The Effect of Access to Emergency Contraceptive Pills on Women's Use of Highly Effective Contraceptives: Results From a French National Cohort Study

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We examined changes in contraceptive behaviors after emergency contraception (EC) pill use. A nationally representative cohort of 2863 French women was studied to identify 272 instances of EC pill use. In 71% of the cases, we found no changes in contraceptive practices from the time of EC pill use to 6 months later: 41% of women continued use of highly effective methods and 30% continued less effective methods. Only 8.4% switched from highly effective to less effective methods. (*Am J Public Health.* 2009;99:441–442. doi: 10.2105/AJPH.2007.118935)

Improved access to emergency contraception (EC) pills has been shown to increase their use.[1,2] EC pills contain progestin alone or in combination with estrogen; they can be taken up to 5 days after an act of unprotected intercourse to prevent pregnancy. In France, the 1999 introduction of a dedicated EC pill available without a prescription resulted in a 72% increase in use.[3] Critics of increasing availability of EC pills have expressed concerns that easier access could have a negative effect on use of highly effective contraceptives, such as hormonal methods, an intrauterine device, or sterilization. We used longitudinal data to examine changes in women's contraceptive practices in the 6 months following EC pill use in a representative cohort of French women.

METHODS

The study was drawn from the COCON (Cohorte Contraception) survey, a national representative study exploring contraceptive use and recourse to abortion in France; it has been described in detail elsewhere.[4] We used a national 2-stage probability sampling design to identify a national random sample of 2863 French-speaking women of reproductive age (18–44 years). Unequal probabilities of inclusion were used to overrepresent women who had had an abortion or an unintended pregnancy. Our results were weighted to reflect sampling design and the main social demographic composition of French women in the 1999 census.

Follow-up for each woman was performed between 2000 and 2004. Of the initial sample, 1569 completed all 4 years of follow-up. Although substantial, the attrition of the cohort was not found to introduce selection bias on the variables of interest (contraceptive use).[5] Furthermore, we found no differences in the proportion lost to follow-up between EC pill users and nonusers. We based our analysis on data collected during the follow-up interviews (2001–2004). We identified 296 instances of EC pill use reported by 142 women; we excluded 24 instances of EC pill use because the timing of the pill use was unknown.

We first described the distribution of women's contraceptive profiles at the time of the 272 instances of EC pill use. We compared this contraceptive profile to that observed 6 months after the EC pill use among users who remained potentially at risk of unintended pregnancy 6 months after use. Women were defined as potentially at risk of unintended pregnancy 6 months after EC pill use if they were sexually active, nonsterile, and not pregnant or trying to get pregnant. Contraceptive use 6 months after EC pill use was unknown because of loss to follow-up (30 instances of EC pill use) and insufficient time (i.e., less than 6 months) between EC pill use and the interview (28 instances). In addition, 18 instances of EC pill use were excluded because women were pregnant (n=11, of which 5 were unplanned) or wished to become pregnant (n=7) 6 months after EC pill use. We analyzed the remaining 196 instances of EC pill use (reported by 118 women). Differences in contraceptive use over time were tested with the χ^2 test.

We complemented this cross-sectional analysis with a longitudinal analysis of women's individual contraceptive paths, comparing 2 points in time (at the time of and 6 months after EC pill use). Contraceptive use was characterized with a binary variable: highly effective contraceptives (birth control pills, an intrauterine device, implants, and sterilization) versus less effective (condom, other barrier methods, or no contraception).

RESULTS

The cross-sectional analysis showed that EC pills were primarily used to compensate for inconsistent contraceptive use or contraceptive errors (Table 1): in 45% of EC pill use instances, the women had been taking birth control pills, and in 35% the women's partners had used condoms. Only 15% of EC pill use instances were reported by women using no method of contraception.

Six months after EC pill use, women were more likely to use a highly effective method (62% vs 49%; $P<.001$) and less likely to use condoms (25% vs 33%; $P=.002$) than at the time of EC pill use (Table 1). The proportion of women using no contraception 6 months after EC pill use was similar to that at the time of EC pill use ($P=.31$).

The longitudinal analysis exploring individual contraceptive paths showed a consistent pattern of use in 71.3% of the 196 instances of EC pill use (Table 2): continuous use of highly effective methods (41.2%) and continuous use of less-effective methods (30.1%). In 28.7% of the instances of EC pill use, women had changed contraceptive methods in the 6 months following EC pill use, with a higher proportion switching from less effective (including no method of contraception) to highly effective methods (20.3%). Only 8.4% of women had switched from highly effective to less effective methods. Results were very similar when restricting the analysis to women's first use of EC pills (not shown).

DISCUSSION

Recent national studies in France[3] and the United Kingdom,[6] with cross-sectional surveys conducted before and after the elimination of the prescription requirement for EC pills, have shown no decrease in the use of the most effective contraceptive methods after policy

TABLE 1—Contraceptive Profiles of Emergency Contraception (EC) Pill Users at the Time of and 6 Months After EC Pill Use: France, 2001–2004

Contraceptive Method	Among All Instances of EC Pill Use at the Time of Use (n = 272), No. (%)	Among Women Potentially at Risk of Unintended Pregnancy 6 Months After EC Pill Use[a] (n = 196[b])	
		At Time of EC Pill Use, No. (%)	6 Months After EC Pill Use, No. (%)
None	42 (15.0)	18 (14.3)	24 (11)
Birth control pill	123 (45.2)	103 (48.5)	103 (58.6)
Condom	87 (35.5)	58 (33.5)	45 (24.8)
Other barrier method	16 (3.6)	13 (2.7)	12 (2.7)
Long-acting method (e.g., implant, intrauterine device, sterilization)	4 (0.7)	4 (1.1)	12 (2.8)

Note. Percentages are weighted to reflect the sampling design.
[a]Women were defined as potentially at risk of unintended pregnancy 6 months after EC pill use if they were sexually active, nonsterile, and not pregnant or trying to get pregnant.
[b]Instances of EC pill use reported by 118 women.

TABLE 2—Individuals' (N = 196) Contraceptive "Path" in the 6 Months Following Emergency Contraception Pill Use: France, 2001–2004

Contraceptive Use	No. (%)
Continued use of highly effective method	88 (41.2)
Continued use of non-highly effective method	62 (30.1)
Switched to highly effective method	27 (20.3)
Switched to non-highly effective method	19 (8.4)

Note. Highly effective methods include hormonal contraception, an intrauterine device, or sterilization. Non-highly effective methods include condoms, spermicides, withdrawal, or no method at all. Percentages are weighted to reflect the sampling design.

change. However, longitudinal studies exploring individual contraceptive use around the time of EC pill use have provided the strongest evidence for assessing the relationship between EC pill use and subsequent contraceptive behaviors. Despite its limitations, particularly the small sample of EC pill users, our study was the first to use the longitudinal approach among a representative sample of the population. Our results showed that in a majority of cases, EC pill use was not associated with a change in contraceptive practices: 6 months after the use of EC pills, 8% of women had switched to a less effective method, whereas 20% had switched to a more effective method.

These results suggest that the elimination of the prescription requirement for EC pills does not impede a switch to more-effective contraceptive use. ■

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Contributors

C. Moreau conceptualized the study, analyzed the data, and wrote the article. J. Trussell participated in the study design, analysis, and writing of the article. F. Michelot assisted with the analyses and drafting of the article. N. Bajos conceptualized the study and participated in the analysis and the writing of the article.

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Human Participant Protection

The COCON study received the approval of the relevant French government oversight agency, the Commission Nationale de l'Informatique et des Libertés.

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Public Awareness and Use of Direct-to-Consumer Genetic Tests: Results From 3 State Population-Based Surveys, 2006

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We conducted population-based surveys on direct-to-consumer nutrigenomic testing in Michigan, Oregon, and Utah as part of the 2006 Behavioral Risk Factor Surveillance System. Awareness of the tests was highest in Oregon (24.4%) and lowest in Michigan (7.6%). Predictors of awareness were more education, higher income, and increasing age, except among those 65 years or older. Less than 1% had used a health-related direct-to-consumer genetic test. Public health systems should increase consumer and provider education and continue surveillance on direct-to-consumer genetic tests. (*Am J Public Health.* 2009;99:442–445. doi:10.2105/AJPH.2007.131631)

The increasing availability of direct-to-consumer nutrigenomic tests is an emerging