

# Emergency Contraception: A National Survey of Adolescent Health Experts

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*In a survey of 167 physicians with expertise in adolescent health, 84% said they prescribe contraception to adolescents, but only 80% of these prescribe emergency contraception, generally a few times a year at most. Some 12% of respondents said they believe that providing emergency contraception to adolescents would encourage contraceptive risk-taking, 25% said they think it would discourage correct use of other methods and 29% said they think repeated use of the method could pose health risks. Physicians who were more likely than their colleagues to prescribe emergency contraception included obstetrician-gynecologists (92%), those who graduated from medical school after 1970 (77%) and those who describe their practice as being in an "academic" setting (76%). Physicians may restrict use of the method by limiting treatment to adolescents who seek it within 48 hours after unprotected intercourse (29%), by requiring a pregnancy test (64%) or an office visit (68%), or by using the timing of menses as a criterion for providing the method (46%). While 41% of physicians who provide emergency contraception counsel adolescents about the method during family planning visits, only 28% do so during visits for routine health care; 16% counsel women who are not yet sexually active about the method.*

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**E**mergency contraception is used after unprotected sexual intercourse to prevent pregnancy. A woman may require emergency contraception because the contraceptive method she was using failed (e.g., a condom broke or a diaphragm slipped), she neglected to use a method or she was sexually assaulted.

This method may be particularly suited to adolescents because of their patterns of sexual behavior and contraceptive use. Adolescents often do not plan their first intercourse or have intercourse infrequently and consequently are unprepared to use any contraceptive method.<sup>1</sup> Approximately 35% of sexually experienced women aged 15-19 used no method at first intercourse,<sup>2</sup> and the mean interval between the initiation of sexual activity and a clinic visit for contraception varies widely (from nine to 23 months).<sup>3</sup> Unmarried sexually active women aged 15-19 have intercourse less frequently than unmarried women aged 20-24: Only 44% of the younger women report having

sex once a week or more often, as compared with 56% of the older women.<sup>4</sup>

In addition, adolescents practicing serial monogamy may use oral contraceptives effectively during a relationship and then discontinue use when it ends; when a new relationship begins, they may be unprepared and use no method.<sup>5</sup> Adolescents may also experience more frequent condom breakage or slippage and higher rates of missed pills than older women because of their inexperience with contraceptive use.<sup>6</sup>

The most common method of emergency contraception used in the United States is the "Yuzpe" method, an oral regimen of 200 mcg of ethinyl estradiol and 1.0 mg of dl-norgestrel. Women take half of the dose within 72 hours of unprotected intercourse and the rest 12 hours later.<sup>\*7</sup> The Yuzpe method reduces the risk of pregnancy after unprotected intercourse by 75% and could decrease the need for abortion by 50%.<sup>8</sup>

Other methods also are used for emergency contraception: a copper IUD inserted within 5-7 days of unprotected intercourse, high-dose estrogen, high-dose progestin, danazol and mifepristone.<sup>9</sup>

## Knowledge and Use

In the past few years, interest in women's health generally, and in emergency contraception in particular, has surged. Yet,

emergency contraception may be "the best-kept contraceptive secret in America."<sup>10</sup> For example, a study based on focus-group discussions with Princeton University students, who have convenient access to emergency contraception through their student health service, found a high level of basic awareness of the method within this group, but a lack of specific knowledge about appropriate use.<sup>11</sup> Students remarked on how seldom emergency contraception was discussed and called for routine education about the method. Similarly, in a survey of college students attending a women's health clinic, 85% of those who had ever had an induced abortion did not know about emergency contraception.<sup>12</sup>

Even in Great Britain, where a combined pill is packaged and marketed specifically for postcoital use, knowledge of the method is generally low. A survey of London women with an unwanted pregnancy found that 40% were unaware of emergency contraception.<sup>13</sup> Similarly, 30% of women seeking abortions in central Oxford hospitals did not know about emergency contraception, and 11% said that although they had heard about the method, they did not know how to obtain it.<sup>14</sup> By contrast, 81% of adolescents seeking abortions in Devon had heard of emergency contraception; however, 88% of those who had heard of the method had never sought treatment.<sup>15</sup>

Low utilization of emergency contraception is partly attributable to health care providers' poor knowledge about the method. In the London borough of Tower Hamlets, although 91% of general practitioners surveyed said they had received requests for emergency contraception, only 33% had written information on the method available for patients, and many lacked sufficient knowledge to ensure appropriate prescribing practices.<sup>16</sup> However, in a

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\*Different brands of oral contraceptives contain different amounts of hormones; consequently, the number of tablets a woman must take for a complete dose varies according to the brand of pill prescribed. Women using Ovral (the preparation Yuzpe used in his original trials of the method) take a total of four tablets; those using Lo-Ovral, Levlen, Nordette or the yellow Trilevlen or Triphasil pills take eight.

**Table 1. Percentage distribution of physicians surveyed about attitudes toward and practices regarding emergency contraception services for adolescents, by selected characteristics, 1994 (N=167)**

Characteristic	%
<b>Region</b>	
Northeast	36
South	25
West	21
Midwest	18
<b>Sex</b>	
Female	63
Male	37
<b>Religion</b>	
Protestant	32
Jewish	32
Catholic	18
None/atheist	12
Other	6
<b>Year of medical school graduation</b>	
1940–1969	24
1970–1990	76
<b>Medical specialty</b>	
Pediatrics	67
Obstetrics/gynecology	23
Internal medicine/family practice	10
<b>% of patients who are females aged 10–25</b>	
≥50	73
<50	27
<b>Ever prescribe contraception to adolescents</b>	
Yes	84
No	16
<b>Practice setting</b>	
Academic	62
Other	38
<b>Have teaching responsibilities</b>	
Yes	82
No	18
<b>Total</b>	<b>100</b>

Note: Total includes respondents who do not practice clinical medicine (5% of total).

national survey of British health authorities, or boards (which are regional equivalents of public health departments in the United States), 26% of respondents said they prescribed emergency contraception 3–5 times a week, and 57% reported doing so 1–10 times a week; only 19% said they prescribed emergency contraception less than once a week.<sup>17</sup>

A U.S. study reported that 76% of obstetrician-gynecologists and 39% of family practitioners surveyed said they had ever prescribed emergency contraception, whereas two-thirds of emergency department physicians had prescribed the method, almost always to women who had been sexually assaulted.<sup>18</sup> In contrast to British doctors, U.S. physicians who prescribed emergency contraception typically did so infrequently—about 2–6 times a year, depending on their specialty.

## Purpose of the Study

The effective delivery of emergency contraception requires coordination between the patient, the health care system and the provider. Method use may face numerous barriers related to patient attitudes or beliefs. In addition, system-related barriers (e.g., third-party payers' denial of reimbursement for care, health facility policies that restrict use for religious reasons and legal limits on advertising and promotion of unlabeled uses of approved drugs) may impede use.<sup>19</sup> However, we believe that the first step toward understanding emergency contraception utilization is understanding physicians' knowledge of the method and willingness to counsel about and prescribe it.

We have taken the first step toward understanding adolescents' use of emergency contraception by examining the physician aspect of the equation. In order for adolescents to use emergency contraception, they must know of its availability and where to obtain it. Therefore, they must receive counseling about the method before they are exposed to the risk of pregnancy. Unless physicians are confident in their knowledge about emergency contraception, they are unlikely to routinely educate their adolescent patients about its availability and use.

In this article, we report on a survey of physicians who have a specific interest or expertise in adolescent health. The survey questioned these "adolescent health experts" about their attitudes toward emergency contraception and their prescribing and counseling practices. In view of findings from studies of other health care providers,<sup>20</sup> we anticipated that few physicians who offer care for adolescents would prescribe and offer counseling about emergency contraception.

Additionally, we hypothesized that several characteristics of physicians' education might be associated with their prescribing and counseling practices about emergency contraception. We thought physicians trained in obstetrics and gynecology, who would have the most in-depth fertility-related training, might be more likely to prescribe this method than physicians trained in other disciplines, who serve adolescents in general medical settings.

We further expected that since the pill first became available in the 1960s, physicians who completed medical school after 1970 would be the most familiar with it and thus might have the most experience prescribing it for indications other than ongoing contraception (the only purpose for which the pill is approved by the Food

and Drug Administration). We also hypothesized that physicians who work in an academic setting might be more aware of emergency contraception from their reading of the academic literature.

Finally, we thought that if physicians' personal beliefs influence their practice, certain demographic variables (e.g., gender, religious affiliation or location) might be associated with their emergency contraception counseling and prescribing practices.

## Methodology

A 71-item structured interview was developed for this study and pretested on eight adolescent health experts. Questions were formulated to gather data on physicians' educational and demographic characteristics, as well as their general experience providing contraception to adolescents. A section of the interview included questions based on those from earlier studies<sup>21</sup> that explored physicians' attitudes and counseling and prescribing practices related to emergency contraception.

We sampled physicians who belong to the American Academy of Pediatrics Section on Adolescent Health (AAP Section), the North American Society for Pediatric and Adolescent Gynecology (NASPAG) and the Society for Adolescent Medicine (SAM). Excluding overlap, these organizations represent 1,950 U.S. physicians, the majority of those who specialize in adolescent health. (Currently, 231 physicians throughout the United States are board-certified in adolescent medicine; these include 209 pediatricians, of whom 208 are members of SAM.<sup>22</sup>)

After performing an analysis to confirm that the variability among physicians was sufficient to reveal significant differences, we constructed a sample including both clinicians and academic adolescent health experts. We began by selecting every third member from the NASPAG membership list. Next we sampled every eighth member from the SAM list, excluding any individuals who had already been sampled from the NASPAG membership and replacing them with the next name on the list. Last, we sampled every ninth member from the AAP Section list, again eliminating overlaps. This process yielded a sample of 428 physicians.

We sent a letter to these physicians notifying them that in two weeks, we would be calling to schedule a telephone interview about "a topic related to adolescent reproductive health." The letter explained that interviews would be performed confidentially, that the survey was not intended to test their knowledge base and

that the data would be examined solely in aggregate form.

We were able to contact 304 physicians' offices by telephone; the remainder could not be located on the basis of the information from the membership lists. Of these 304 physicians, 26 refused to participate, and 111 could not be scheduled for an interview after five attempts. Thus, our final sample consisted of 167 physicians (55% of those contacted). Participants and physicians who were unable to be interviewed did not differ significantly by gender, specialty or location. Interviews were conducted between July and November 1994 and took an average of 20 minutes to complete.

We analyzed the frequency, range and extent of physicians' attitudes and prescribing and counseling practices. To assess the relationship between physicians' educational and demographic characteristics and their attitudes and practices regarding emergency contraception, we performed chi-square analyses for categorical comparisons, using the Statistical Package for Social Sciences. The study protocol was approved by the institutional review board of the Montefiore Medical Center, New York.

## Results

### Physicians' Characteristics

Participating physicians were distributed across the United States; more were from the Northeast than from any other region of the country (Table 1). Consistent with the distribution of the membership of the organizations surveyed, 63% of respondents were women. The physicians in the sample were predominantly Protestant or Jewish (32% each); most had graduated from medical school after 1970 (76%).

Some 67% of participants were pediatricians, 23% were obstetrician-gynecologists and 10% were internists or family practitioners. Overall, 73% reported that at least half of their patients are women aged 10–25, and 84% said they prescribe contraception to adolescents. While 62% of participants described their practice as situated in an academic setting (i.e., a university or teaching hospital), 82% reported teaching responsibilities, which reflects the additional teaching contribution made by physicians whose clinical work takes place in private practice or other nonacademic settings.

Although 5% of respondents said they do not provide clinical care, they were included in the analysis of attitudes toward emergency contraception because as administrators and researchers, they may still

have an impact on policy and teaching regarding the method. These physicians were omitted from the analyses of prescribing and counseling practices.

### Attitudes Toward the Method

Eight questions were used to assess physicians' attitudes toward emergency contraception for adolescents (Table 2). These questions represented frequently cited concerns noted in the literature regarding the use of the method.

The majority of respondents did not think provision of emergency contraceptive pills would encourage adolescent contraceptive risk-taking (83%) or would discourage adolescents from using other contraceptive methods (61%). While 29% expressed concern that repeated use of emergency contraception would pose health risks (such as complications from high-dose estrogen or an increase in sexually transmitted disease rates if availability of the method led to lax use of barrier methods), 20% were unsure about the health risks. Whereas 55% of respondents said they would provide emergency contraception to an adolescent even if they knew she would continue a pregnancy in the event that the method failed, 38% said they would not.

Although 52% of the physicians surveyed said they would not restrict the number of times they would prescribe emergency contraception to any one patient, only 34% would consider giving emergency contraceptive pills to adolescents to have on hand in case they had unprotected intercourse. Some 77% of respondents did not think emergency contraception should be available over the counter; 75% stated they would prescribe mifepristone for emergency contraception if it was approved for use in the United States.

Two of the eight attitudes toward emergency contraception were significantly correlated with gender (not shown). Male physicians were more likely than females to believe that availability of emergency contraception would encourage contraceptive risk-tak-

ing (19% vs. 8%) and discourage use of other methods (40% vs. 23%). There were no significant differences in attitudes toward emergency contraception by specialty or graduation year.

### Prescribing and Counseling Practices

Of the physicians who prescribe any type of contraception for adolescents, 80% prescribe emergency contraception. However, of these 112 physicians, 81% prescribe this method only a few times a year or less (Table 3, page 18). All of the respondents who offer emergency contraception prescribe some type of pill (with which 46% routinely offer an antiemetic—not shown); none provide adolescents with IUDs for emergency contraception. The respondents' most frequently cited reasons for preferring a particular regimen were their experience with the method, its convenience and its cost (79%, 38% and 13%, respectively, of those who prescribe emergency contraception—not shown).

Whereas 57% of the respondents who offer emergency contraception to adolescents follow the common practice of prescribing the method up to 72 hours after a woman has had unprotected intercourse, 29% prescribe it only for women who seek treatment within 48 hours and 11% use a cutoff of 24 hours. Only 14% limit the number of times they will provide emergency

**Table 2. Percentage distribution of physicians, by responses to survey questions regarding attitudes toward emergency contraception**

Question	Yes	No	Unsure	Total
Do you think that providing emergency contraceptive pills would encourage contraceptive risk-taking behavior?	12	83	5	100
Do you think providing emergency contraceptive pills would discourage compliance with other contraceptive methods?	25	61	14	100
Do you think repeated use of emergency contraceptive pills would pose health risks?	29	51	20	100
At times, emergency contraceptive pills fail to prevent pregnancy. If you knew in advance that a patient would elect to continue her pregnancy if she encountered such a failure, would you prescribe emergency contraception?	55	38	7	100
Would you RESTRICT the number of times you would dispense emergency contraceptive pills to an individual patient?	41	52	7	100
Would you consider prescribing emergency contraceptive pills for the patient to have on hand PRIOR to an episode of unprotected sexual intercourse?	34	56	10	100
Do you think emergency contraceptive pills should be available over the counter, without a prescription?	15	77	8	100
If it was approved by the Food and Drug Administration, would you prescribe mifepristone, or RU-486, for emergency contraception?	75	8	16	100

Note: Percentages may not add to 100% because of rounding.

**Table 3. Percentage of physicians who prescribe emergency contraception to adolescents, by prescribing and counseling practices (N=112)**

Practice	%
<b>Prescribing</b>	
Frequency of prescription	
<once per year	28
A few times per year	53
≥once per month	15
Several times per week	5
Prescribe only in emergency dept. setting	13
Method prescribed	
Ovral	88
Lo-Ovral	29
Nordette	12
Other hormonal	8
IUD	0
Postcoital time restriction (hrs.)	
>72	1
≤72	57
≤48	29
≤24	11
No response	3
Limit the number of times will prescribe	14
Require pregnancy test	64
Prescribe over the telephone	32
Require written informed consent	25
Use timing of menses to determine prescribing	46
<b>Counseling</b>	
Counsel at visits for routine health care	28
Counsel at visits for contraception	41
Counsel sexually inexperienced adolescents	16
Have written information available	
Only on request	18
In exam room	8
In waiting room	6
Other	2

contraception to any one patient.

While 64% of physicians who provide emergency contraception require a pregnancy test, 32% will prescribe this method over the telephone. Among physicians who offer the method, 25% require written informed consent; 46% use the timing of menses to determine if they will prescribe emergency contraception.

Of the 112 respondents who prescribe emergency contraception, 28% use visits for routine health care as an opportunity to counsel about the method's availability; 41% offer such counseling at family planning visits. Only 16% of physicians who prescribe emergency contraception counsel adolescents who are not yet sexually active about its availability. In addition, while 34% of the respondents who prescribe emergency contraception reported that they have printed patient information about the method available in their offices, 18% provide this information only when patients request it, instead of making it available in waiting areas or examination rooms.

**Likelihood of Prescribing**

Various educational characteristics are significantly associated with the likelihood that physicians provide emergency con-

traception to adolescents (Table 4). Whereas 92% of respondents trained in obstetrics and gynecology prescribe this method, only 59% of those trained in pediatrics do so. The proportion providing emergency contraception is higher among respondents who graduated from medical school after 1970 than among those who graduated earlier (77% vs. 35%) and higher among those who described their practice as "academic" than among those working in other settings (76% vs. 52%). Demographic characteristics, on the other hand, were not associated with physicians' likelihood of prescribing emergency contraception.

Among the 20% of adolescent health experts surveyed who prescribe contraception but do not prescribe emergency methods, the predominant reasons for not offering this method are a lack of requests for it, believing that young women will misreport the number of hours that have elapsed since they had unprotected intercourse or will underreport prior unprotected intercourse within the same cycle, and physician inexperience with the method. Only five respondents had moral objections to emergency contraception, and none thought that the method is not effective.

Failure to prescribe emergency contraception was significantly correlated with four negative attitudes toward emergency contraception. Physicians who do not prescribe this method are more likely than those who do to believe that providing emergency contraception would discourage use of ongoing contraceptive methods (43% vs. 22%) and that repeated use of emergency contraception may pose health risks (49% vs. 30%). They also are more likely to favor restricting the number of times emergency contraception is dispensed to any one patient (58% vs. 38%) and less likely to believe that it should be provided to an adolescent who would continue her pregnancy if the method failed (53% vs. 35%).

**Discussion**

Contrary to our initial hypotheses, the majority of U.S. adolescent health experts prescribe emergency contraceptive pills. However, most prescribe this method only a few times a year or less. These physicians' reasons for such infrequent prescription may be related to their attitudes about the effects of the method.

One out of five physicians participating in the survey were unsure whether repeated use of emergency contraceptive pills would pose health risks, while near-

ly one-third thought repeated use definitely would be risky. (Despite research that has demonstrated the safety of the method for onetime use, no studies have assessed risks associated with repeated use.<sup>23</sup>) One-quarter of the physicians in the sample thought that providing emergency contraception would discourage correct use of other contraceptive methods. Perhaps because of these beliefs, close to half of all physicians surveyed would restrict the number of times they prescribed emergency contraception to an individual patient if they provided the method (although only 14% who actually prescribe the method impose this restriction), and more than three-quarters oppose over-the-counter availability.

The uncertainty about the effects of emergency contraception expressed by highly trained expert physicians reflects the paucity of data on this method in the U.S. medical literature.<sup>24</sup> Most studies documenting efficacy, side effects and prescribing practices related to emergency contraception have been conducted outside the United States and reported in the Canadian and European medical literature.<sup>25</sup>

Debate is under way about excessive barriers to emergency contraception.<sup>26</sup> Our survey results indicate that physicians limit adolescents' access to this method in a variety of ways: by restricting use to women who seek the method within 24 or 48 hours after unprotected intercourse, rather than using the standard 72-hour cutoff; by requiring a pregnancy test, written informed consent or a medical visit (instead of prescribing over the telephone); and by using the timing of menses as a further criterion before prescribing emergency contraception. Relying on the timing of menses to determine whether to prescribe this method for adolescents is particularly problematic, since

**Table 4. Percentage of physicians surveyed who prescribe emergency contraception to adolescents, by statistically significant characteristics (N=167)**

Characteristic	%
<b>Medical specialty</b>	
Obstetrics/gynecology	92**
Pediatrics	59
<b>Year of medical school graduation</b>	
1940-1969	35***
1970-1990	77
<b>Practice setting</b>	
Academic	76**
Other	52

\*\*Difference is significant at p<.01. \*\*\*Difference is significant at p<.001. Note: The number of internists and family practitioners was too small for analysis.

adolescents frequently have irregular menses or are unsure of the timing of their last menses.<sup>27</sup>

As predicted, we found that a physician's likelihood of prescribing emergency contraception is associated with educational characteristics. Physicians in this sample who prescribe emergency contraception to adolescents are significantly more likely to be trained in obstetrics and gynecology than in pediatrics, to have completed medical school after 1970 than before and to describe the setting of their practice as academic.

These findings suggest that one reason physicians may infrequently prescribe emergency contraception to adolescents is a lack of appropriate training. In particular, pediatricians do not appear as comfortable or experienced with the method as obstetrician-gynecologists do, even when both have received training in adolescent health and services. However, the differences in the frequency with which obstetrician-gynecologists and pediatricians prescribe emergency contraception to adolescents may also be due, at least in part, to differences in the populations they serve. It is encouraging that the personal beliefs and characteristics of these physicians did not appear to influence their prescribing behavior.

Our finding that only 28% of the adolescent health experts surveyed counsel about emergency contraception at routine health care visits may be partly because those who are most likely to conduct routine health care visits and to see adolescents who have not yet initiated sexual activity are pediatricians rather than obstetrician-gynecologists. An even lower rate of counseling was found in a 1993 survey of U.S. physicians, in which 90% reported that they never or rarely spoke to patients about emergency contraception.<sup>28</sup> Our findings and other data indicate that most primary care physicians in the United States, including adolescent health experts, have not yet realized that increasing adolescents' awareness of the availability of emergency contraception is a prerequisite to increasing their use of the method when they need it.

Our study is limited in its generalizability because we surveyed only members of three national organizations. Since these physicians do not provide the bulk of direct medical care to adolescents, their patients may not be representative of all young women seeking emergency contraception. Furthermore, attitudes and practices regarding emergency contraception may differ among nonphysician

health care providers who see many adolescent patients, such as nurse practitioners, and among family physicians, who were not well represented in this survey yet who care for many adolescents.

On the other hand, a strength of sampling this population is that we included many teachers of adolescent medicine. These physicians not only may be more likely to know about emergency contraception than others who care for adolescents, but also may have a broad influence on the way future generations of physicians will deliver health care.

Although the response rate for our survey was only 55%, the fact that respondents and nonrespondents did not differ with respect to gender, specialty or state of residence increases our confidence that there is no systematic bias in the sample. (Unfortunately, we were not able to collect information about religious affiliation among nonrespondents and thus cannot comment about comparisons in this regard.)

We do not believe that the letter we sent to the selected physicians prior to scheduling the interviews biased our sample, because the letter did not state the topic of the survey. Yet, it is plausible that physicians who were willing to participate in the interviews have more liberal attitudes toward emergency contraception, since only five had moral objections to it. What is unclear is if the low rate of moral objections to using emergency contraception reflects sample bias in the study or if physicians with expertise in adolescent health hold more liberal views toward emergency contraception than other physicians who care for adolescents. While the second alternative seems a plausible explanation, no available data address this issue.

Participating physicians were assured that their knowledge base was not being tested. Nevertheless, they may have based their answers on their perception that the investigators expected that they prescribe emergency contraception, rather than on their actual attitudes and practices. This source of bias may have resulted in over-reporting of emergency contraception prescribing and counseling.

Findings from this survey suggest that many adolescent health experts need to increase their understanding about the safety and behavioral effects of emergency contraception on young women. They also need proper training to ensure that they are comfortable enough with the method to counsel adolescents about it in a timely way and to prescribe it when the situation warrants.

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