



**Contraceptive Use and Discontinuation Patterns in Nepal:
Norplant, IUCD, Pill, and Injectables**

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I. Introduction

The main aims of Nepal's family planning program are to assist individuals and couples to space their children, prevent unintended pregnancies, and improve their overall reproductive health. Information on the dynamics of contraceptive acceptance, use, and discontinuation is vital for monitoring achievement of the objectives of the program and for improving the delivery of services to Nepali couples.

This report summarizes the results of four studies of contraceptive use dynamics carried out by New ERA in 2002/2003 under the Nepal Family Health Program, funded by USAID. The studies focus on acceptors and providers of four methods – Norplant, IUCD, injectables (Depo-Provera), and pills. The main objectives of the studies were to examine patterns of acceptance and discontinuation, to document client and provider experience with family planning services, and to explore ways to increase access to and use of the four methods in Nepal.

II. Background

Family planning services in Nepal are provided through government health services as well as through a number of nongovernmental organizations. Temporary methods – condoms, pills, injectables - are provided at all levels of the government system, from hospitals to health care centers, health posts, health workers, and volunteers. These methods are also available through non-governmental organizations and social marketing programs. Female and male sterilization is available at some health facilities and through mobile outreach services. Services such as Norplant and IUCD insertions are only provided at a limited number of government and non-government facilities where trained providers are available.

The pill and IUCD were introduced in Nepal in the earliest days of the family planning program in the mid-1960s. The pill is available throughout the country. By 2001/2002, however, the IUCD was available in only 50 of Nepal's 75 districts at hospitals, primary health care centers and a few health posts as well as through some non-government sources. Unlike sterilization services, IUCD insertions are not available through mobile outreach programs and there has been little systematic effort to promote their use. The three-month injectable contraceptive, Depo-Provera, was first introduced in Nepal in 1973 on an experimental basis in one district and is now

available throughout Nepal. Norplant is the most recently introduced method in the family planning program. It first became available in Nepal in 1988. By 2001/2002, it was available in 49 districts and, like the IUCD, is provided only at hospitals, primary health care centers, selected health posts and through a few non-government sources

Almost 40 percent of married non-pregnant women in Nepal were using a modern method of contraception in 2001 (Table 1). This figure represents an increase of 60 percent in contraceptive prevalence compared to a decade earlier. Increases have occurred in the use of all modern methods, except male sterilization, with particularly large proportionate increases in the use of injectables and male condoms.

In 1991, female and male sterilization were the most popular methods and, in 2001, female sterilization continued to account for the largest number of users of modern methods. However, injectables have now surpassed male sterilization as the second most popular method in Nepal. In spite of substantial increases in the use of some of the other

Method	1991 (1)	1996 (2)	2001 (3)	As Percentage of All Users of Modern Methods
Any modern method	24.1	28.8	38.9	100.0
Modern method				
Female sterilization	12.1	13.3	16.5	42.4
Male sterilization	7.5	6.0	7.0	18.0
Pill	1.1	1.5	1.8	4.6
Injectables	2.3	5.0	9.3	23.9
Male condom	0.6	2.1	3.2	8.2
Norplant	0.3	0.5	0.7	1.8
IUCD	0.2	0.3	0.4	1.0
Source: MoH, 1993; Pradhan et.al., 1997; MoH et.al., 2002.				

methods, the fraction of couples using any method other than sterilization is still low in Nepal. Norplant and IUCDs each account for less than 2 percent of total use while the pill accounts for about 5 percent. Although the percentage of women using Depo-Provera has quadrupled since 1991 and almost doubled since 1996, fewer than one in four contraceptors are using this method.

II. Methodology of the Studies

Respondents in the studies were women who obtained one of the four methods – Norplant, IUCD, pill, Depo-Provera – from a health facility in the last several years. For Norplant and IUCD,

acceptors of the methods in five Nepali fiscal years (2054/55-58/59)¹ were selected and for pill and Depo-Provera, acceptors in two fiscal years (2057/58 – 2058/59) were selected. The time periods and sample sizes were chosen based primarily on the data needed to calculate discontinuation rates for each method.

The sample selection process was implemented in three stages. At the first stage, districts were selected with probability proportional to the number of acceptors in the district.² At the second stage, health facilities (both government and non-government) were selected with probability proportional to the number of acceptors in each facility. Finally, a fixed number of acceptors was selected from each facility. Selected respondents were interviewed in face-to-face interviews in their homes. At least one service provider involved in the delivery of family planning services in each health facility was also interviewed.

Response rates ranged from 57 percent for IUCD acceptors to 89 percent for injectable acceptors. The major reason for non-response was that the team was unable to locate the respondent at the address given. Response rates for Norplant and IUCD acceptors are lower than for pill and injectable users due to the longer duration since acceptance and, therefore, a higher probability that the acceptor had changed address.

Method	Number interviewed	Response rate
Norplant	1,313	65.6
IUCD	1,057	57.2
Pill	1,525	83.2
Depo-Provera	1,292	88.7

¹ Nepali FY 2054/55 is equivalent to approx. July 15, 1997 - July 14, 1998. Nepali FY 2058/59 is equivalent to July 15, 2001 – July 14, 2002

² Some districts were excluded from the sampling frame due to security problems.

III. Results

Profile of Acceptors

Acceptors of each of the four methods differ in their demographic and social characteristics (Table 3). Acceptors of Norplant and IUCD are much more likely to reside in urban areas than those who use the pill or injectables. This pattern is expected given the greater availability of Norplant and IUCD in the types of facilities located in more urbanized areas of the country. Depo-Provera acceptors are younger at the time of acceptance than acceptors of the other three methods; about 41 percent are age 15-24 compared to 33-35 percent of acceptors of other methods. IUCD acceptors stand out as more educated than acceptors of the other methods with almost half having secondary or higher education compared to only about a quarter of acceptors of the other three methods.

The vast majority of all acceptors said that they wanted no more children at the time of the survey, although acceptors of the pill and Depo-Provera are less likely to want to stop childbearing than acceptors of Norplant and IUCD.

Approximately two thirds of Norplant and IUCD users obtained the method at a government facility. In contrast, more than 8 in 10 users of the pill and injectables obtained the method at government sources. Norplant acceptors reside farthest from the facility where they obtained the method; the mean travel time to the facility is 71 minutes. For IUCD acceptors, the average travel time is 50 minutes. Depo-Provera and pill users travel less than half an hour, on average, to reach the facility where they obtained the method.

It is interesting to note that, for acceptors of all four methods, the source of information about the method that they were most likely to name was friends, relatives, or neighbors. Sources such as health workers, service providers, and radio/TV were also mentioned but these appear to be much less important sources of information.

	Norplant	IUCD	Pill	Depo-Provera
Age at acceptance				
15-24	35.1	32.6	33.7	40.6
25-34	48.0	55.9	49.7	45.5
35-49	17.0	11.5	16.6	13.9
Mean age at acceptance (yrs.)	27.6	27.3	27.8	26.8
Urban	39.9	51.0	13.4	17.3
No education	55.4	36.1	58.6	57.7
Secondary +	25.8	49.3	25.3	25.4
Want no more children	85.9	86.4	75.1	71.7
<= 2 children at acceptance	51.8	61.9	53.8	52.6
4+ children at acceptance	23.9	15.7	25.2	27.4
Government source	62.7	67.5	85.1	82.6
Non-government source	37.3	32.5	14.9	17.4
Source of information about method:				
Friends/relatives/neighbors	62.4	52.0	45.9	59.1
Health workers	19.4	22.9	22.2	18.8
Mean time to reach facility (minutes)	70.5	49.9	24.9	26.1

Male Support

Husbands of acceptors of all four methods are supportive of their wives' use of family planning. More than 8 in 10 acceptors discussed using the method with their husband and virtually all of the husbands were in favor of adopting the method. It is important to note, however, that these results do not reflect the views of all husbands in Nepal but only those whose wives adopted a family planning method; since discussion often precedes contraceptive adoption, these couples are more likely to have discussed family planning than couples who are not using a method. National level survey data for 2001 on all married women show that approximately 40 percent discussed family planning with their spouse in the year prior to the survey (MoH et al., 2002).

	Norplant	IUCD	Pill	Depo-Provera
Discussed with husband	87.7	86.2	91.8	92.3
Husband in favor	97.0	97.7	96.0	96.3
Final decision made by				
Woman	54.1	51.9	43.7	42.4
Husband	2.4	1.3	3.9	3.3

The studies show that acceptors	Couple	42.9	45.2	50.2	53.6
	Others	0.6	1.6	2.2	0.7
	Total	100.0	100.0	100.0	100.0

exercise a considerable degree of autonomy over contraceptive decision-making. For all four methods, roughly 40-50 percent of women said that they made the final decision about whether to use the method and most of the remaining women said that the couple made the decision jointly. Again, however, it is important to remember that acceptors may differ in their decision-making behavior from women who do not use contraception.

Quality of Services

Family planning clients have a right to receive high quality services and to be treated respectfully when obtaining services. Assuring a high quality of services can also have many practical benefits for family planning clients and the programs that serve them. These benefits include increased safety and effectiveness of use, higher client satisfaction, and potentially lower rates of discontinuation. For family planning programs, high quality can improve provider job satisfaction as well as the program’s reputation and competitiveness, and therefore advance the achievement of program goals. Service quality has multiple dimensions. The elements examined in these studies include: choice of contraceptive methods and their cost, information given to users, technical competence of the providers, client-provider relations, follow-up and re-contact, and an appropriate constellation of services (Brown et al., 1995).

Overall, the studies show that the quality of service provided to clients using Norplant, IUCD, pill and Depo-Provera is generally quite high in Nepal. However, the results also show that providers do not strictly adhere to government clinical protocols and acceptors do not always follow the recommendations of providers.

The majority of acceptors of the four methods are provided with key elements of information about the method, such as possible side effects and what to do if complications or side effects occur (Table 5). On the whole, acceptors of the pill and Depo-Provera are somewhat less likely to be given information than acceptors of Norplant and IUCD. For example, only 66 and 71 percent of pill and Depo acceptors, respectively, were informed about what to do if they experienced complications with the method. In contrast 87 and 93 percent of Norplant and IUCD acceptors were given this information.

Table 5: Information Provided to Client

	Norplant	IUCD	Pill	Depo-Provera	
Among Norplant and IUCD acceptors, 9 in 10 were told when the device should be	Alternative methods	83.9	87.9	72.3	66.6
	Possible side effects	80.2	78.4	67.4	74.6
	When to remove	97.7	98.6	NA	NA
	How inserted	89.9	92.2	NA	NA
	What to do for complications	87.1	93.0	66.4	70.7
	When to go for follow-up	82.9	83.4	64.9	69.6
	Received needed info?	87.0	86.3	80.8	78.3

removed and how it is inserted. Approximately 8 in 10 acceptors of these two methods were told when to go for a follow-up visit. Overall, most acceptors reported that they received all of the information they needed about the method. Acceptors of Depo-Provera are the least likely to report that they were provided with sufficient information. For all four methods, those who did not get the information needed were most likely to say that they wanted more information about side effects and what to do when experiencing problems with the method.

Clinical protocols for the provision of contraceptive methods have been developed and adopted by Nepal's Ministry of Health. The protocols provide guidelines for screening potential acceptors for contraindications and for identifying and managing side effects. The majority of service providers interviewed report that the clinical protocol document is available in the health facility but a substantial minority – 20-30 percent depending on the method – say that it is not available. In addition, about a third of providers of the pill and Depo-Provera say that they do not have adequate informational materials for clients.

The data show that providers do not consistently follow the protocols for collecting medical history information from clients (Table 6). Aside from an assessment of pregnancy status, which the vast majority of acceptors report was done, a substantial proportion of acceptors were not asked about key aspects of their medical history, such as breast lumps, high blood pressure, and diabetes, at the time they obtained the method. Acceptors of Norplant and IUCD appear to receive more complete screening than acceptors of the pill and Depo-Provera. For example, only 32 percent of pill acceptors and 42 percent of Depo acceptors report being asked whether they experienced unexplained or heavy vaginal bleeding while almost two thirds of Norplant and IUCD acceptors were asked this question.

Other aspects of service quality also reveal that Norplant and IUCD acceptors generally receive a higher quality of service. Adopters of these methods are more likely to interact with a provider or

counselor prior to receiving the method and are more likely to report that there was adequate privacy during their visit. It is notable that only 43-49 percent of pill and Depo acceptors believed that there was adequate privacy during their visit to the facility. Pill and Depo-Provera acceptors have a shorter wait at the facility than acceptors of the other two methods. Overall, most acceptors are satisfied with the service they received when they obtained the method.

One aspect of service quality that appears to need improvement concerns the removal of Norplant and IUCDs. Approximately 21 percent of Norplant acceptors and 29 percent of IUCD acceptors had had the device removed by the time of the study. Of these, 28 percent of Norplant users and 19 percent of IUCD users reported that they had to request removal at the facility two or more times. For IUCD users, about half of those who had to make more than one request reported that the reason was that the provider did not want to remove the device; the comparable percentage for Norplant users is 72. In addition, about one in four women reported some problems at the time of the removal. The most common problems reported were pain caused by the removal, provider difficulty with removing the device, and contraction of an infection following the removal.

Table 6: Technical Competence of Providers and Interpersonal Relations

	Norplant	IUCD	Pill	Depo-Provera
Asked about pregnancy status	92.1	93.2	NA	87.1
Asked about breast lumps	63.3	NA	35.3	44.0
Asked about vaginal bleeding	63.6	65.5	32.2	42.3
Asked about high blood pressure	83.8	NA	48.9	62.0
Asked about diabetes	55.4	NA	31.9	38.9
Interacted with provider/counselor prior to receiving method	81.5	83.3	64.2	63.5
Adequate privacy	97.3	98.5	43.4	49.1
Waited < 30 minutes	41.1	49.4	84.6	74.1
> 1 request to remove	28.3	19.2	NA	NA
Satisfied with service	95.0	96.0	90.4	88.9

Providers can often prevent or manage side effects and complications that occur during the first few months of method use during follow-up visits. In spite of the fact that most acceptors report that they were advised to go to the facility for a follow-up visit, many do not follow the provider's advice. Only about 60 percent of IUCD acceptors returned to the health facility after insertion to have the IUCD checked. Similarly, only 45 percent of Norplant acceptors went for a follow-up visit. The most frequently cited reasons for not returning for a check are that the woman didn't think it was necessary and that she experienced no pain or problems.

Side Effects

Side effects related to method use are very common among acceptors in Nepal. Approximately 5 in 10 acceptors of Norplant, IUCD, and the pill report experiencing changes or problems following adoption of the method. For Depo-Provera acceptors, this figure reaches 7 in 10 (Table 7). The experience of side effects is strongly related to continuation of use. Women who had discontinued using the method by the time of the survey are much more likely to have experienced changes or problems than those who were still using the method.

Menstrual changes are the most frequently reported side effect among acceptors of Norplant and Depo-Provera with 65-70 percent of women reporting these changes. Among IUCD acceptors, abdominal/pelvic pain is most frequently reported followed by heavy bleeding; heavy bleeding is also reported by a substantial percentage of Depo acceptors. For pill acceptors, headache and dizziness or vertigo are the most frequently reported problems.

	Norplant	IUCD	Pill	Depo-Provera
Experienced changes/problems	53.5	50.5	47.1	73.1
Continuers	48.7	39.1	37.1	66.3
Discontinuers	72.3	77.6	58.5	83.8
Percent reporting:				
Menstrual changes	70.3	28.0	22.6	65.5
Headache	25.9	15.6	47.8	26.5
Abdominal/pelvic pain	23.8	53.2	16.7	17.7
Dizziness/vertigo	23.6	12.6	47.1	31.0
Back and neck pain	15.4	14.3	14.5	4.1
Heavy bleeding	13.2	46.4	9.6	29.0
Weight gain	5.1	-	7.8	12.2

Many women who experience side effects do not obtain adequate assistance with the problem. Among Norplant acceptors, approximately one third of those who experienced side effects did not go to a facility for care (Figure 1). An additional one third went to a facility but did not have the problem fully resolved and the remaining third had the problem fully resolved at a facility. The proportions are similar for IUCD acceptors who are slightly less likely to go to a facility but more likely to have the problem resolved there. Acceptors of the pill and Depo are substantially less

likely than users of other methods to return to the facility for care; almost three quarters of pill users and half of Depo users who experienced side effects did not go for care.

Community Discussion and Misconceptions

Both acceptors and service providers participating in the surveys reported that discussion of family planning methods is quite common in Nepali communities. Slightly more than half of acceptors of Norplant, IUCD, and the pill said that people talk about issues related to those methods. For Depo-Provera, about two thirds of acceptors reported that people in the community discuss the method. When asked what types of issues are discussed, acceptors mentioned a range of misconceptions as well as some of the attributes of each method. For the IUCD, Norplant, and the pill, the most frequently cited misconception was that the method causes cancer, a topic mentioned by 61, 42, and 35 percent of acceptors, respectively. Rumors that IUCDs can rupture the uterus or move outside it were also mentioned by many women as was the perception that the pill is stored in the uterus or abdomen. For Depo-Provera, the most common misconception cited was that the method makes women weak and less able to work; this issue was also mentioned by a substantial proportion of acceptors with respect to Norplant.

Positive attributes of the methods are also discussed in the community. Acceptors of all four methods reported that the effectiveness of the methods is discussed. For the pill and Depo-Provera, people in the community discuss their ease of use while for IUCD and Norplant, the fact that they are long-acting methods is a topic of discussion.

Contraceptive Discontinuation

As desired family size declines in Nepal and contraceptive use increases, the extent to which couples discontinue using contraceptive methods and the effectiveness with which they use them becomes an increasingly important determinant of their ability to achieve their reproductive desires.

Nepali women who start using the pill or Depo-Provera are likely to use it for a relatively short period of time (Figure 2)³. Within 24 months of starting to use the pill, almost 60 percent of users

³ The findings on discontinuation are based on first segment life table discontinuation rates.

have stopped using the method. Similarly, almost half of users of Depo-Provera discontinue using the method within 24 months. In contrast, only about 20 percent of acceptors of the IUCD and 9 percent of those who use Norplant have the devices removed within 24 months.

For all four methods, side effects are the most frequently cited reason for stopping use (Figure 3A-3D). Within 24 months of starting use, 5 percent of Norplant users and 19 percent of IUCD, Depo and pill users have discontinued the method due to side effects. The results also suggest that few Nepali women use these methods to space their children since few report stopping use because they want more children. For all methods except Norplant, discontinuation rates are somewhat higher among acceptors who obtained their method from a government facility than among those who obtained the method from a non-government source.

In comparison to other countries in the region and elsewhere for which comparable data are available, discontinuation rates in Nepal are relatively low (Table 8). For example, the percentage of users discontinuing use of the IUCD within 12 months of starting use is 41 percent in Bangladesh, 22 percent in the Philippines, 16 percent in Indonesia, and 13 percent in Nepal. For the pill and injectables, the rates for Nepal are also equivalent to or lower than for other countries.

Discontinuation of the method does not necessarily mean that the woman stops using family planning entirely. Among IUCD users, for example, 22 percent discontinued using the method within 24 months of adopting the method but only 10 percent had discontinued using any method. Almost half of injectable users abandon the method within 24 months, but 43 percent stopped using family planning entirely. Among pill users, the comparable percentages are 57 and 50; among Norplant users, 9 and 6 percent.

Table 8: Twelve-Month Life Table Discontinuation Rates

	IUCD	Pill	Depo-Provera
Bangladesh	41.4	45.1	51.7
Bolivia	12.1	58.1	75.0
Egypt	14.6	45.1	53.4
Indonesia	15.5	34.0	29.3
Nepal	13.2	38.2	29.8
Peru	17.8	54.1	53.9
Philippines	22.4	41.0	-
Turkey	10.2	56.0	-
Source: Blanc et al., 2002 - NA			

Suggestions from Acceptors and Providers

Both acceptors and providers who participated in the studies were asked to provide their views on how access to and utilization of the methods could be improved in Nepal. Acceptors of all four methods appear to believe that information is a barrier to use as they were most likely to suggest that the methods should be more actively publicized. Sizeable proportions of women also suggest that free treatment of side effects should be provided. Door to door follow-up services were also mentioned by many women as a means to improve method continuation.

Among providers, the most frequently made suggestions relate to improving information about methods; these include better publicity, counseling, and detailed method information. Although improved treatment of side effects and door-to-door follow-up was suggested by some providers, these issues appear to be of more concern to acceptors than to providers.

IV. Conclusions and Implications

Four studies of family planning method acceptors and providers in Nepal reveal that the overall quality of services provided is acceptable and clients are likely to be satisfied with the service they receive at health facilities. Although many dimensions of quality are adequate, there are some areas that could be improved.

A substantial minority of acceptors, especially those who adopt the pill or Depo-Provera, are not informed about alternative methods or possible side effects. In addition, according to the reports of acceptors, service providers do not strictly adhere to established clinical protocols for screening clients. All of the recommended screening and medical history questions are asked of only a small proportion of acceptors.

The studies highlight some particular challenges for the improvement of Norplant and IUCD services. Although the majority of clients report that they were told when to return to the facility for a follow-up visit, only about 60 percent of IUCD users and 45 percent of Norplant users did so. Most of those who did not go for follow-up say that they didn't think the visit was necessary or that they experienced no pain or problems with the method. These results suggest that providers may need to emphasize the importance of follow-up visits during the initial contact with the client.

The removal of Norplant and IUCD also presents problems for some clients. Almost 2 in 10 IUCD acceptors and 3 in 10 Norplant acceptors who wanted to have the device removed had to request removal more than once; the majority of these requests were denied because the provider did not want to remove the device. In addition, sizeable proportions of women who had the device removed reported pain, subsequent infection, or that the provider had difficulty removing the device.

Large proportions of acceptors of all four methods experience side effects and these side effects are strongly related to women's perception of the quality of service delivery and to discontinuation of methods. Acceptors of Depo-Provera are especially likely to report that they have experienced side effects. Changes related to menstruation and heavy bleeding are the most frequently reported side effect among acceptors of Norplant and Depo-Provera. Abdominal or pelvic pain is the most common side effect reported by IUCD users but large proportions also say that they experienced menstrual or bleeding changes. Headache and dizziness or vertigo are the most commonly experienced side effects among pill acceptors.

Among acceptors who are dissatisfied with services, insufficient information about side effects is frequently cited as a reason. Similarly, women who report that they did not receive adequate information about the method often say that they needed more information about side effects. Surprisingly, relatively few acceptors who experience side effects return to the facility for treatment or counseling. About 70 percent of Norplant and IUCD who experience side effects revisit the facility but only about half of Depo-Provera acceptors and a third of pill acceptors do so.

The proportion of women discontinuing within 24 months of starting to use a method is 60 percent for the pill, 49 percent for Depo-Provera, 20 percent for IUCD and 9 percent for Norplant. By international standards, discontinuation rates in Nepal for IUCD, pill, and Depo-Provera are relatively low. For all four methods, side effects are the most important reasons for discontinuing use.

When asked for their suggestions about how services could be improved, many women suggest the provision of free treatment or medicine for acceptors suffering from side effects and door-to-door follow-up visits. Although the majority of acceptors initially receive their method free, the

cost of follow-up visits – in either money or time - may deter some women from continuing to use.

The studies also reveal that misinformation about methods and services exist on a variety of levels in Nepal. Both acceptors and providers report misconceptions about methods in the community. These misconceptions include fears that some methods may cause severe health problems, such as cancer, and this may deter some couples from seeking family planning methods even if the methods are available and high quality services are provided. Another misconception appears to be that service providers believe that women do not go for follow up visits because the facility is too far or that women lacked the time but few acceptors themselves listed these reasons; acceptors mostly said that they didn't think the visit was necessary. If women's understanding of the importance of follow-up visits was improved, side effects or other problems could be addressed during these visits which could, in turn, result in a greater probability of continuation.

Figure 1: Percent Distribution of Acceptors Who Experienced Side Effects by Outcome

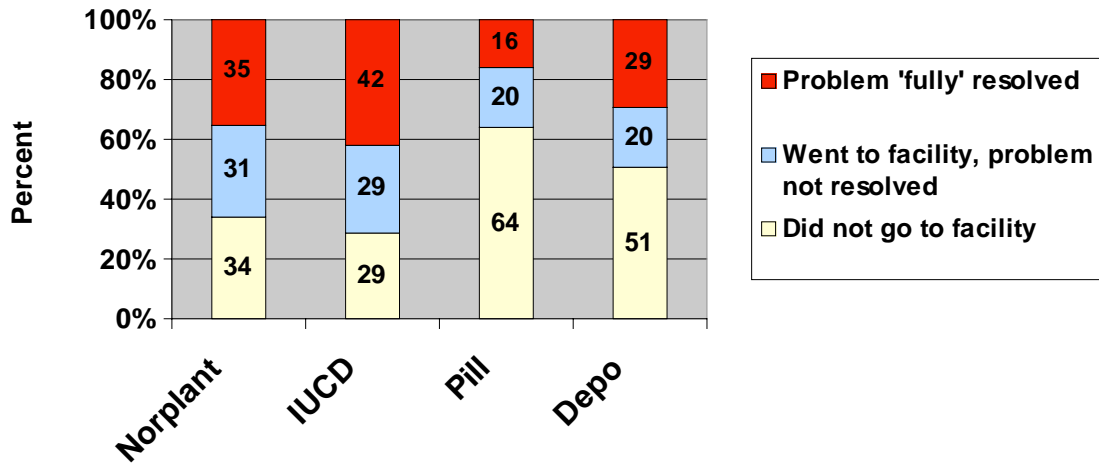


Figure 2: Cumulative Percent of Users Discontinuing by Method

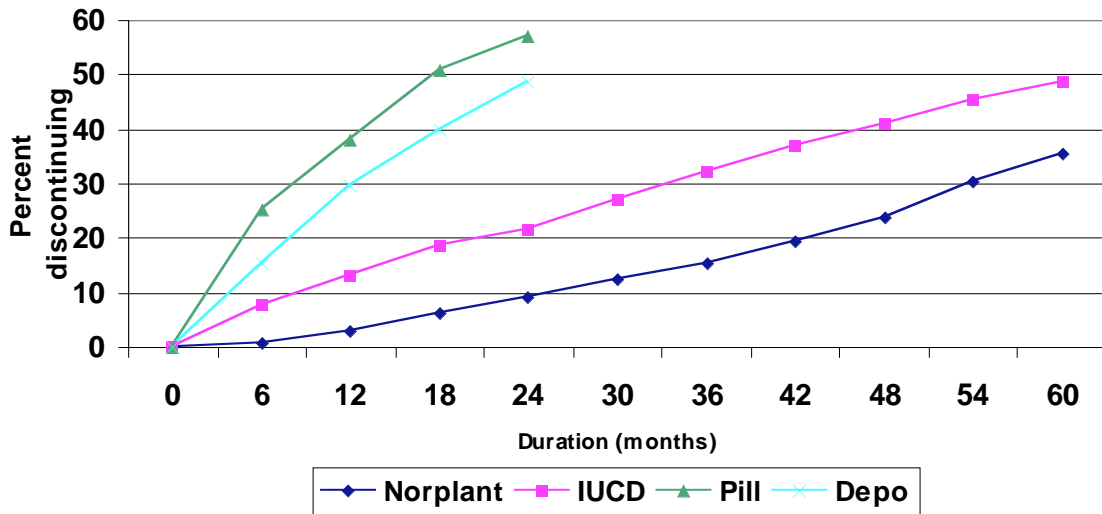


Figure 3A: Cumulative Percent of NORPLANT Users Discontinuing by Reason

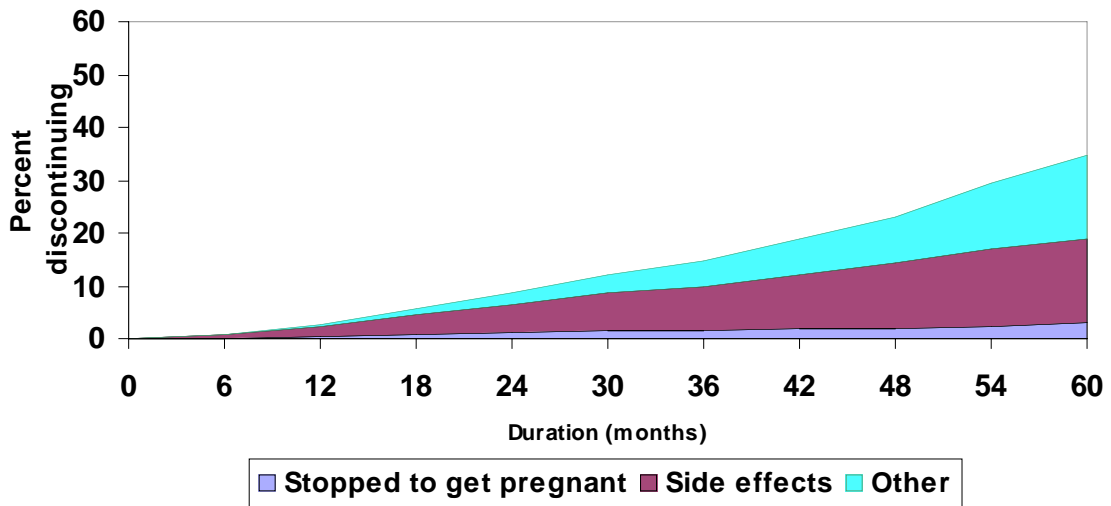


Figure 3B: Cumulative Percent of IUCD Users Discontinuing by Reason

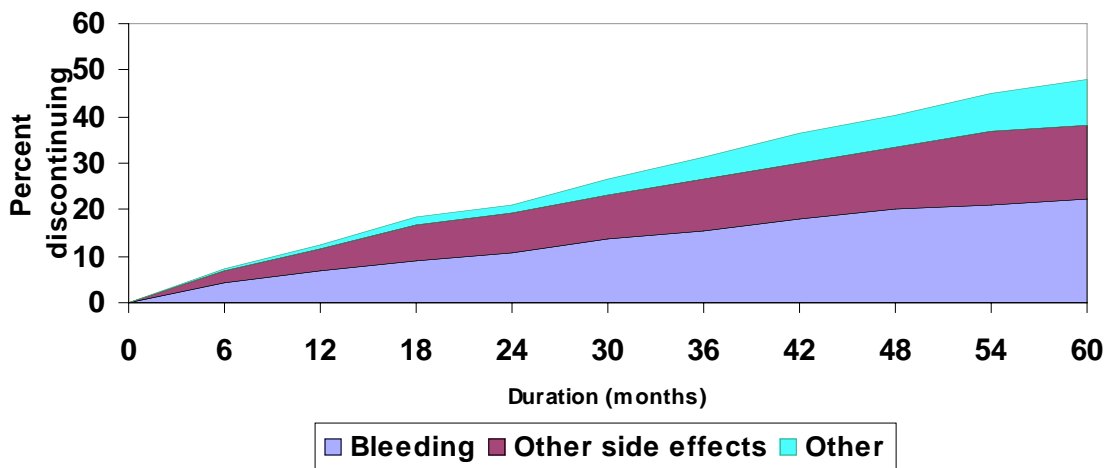


Figure 3C: Cumulative Percent of Pill Users Discontinuing by Reason

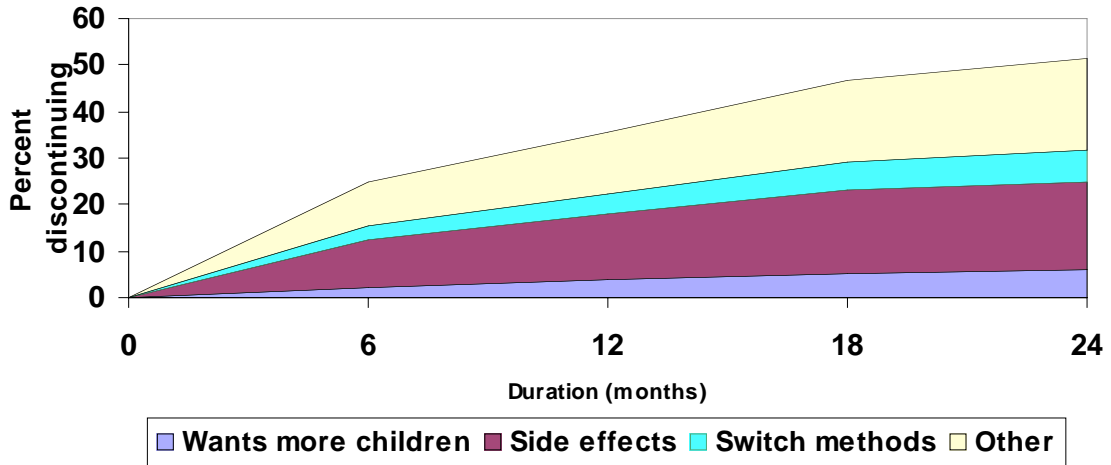
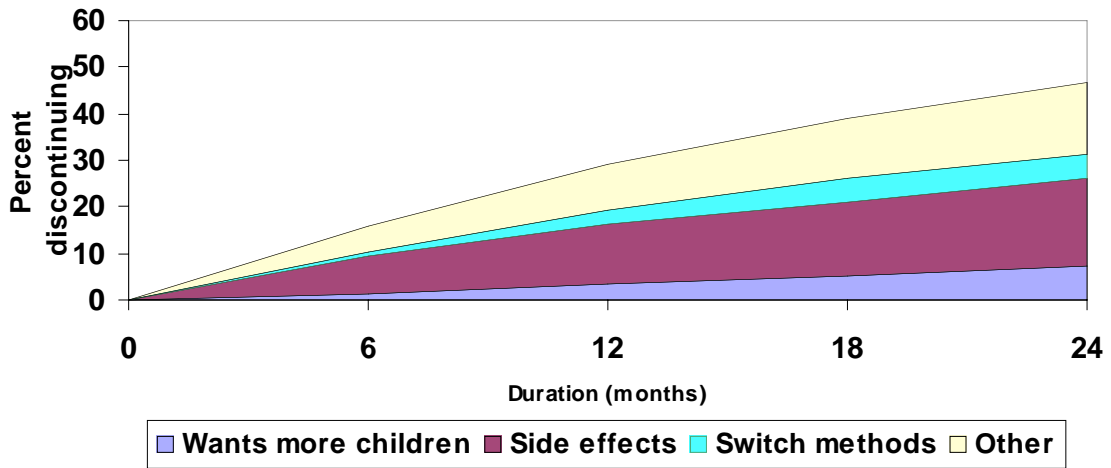


Figure 3D: Cumulative Percent of Depo-Provera Users Discontinuing by Reason



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