

Hospital-based program for increasing the availability of emergency contraception: Simulating nonprescription access

PAUL R. PENTEL, BRENDA NELSON, NORM WIKELIUS, AND CHARLES COOPER

Emergency contraception (EC) is a safe and effective means of reducing the occurrence of pregnancy after unprotected intercourse.¹⁻⁴ Two oral doses of levonorgestrel (the most effective and best tolerated medication for this purpose) taken 12 hours apart reduce the expected rate of pregnancy by 79% if taken within 72 hours of intercourse.⁵ A single dose of levonorgestrel, although less well studied, appears equally effective,⁵ and its adverse effects are minor.⁵⁻⁷ Levonorgestrel acts by preventing ovulation or implantation, thus preventing conception. EC cannot interrupt an established pregnancy and is therefore not an abortifacient.³ Despite its efficacy and safety, EC is underutilized.^{2,8-11} Factors contributing to its limited use include physicians' and patients' lack of awareness of its existence and efficacy and its availability in many countries only by prescription.

There is consensus among medical and public health organizations

Purpose. A hospital-based program simulating nonprescription access to emergency contraception (EC) is described.

Methods. A collaborative agreement between the pharmacy and therapeutics committee and the pharmacy department was initiated at a safety-net teaching hospital to provide EC to clinic patients directly from the hospital pharmacy without the need to first see a health care provider. EC was available 24 hours per day to any woman requesting it at the hospital pharmacy, with the collaborative agreement serving as the prescription. During clinic hours, patients were directed to the outpatient pharmacy to request EC. After hours, patients went to the emergency department triage desk and were directed to the inpatient pharmacy. Patients making inquiries about EC were encouraged to see their health care provider as soon as possible for counseling about contraceptive options. No specific program was initiated for publicizing the increased availability of EC, as it was assumed that health care providers and

word-of-mouth would inform patients of this option.

Results. The program was initiated in the fourth quarter of 2001. Total doses of EC dispensed increased nearly eightfold over the 1.5-year study period since the inception of this program. Most of this increase (81%) was attributable to the collaborative agreement. Twenty-eight percent of EC was dispensed outside of regular clinic hours. No patient complaints regarding this plan were received, and pharmacy staff did not believe that this program presented a significant additional burden to their workload.

Conclusion. A collaborative agreement simulating nonprescription availability increased the use of EC in a hospital-based clinic setting.

Index terms: Contraceptives, postcoital; Dispensing; Drugs, nonprescription; Patient information; Patients; Pharmacy, institutional, hospital; Workload

Am J Health-Syst Pharm. 2004; 61: 777-80

that EC should be made available without a prescription, and more than 60 organizations signed a petition sent to the Food and Drug Ad-

ministration (FDA) in February 2001 to this effect, including the American Public Health Association, American Medical Association, and American

PAUL R. PENTEL, M.D., is Professor of Medicine and Pharmacology, University of Minnesota Medical School, Minneapolis, and Director, Division of Clinical Pharmacology, Hennepin County Medical Center (HCMC), Minneapolis. BRENDA NELSON, PHARM.D., is Director, Clinical Therapeutics Program; NORM WIKELIUS is Director, Outpatient Pharmacy; and CHARLES COOPER is Director, Department of Pharmacy, HCMC.

Address correspondence to Dr. Pentel at the Hennepin County

Medical Center, 701 Park Avenue South, Minneapolis, MN 55415 (pente001@umn.edu).

The authors acknowledge Barbara Louis for her assistance with data analysis.

Copyright © 2004, American Society of Health-System Pharmacists, Inc. All rights reserved. 1079-2082/04/0402-0777\$06.00.

College of Obstetricians and Gynecologists.⁹ This recommendation to FDA was based on the safety of EC, the lack of contraindications to its use, the need to administer EC as soon as possible after unprotected intercourse to maximize its efficacy, and the anticipated substantial gains in public health from the prevention of unwanted pregnancies. Many countries have already made EC available without a prescription, including the United Kingdom, South Africa, Portugal, Morocco, Israel, France, Finland, Denmark, and Belgium.⁹ Despite this support for nonprescription availability, EC remains restricted to prescription-only status in the United States. The cost, inconvenience, and privacy issues surrounding the need for prior medical evaluation may contribute to the currently limited use of EC.

We describe a program at a county safety-net hospital designed to simulate the nonprescription availability of EC. The purpose of this program was to increase the availability of EC to women by obviating the need for them to first see a health care professional. Additional goals were to make EC available 24 hours per day and to allow women to anonymously receive EC.

Description of the program

Practice setting. Hennepin County Medical Center is a 424-bed safety-net hospital located in downtown Minneapolis and affiliated with the University of Minnesota. This medical center serves a population that is 35% Caucasian, 33% African American, 18% Hispanic, 4.1% Native American, and 4% Asian/Pacific Islander. Clinics located in the hospital and surrounding community account for 369,000 outpatient visits yearly. The outpatient pharmacy is open from 8:00 a.m. to 6:00 p.m. on weekdays and 9:00 a.m. to 4:30 p.m. on weekends. After these hours, prescriptions for emergency department and urgent care patients are dispensed from the inpatient pharmacy.

Consensus development. Our intent was to develop an institution-wide consensus on the content and process for simulating nonprescription availability of EC. A draft guideline for EC use was developed by the clinical therapeutics program, a hospitalwide program staffed by a physician and clinical pharmacist and charged with optimizing medication use through education, guidelines, and systems changes. The purpose of the draft EC guideline was to make available to providers a brief summary of the mechanism of action, efficacy, safety, and how to prescribe EC. Staff with expertise in this area contributed to the draft guideline, which was then circulated to all physician and pharmacist staff and key administrators for comment. A plan for simulating nonprescription availability of EC and a patient information sheet (to be included when EC is dispensed) were then drafted with input from key stakeholders and similarly circulated for comment. Stakeholders included staff from those areas to which patients might arrive to obtain EC, including the emergency department, primary care clinics, and the pharmacy department. The patient information sheet emphasized that EC is for emergency use, regular contraception is more effective than EC, and only barrier methods can prevent sexually transmitted diseases. The patient information sheet encouraged patients to see a health care provider to discuss other contraceptive options as soon as possible. Both the guideline and plan were approved by the hospital's medical executive committee and then circulated to all hospital staff to ensure that they were informed about EC and the procedure for obtaining EC without the need to first see a health care provider.

Plan. This study was approved by the hospital's institutional human subjects research committee. EC was made available via a collaborative agreement between the pharmacy

and therapeutics (P&T) committee and the pharmacy department. The P&T committee authorized the dispensing of EC by the pharmacy using a standing order for patients who had not seen a health care provider. Per this agreement, a physician on the P&T committee assumed responsibility for this protocol and served as the prescribing physician. The agreement allowed EC to be dispensed to any woman asking for it at the hospital pharmacy, with the collaborative agreement serving as the prescription; thus, contact with a health care provider was not required. Although the EC was dispensed by a pharmacist or pharmacy technician, this arrangement was considered a nonprescription simulation because consultation by the dispensing pharmacist was not required. Because Minnesota state law allows dispensing of contraception to minors, no age limit was specified. The agreement was initiated in October 2001 and is ongoing. This type of protocol-driven prescribing under a collaborative agreement between a physician and a pharmacist is specifically permitted by the Minnesota State Board of Pharmacy,¹² and similar policies are in effect in 37 other states.¹³

During clinic hours, patients were directed to the outpatient pharmacy to request EC. Levonorgestrel 0.75 mg sufficient for one course of treatment (one tablet to be taken as soon as possible and a second tablet to be taken 12 hours later) was provided. For patients with insurance, the cost was billed, as is done for other medications. For patients without insurance, or for those who did not want a record of the transaction containing their name, EC could be obtained by paying at the time of dispensing (\$14 until August 31, 2002, and \$7.40 thereafter). This mechanism generated a record of the transaction but that record did not include the patient's name or identifying information. After clinic hours, patients went to the emergency department triage desk

and were directed to the inpatient pharmacy. Patients making inquiries about EC were encouraged to see their health care provider as soon as possible for counseling about contraceptive options.

No specific program was initiated for publicizing the increased availability of EC. This low-profile approach was adopted in deference to concerns that EC use would be so great as to overburden the pharmacy and, after clinic hours, the emergency department. Instead, it was assumed that health care providers and word-of-mouth would inform patients of this option.

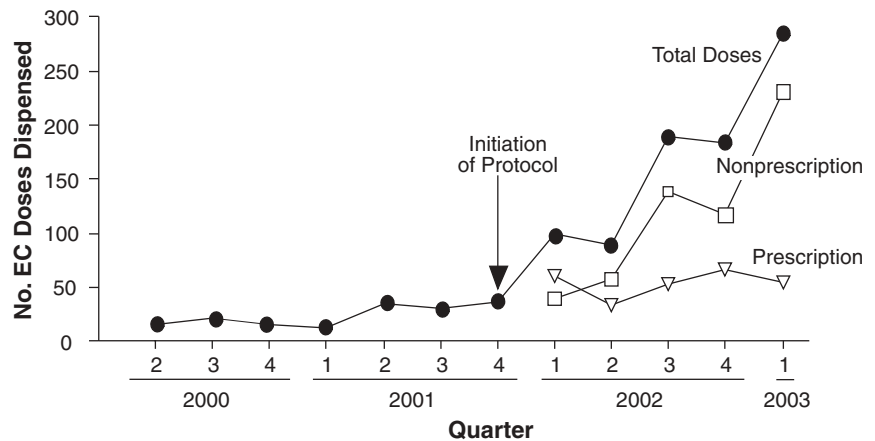
Clinical therapeutics program staff assumed responsibility for monitoring the number of prescriptions dispensed and any procedural difficulties in implementation.

Outcomes

The new protocol making EC available without a prescription was introduced in the fourth quarter of 2001 (Figure 1). Total EC dispensed from the hospital pharmacy increased nearly eightfold 1.5 years after its implementation (fourth quarter 2001 versus first quarter 2003). Prescription use of EC, which did not require the new protocol, increased by only 50% over the same period. In the first quarter of 2003, nonprescription EC accounted for 81% of the 285 total EC doses dispensed. Of those women receiving EC without a prescription, 68% received it anonymously. Identifying information available for the remaining 32% of women was as follows: 8% were under 18 years of age, 60% were 18–25 years old, 29% were 26–35 years old, and 3% were 36 or older.

Twenty-eight percent of nonprescription EC doses were dispensed after regular clinic hours (12% between the hours of 5 p.m. and 8 a.m. on weekdays, 16% on weekends). No procedural problems were reported with the system devised to support this strategy. The total daily number

Figure 1. Number of emergency contraception (EC) doses dispensed after implementation of the nonprescription-access protocol, whereby a prior visit to a health care provider was not required, compared with EC dispensed in response to an individual prescription from a physician.



of EC doses dispensed in the first quarter of 2003 represented 0.15% of all pharmacy prescriptions. No patient complaints regarding this plan were received, and pharmacy staff did not believe that this program presented a significant additional burden to their workload.

Discussion

EC use increased steadily after implementation of the nonprescription-access plan. In the absence of a control group, it is not possible to determine whether this plan was entirely responsible for this result. Coincidentally, a more convenient formulation of levonorgestrel, which simplified EC prescribing, became available in the fall of 2000, and this could have contributed to increased use of EC. Also, increased awareness of EC among physicians due to greater emphasis on this therapy in the medical literature could have contributed to its increased use. However, prescriptions for EC increased very little, suggesting that the nonprescription option was largely responsible for the marked increase in total EC use.

The increased use of nonprescription EC over the study period and the more than 8:1 ratio of nonprescription to prescription units dis-

pensed suggest that a majority of EC users at our institution would not have received EC without the availability of the nonprescription option. These data support the importance of providing a nonprescription option for obtaining EC and further illustrate the restraining effect of current regulations which require contact with a health care provider to obtain a prescription.

Sixty-eight percent of doses dispensed using the nonprescription plan used the anonymous option. The use of this option could have reflected either a desire to pay immediately at the time the medication was dispensed or a desire to remain anonymous. If the latter is true, the inclusion of an anonymous option could be an important factor in making collaborative agreements to provide EC more acceptable to women seeking EC. Twenty-eight percent of EC doses were dispensed after clinic hours or on weekends, suggesting that 24-hour availability may also increase EC use.

Various other strategies have been used to increase the timely availability of EC to women. Washington state has developed a plan for dispensing EC via community pharmacists using a collaborative agreement with a

physician, which requires counseling by the dispensing pharmacist.¹⁴ California enacted legislation in 2001 allowing women to obtain EC directly from a participating pharmacist without first seeing another health care provider if there is a written agreement between the pharmacy and a prescribing physician, the pharmacist receives training about EC, and a standardized fact sheet is provided with the EC dose.¹⁵ In areas where such statewide programs do not exist, individual family planning clinics have created similar agreements with neighborhood pharmacies.¹⁶ Some of these programs include counseling about EC by the dispensing pharmacist. EC is also available from Internet sites, which will fax a prescription to a pharmacy for a fee.^{17,18} Because of the limited number of such clinics or agreements, and limited access to the Internet, EC is not readily available to most women without prior medical evaluation. In addition, providing EC as soon as possible after unprotected intercourse is critical because efficacy diminishes over time. A World Health Organization trial of either levonorgestrel alone or levonorgestrel plus ethinyl estradiol found a pregnancy rate of 0.5% when EC was used within 12 hours after unprotected intercourse, and a linear increase to 4% when used 61–72 hours after intercourse. EC retained some efficacy up to five days after unprotected intercourse, but earlier treatment was

clearly more effective.⁵ The need for prior medical evaluation could delay access to EC. An additional strategy for making EC more available is to provide women with doses to keep at home for future use. Although this strategy requires an initial prescription, it has proven safe and effective in increasing the use of EC.¹⁹

Conclusion

A collaborative agreement simulating nonprescription availability increased the use of EC in a hospital-based clinic setting.

References

1. Randomised controlled trial of levonorgestrel versus the Yuzpe regimen of combined oral contraceptives for emergency contraception. Task Force on Postovulatory Methods of Fertility Regulation. *Lancet*. 1998; 352:428-33.
2. American College of Obstetricians and Gynecologists. ACOG practice bulletin. Emergency oral contraception. Number 25, March 2001 (Replace Practice Pattern Number 3, December 1996). *Int J Gynaecol Obstet*. 2002; 78:191-8.
3. Glasier A. Emergency postcoital contraception. *N Engl J Med*. 1997; 337:1058-64.
4. Ho PC, Kwan MS. A prospective randomized comparison of levonorgestrel with the Yuzpe regimen in post-coital contraception. *Hum Reprod*. 1993; 8:389-92.
5. Von Hertzen H, Piaggio G, Ding J et al. Low dose mifepristone and two regimens of levonorgestrel for emergency contraception: a WHO multicentre randomised trial. *Lancet*. 2002; 360:1803-10.
6. Glasier A. Safety of emergency contraception. *J Am Med Womens Assoc*. 1998; 53(5, suppl 2):219-21.

7. Gainer E, Mery C, Ulmann A. Levonorgestrel-only emergency contraception: real-world tolerance and efficacy. *Contraception*. 2001; 64:17-21.
8. Glasier A. Emergency contraception. *Best Pract Res Clin Obstet Gynaecol*. 2002; 16: 181-91.
9. Grimes DA. Switching emergency contraception to over-the-counter status. *N Engl J Med*. 2002; 347:846-9.
10. Trussell J, Duran V, Shochet T et al. Access to emergency contraception. *Obstet Gynecol*. 2000; 95:267-70.
11. Free C, Lee RM, Ogden J. Young women's accounts of factors influencing their use and non-use of emergency contraception: in-depth interview study. *BMJ*. 2002; 325:1393.
12. Minnesota State Board of Pharmacy. Minnesota statutes 2003. 151.01 definitions, subd.27 practice of pharmacy (6). www.revisor.leg.state.mn.us/stats/151/01.html (accessed 2003 Dec 29).
13. American Society of Health-System Pharmacists. www.ashp.org/gad/issues/CTDM/CTDMStateComparisons.pdf (accessed 2003 Dec 29).
14. Gardner JS, Hutchings J, Fuller TS et al. Increasing access to emergency contraception through community pharmacies: lessons from Washington State. *Fam Plann Perspect*. 2001; 33:172-5.
15. Pharmacy Access Partnership. Text of California EC legislation. www.pharmacyaccess.org/CalifECLegis.htm (accessed 2003 Dec 29).
16. Family Tree Clinic. Emergency contraception: partnering pharmacies. www.familytreeclinic.org/ec/other.html (accessed 2003 Dec 29).
17. The Emergency Contraception Connection. Homepage. www.econnection.org (accessed 2003 Dec 29).
18. 1st-morning-after-pill-4-birth-control.com. www.1st-morning-after-pill-4-birth-control.com (accessed 2003 Dec 29).
19. Glasier A, Baird D. The effects of self-administering emergency contraception. *N Engl J Med*. 1998; 339:1-4.