

Pharmacy Communication to Adolescents and Their Physicians Regarding Access to Emergency Contraception



WHAT'S KNOWN ON THIS SUBJECT: Emergency contraception is a safe and effective method of pregnancy prevention after unprotected intercourse.



WHAT THIS STUDY ADDS: Pharmacies commonly communicate misinformation, both to adolescents and to physicians, concerning who is able to access emergency contraception and through what means.

abstract

FREE

OBJECTIVE: Emergency contraception (EC) is an effective pregnancy prevention strategy. EC is available without a prescription to those aged 17 years or older. The objective of this study was to assess the accuracy of information provided to adolescents and their physicians when they telephone pharmacies to inquire about EC.

METHODS: By using standardized scripts, female callers telephoned 943 pharmacies in 5 US cities posing as 17-year-old adolescents or as physicians calling on behalf of their 17-year-old patients. McNemar tests were used to compare outcomes between adolescent and physician callers.

RESULTS: Seven hundred fifty-nine pharmacies (80%) indicated to adolescent callers, and 766 (81%) to physician callers, that EC was available on the day of the call. However, 145 pharmacies (19%) incorrectly told the adolescent callers that it would be impossible to obtain EC under any circumstances, compared with 23 pharmacies (3%) for physician callers. Pharmacies conveyed the correct age to dispense EC without a prescription in 431 adolescent calls (57%) and 466 physician calls (61%). Compared with physician callers, adolescent callers were put on hold more often (54% vs 26%) and spoke to self-identified pharmacists less often (3% vs 12%, $P < .0001$). When EC was not available, 36% and 33% of pharmacies called by adolescents and physicians respectively offered no additional suggestions on how to obtain it.

CONCLUSIONS: Most pharmacies report having EC in stock. However, misinformation regarding who can take EC, and at what age it is available without a prescription, is common. Such misinformation may create barriers to timely access. *Pediatrics* 2012;129:624–629

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KEY WORDS

adolescent medicine, adolescent pregnancy, adolescent sexual behavior, adolescents, contraceptive agents

ABBREVIATIONS

EC—emergency contraception
FDA—Food and Drug Administration

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There are ~750 000 teenage pregnancies each year in the United States.¹ Of these, 85% are unintended.¹ It has been estimated that if emergency contraception (EC) were used after every contraception failure, it could prevent half of all unintended pregnancies and 70% of all abortions.²⁻⁴ EC is safe; it does not affect an existing pregnancy, slow transport of a fertilized ova, or prevent implantation.⁴ Thus, in 2009 the US Food and Drug Administration (FDA) made EC (levonorgestrel) available without a prescription to individuals aged 17 years or older; those younger than 17 require a prescription. To obtain EC, consumers must request the medication (which is stocked behind the pharmacy counter) from a pharmacy staff member and present identification to establish their age. Pharmacies are not required to stock EC, and simply stocking it may be insufficient to guarantee timely access.

In 1993, the Institute of Medicine defined “access” as the timely use of health services to achieve the best possible outcomes.⁵ For EC, the distinction between availability and access is critical because with every 12-hour delay in taking the first EC dose after unprotected intercourse, the odds of pregnancy increase by nearly 50%.⁶ Therefore, even minor delays in obtaining EC substantially increase the likelihood of pregnancy.

We sought to understand the potential divide between availability of, and access to, EC in 5 major US cities. We conducted scripted phone calls from individuals posing as either adolescents or physicians to every pharmacy in these cities. We used these so-called mystery calls to estimate EC’s availability and to determine who would be told they could or could not obtain EC directly from the pharmacy.

METHODS

Design

Every commercial pharmacy in 5 major US cities received 2 telephone calls: 1

from a female caller posing as a 17-year-old adolescent and 1 from a female caller posing as a physician. Callers followed standardized scripts to simulate real-world calls and to uniformly elicit specific information on EC availability and access. The Boston University Medical Center Institutional Review Board deemed this study to be non-human subject research.

Sample

Our sampling frame comprised every pharmacy geographically situated in the counties of Nashville, Tennessee; Philadelphia, Pennsylvania; Cleveland, Ohio; Austin, Texas; and Portland, Oregon. We chose cities in geographically diverse states without special pharmacy access laws that permit trained pharmacists to dispense EC without a prescription to those aged younger than 17 years. Lists of pharmacies were obtained from the boards of pharmacy in each state. Noncommercial pharmacies (eg, prison pharmacies, psychiatric hospitals) were removed from the data set.

Callers

Two female research assistants posed as 17-year-old adolescents who recently had unprotected intercourse; 2 female callers posed as physicians caring for a 17-year-old girl who recently had unprotected intercourse. For pharmacies with automated telephone systems, physician callers, if given the option, selected call prompts designed for clinicians and their offices. All callers used cellular telephones programmed with local area codes.

Every pharmacy was called twice, once by an adolescent caller and once by a physician caller. To maximize the likelihood of obtaining accurate responses, calls were made during weekdays between 9 AM and 5 PM local time, when pharmacies would presumably be fully staffed. To avoid 1 call influencing the

other, calls were separated by at least 2 weeks, and their order was varied randomly.

Data Collection and Call Scripts

All call scripts (Fig 1; detailed script available on request) were identical, with the exception that the adolescent callers telephoned pharmacies for themselves, and the physician callers telephoned on a patient’s behalf. To keep the calls realistic and avoid revealing the mystery caller, callers were trained to adhere strictly to the script and to avoid obtaining the desired outcome measures by any other means. Scripts were piloted through an iterative process with pharmacies in states not in the sample.

Each call was divided into 3 successive steps, focusing on EC availability, general access, and over-the-counter access. Each step was introduced by an open-ended probe question, designed to launch a true-to-life dialogue through which each study outcome could be assessed reliably. Depending on how spontaneously revealing the pharmacy staff was, callers probed with more specific queries until each research question was answered. After confirming answers with pharmacy staff, callers recorded all data in standardized abstraction forms.

First, before divulging the patient’s age, callers inquired about same-day availability of EC through an opening probe (Step 1), “Hi, I’m calling to see if I (or my patient) can get emergency contraception today.” For pharmacies that had EC available, callers queried whether a 17-year-old could obtain it by probing (Step 2), “If I am/the patient is 17, is that OK?” Seventeen was chosen to be the caller’s age to reflect FDA regulations. If the caller was told that based on the patient’s age, she could obtain EC, then the age threshold for access without a prescription was specifically queried by asking (Step 3),

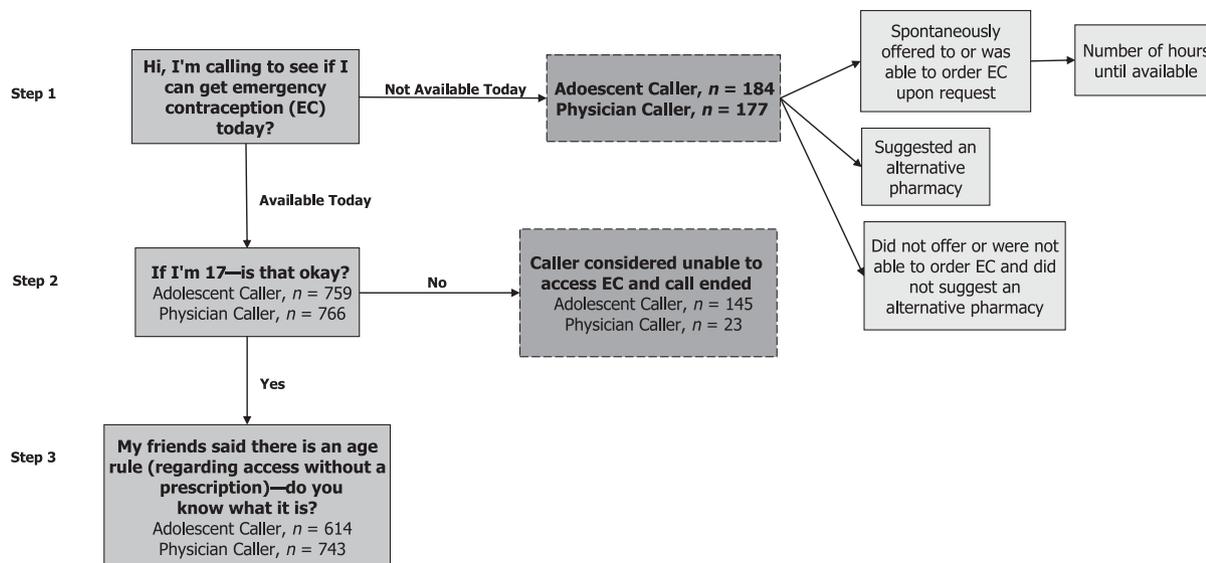


FIGURE 1

Schematic representation of call script. If, in Step 2, the caller was told that she was unable to access EC because of her age, we considered that answer to be misinformation regarding access without a prescription. The understood age to dispense EC over the counter was not obtained in this situation because of concern that if callers asked this question, it would be perceived by the pharmacy staff as an attempt to obtain information to guarantee access when they presented in-person to the pharmacy.

“My friends said there is an age rule (regarding access without a prescription), do you know what it is?” If the caller was told that she was unable to access EC at all based on her age, we considered that also to be a denial for access without a prescription.

Measures

We examined 3 primary outcomes: (1) same-day availability of EC, (2) whether EC could be accessed by the caller or caller’s patient, and (3) whether the pharmacy representative communicated the correct age at which EC is accessible without a prescription. To characterize the experience of the callers further, we documented whether the caller was placed on hold, who initially fielded the call, whether the call was transferred to a self-identified pharmacist, whether the time frame for taking the medication was communicated spontaneously, and whether the call ended prematurely (eg, hang up or disconnect) before all questions were asked. For pharmacies that did not have EC available on the day of the call, it was noted whether the pharmacy

staff member suggested alternative pharmacies to obtain EC or if they offered to order the medication. For those willing to order the medication, we noted how many hours until it would be available for the caller. Finally, to explore other demographic factors associated with access, we merged 2010 estimate census data with pharmacy addresses.

Data Analysis

McNemar tests were used to examine differences in outcomes between the adolescent and physician callers calling the same pharmacy; a paired *t*-test was used to compare mean hours until the medication would be available. Because we were comparing 2 callers to the same pharmacy, no additional adjustments to the model were made. For pharmacies reporting not to have EC available on the day of the call, we used the χ^2 test to compare the proportion of pharmacies that suggested alternatives or offered to order the medication for the caller. All analyses were replicated for each individual city and for independent and chain

pharmacies (defined as ≥ 4 locations). Data were analyzed by using SAS, version 9.1 (SAS Institute, Cary, NC).

RESULTS

Sample

Of the initial sample of 1060 pharmacies, 117 were eliminated because they were noncommercial. Our final sample comprised 943 pharmacies in 5 cities, with Philadelphia contributing the greatest number (358) and Portland the least (102; Table 1). Overall, 687 pharmacies (72.9%) were chains, and 43 (4.6%) were open 24 hours. The average cost of EC was \$45 (range \$15–\$70) for both callers.

Availability and Access

Across all pharmacies ($n = 943$), adolescent callers and physician callers elicited similar rates of same-day availability (80% and 81%, respectively, $P = .50$; Table 2). However, among the adolescent calls, 145 (19%) resulted in the caller being told that she could not obtain EC under any circumstances; in contrast, physicians were

given the same misinformation in only 23 calls (3%, $P < .0001$).

When callers queried the age threshold for access without a prescription to EC, adolescents were given the correct age (17 years) in 431 calls (57%) and physicians in 466 calls (61%, $P = .08$). In all but 11 calls, the incorrect age was stated as erroneously too high, potentially restricting access. Although in previous work,⁷ we documented substantial differences in access by

neighborhood characteristics, similar differences between adolescent and physician callers persisted across the spectrum of neighborhood income levels. There were also no differences to these overall findings when each city was examined individually and when chain pharmacies were examined separately from independent pharmacies.

Among pharmacies that did not have EC available on the day the call was made, 54% of them for adolescents and 56% of them for physicians either spontaneously offered to order the medication or were able to order it on request ($P = .68$). The average pharmacy-estimated time until the medication would be available was 45 hours (range 19–168) for adolescents and 39 hours (range 3–144) for physicians, ($P < .0001$). When EC was not available, 67 pharmacies (36% of those without same-day EC availability) called by the adolescent and 58 pharmacies (33% of those

without same-day EC availability) called by the physician ($P = .47$) did not provide any option to obtain EC by the end of the call.

Characteristics of Call

During the calls, adolescent callers were placed on hold more often than physician callers, (54% vs 26%, $P < .0001$) (Table 3). Adolescents were also less likely than physicians to talk to a self-identified pharmacist (3% vs 12%, $P < .0001$) and more likely to talk to a staff member who did not identify himself or herself (95% vs 84%, $P < .0001$). However, when physicians spoke to a pharmacist ($n = 183$), correct information regarding over-the-counter EC access was conveyed no more frequently than when they spoke with a nonpharmacist (15.3% vs 15.1%, $P = .97$). Because adolescents spoke with a pharmacist so rarely, sources of correct versus incorrect information could not be determined.

TABLE 1 Characteristics of Selected Pharmacy Sample ($n = 943$)

City, state (county) or characteristic	<i>n</i> (%)
Austin, Texas (Travis)	139 (14.7)
Cleveland, Ohio (Cuyahoga)	214 (22.7)
Nashville, Tennessee (Davidson)	130 (13.8)
Philadelphia, Pennsylvania (Philadelphia)	358 (38.0)
Portland, Oregon (Multnomah)	102 (10.8)
Chain pharmacies (≥ 4 locations)	687 (72.9)
Open 24 hours	43 (4.6)

TABLE 2 Availability and Access Differences Between Adolescent and Physician Callers^a

	Adolescent Caller, <i>n</i> (%)	Physician Caller, <i>n</i> (%)	McNemar Test, <i>P</i> value
Is EC available today	759 (80)	766 (81)	.50
Unable to obtain EC, based on age	145 (19)	23 (3)	<.0001
Correct age given to dispense EC without a prescription	431 (57)	465 (61)	.08

^a Because of the need to keep the calls realistic, EC access based on age and access without a prescription were only assessed if EC was available.

TABLE 3 Differences Between Adolescent and Physician Calls

	Adolescent Caller, <i>n</i> (%)	Physician Caller, <i>n</i> (%)	McNemar's Test, <i>P</i> value
Put on hold DURING call	511 (54%)	248 (26%)	<0.0001
Who was taking call			
Introduced as pharmacist	29 (3%)	112 (12%)	<0.0001
Introduced as pharmacist tech	19 (2%)	34 (4%)	0.01
Unknown	895 (95%)	797 (84%)	<0.0001
Transferred to pharmacist	16 (1.7%)	110 (11.6%)	<0.0001
Spontaneously mentioned the time-frame to take medication	37 (3.9%)	16 (2%)	0.002
Call dropped or hung-up	42 (4.5%)	29 (3%)	0.10
When EC was Unavailable:	<i>n</i> = 184	<i>n</i> = 177	χ^2 -Square <i>P</i> value
Offered or Able to Order	100 (54%)	100 (56%)	0.68
Alternative Pharmacies Suggested	37 (20%)	45 (25%)	0.23
None of the Above Options	67 (36%)	58 (33%)	0.47
Average Hours until Available	45 (19–168)	39 (3–144)	<0.0001

DISCUSSION

Our data demonstrate that when 17-year-old mystery callers telephone pharmacies, nearly 20% are told that they cannot obtain EC under any circumstances, but when callers posing as physicians telephone pharmacies on behalf of 17-year-old patients, this misinformation is conveyed in only 3% of cases. Furthermore, almost half of all pharmacies communicate incorrect age guidelines to both adolescents and physicians for EC nonprescription access. In trying to obtain this information, adolescents are put on hold twice as often as physicians and frequently end up speaking with a pharmacy staff member who does not identify himself or herself.

Numerous research reports exist that use mystery callers or shoppers to illicit information regarding EC from pharmacies.^{8–14} However, the only study we could find that examined adolescents'

access to EC⁸ specifically among pharmacies that were designated as having special pharmacy access programs designed to empower pharmacists to prescriptive authority for EC. We took a different approach and examined pharmacies representative of those in the 41 states without pharmacy access laws, the laws of which automatically default to nationwide FDA regulations.

In 2009, the FDA made EC available to individuals aged 17 years or older without a prescription, and in December 2011, the US Secretary of Health and Human Services overruled the FDA Center for Drug Evaluation and Research's recommendation to remove EC prescription requirements for all, regardless of age.^{15,16} Ensuing debates in the lay press have focused on EC's safety, its effectiveness, the time-sensitive nature of its use, and the maturity level of its would-be consumers.^{17–20} Largely absent from this debate, however, has been a discussion of the barriers that adolescents (either themselves or via their health care providers) face in accessing EC under

the current federal regulations. From our study, it appears that 1 in 5 adolescents who phone pharmacies looking for EC are told they cannot obtain it under any circumstances and that nearly half of all adolescents and physicians are told an erroneously high age for EC access without a prescription. Such misinformation poses a potentially substantial barrier to access. Furthermore, only 5% of pharmacies called in our study sample were open 24 hours, which is an additional barrier to access.

There are several limitations of our study. First, calls were made only during the week and during normal business hours. We thus cannot comment on how evening or weekend calls would have been answered when calls to pharmacies regarding EC may be more common. Because calls to the same pharmacy were separated in time and we did not uniformly ask the identity of the pharmacy staff member (we considered it an unnatural question, unlikely to be asked in a real-world call by an adolescent), we cannot comment on the direct source of misinformation.

In addition, our study assessed telephoning a pharmacy and thus does not necessarily reflect in-person inquiries. Lastly, we chose the age of our callers to reflect current FDA regulations; thus, we cannot comment definitively on what adolescents of other ages would have been told. However, we specifically queried the pharmacy staff member on the legal age for access without a prescription, allowing us to obtain estimates of misinformation applicable to would-be EC consumers of all ages.

These limitations notwithstanding, we believe that our study demonstrates that despite attempts to improve access to EC by lowering the age at which a prescription is required to 17, there still appears to be substantial access barriers for adolescents, largely based on misinformation. Given the recent FDA decision not to change the prescription age requirements for EC, it appears from our study results that additional education regarding the current rules around EC dispensing is needed for pharmacy staff, adolescents, and physicians attempting to obtain this medication.

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CHOCOLATE FOR CHRISTMAS: *My college roommate sent our family a wonderful Christmas present: an assortment of gorgeous handmade Belgium chocolates. After far too many chocolate kisses and peanut butter cups, the first taste of a dark chocolate praline with a delicate pistachio core was simply outstanding. My roommate certainly knows our fondness for chocolate. When my wife and I lived in Europe, we would frequently visit Belgium. Our goal was always to visit the country Hungary. We would skip breakfast or lunch, drive straight through Germany and arrive in Antwerp starving. A city where most restaurants serve mussels and Trappist beers and where you can buy frites and chocolates on almost every street corner is certainly one well-worth visiting. While we never got around to writing a book entitled "Belgium on 10,000 Calories a Day" we would leave the city armed with boxes of chocolates from different chocolatiers. As reported in The New York Times (Travel: December 22, 2011), other chocolate lovers are also enjoying their visit to Belgium. Most travel to Brussels, the capital of Europe and the chocolate capital of the world.*

Brussels is home not only to two of the largest chocolate manufacturers in the world, Godiva and Leonidas, but also approximately 500 chocolatiers, or about one chocolatier for every 2,000 residents. In Brussels, visitors can find chocolates for every taste and price level. Côte d'Or and Guylian make chocolate purchased and consumed in vast quantities by tourists and chocolate lovers around the world. Chocolate purists and connoisseurs, however, seek out the artisanal chocolate makers. In the dozens of shops scattered around the center city, one can find exquisite pralines (in Belgium, a chocolate shell with a soft center) and truffles made with ingredients scoured from the ends of the world. Ganaches (a coating) may be infused with exotic flavors such as wasabi or lemon verbena. A single "chocolate" may combine more than 10 ingredients from four different continents. One can now also sample single-origin chocolate bars that use cocoa beans from a single country or plantation. Contrary to popular thought, it is not so much the percentage of the cocoa beans that controls the flavor but the origin of the bean. Beans harvested from different regions have very different detectable flavors. If all this sounds a bit like wine tasting, it is meant to. The good news, however, is that you don't need a designated driver and everyone, even those under 21, can sample.

Noted by WVR, MD

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