet need intend to use a method: In the case of this extended postpartum group, this proportion averages about two-thirds for all countries; it is less than that in Sub-Saharan Africa (58%) but is well above that in Latin America (78%) and the Middle East (76%) (Table 4). This regional difference reflects a greater personal readiness in Latin America to use a method and probably the presence of more convenient contraceptive supplies and services in the program environment.

As time passes after women have given birth, the proportion using a method increases and the group of nonusers shrinks. A decline sets in for the residual proportions with an unmet need and for those intending to adopt a method. The proportion wanting a child within two years is very small and increases very little. The overall proportions intending to use a method diminish as more of them convert to actual use; interestingly, the proportion saying they do not intend to use remains nearly constant (not shown). Individual countries vary in these respects, and the reductions noted are less when examined as proportions of the diminishing base of nonusers.

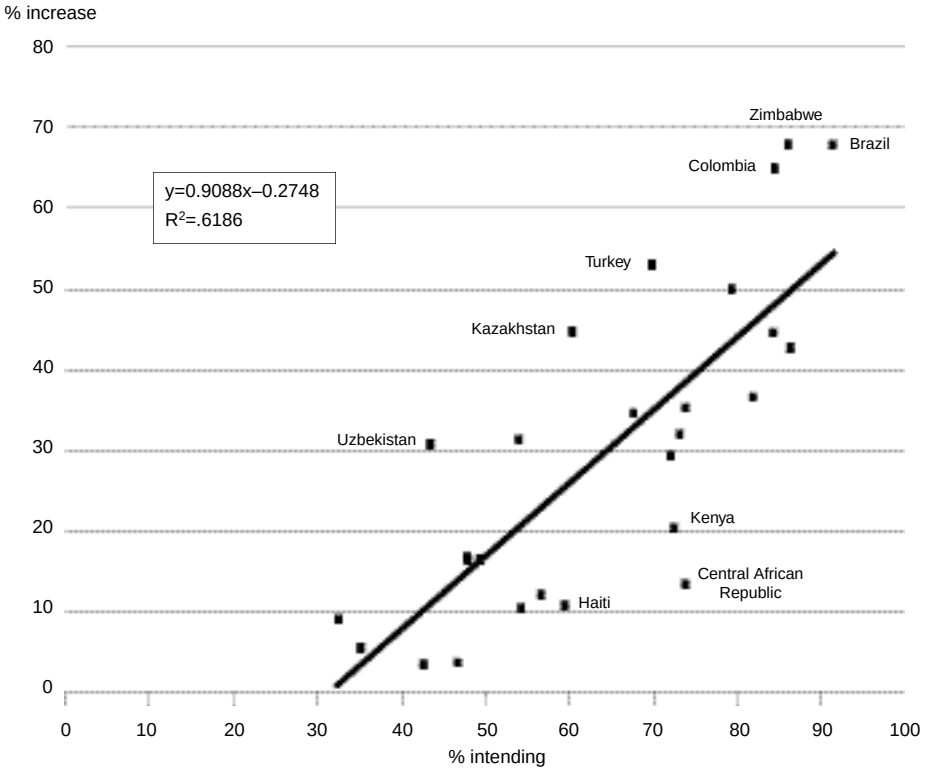
Return of Menses

Much of the behavior documented above is related to the return of menses, which comes much slower in Sub-Saharan Africa than in the other regions. On average, women in Latin America and Asia resume menstruation much earlier than do women in Sub-Saharan Africa. The regional averages are low and similar at 0–3 months postpartum, but they then rise sharply (Figure 3, page 26). The increase among women in Asia and Latin America is nearly double that for Sub-Saharan Africa, although by one year only about 60% of women in Asia and Latin America have experienced return of menses. The slow return of menses in Sub-Saharan Africa, reflecting the extended practice of breastfeeding there, partially explains the relatively small number of postpartum women there who use contraceptives. Lack of services and other factors also contribute to the low prevalence of use.

Method Mix in the Postpartum Period

It is of interest to know whether the contraceptive method mix changes within the postpartum period—i.e., whether there is a shift in the methods used as breastfeeding diminishes, menstruation returns and sexual relations resume. We cannot explore this in detail, however, because of the small numbers of contraceptive users; this problem is compounded by the nu-

Figure 2. Among women 0–3 months postpartum who are not using contraceptives, percentage who say they intend to do so within the next 12 months, by percentage increase in contraceptive prevalence among women between 0–3 months and 9–12 months postpartum



merous categories for methods and number of time partitions.

Here, we use the first two six-month periods and the interval thereafter to show how methods gain or lose shares as women move through and beyond the postpartum period. We also limit our analysis to the 13 countries with at least 50 users of modern contraceptive methods in the sample.*

Briefly, the results indicate that in general, modern methods as a group gain users during the year after the birth. Within this enlarging group, the share due to the pill rises in 10 of the 13 countries from the period 0–6 months following a birth to the period 6–12 months afterward. After the first year, though, the pill loses share in eight countries, while sterilization gains. Sterilization shows no change from the first half to the second half of the year following a birth, but gains subsequently, reflecting its permanent continuation once use has begun.

There is no discernible trend in the IUD's share across the three periods. Barrier methods lose share in nine of the 13 countries between the first half and the second half of the first year following a birth, and lose even more later. Reliance on traditional methods falls off in nine of the 13 countries after the end of the first year.

Avenues to Services

Because so much unmet need and so much of the intention to use contraceptives rests among women who are not far removed from a recent birth, it is important to consider avenues for services and the general numbers of women involved in each. From the DHS surveys, we have drawn information on receipt of prenatal care, as indicated by the proportions having received tetanus toxoid injections, as well as by the proportions of recent births that were delivered in institutional settings.

Across the 27 countries, an average of about half of all deliveries occurred within institutional facilities (Table 5, page 26); such facilities also provide settings for contraceptive instruction and for certain contraceptive services. The average proportion is nearly the same in Sub-Saharan Africa (45%) as in Asia (43%), but is somewhat greater in the two Middle Eastern countries (51%) and in Latin America (59%). There are important country differences within each region, however, so regional averages should not be viewed uncritically. The other side of this picture is the proportions of births occurring at home: These raise a greater challenge for the provision of appropriate contraceptive services early enough to prevent an unwanted conception soon after the birth.

Prenatal visits are another setting in which contraceptive instruction and arrangements for subsequent services may occur. We chose tetanus toxoid shots as a relatively specific indicator of prenatal care; in the DHS series, other questions on prenatal care are less clear as to visit content, which in any case varies considerably within and among countries. However, the tetanus figures represent a minimum estimate, since some women receive care that does not include a tetanus injection. As an avenue to provide contraceptive instruction to pregnant women, the prenatal visit is both a convenient occasion and a very important one, if the numbers of early unwanted pregnancies and abortions are to be reduced.

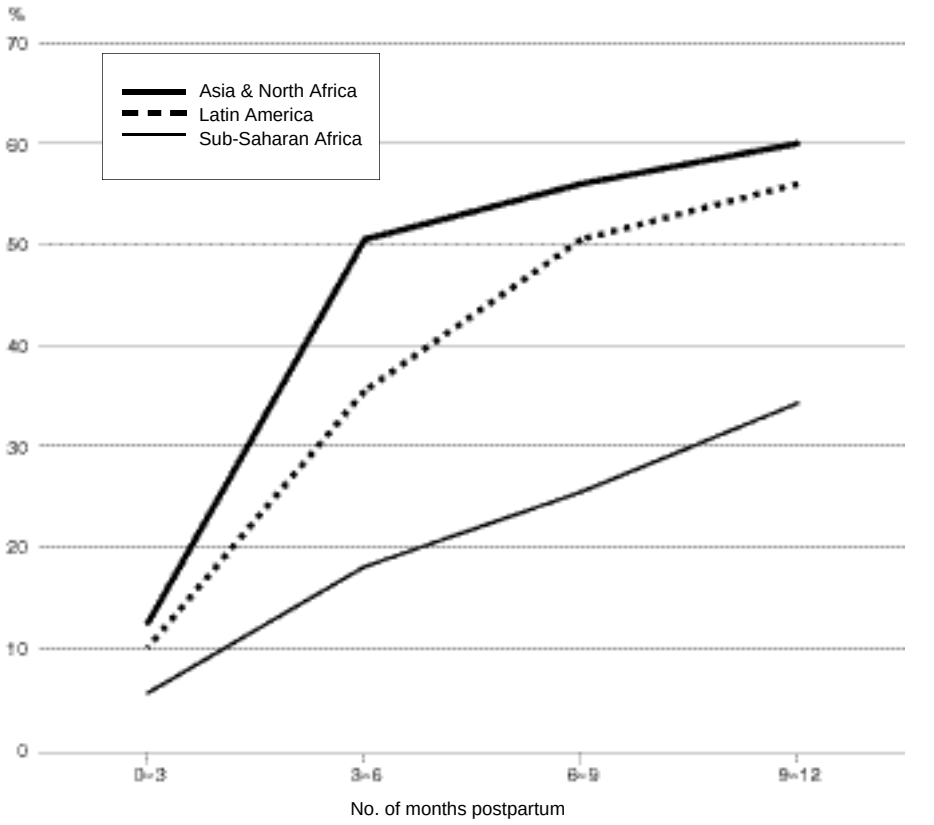
On average, three-fifths of women received tetanus injections in the 27 countries, with nearly identical levels across the

Table 4. Among postpartum women, percentage intending to use a contraceptive method who have an unmet need, and percentage with an unmet need who intend to use a method

Region and country	Intending who have unmet need	Having unmet need who intend to use
Total	**98.3**	**66.5**
Sub-Saharan Africa	**94.2**	**58.1**
Benin	96.0	46.3
Central African Rep.	93.1	75.9
Comoros	93.7	60.4
Côte d'Ivoire	96.8	34.3
Ghana	98.6	48.0
Kenya	96.8	69.1
Mali	94.8	48.4
Mozambique	84.3	39.6
Senegal	98.0	41.6
Uganda	93.6	59.0
Zambia	89.4	81.7
Zimbabwe	95.0	92.5
Middle East	**95.8**	**76.1**
Egypt	95.8	73.7
Turkey	95.9	78.6
Asia	**95.8**	**66.7**
Bangladesh	98.0	86.9
Indonesia	95.4	72.8
Kazakhstan	95.7	85.0
Nepal	98.6	56.1
Philippines	95.2	53.4
Uzbekistan	91.8	46.1
Latin America	**94.4**	**77.8**
Bolivia	97.5	70.1
Brazil	91.7	99.9
Colombia	93.7	96.7
Dominican Republic	90.6	93.6
Guatemala	93.2	40.1
Haiti	98.1	56.9
Peru	96.4	87.6

*Bangladesh, Brazil, Colombia, Dominican Republic, Egypt, Guatemala, Indonesia, Kenya, Peru, the Philippines, Turkey, Uzbekistan and Zimbabwe.

Figure 3. Percentage of postpartum women who have resumed menstruation, by number of months postpartum, according to region



three large regions (64–67%). As was the case with delivery, variability among countries was considerable. The standard deviations were about the same within each region (if Kazakhstan and Uzbekistan are removed from both series), except that in Latin America variability is greater for deliveries than for tetanus.

Conclusions

Our objectives in this article were to determine the extent to which women in their first year after childbirth experience an unmet need for contraception, and the proportions who express an intention to use a method of family planning. In addition, our aim was to see how much of the entire body of unmet need and intention to use falls within the first year postpartum. The results confirm the importance of this period in both respects, and contain evidence of institutional access to provide services for women in this period.

Many women fail to obtain contraceptive services soon after birth and become pregnant again, either much sooner than they wish or contrary to their desire to cease childbearing entirely. They circulate back into the currently pregnant group, a dynamic situation that is clouded by survey data showing only the proportion already pregnant at any given time.

Within the childbearing group, it is the couples who are most fecund who conceive earliest, contributing disproportionately to the size of the "circulating" subgroup. Assistance to such couples should be offered soon after a birth, but they are not easily identified as a special group, and can be assisted only if postpartum family planning services are present both early and widely in the population. Contraceptive information and services must be present not only in the general environment, but also at the specific points of contact and at the right times. These preeminently are at the prenatal visits, at contacts during the delivery stay, at the six-week postpartum visit and at other appropriate points when mothers and young children are seen.

The data in this article focus on the first year after birth, when there is an interplay between unmet need, the expressed desire to use contraceptives and the extended postpartum period. Not only do women in that period display high levels of need and of intention to practice contraception, but they also represent large shares of all need in the entire population and of all women who intend to use a method. Further, need and intention to use are by no means synonymous; they overlap only partially, so that the sum of the two groups considerably exceeds either one alone. The two groups intersect in a special way, with nearly all women intending to use a method having an unmet need, but only about two-thirds of those with an unmet need intending to use a method.

The messages that the constellation of services for family planning and other reproductive health concerns is concentrated around the time of childbirth, and that those services should help one another more than they currently do, are not new. It is arresting, however, to realize the extent to which concerns centered upon the satisfaction of unmet need, and upon efforts to help women implement their contraceptive intentions, concentrate to such an extent on the extended postpartum period. The implications for programs in reproductive health are important, if the numbers of unwanted pregnancies, abortions, and births

Table 5. Percentage of women having a birth who gave birth in a health facility, and percentage who had received tetanus injections prior to delivery, by region and country

Region and country	Delivered in facility	Received tetanus injections
Total	**48.7**	**60.5**
Sub-Saharan Africa	**45.1**	**67.4**
Benin	64.4	69.3
Central African Rep.	47.0	61.9
Comoros	40.8	50.7
Côte d'Ivoire	42.7	71.0
Ghana	41.9	73.7
Kenya	39.1	87.2
Mali	33.7	48.6
Mozambique	39.1	33.8
Senegal	49.3	82.9
Uganda	33.9	74.1
Zambia	42.7	77.0
Zimbabwe	67.0	78.9
Middle East	**51.1**	**56.6**
Egypt	38.0	70.0
Turkey	64.3	43.2
Asia	**42.9**	**64.0**
Bangladesh	6.4	74.4
Indonesia	19.2	69.9
Kazakhstan	98.7	u
Nepal	9.4	44.6
Philippines	30.8	67.2
Uzbekistan	92.8	u
Latin America	**59.1**	**65.0**
Bolivia	40.7	38.4
Brazil	93.8	56.1
Colombia	80.9	79.0
Dominican Republic	97.5	95.7
Guatemala	34.8	52.6
Haiti	15.1	62.1
Peru	51.2	71.1

Notes: Questions on place of delivery and receipt of tetanus toxoid injections were asked of women who had given birth in a certain number of years preceding the survey; the period ranged from three years to five years, depending on the country. u=unavailable, because it was not asked in the questionnaire.

are to be reduced and if women are to gain greater control over their childbearing.

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Resumen

Contexto: *Durante el año siguiente de haber dado a luz la mujer corre un mayor riesgo de tener un embarazo no deseado y con frecuencia se cumple su deseo de tener protección anticonceptiva. Actualmente, el nivel de uso de anticonceptivos durante este período es bajo y resulta en embarazos no planeados y partos no deseados.*

Métodos: *Se analizaron los datos correspondientes a 27 encuestas realizadas como parte de la serie de Encuestas Demográficas y de Salud, realizadas desde 1993 a 1996, para evaluar las intenciones de practicar la anticoncepción y las necesidades insatisfechas de hacerlo, durante el primer año de haber dado a luz. La necesidad insatisfecha es redefinida aquí en forma parcial para centrarse en los deseos futuros en lugar de en en las situaciones de los embarazos y partos previos.*

Resultados: *En los 27 países hay una gran cantidad de casos de necesidad insatisfecha con respecto al interés en usar y en el uso real de anticonceptivos. Los promedios no ponderados de los países indican que dos tercios de las mujeres que se encuentran dentro del grupo de haber dado a luz durante el último año, tienen una necesidad insatisfecha de anticonceptivos, y que cerca del 40% indica que planean usar un método durante los próximos 12 meses, pero aún no están practicando la anticoncepción. Además, de todos los casos que tienen necesidades insatisfechas, en promedio, cerca de dos quintos corresponden a mujeres que han dado a luz durante el último año. En forma similar, cerca de dos de cada cinco mujeres que intentan usar un método se encuentran dentro del período de un año de haber tenido su último parto. Los dos grupos—aquellas con una necesidad insatisfecha y aquellas que intentan utilizar un método—se sobreponen; los miembros comunes incluyen a casi todas las que tienen la intención de usar un método y cerca de los dos tercios de las que tienen una necesidad insatisfecha (el cual es el grupo más numeroso). Es muy pequeño el porcentaje de los miembros de estos dos grupos que desean tener otro nacimiento dentro de los próximos dos años. Entre el 50% y el 60% de las mujeres embarazadas asisten a visitas de atención prenatal o tienen contacto con proveedores de servicios de salud durante el parto o inmediatamente después, y muchas realizan contactos adicionales para obtener atención infantil y servicios de postaborto.*

Conclusiones: *Si la meta que se persigue consiste en reducir el número de nacimientos no deseados y de abortos, y en prolongar los intervalos entre los nacimientos, los programas de planificación familiar y de salud reproductiva deberán prestar mayor atención a las mujeres que acaban de dar a luz. Las visitas de atención prenatal, la prestación de servicios de parto y los subsiguientes contactos con el sistema de salud son opciones promisorias para prestar servicios a las mujeres que tienen una necesidad insatisfecha de anticoncepción durante el período de postparto y que desean usar los servicios de planificación familiar.*

Résumé

Contexte: *L'année qui suit l'accouchement d'une femme présente un risque croissant de conception non désirée et un désir souvent frustré de protection contraceptive. Les niveaux de pratique contraceptive durant cette période sont actuellement insuffisants, avec toutes les grossesses non planifiées et naissances non désirées qui en résultent.*

Méthodes: *Les données de 27 enquêtes menées dans le cadre de la série d'Enquêtes démographiques et de santé de 1993 à 1996 sont analysées dans le but d'évaluer les intentions de pratique contraceptive et le besoin de contraception non satisfait durant la première année suivant une naissance. Le besoin non satisfait est partiellement redéfini ici, de manière à considérer les désirs futurs plutôt que les grossesses et naissances passées.*

Résultats: *Les 27 pays à l'étude présentent tous un intérêt considérable mais non satisfait à l'égard de la contraception, assorti d'un besoin également insatisfait. Selon les moyennes nationales non pondérées, deux femmes sur trois dont le dernier enfant a moins d'un an présentent un besoin de contraception non satisfait, et près de 40% déclarent avoir l'intention de pratiquer une méthode dans les 12 mois à venir, sans toutefois en pratiquer aucune au moment de l'enquête. Qui plus est, de l'ensemble du besoin non satisfait, près de deux cinquièmes, en moyenne, concernent les femmes ayant accouché durant l'année précédente. De même, des femmes qui ont l'intention de pratiquer un méthode, près de deux sur cinq sont mères de leur dernier enfant depuis moins d'un an. Les deux groupes (besoin non satisfait et intention de pratiquer une méthode) se chevauchent: les membres communs aux deux rassemblent presque toutes les femmes qui ont l'intention de pratiquer une méthode et environ deux tiers de celles qui présentent un besoin non satisfait (ce deuxième groupe étant le plus vaste). Dans les deux groupes, une proportion négligeable seulement désire une nouvelle naissance dans un délai de deux ans. Entre 50% et 60% des femmes enceintes bénéficient de consultations d'hygiène de la grossesse ou voient un prestataire de soins au moment de l'accouchement ou peu après, et de nouvelles visites ont lieu pour les soins du nouveau-né et les services post-avortement.*

Conclusions: *Les programmes de planning familial et d'hygiène de la reproduction doivent accorder une attention accrue aux femmes qui viennent d'accoucher s'ils entendent réduire le nombre de naissances non désirées et d'avortements et allonger les intervalles génésiques ultérieurs. Les consultations d'hygiène de la grossesse, les services d'accouchement et les contacts médicaux ultérieurs offrent un mode d'accès prometteur aux femmes en période post-gravidique qui présentent un besoin de contraception non satisfait et un désir de recours aux services de planning familial.*