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The Experience of Side Effects among users of Modern Contraceptive Methods in Southern Ghana

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This paper explores the experience of side effects for current users of modern contraceptive methods in Southern Ghana. The data used is from the contraceptive calendar of the Cape Coast Social Learning, Social Influence and Fertility Control Survey. The dataset contains 8937 women months of method use representing 476 individuals. This study uses descriptive statistics to investigate the magnitude, severity and type of side effects experienced. The results show that a total of 605 months of side effects were experienced. The most frequently experienced side effect is irregular cycle which accounts for almost 23% of all months of side effects. Of all the months of side effects 55% are caused by injectables and 33% caused by pill use. The findings suggest that the high level of fear of side effects in this population may reflect a lack of appreciation of the relatively low risk of actually experiencing a side effect.

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Introduction

When considering the issue of low levels of contraceptive prevalence many studies focus on the socio-economic, cultural and physical barriers women have to overcome in order to adopt a method of contraception. Somewhat less attention is given to what happens after a woman has overcome these barriers and adopted a method. Many studies show that women commonly cite fear of side effects as a reason for not using contraception (Sedgh et al. 2007) and previous literature has also identified side effects as an important factor in the discontinuation of methods, particularly modern hormonal methods, (Ali & Cleland, 1995; Ali & Cleland, 1999; Curtis & Blanc, 1997). However little is known about the actual experience of side effects and how they vary according to method. This study is situated in Ghana, West Africa and uses data from the Cape Coast Social Learning, Social Influence and Fertility Control Survey (CCFCS) to explore the magnitude, severity and type of side effects experienced.

Data and Methods

The CCFCS is a longitudinal household survey conducted in Southern Ghana between 1998 and 2003. The survey was conducted in six study communities, two in each of the Central, Western and Greater Accra regions of Southern Ghana. The target population for the survey was all women aged 18 to 50 at the time of the round one interview. Respondents were followed from one round to the next and the majority of respondents were observed for between 56 and 60 months (Aglobitse & Casterline, 2005). This study uses descriptive statistics to analyze the calendar portion of the CCFCS which collected monthly data on method use and the concurrent experience of side effects. At each round of the panel interview, beginning at round 2, women were asked to provide monthly calendar data going back from the current month of interview to the month of the previous interview. The calendar collected monthly information on contraceptive method (up to four methods simultaneously) and experience of side effects (up to four different side effects simultaneously), among other variables. Table 1 shows the 14 possible categories of side effects which can be recorded in any month in the calendar.

Table 1: Coding of Monthly Side Effects Variable

Side effect	**Code**
None	0
Dizziness	1
Weight gain	2
Weight loss	3
Headaches	4
Excessive bleeding	5
Irregular cycle	6
Painful period	7
Stomach pains/cramps	8
Irregular heart beat	9
Marital problems	10
Loss of pleasure	11
Loss of sexual function	12
Loss of strength or ill health	13
Other	14

The dataset used for this analysis was created by extracting episodes of contraceptive use from the calendar data. The dataset contains 8937 women months of method use representing 732 episodes of use which are between 2 and 60 months duration. The data represents 476 individuals who each have between 1 and 6 episodes included in the dataset.

Results

Table 2 shows the number of individuals and the number of episodes of contraceptive use by method. Injectables are the most commonly used method among the respondents and account for 28% of all episodes of use, followed by the pill accounting for 23%. The next most commonly used modern method is condoms which contribute 13% of episodes.

Table 2: Contraceptive use within the sample: Episodes and Individuals

Variable	**Category**	**Individuals***	**Episodes**
		Frequency (%) n = 476	**Frequency (%) n = 732**
Method	Pill	106 (22.3)	167 (22.8)
	Injectable	121 (25.4)	205 (28)
	Foam/diaphragm/jelly	13 (2.7)	19 (2.6)
	Condom	70 (14.7)	95 (13)
	IUD	11 (2.3)	14 (1.9)
	Rhythm	99 (20.8)	141 (19.3)
	Withdrawal	19 (4.0)	35 (4.8)
	Herbs	32 (6.7)	48 (6.6)
	Norplant	4 (0.8)	7 (1)
	Other	1 (0.2)	1 (0.1)

The monthly calendar data allowed each respondent to mention up to three different side effects simultaneously per month. In total 605 months of side effects were experienced during the total 8937 months of use. This amounts to only 6.77% of all months of use being associated with a side effect. Of these 605 months there were 59 months where two different side effects were reported in the same month (thus contributing 118 months of side effects to the total) and 1 month where 3 different side effects were reported (thus contributing 3 months to the overall total). Table 3 shows the number of months in which side effects were reported by type of side effect. Table 3 shows that the most frequently experienced side effect is irregular cycle which accounts for almost 23% of all months of side effects experienced. This is followed by headache, cramp, irregular heartbeat, dizziness and other which all contribute more than 10%.

Table 3: Number of Months Side Effects Experienced by Type of Side Effect

Type of side effect	**Number of months reported**	**% of reported side effects**
Dizziness	61	10.1
Weight gain	13	2.1
Weight loss	8	1.3
Headaches	89	14.7
Excessive bleeding	21	3.5
Irregular cycle	138	22.9
Painful period	4	0.7
Stomach pains/cramps	61	10.2
Irregular heart beat	84	13.8
Marital problems	5	0.8
Loss of pleasure	24	4.0
Loss of strength or ill health	20	3.3
Other	77	12.6
Total	605	100

Table 4 shows the number of months of use of pill, injectable and condom use, with all other methods grouped into the 'other' category. This table also shows the number of months in which a side effect was experienced for each of the methods. Measured as a percentage of episodes injectable use accounts for around 25% of all use however measured as months of use this rises to 37% due to the longer episodes of use of injectables. The percentage of months of 'other' method use is also high at 36% and this reflects the long episodes of IUD and implant users who are in this category. Of all the months of side effects experienced 55% are caused by injectables and 33% caused by pill use. However as a percentage of the total number of months of use for that method pill and injectable are roughly the same with 11.5% and 10.1% of months with side effects reported respectively. As expected condoms and other methods have a considerably lower proportion of months of side effects reported.

Table 4: Months of Use of Method and months of Side Effects Experienced by Method

	Pill		**Injection**		**Condom**		**Else**	
	Number of months	%	Number of months	%	Number of months	%	Number of months	%
Total months of use	1716	19.0	3324	37.0	729	8.0	3229	36.0
Months with no side effects	1518	18.1	2989	35.6	705	8.4	3181	3.9
Months with side effects*	198	32.6	335	55.4	24	4.0	48	8.0
% of months of side effects within method	-	11.5	-	10.1	-	3.3	-	1.5

* Total is more than total months of use minus months with no side effects due to the effect of months where two or three side effects are reported simultaneously.

Table 5 shows the number of months reported for each method by specific type of side effect. Around one third of the reported months of side effects associated with injectable use were of irregular cycle. This is to be expected given the established clinical effects of this method; however there is still some uncertainty over the reporting of this type of side effect. It is possible that where individuals are expecting this effect and/or do not perceive menstrual disruption to be disturbed they will not report this as a side effect when questioned. Therefore the level of menstrual disruption may be underestimated in surveys not specifically measuring menstrual changes. Table 5 also shows that irregular heart beat, headaches and dizziness each contribute between 12- 15% of months of side effects for injectable users.

Table 5: Months of Side Effects Experienced by Method and Type of Side Effect

Type of side effect	**Number of months reported**			
	Pill	**Injection**	**Condom**	**Else**
Dizziness	11	41	0	9
Weight gain	2	8	0	3
Weight loss	3	0	0	0
Headaches	45	43	0	1
Excessive bleeding	6	15	0	0
Irregular cycle	30	105	0	3
Painful period	1	3	0	0
Stomach pains/cramps	34	26	0	1
Irregular heart beat	24	51	0	9
Marital problems	0	0	0	5
Loss of pleasure	0	0	17	7
Loss of strength or ill health	9	5	0	6
Other	33	38	2	4
Total	198	335	24	48

For months of use of the pill the most commonly reported side effect is headaches which accounts for 23% of all months. This is followed by stomach cramps, irregular heart beat, irregular cycle and other which each contribute between 17% and 12% of months of reported side effects. As expected, side effects are relatively infrequently reported for condom use and use of 'other' methods. Some 17 months of the side effect of loss of pleasure are reported for condom use which is as expected and the 'other' category also contains some reported loss of pleasure which can most likely be attributed to the use of withdrawal.

Discussion and Conclusions

Overall side effects are relatively rarely reported by the women in this study with only 6.77% of months of contraceptive use being associated with the experience of a side effect. Side effects are very rarely reported in association with methods other than the pill and injectable, which together account for over 50% of all methods used in this population. Side effects are most commonly associated with episodes of injectable use which contribute 55% of all months of side effects compared to only 33% associated with pill episodes. This is due to the large contribution of months of the injectable episodes to the dataset by virtue of their longer duration. When looked at as a percentage of the total number of months of use for that method pill and injectable are roughly the same in respect to the reporting of side effects with 11.5% and 10.1% of months with side effects reported respectively.

Also in concurrence with previous studies by far the most frequently reported side effect was menstrual disruption, which accounted for 23% of all the months of side effects experienced. This finding reinforces the opinion of Tolley et al. (2005) that menstrual disruption is a side effect which can have important implication for continuation and should not be dismissed.

These findings suggest that the high level of fear of side effects reported in studies such as the DHS may reflect a lack of appreciation among the population of the relatively low risk of actually experiencing a side effect. This is an area which can be focused on in future campaigns and in inter personal communication by health workers.

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