What Differentiates Method Stoppers from Switchers? Contraceptive Discontinuation and Switching Among Honduran Women

By Janine Barden-O'Fallon and Ilene Speizer

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CONTEXT: Contraceptive discontinuation contributes to unplanned pregnancy and unwanted births, as well as increased maternal, neonatal and infant morbidity and mortality. Information on differences between women who stop using contraceptives and those who switch to another method would be useful for programs aimed at preventing unplanned pregnancies and their consequences.

METHODS: Data come from two rounds of interviews with women aged 15–44 (800 interviewed at baseline and 671 reinterviewed one year later) who were new or continuing users of injectable or oral contraceptives or an IUD. Bivariate analysis examined associations between attitudes and behaviors of women who discontinued their baseline method and side effects they experienced. Multivariate logistic regression assessed differences between women who switched methods immediately or within one month of discontinuation and those who stopped contraceptive use for one month or more.

RESULTS: Of the 671 women who were reinterviewed, 41% (273) discontinued use of their baseline contraceptive method within the one-year follow-up; of those, 43% (117) switched to a new method, and 57% (156) stopped for one month or more. Seeking help with side effects from a health worker, urban residence, talking to a partner about the decision to discontinue, and new and recent method adoption were associated with increased odds of switching methods (odds ratios, 2.0-3.5).

CONCLUSION: Access to high-quality family planning services and encouraging discussion with partners and families before stopping contraceptive use is important for women who experience side effects from contraceptive methods and are at risk of discontinuation.

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Contraceptive discontinuation-ceasing to use one's current method of contraception-is common, though rates vary widely by country. According to Demographic and Health Survey (DHS) data from 18 countries, 20-50% of users of reversible modern methods of contraception discontinued their method during the first 12 months of use. In a 2009 study of DHS data from eight countries, the 12-month discontinuation rate ranged from 18% to 49%.² Contraceptive discontinuation can be active, as it is when a woman must visit a clinic to have her IUD removed, or passive, requiring no extra effort, as it is when a woman misses an appointment for a reinjection or forgets to refill her prescription for birth control pills. Data from a wide range of countries show that contraceptive methods that can be passively discontinued, such as oral contraceptives, condoms, injectables and traditional methods, have higher rates of discontinuation than methods requiring active discontinuation, such as the IUD and implants.²⁻⁶

Not all women who discontinue a contraceptive method become nonusers; some switch to another, more (or less) effective method. However, women who want to avoid pregnancy but discontinue contraceptive use without switching to a new method are at risk for unplanned pregnancies and unwanted or mistimed births, which can

lead to maternal, neonatal and infant morbidity and mortality. 7-9 High rates of stopping may indicate missed opportunities to promote and sustain contraceptive use, 10,11 and, therefore, can be a measure of family planning service quality. High-quality services that provide a range of contraceptive methods and offer counseling can increase the likelihood that women will switch rather than discontinue use altogether. 12,13 A 2010 study of oral contraceptive discontinuation and switching behavior in 19 countries found that, on average, 35% of women who discontinued contraceptive use because of method dissatisfaction switched to another method within three months, leading the authors to suggest that more attention should be paid to the issue of method switching as opposed to simply method discontinuation. 3

Whether a woman discontinues use of one method and switches to another or stops practicing contraception altogether depends on several factors. For example, women who stop using one method are not likely to switch or reinitiate use if they are not with a partner (because of divorce, separation or death of a spouse), can no longer become pregnant (are infecund) or want to become pregnant. Research has estimated that reduced need accounts for 7–20% of discontinuation of all reversible methods.¹³

Other factors include age, parity and union status, each of which is associated with discontinuation more consistently than are education, area of residence or household income. ^{5,14} However, urban women and women with higher levels of education and socioeconomic status are more likely to switch than stop after discontinuing a method, whereas older age is related to a decreased likelihood of switching. ^{5,6} Side effects and health concerns are among the most common reasons women give for discontinuing a method. ^{1,14} Though experiencing side effects increases the likelihood of method discontinuation, ^{15,16} it is not known if it is associated with a woman's decision to switch to another method.

Research on service quality and contraceptive discontinuation has produced mixed results. ^{11,17-21} Few studies have looked specifically at service quality and method switching; but, according to a 2005 study of switching behaviors in Bangladesh, women who had more contacts with family planning outreach workers were less likely to discontinue a method or stop use altogether than women who had fewer such contacts. ²² Furthermore, although method characteristics influence discontinuation, they would not be expected to inhibit switching behavior, as long as other types of contraceptive methods are accessible. In research from Morocco, for example, women who lived near facilities that offered three or more methods were more likely to switch than were women who lived near facilities that offered fewer method choices. ¹⁹

The goal of this analysis is to examine the differences between women who resumed contraceptive use shortly after discontinuing a method and women who stopped practicing contraception for at least one month before beginning another method or stopped altogether. We assess factors identified by previous studies as related to contraceptive use and discontinuation; these include demographic characteristics, fertility desires, perceived service quality, and experience with the discontinued method and its side effects. We also collected information on women's contraceptive decision making and include variables related to the degree of engagement with their partner, family and friends in discussing family planning methods and decisions to discontinue. We aim to compare method switchers with stoppers and to use the results to identify programmatic implications.

The study uses data from Honduras, a small Central American country with a population of approximately 7.3 million people. The prevalence of modern contraceptive use is relatively high in Honduras: 56% among married women aged 15–49.²³ Female sterilization is the most commonly used modern method (21%), followed by the reversible methods of interest in this study: injectables (14%), birth control pills (11%) and the IUD (7%).²³ The public sector—the Secretary of Health system of hospitals, health centers with doctors and dentists (CESAMOs), and rural health clinics staffed by nurses (CESARs)—supplies contraceptive services to 44% of the country's family planning users. The Honduran Family Planning Association

(commonly known as ASHONPLAFA), the local International Planned Parenthood Federation affiliate, is the country's main private provider of family planning services, serving 25% of all users. Pharmacies, which provide contraceptives to 13% of users overall, are the most common provider of birth control pills, supplying 35% of pill users nationwide. Additional providers of contraceptive services include other private clinics and hospitals (9%) and hospitals of the Honduran Institute of Social Services (5%).

METHODS

Data

The data for this analysis come from a panel study on the determinants of contraceptive discontinuation conducted in four urban areas of Honduras: Tegucigalpa, San Pedro Sula, Santa Rosa de Copán/La Entrada and Gracias. The data were collected in two rounds: First, we administered a baseline survey questionnaire between October and November 2006; we conducted a follow-up survey one year later. The baseline data were collected from exit interviews with women who received the injectable, birth control pills or an IUD during a family planning appointment at one of 13 selected health facilities, which included seven CESAMOs, one Secretary of Health hospital and five ASHONPLAFA clinics. Eligible women were aged 15-44. They were either new or continuing users of one of the three reversible methods. No enrollment quotas by method type were required. All eligible, consenting women were interviewed until a total of 200 interviews were obtained from each of the four urban areas. Overall, 800 interviews were completed.

Follow-up data were collected between October and December 2007 from 84% (671) of the women who had participated at baseline. Interviewers used contact information provided by the respondents at baseline to locate the women and arrange for the follow-up interviews.

The baseline survey questionnaire collected information on demographic characteristics, birth histories, previous contraceptive use, perception of service quality at clinic appointment, motivation to avoid pregnancy and the family planning decision-making environment. The follow-up questionnaire collected information on contraceptive use for each month since the baseline interview (using a contraceptive calendar); experience of and reaction to side effects during the 12-month follow-up; and updates on demographics, fertility motivations and the decision-making environment.

Authorization for the study was obtained from the Institutional Review Board (IRB) of the University of North Carolina at Chapel Hill, the Honduran Secretary of Health and ASHONPLAFA. Written consent was obtained from each participant at baseline and follow-up.

Variables

The data on discontinuation behavior were extracted from the modified DHS monthly contraceptive calendars of the 273 women who discontinued their baseline method dur-

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TABLE 1. Percentage distribution of women who continued or stopped using the IUD, the injectable or birth control pills received during a family planning appointment at a health facility in urban Honduras, by selected characteristics, 2006–2007

Age 15-24 45.5 49.5 25-34 46.0 43.2 35-44 8.5 7.3 Education None 6.0 5.5 Primary 65.1 63.7 ≥secondary 28.9 30.8 No. of children ever born 0-1 41.7 47.6 2-3 42.7 41.4 ≥4 15.6 11.0 Union status** Married or in union 92.7 84.3 Not in union 7.3 15.7 Residence Rural 20.8 25.3 Urban 79.2 74.7 Monthly household income Lower 47.5 50.9 Middle 30.4 27.1 Higher 22.1 22.0 Length of method use at baseline† >1 29.9 19.4 New to method 45.0 53.1 Method used at baseline* IUD 25.4	Characteristic	Continued (N=398)	Discontinued (N=273)
25–34 46.0 43.2 35–44 8.5 7.3 Education None 6.0 5.5 Primary 65.1 63.7 ≥secondary 28.9 30.8 No. of children ever born 0-1 41.7 47.6 2-3 42.7 41.4 ≥4 15.6 11.0 Union status** Married or in union 92.7 84.3 Not in union 7.3 15.7 Residence Rural 20.8 25.3 Urban 79.2 74.7 Monthly household income Lower 47.5 50.9 Middle 30.4 27.1 Higher 22.1 22.0 Length of method use at baseline† >1 year 34.1 27.5 ≤1 year 20.9 19.4 New to method 45.0 53.1 Method used at baseline* IUD 25.4 14.3 Injectable 68.8 77.7 Pill 5.8 8.1	Age		
Education None 6.0 5.5 Primary 65.1 63.7 ≥secondary 28.9 30.8 No. of children ever born 0-1 41.7 47.6 2-3 42.7 41.4 ≥4 15.6 11.0 Union status*** Married or in union 92.7 84.3 Not in union 7.3 15.7 Residence Rural 20.8 25.3 Urban 79.2 74.7 Monthly household income Lower 47.5 50.9 Middle 30.4 27.1 Higher 22.1 22.0 Length of method use at baseline† >1 year 34.1 27.5 ≤1 year 20.9 19.4 New to method 45.0 53.1 Method used at baseline* IUD 25.4 14.3 Injectable 68.8 77.7 Pill 5.8 8.1 <td>15–24</td> <td>45.5</td> <td>49.5</td>	15–24	45.5	49.5
Education None 6.0 5.5 Primary 65.1 63.7 ≥secondary 28.9 30.8 No. of children ever born 0-1 41.7 47.6 2-3 42.7 41.4 ≥4 15.6 11.0 Union status** Married or in union 92.7 84.3 Not in union 7.3 15.7 Residence Rural 20.8 25.3 Urban 79.2 74.7 Monthly household income Lower 47.5 50.9 Middle 30.4 27.1 Higher 22.1 22.0 Length of method use at baseline† >1 year 34.1 27.5 ≤1 year 20.9 19.4 New to method 45.0 53.1 Method used at baseline* IUD 25.4 14.3 Injectable 68.8 77.7 Pill 5.8 8.1	25–34	46.0	43.2
None 6.0 5.5 Primary 65.1 63.7 ≥secondary 28.9 30.8 No. of children ever born 0-1 41.7 47.6 2-3 42.7 41.4 ≥4 15.6 11.0 Union status** Married or in union 92.7 84.3 Not in union 7.3 15.7 Residence Rural 20.8 25.3 Urban 79.2 74.7 Monthly household income Lower 47.5 50.9 Middle 30.4 27.1 Higher 22.1 22.0 Length of method use at baseline† ≈1 year 34.1 27.5 ≤1 year 20.9 19.4 New to method 45.0 53.1 Method used at baseline* IUD 25.4 14.3 Injectable 68.8 77.7 Pill 5.8 8.1	35–44	8.5	7.3
Primary 65.1 63.7 ≥secondary 28.9 30.8 No. of children ever born 0-1 41.7 47.6 2-3 42.7 41.4 ≥4 15.6 11.0 Union status** Married or in union 92.7 84.3 Not in union 7.3 15.7 Residence Rural 20.8 25.3 Urban 79.2 74.7 Monthly household income Lower 47.5 50.9 Middle 30.4 27.1 Higher 22.1 22.0 Length of method use at baseline† ≤1 year 34.1 27.5 ≤1 year 34.1 27.5 ≤1 year 34.1 27.5 ≤1 year 35.1 Method used at baseline* IUD 25.4 14.3 Injectable 68.8 77.7 Pill 5.8 8.1	Education		
≥secondary 28.9 30.8 No. of children ever born 0-1 41.7 47.6 2-3 42.7 41.4 ≥4 15.6 11.0 Union status** Married or in union 92.7 84.3 Not in union 7.3 15.7 Residence Rural 20.8 25.3 Urban 79.2 74.7 Monthly household income Lower 47.5 50.9 Middle 30.4 27.1 Higher 22.1 22.0 Length of method use at baseline† >1 year 34.1 27.5 ≤1 year 20.9 19.4 New to method 45.0 53.1 Method used at baseline* IUD 25.4 14.3 Injectable 68.8 77.7 Pill 5.8 8.1	1	6.0	5.5
No. of children ever born 0-1 41.7 47.6 2-3 42.7 41.4 ≥4 15.6 11.0 Union status** Married or in union 92.7 84.3 Not in union 7.3 15.7 Residence Rural 20.8 25.3 Urban 79.2 74.7 Monthly household income Lower 47.5 50.9 Middle 30.4 27.1 Higher 22.1 22.0 Length of method use at baseline† >1 year 34.1 27.5 ≤1 year 20.9 19.4 New to method 45.0 53.1 Method used at baseline* IUD 25.4 14.3 Injectable 68.8 77.7 Pill 5.8 8.1		65.1	63.7
0-1 41.7 47.6 2-3 42.7 41.4 ≥4 15.6 11.0 Union status** Married or in union 92.7 84.3 Not in union 7.3 15.7 Residence Rural 20.8 25.3 Urban 79.2 74.7 Monthly household income Lower 47.5 50.9 Middle 30.4 27.1 Higher 22.1 22.0 Length of method use at baseline† >1 year 34.1 27.5 ≤1 year 20.9 19.4 New to method 45.0 53.1 Method used at baseline* IUD 25.4 14.3 Injectable 68.8 77.7 Pill 5.8 8.1	≥secondary	28.9	30.8
2–3 42.7 41.4 ≥4 15.6 11.0 Union status** Married or in union 92.7 84.3 Not in union 7.3 15.7 Residence Rural 20.8 25.3 Urban 79.2 74.7 Monthly household income Lower 47.5 50.9 Middle 30.4 27.1 Higher 22.1 22.0 Length of method use at baseline† >1 year 34.1 27.5 ≤1 year 20.9 19.4 New to method 45.0 53.1 Method used at baseline* IUD 25.4 14.3 Injectable 68.8 77.7 Pill 5.8 8.1	No. of children ever born		
24 15.6 11.0 Union status** Married or in union 92.7 84.3 Not in union 7.3 15.7 Residence Rural 20.8 25.3 Urban 79.2 74.7 Monthly household income Lower 47.5 50.9 Middle 30.4 27.1 Higher 22.1 22.0 Length of method use at baseline† >1 year 34.1 27.5 ≤1 year 20.9 19.4 New to method 45.0 53.1 Method used at baseline* IUD 25.4 14.3 Injectable 68.8 77.7 Pill 5.8 8.1	0–1	41.7	47.6
Union status** 84.3 Not in union 92.7 84.3 Not in union 7.3 15.7 Residence 20.8 25.3 Rural 20.8 25.3 Urban 79.2 74.7 Monthly household income 20.9 27.1 Lower 47.5 50.9 Middle 30.4 27.1 Higher 22.1 22.0 Length of method use at baseline† >1 year 34.1 27.5 ≤1 year 20.9 19.4 New to method 45.0 53.1 Method used at baseline* IUD 25.4 14.3 Injectable 68.8 77.7 Pill 5.8 8.1	2–3	42.7	41.4
Married or in union 92.7 84.3 Not in union 7.3 15.7 Residence Rural 20.8 25.3 Urban 79.2 74.7 Monthly household income Lower 47.5 50.9 Middle 30.4 27.1 Higher 22.1 22.0 Length of method use at baseline† >1 year 34.1 27.5 ≤1 year 20.9 19.4 New to method 45.0 53.1 Method used at baseline* IUD 25.4 14.3 Injectable 68.8 77.7 Pill 5.8 8.1	≥4	15.6	11.0
Not in union 7.3 15.7 Residence 20.8 25.3 Rural 20.8 25.3 Urban 79.2 74.7 Monthly household income 20.9 27.1 Lower 47.5 50.9 Middle 30.4 27.1 Higher 22.1 22.0 Length of method use at baseline† >1 year 34.1 27.5 ≤1 year 20.9 19.4 New to method 45.0 53.1 Method used at baseline* IUD 25.4 14.3 Injectable 68.8 77.7 Pill 5.8 8.1	Union status**		
Residence Rural 20.8 25.3 Urban 79.2 74.7 Monthly household income Lower 47.5 50.9 Middle 30.4 27.1 Higher 22.1 22.0 Length of method use at baseline† >1 year 34.1 27.5 ≤1 year 20.9 19.4 New to method 45.0 53.1 Method used at baseline* IUD 25.4 14.3 Injectable 68.8 77.7 Pill 5.8 8.1	Married or in union	92.7	84.3
Rural 20.8 25.3 Urban 79.2 74.7 Monthly household income Lower 47.5 50.9 Middle 30.4 27.1 Higher 22.1 22.0 Length of method use at baseline† >1 year 34.1 27.5 ≤1 year 20.9 19.4 New to method 45.0 53.1 Method used at baseline* IUD 25.4 14.3 Injectable 68.8 77.7 Pill 5.8 8.1	Not in union	7.3	15.7
Urban 79.2 74.7 Monthly household income 27.5 50.9 Lower 47.5 50.9 Middle 30.4 27.1 Higher 22.1 22.0 Length of method use at baseline† 21.2 >1 year 34.1 27.5 ≤1 year 20.9 19.4 New to method 45.0 53.1 Method used at baseline* IUD 25.4 14.3 Injectable 68.8 77.7 Pill 5.8 8.1	Residence		
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Lower 47.5 50.9 Middle 30.4 27.1 Higher 22.1 22.0 Length of method use at baseline† 21 year 34.1 27.5 ≤1 year 20.9 19.4 New to method 45.0 53.1 Method used at baseline* IUD 25.4 14.3 Injectable 68.8 77.7 Pill 5.8 8.1	Urban	79.2	74.7
Middle 30.4 27.1 Higher 22.1 22.0 Length of method use at baseline† 34.1 27.5 ≤1 year 20.9 19.4 New to method 45.0 53.1 Method used at baseline* IUD 25.4 14.3 Injectable 68.8 77.7 Pill 5.8 8.1	Monthly household income		
Higher 22.1 22.0 Length of method use at baseline† >1 year 34.1 27.5 ≤1 year 20.9 19.4 New to method 45.0 53.1 Method used at baseline* IUD 25.4 14.3 Injectable 68.8 77.7 Pill 5.8 8.1		47.5	50.9
Length of method use at baseline† >1 year 34.1 27.5 ≤1 year 20.9 19.4 New to method 45.0 53.1 Method used at baseline* IUD 25.4 14.3 Injectable 68.8 77.7 Pill 5.8 8.1	Middle	30.4	27.1
at baseline† >1 year 34.1 27.5 ≤1 year 20.9 19.4 New to method 45.0 53.1 Method used at baseline* IUD 25.4 14.3 Injectable 68.8 77.7 Pill 5.8 8.1	Higher	22.1	22.0
≤1 year 20.9 19.4 New to method 45.0 53.1 Method used at baseline* IUD 25.4 14.3 Injectable 68.8 77.7 Pill 5.8 8.1			
≤1 year 20.9 19.4 New to method 45.0 53.1 Method used at baseline* IUD 25.4 14.3 Injectable 68.8 77.7 Pill 5.8 8.1	>1 year	34.1	27.5
New to method 45.0 53.1 Method used at baseline* IUD 25.4 14.3 Injectable 68.8 77.7 Pill 5.8 8.1		20.9	19.4
IUD 25.4 14.3 Injectable 68.8 77.7 Pill 5.8 8.1		45.0	53.1
Injectable 68.8 77.7 Pill 5.8 8.1	Method used at baseline*		
Pill 5.8 8.1	IUD	25.4	14.3
	Injectable	68.8	77.7
Total 100.0 100.0	Pill	5.8	8.1
	Total	100.0	100.0

*p<.05.**p<.01.†p<0.1.*Notes*: All measures except union status and residence were assessed at baseline.

ing the study period. Women were considered switchers if they began a method within a month of discontinuing the baseline method. They were considered stoppers if they did not use any other method during the follow-up period or resumed use of the same or another method after at least one month of nonuse. The dependent variable is coded "1" for switching and "0" for stopping with an episode of nonuse.

Independent variables included demographic characteristics, fertility desires, service quality, method characteristics, the experience of and reaction to side effects, communication with others about side effects and main reason for discontinuation.

At the baseline interview, women were asked to respond yes or no to the following questions about the quality of counseling and service provision during their appointment: Had all their questions been answered by a provider? Had they received information on how to use their contraceptive method effectively? Had they received information on the advantages and disadvantages of their method? Had they ever been informed of side effects of their method? Several questions about women's clinic appointment experiences (their level of satisfaction with a clinic's cleanliness, degree of privacy, quality of provider treatment and care) were omitted from the study because responses produced little variation (fewer than 10% were negative).

At follow-up, women were asked to respond yes, no or no side effect to the following questions about their experience of side effects during the study period: Had they had any side effects? Had they had two or more side effects? Had their side effects included abdominal pain, amenorrhea, dizziness, facial spotting, heavy bleeding, infections, irregular bleeding, nausea or vomiting, weight gain or weight loss? Although the women mentioned some or all of these side effects, at least 50 women each mentioned headaches, amenorrhea and heavy bleeding, the side effects selected for inclusion in the analysis. Women who experienced no side effects were included in the reference category of women who responded no when asked about specific side effects.

Analysis

A cross-tabulation was constructed to compare the characteristics of women who switched methods to those of women who stopped use for at least one month. Pearson's chi-square test was used to identify associations between the dependent variable and each independent variable. Independent variables associated with the dependent variable with at least a 90% degree of significance were considered for the multivariate analysis.

A further descriptive analysis was conducted among women who discontinued their baseline method because of headaches, amenorrhea or heavy bleeding. The analysis compared the attitudes and behaviors of women who switched to another method with those of women who stopped practicing contraception for at least one month, by side effect. The analysis included only the most commonly experienced side effects (headaches, amenorrhea and heavy bleeding). Pearson's chi-square test was used to identify significant differences between groups in their reactions to specific side effects.

A multivariate logistic regression was conducted to identify differences between women who switched methods and women who stopped and did not resume use of any method for a least one month. Before building the multivariate model, we used Spearman's p to identify associations between predictor variables. Correlations between predictor variables were assessed before running the regression. In any pair of variables with a correlation greater than +/-0.6, we eliminated one from the model. Union status was captured in the null categories for partner variables. Women not experiencing side effects were part of null categories. All analyses were run using STATA version 10.1.

TABLE 2. Percentage distributions and percentages of women by contraceptive use status after discontinuation of baseline method, by selected characteristics, Honduras, 2006–2007

Characteristic	Switched (N=117)	Stopped (N=156)	Characteristic	Switched (N=117)	Stopped (N=156)
ERCENTAGE DISTRIBUTIONS			Discussed discontinuing baseline metho	od	
Age*			with partner before doing so**		
15–24	58.1	43.0	Yes	86.3	60.3
25–34	37.6	47.4	No	13.7	39.7
35–44	4.3	9.6	110	13.7	33.7
			Main reason for discontinuation		
Education*			of baseline method‡,**		
None	3.4	7.0	Reduced need	3.5	44.9
Primary	57.3	68.6	Problems with method	87.7	48.7
≥secondary	39.3	24.4	Other	8.8	6.4
,					
No. of children ever born*			Total	100.0	100.0
)-1	54.7	42.3			
≥2	45.3	57.7	PERCENTAGES		
			Service quality		
Union status*			Provider answered all questions**	72.7	50.0
n union	89.7	80.1	Informed about effective method use	52.1	43.6
Not in union	10.3	19.9	Informed about advantages and		
			disadvantages of method†	44.4	34.6
Residence**			Ever informed about side effects of method	69.2	65.4
Rural	16.2	32.0			
Jrban	83.8	68.0	Experience with side effects		
			Had side effects during study period**	89.7	69.9
Monthly household income			Had two or more side effects during	•	
_ower	45.3	55.1	study period**	60.7	41.7
Middle	29.9	25.0	Abdominal pain**	23.9	11.5
Higher	24.8	19.9	Amenorrhea†	18.8	28.2
ngrici	27.0		Dizziness	18.8	18.6
ertility desire**			Headaches	30.8	29.5
Nants a(nother) child in ≤2 yrs.	6.8	19.2	Heavy bleeding*	30.8	18.0
Wants a(nother) child in ≥2 yrs. Wants a(nother) child in >2 yrs.or	0.0	17.4	Weight gain	20.5	14.1
doesn't know when	55.6	39.1	Side effects interfered with daily activities**		35.3
Vants no more children	28.2	39.1 35.9	Side effects interfered with daily activities	J4./	33.3
				41.0	22.7
Jndecided	9.4	5.6	with partner**	41.0	23.7
			Self-medicated or took home remedies	23.1	20.5
Method used at baseline*			Sought help from clinic or health worker**	55.6	28.2
UD	20.5	9.6			
njectable	73.5	80.8	Communication with others		
Pills	6.0	9.6	about side effects		
			≥2 people**	57.3	32.1
Length of method use at baseline**			Partner**	63.3	37.2
>1 year	15.4	36.5	Family members	35.0	26.3
≤1 year	23.1	16.7	Friends†	18.0	10.9
New to method	61.5	46.8	Health worker**	48.8	26.9

^{*}p<.05.**p<.01.+p<0.1.+ Three switchers with missing information on main reason for discontinuation were dropped from the analysis.

RESULTS

A total of 273 women (41%) from the full panel sample discontinued their baseline method during the 12 months of the study. Table 1 presents characteristics of the full sample by whether they continued their baseline method throughout the 12-month study period or discontinued contraceptive use for at least one month. The two groups of women differed significantly in the proportions who were not currently in a union (7% of continuers vs. 16% of discontinuers) or who used the injectable at baseline (69% vs. 78%).

Of the 273 discontinuers, 117 switched to another method and 156 stopped contraceptive use for one month or more (Table 2). Compared with stoppers, women who switched tended to be younger and more highly educated; they also were more likely to be in union (90% vs. 80%), urban (84% vs. 68%) and of lower parity (55% vs. 42%). Switchers were also more likely than stoppers to be using

the IUD and less likely to be using the injectable at baseline, to be new method users (62% vs. 47%), to have discussed discontinuing with their partner prior to doing so (86% vs. 60%) and to have discontinued because of problems with the method (88% vs. 49%). A greater percentage of switchers than stoppers experienced side effects (90% vs. 70%), including side effects that interfered with daily activities (55% vs. 35%) or the relationship with their partner (41% vs. 24%). Also, a significantly greater percentage of switchers than stoppers discussed these side effects with two or more people (57% vs. 32%), their partner (63% vs. 37%) or a health worker (49% vs. 27%). Among women who switched, 37% chose the pill, 21% an injectable and 14% the IUD; 14% chose traditional methods and 13%, condoms (not shown).

An additional descriptive analysis of the attitudes and behaviors of discontinuers, by type of side effect, revealed significant differences in health-seeking behaviors, dis-

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TABLE 3. Among women who switched or stopped, percentage who reported selected reactions to contraceptive side effects, by side effect 2006–2007

	Headache		Amenorrhea		Heavy Bleeding	
Reaction	Switched (N=36)	Stopped (N=46)	Switched (N=22)	Stopped (N=44)	Switched (N=36)	Stopped (N=28)
Side effects interfered with daily activities	66.7	71.7	59.1	43.2	75.0	75.0
Side effects interfered with relationship with partner	41.7	47.8	27.3	20.5	72.2	71.4
Self-medicated or took home remedies	36.1†	56.5	13.6†	34.1	19.4	21.4
Sought help from clinic or health worker	58.3	45.7	63.6*	36.4	72.2	57.1
Discussed side effects with ≥ 2 people	94.4	89.1	95.5†	79.6	100.0*	85.7
Discussed side effects with partner	69.4	63.0	68.2	50.0	80.6**	46.4
Discussed side effects with family members	33.3	43.5	40.9	31.8	38.9	42.9
Discussed side effects with friends	19.4	15.2	9.1	9.1	19.4	25.0
Discussed discontinuing baseline method with partner before doing so	88.9*	69.6	90.9	77.3	97.2**	67.9

^{*}p<.05.**p<.01.†p<0.1.

cussion of side effects and decisions to stop contraceptive use between those who switched to a new method and those who stopped (Table 3). However, results should be interpreted with caution because of the small subgroups. Among women who had headaches (82), the only significant difference between those who switched and those who stopped was in the percentage who discussed ceasing use of the baseline method with their partner before deciding to stop (89% vs. 70%). Among women with amenorrhea (66), switchers were significantly more likely than stoppers to have sought help from a clinic or health worker (64% vs. 36%). For women with heavy bleeding (64), switchers were significantly more likely than stoppers to have discussed side effects with two or more people (100% vs. 86%), with their partner specifically (81% vs. 46%), and to have discussed with their partner beforehand the decision to stop using their baseline method (97% vs. 68%). The results indicated that there were no significant differences by perceived severity of the side effect (i.e., whether side effects interfered with daily activities or relationship with partner). Further significant differences might be detected with larger sample sizes.

In the multivariate analysis, fewer variables were associated with the dependent variable than in the bivariate analysis (Table 4).* Among demographic variables, only

area of residence remained significant, indicating that among women in urban areas, the odds of switching instead of stopping were almost 2.6 times as high as the odds among women in rural areas. Compared with women who had used a method for more than a year, those who had used a method for a year or less were significantly more likely to have switched than to have stopped (odds ratio, 3.5). As in the bivariate analysis, experiencing amenorrhea was associated with a reduced risk of switching methods (0.3). However, heavy bleeding, which was associated with switching in the bivariate analysis, lost significance in the multivariate analysis. Women who sought help with side effects from a clinic or health worker and who discussed discontinuing a method with their partner before doing so were also significantly more likely to have switched to another method than to have stopped (2.0 and 3.2, respectively). And, women who discontinued their baseline method because of problems with it were more likely to switch than were women who discontinued because of reduced need or for other reasons (6.1).

DISCUSSION

Contraceptive discontinuation was common in the study population: More than four out of 10 women quit using their baseline method within the 12-month study period. However, 43% of these women switched to another method within a month. In a comparison of switchers and stoppers, we found significant differences in demographic characteristics, experience of side effects, discussion of discontinuation and main reason for discontinuation.

The study had some limitations. For example, right and left censoring of the data marked the periods before and after the study. Also, the analysis focused on the discontinuation and what happened in the next month; as a result, additional censoring of the data due to analytic constraints occurred. For instance, switchers may have used a new method for only a single month or in the index month immediately following discontinuation of the baseline method. Similarly, stoppers may have resumed use of the same or another method after a lapse of one month or more, in effect becoming switchers. A larger study population and a longer period of observation could address some of these issues.

In the literature, switching is assessed for the first three months after discontinuation, even though pregnancy could occur during this period.³ However, assessing switching for just one month may not produce fewer significant results. Research from the 2002 U.S. National Survey of Family Growth found that most switching occurs in the first month after discontinuation; the probability of resuming contraceptive use after discontinuation was 72% in the first month, and reached only 76% by three months.²⁴

Another limitation of the analysis is its assessment of switching behavior rather than duration of contraceptive use. A woman who discontinued her baseline method early in the study period could have switched to—and sub-

^{*}Several variables—experience of side effects during the study and discussion of side effects with two or more people, with a partner or with a health worker—were excluded from the multivariate model because of high correlation with other variables.

TABLE 4. Odds ratios of method switching versus stopping from multivariate logistic regression, according to selected characteristics, Honduras, 2006–2007 (N=270)

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Variable	OR
Age	
15–24	1.00
25–34	0.75 (0.34–1.65)
35–44	0.86 (0.20–3.81)
33-44	0.80 (0.20-3.81)
Education	
None	1.00
Primary	1.11 (0.24-5.10)
≥secondary	1.91 (0.38–9.66)
No. of children ever born	
0-1	1.00
>2	0.96 (0.43–2.14)
	0.50 (0.45-2.14)
Residence	
Rural (ref)	1.00
Urban*	2.58 (1.17–5.68)
Fertility desire	
Wants a(nother) child in ≤2 yrs./undecided (ref)	1.00
Wants a(nother) child in >2 yrs./	
doesn't know when	1.60 (0.68-3.76)
Wants no more children	1.20 (0.45-3.20)
Service quality	1.62(0.70, 2.26)
Provider answered all questions Informed about advantages and	1.63 (0.79–3.36)
disadvantages of method	0.88 (0.43-1.78)
	,
Length of method use at baseline	1.00
>1 year (ref)	1.00
≤1 year*	3.45 (1.30–9.16)
New to method†	2.26 (0.97–5.25)
Method used at baseline	
IUD (ref)	1.00
Injectable	0.84 (0.29-2.46)
Pill	0.60 (0.14–2.66)
Function so with side offer-t-	
Experience with side effects Had two or more side effects	
during study period	1.26 (0.58-2.73)
Abdominal pain	1.54 (0.56–4.19)
Heavy bleeding†	0.44 (0.18–1.09)
Amenorrhea*	0.34 (0.14–0.81)
Side effects interfered with daily activities	1.22 (0.53–2.81)
Side effects interfered with	0.00((0.44, 0.04)
relationship with partner	0.96 (0.41–2.24)
Sought help from clinic or health worker*	2.01 (1.01–3.99)
Communication with others	
about side effects	
Friends	1.05 (0.44–2.49)
Discussed discontinuing method	
with partner before doing so*	3.16 (1.43–6.96)
	2 (3 0.50)
Main reason for discontinuation	
Reduced need/other (ref)	1.00
Problems with method*	6.05 (2.68–13.66)
Pseudo R2	0.29
	-129.91
	127.71
* .05 ** .04 .04 N / TI	

^{*}p<.05. **p<.01. †p<0.1. *Note:* Three switchers with missing information on main reason for discontinuation were dropped from the analysis.

sequently discontinued—another method; therefore, she may have had fewer months of contraceptive use than a woman who discontinued at month 11 without adopting another method. Data from only 12 months does not

allow for close examination of contraceptive use, though we do know that the mean time until discontinuation of the baseline method was comparable for the two groups of women: 6.0 months for switchers and 6.4 months for stoppers. Finally, the influence of side effects and related behaviors on discontinuation may be affected by the inclusion of women with no side effects in the reference group for these variables.

Despite these limitations, the study yielded interesting findings. Multivariate analysis showed that women living in urban areas were more likely to be switchers than stoppers, possibly because more urban than rural women used IUDs, which require an active decision and a clinic visit to discontinue. Urban women also have easier access to family planning services, including a more diverse supply of methods and providers. Conversely, limited access to services, as well as a lack of encouragement to seek help for side effects from a clinic or health worker, may reduce method switching.

Of all variables related to side effects, seeking help from a health clinic was most strongly related to method switching. Though side effects may lead to method discontinuation, their relationship with subsequent use is less clear. According to our findings, only amenorrhea was negatively associated with switching. This suggests that amenorrhea discourages the immediate uptake of new methods. Formative qualitative work in Honduras with current and previous users of contraceptives indicates that amenorrheic women discontinue for two main reasons: to determine their pregnancy status and to reestablish regular menstrual patterns. In our study, amenorrhea was most common among injectable users. These findings suggest an opportunity for providers to teach women about amenorrhea during initiation of the injectable and to discuss the adoption of nonhormonal barrier methods with women who otherwise may take a break from contraception to determine if they are pregnant.

Finally, the study found an association between switching and discussing discontinuation with a partner before deciding to discontinue. The study did not, however, determine what it is about discussions with a partner (or others) that supports switching behavior. Do discussions reinforce a woman's decision to use family planning and encourage her to try a different method (i.e., the quality of the discussion)? Or do discussions represent supportive relationships and being able to confide troubles and discuss family planning options with a partner or spouse or others (i.e., the quality of the relationship)?

Answers to these questions are beyond the scope of the present research, yet point to avenues for further investigation. In the meantime, our findings underscore the need for Honduran family planning programs to provide women with a full array of contraceptive methods and providers, ensuring that all women have access to services that support contraceptive continuation. Our findings also suggest that Honduran family planning programs, in their effort to support women's continuing contraceptive use,

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should encourage them to talk with their partners, family and others about stopping or switching methods before making—and acting on—a decision.

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RESUMEN

Contexto: Descontinuar el uso de anticonceptivos contribuye a embarazos no planeados y a nacimientos no deseados; también está relacionado a niveles mayores de morbilidad y mortalidad maternas, neonatales e infantiles. Sería útil para los programas dirigidos a prevenir los embarazos no planeados y sus consecuencias, contar con información sobre las diferencias entre las mujeres que dejan de usar su método anticonceptivo por largo tiempo, y aquellas que cambian a otro método en seguida.

Métodos: Los datos provienen de dos rondas de entrevistas con mujeres en edades de 15–44 años. Para la primera ronda, se entrevistaron a 800 usuarias nuevas o de larga experiencia de anticonceptivos tales como los inyectables, la píldora o el DIU. Para la segunda ronda, se entrevistaron a 671 de estas mujeres un año después. Usando análisis bivariado, se examinaron las asociaciones entre las actitudes y conductas de las mujeres que descontinuaron su método y los efectos secundarios que experimentaron. Con análisis de regresión logística multivariada, se analizaron las diferencias entre las mujeres que adoptaron un nuevo método inmediatamente o dentro del lapso de un mes; y aquellas que no usaron ningún anticonceptivo por lo menos un mes después de discontinuar.

Resultados: De las 671 mujeres que participaron en la entrevistada de seguimiento, 41% (273) descontinuaron el uso de su método anticonceptivo dentro del año de seguimiento; de ellas, 43% (117) cambiaron a un nuevo método dentro de un mes de haber discontinuado, y 57% (156) no reiniciaron el uso después de un lapso de un mes o más. La búsqueda de ayuda de un trabajador de salud para manejar los efectos secundarios, la residencia urbana, el hablar con la pareja sobre la decisión de descontinuar, y haber recién adoptado un nuevo método en el momento de la entrevista de línea de basa, se asociaron con mayores probabilidades de cambiar a otro método (razones de momios, 2.0–3.5).

Conclusión: El acceso a servicios de planificación familiar de alta calidad y el diálogo con las parejas y familias antes de interrumpir el uso de anticonceptivos, son importantes para las mujeres que experimentan efectos secundarios y que están en riesgo de descontinuar el uso anticonceptivo.

RÉSUMÉ

Contexte: L'arrêt de la contraception contribue aux grossesses non planifiées, aux naissances non désirées et à une morbidité et mortalité maternelles, néonatales et infantiles accrues. Il serait utile aux programmes qui cherchent à prévenir les grossesses non planifiées et leurs conséquences de disposer d'une information sur les différences entre les femmes qui arrêtent la contraception et celles qui changent de méthode.

Méthodes: Les données proviennent de deux séries d'entretiens avec des femmes âgées de 15 à 44 ans (800 interviewées à la base et 671 réinterviewées un an plus tard) qui venaient d'adopter ou qui continuaient la pratique de la contraception injectable, de la contraception orale ou l'usage du stérilet. Les associations entre les attitudes et comportements des femmes qui avaient arrêté leur méthode de base et les effets secondaires qu'elles avaient ressentis sont examinées par analyse bivariée. Les différences entre les femmes qui avaient changé de méthode immédiatement ou en l'espace d'un mois après l'arrêt et celles qui avaient arrêté la contraception pendant un mois ou plus sont évaluées par régression logistique multivariée.

Résultats: Des 671 femmes réinterviewées, 41% (273) avaient arrêté leur méthode contraceptive de base durant la période de suivi d'un an; parmi elles, 43% (117) avaient adopté une nouvelle méthode et 57% (156) avait interrompu leur pratique contraceptive pendant un mois ou plus. La recherche d'aide auprès d'un agent sanitaire concernant les effets secondaires, le lieu de résidence urbain, le dialogue avec un partenaire concernant la décision d'arrêter la méthode et la nouvelle et récente adoption d'une méthode sont associés à une probabilité accrue de changement de méthode (rapports de probabilités, 2,0–3,5). Conclusion: L'accès à des services de planification familiale de haute qualité et l'encouragement du dialogue avec les partenaires et les familles avant l'arrêt de la pratique contraceptive sont importants pour les femmes qui ressentent des effets secondaires et présentent un risque d'arrêt de leur méthode.

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