Objective: To determine American teenagers’ awareness of and knowledge about emergency contraceptive pills and their likelihood to use them.

Methods: We conducted a nationally representative telephone survey between March 28, 1996, and May 5, 1996, of 1510 teenagers (757 girls and 753 boys), aged 12 to 18 years, living in the continental United States in households with telephones. The sample overrepresented African American, Latino, and low-income teenagers. The error attributable to sampling and other random effects for the total sample is ±3 percentage points at the 95% confidence level.

Results: Of the 1510 teenagers, only about one quarter (23%) were aware that “anything” could be done after unprotected sex to prevent pregnancy. Slightly more (28%) had heard of “morning-after pills” or emergency contraceptive pills. Of the 423 teenagers who had heard of emergency contraceptive pills, one third (32%) did not know that a prescription is necessary to obtain them, and three quarters (78%) underestimated how long after unprotected intercourse the emergency contraceptive pill regimen could be initiated. Only 9% knew that emergency contraceptive pills are effective as long as 72 hours after unprotected sex. After being told about the option of emergency contraceptive pills, two thirds (67%) of teenage girls said that they would likely use emergency contraceptive pills. Among the 66% of teenage girls who had not previously heard of emergency contraceptive pills, 64% said that they would be likely to use them.

Conclusions: Emergency contraceptive pills have great potential as a tool for reducing unplanned pregnancies among teenage girls in the United States. Few teenage girls were aware that this option exists. Once informed, teenage girls reported being very interested in taking emergency contraceptive pills if needed.
reduce the risk of pregnancy by at least 75%. Many reproductive health experts believe that the number of unplanned pregnancies and abortions in this country could drop with widespread access to emergency contraceptive pills but that lack of public knowledge limits their use.

Earlier research has shown that awareness of emergency contraception among adults in the United States is low. Many Americans are misinformed about the use of emergency contraceptive pills. In a 1993 nationally representative telephone survey, only 36% of adult men and women indicated that they knew that "anything could be done" within a few days after unprotected sex to prevent pregnancy. Fifty-four percent said that they had "heard of" emergency contraceptive pills, or "morning-after pills," and only 1% of women had ever used them. Among those who said that they had heard of emergency contraceptive pills, only 9% knew that the method is effective as long as 72 hours after intercourse. Most respondents (69%) believed that pills must be taken within 24 hours or less and 16% were not sure, indicating that many who had heard of emergency contraceptive pills were misinformed about the time frame in which the pills need to be taken. After being read a statement informing them about emergency contraceptive pills, nearly half (47%) of adult women responded they would be likely to use emergency contraceptive pills if needed.

Knowledge among adults of emergency contraceptive pills is higher in other countries. Recent studies of awareness of and knowledge about emergency contraception among different populations of women in Australia, England, and New Zealand found that at least two thirds were aware of emergency contraceptive pills. Few studies have been conducted to assess teenagers' awareness. A small study in the United States of 133 girls and women aged 13 to 20 years found that just 44% had heard of emergency contraception. In contrast, a recent study of teenagers in Scotland revealed that 98% of girls and 87% of boys aged 14 to 15 years had heard of emergency contraception. One third (31%) of the teenage girls in the study said that they had used emergency contraceptive pills. A study of pregnant teenagers in England found that 81% had heard of emergency contraception.

In this article, we report the results of the first nationally representative telephone survey of American teenagers about...
their awareness of and knowledge about emergency contraceptive pills and their reported likelihood of using them once they have been made aware of this option. In general, we hypothesized that knowledge among teenagers would be extremely limited but that attitudes toward the method on learning about it would be positive. We also address the influence of demographic factors (sex, age, race or ethnicity, and socioeconomic status), sexual experience, prior pregnancy testing, use of birth control, and sources of information about sex and birth control on knowledge and attitudes toward emergency contraceptive pills.

| Table 1. Teenaged Girls' Awareness of Emergency Contraceptive Pills (ECPs) |
|-----------------------------|-----------------------------|-----------------------------|
| **Variable**                | **Frequency, %**            |
|                             | Has Heard of ECPs | Has Not Heard of ECPs | Does Not Know or Refused n |
| **Demographic Data**        |                            |                            |                            |
| Age, y                      |                            |                            |                            |
| 12-14                       | 15  85 *  322              |
| 15-16                       | 44  55  1  242              |
| 17-18                       | 51  48  1  193              |
| Race or ethnicity           |                            |                            |                            |
| African American            | 18  81  1  171              |
| Latina                      | 25  72  3  158              |
| White                       | 37  62  1  379              |
| Household income, $          |                            |                            |                            |
| <20 000                     | 30  68  2  188              |
| ≥20 000                     | 34  66 *  4  498             |
| Sexually experienced (has had sex) |            |                            |                            |
| Yes                         | 53  47 *  209               |
| No                          | 26  73  1  537               |
| Use of birth control among teenaged girls who have had sex |                            |                            |                            |
| All or most of the time     | 58  42  0  148              |
| Only sometimes              | 39  61  0  37               |
| Not at all                  | 37  59  4  23               |
| Pregnancy test use among teenaged girls who have had sex |                            |                            |                            |
| Yes                         | 47  52  1  95               |
| No                          | 59  41  0  100              |
| Sources of Information      |                            |                            |                            |
| Learned a lot about birth control and pregnancy from |                            |                            |                            |
| Physicians or nurses in physician's office | 36  60  4  122 |
| School staff or classes     | 32  67  1  305              |
| Friends                     | 42  58 *  224               |
| Parents                     | 35  64  1  352              |
| Among girls who read magazines regularly, read magazines for information on sex, birth control, and sexually transmitted diseases |                            |                            |                            |
| Yes                         | 44  56  0  255               |
| No                          | 28  71  1  234               |

*Less than 1.

Because age and race or ethnicity have a significant impact on awareness of emergency contraception, we conducted partial correlation coefficient analyses to determine the effect of other variables independent of age and race or ethnicity. Five variables that seem likely to have an effect on awareness are sexual experience; consistency of birth control use; whether a teenager has taken a pregnancy test (among sexually experienced teenaged girls); sources of information on birth control and pregnancy; and whether a teenager reads magazines for information on sex, birth control, or sexually transmitted diseases. The results appear in Table 2.

The partial correlation coefficient analyses demonstrate that, independent of the influence of age or race or ethnicity, teenaged girls who are sexually experienced, have not taken a pregnancy test, get a lot of information about birth control and pregnancy from friends, and use magazines for information about sex, birth control, or sexually transmitted diseases are more likely to have heard of emergency contraceptive pills than other teenaged girls.

**RESULTS**

**KNOWLEDGE OF EMERGENCY CONTRACEPTION**

Little information about emergency contraception has reached teenagers. Fewer than one quarter (23%) of teenaged girls or boys were aware that “anything” could be done after unprotected sex to prevent pregnancy. Only slightly more (28%) had heard of emergency contraceptive pills or morning-after pills. Teenaged girls were somewhat more likely than teenaged boys to have heard of emergency contraceptive pills (33% compared with 24%) (P<.01). Just 1 in 10 teenagers had both heard of emergency contraceptive pills and was also aware that something could be done after sex to prevent pregnancy.

Having heard of emergency contraceptive pills, however, does not necessarily indicate that teenagers have sufficient knowledge about how to use them. Of the 423 teenagers who had heard of emergency contraceptive pills, one third (32%) did not know that they need to get them from a physician and three quarters (74%) underestimated how long after sexual intercourse they had to initiate the emergency contraceptive pill regimen. Only 9% knew that emergency contraceptive pills could be used as long as 72 hours after unprotected sex. Teenaged girls and boys were equally misinformed on each of these issues.

Focusing on responses from teenaged girls, the most noteworthy differences in whether they had heard of emergency contraceptive pills occur by age and race or ethnicity (Table 1). Only 15% of girls aged 12 to 14 years had heard of the pills compared with 44% of girls aged 15 to 16 years and 51% of girls aged 17 to 18 years. White teenaged girls (37%) were twice as likely as African American teenaged girls (18%) (P<.01) and 50% more likely than Latina teenaged girls (25%) (P<.01) to have heard of them. In addition, teenaged girls who reported using birth control only sometimes or not at all were less likely to have heard of emergency contraceptive pills. Teenagers’ sources of information on birth control and pregnancy also indicated whether they had heard of the pills. Teenaged girls who said they turn to magazines for information on these topics were more likely to have heard of emergency contraceptive pills than other girls.

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INTENTION TO USE EMERGENCY CONTRACEPTION

After being informed about emergency contraceptive pills, two thirds (67%) of teenaged girls overall responded that they would be likely to use them. Of teenaged girls who had not heard of emergency contraceptive pills before the survey, 64% said that they would be likely to use them. Of the teenaged girls who had heard of them before the survey, 64% said that they would use them. Of teenaged girls who had not heard of emergency contraceptive pills before the survey, 64% said that they would be likely to use them.

Table 3 illustrates teenaged girls’ reported likelihood of using emergency contraceptive pills by a variety of characteristics. Again, the biggest differences occur among teenaged girls of different age and racial and ethnic groups. Somewhat fewer 17- and 18-year-old girls reported that they were likely to use emergency contraceptive pills (62%) than girls aged 12 to 16 (69%). Conversely, 38% of girls aged 17 to 18 years compared with 23% of girls aged 12 to 14 years said that they would be not too or not at all likely to use the pills (P<.01). Of the African American teenaged girls, significantly more (76%) said they would be likely to use emergency contraceptive pills compared with their white (67%) or Latina (66%) counterparts (P<.05).

Sexually active teenaged girls who reported using birth control most or all of the time were less likely than those who reported using birth control sometimes or not at all to say that they would use emergency contraceptive pills (69% compared with 79%).

Among those who had heard of emergency contraceptive pills, teenaged girls who knew that the pills can be taken as long as 72 hours after sexual intercourse were not much more likely to say they would use them than
be likely to use emergency contraception if they had un-
proportion of teenagers who reported that they would
els of knowledge among teenagers. However, the high
ergency contraception, it is not surprising to find low lev-
In light of American adults’ limited awareness of emer-
formation on birth control and pregnancy from physicians,
nurses, or other health professionals reported that they
would be likely to use emergency contraceptive pills (100%).
Where teenaged girls get information on birth con-
control and pregnancy also appears to make a difference in
whether they report being likely to use emergency con-
traceptive pills. More of those who said they learn a lot
about birth control and pregnancy from physicians, nurses,
or other health professionals reported that they
would be likely to use emergency contraceptive pills (83%)
than those who said they learn a lot about these topics
from their friends (71%), school staff or classes (69%),
or their parents (64%) (P<.01). The relationship be-
tween learning about birth control and pregnancy from
physicians, nurses, or other health professionals and re-
ported likelihood of using emergency contraceptive pills stands up even after controlling for age or race or eth-
nicity (Table 4). Also independent of age and race or ethnicity, magazine readers who turn to magazines for
information on sex, birth control, or sexually transmitted
diseases were more likely to say that they would use
emergency contraceptive pills than those who do not turn
to magazines for information on these topics.

| Table 4. Partial Correlation Coefficients for Whether Teenaged Girls Are Likely to Use Emergency Contraceptive Pills (ECPs) |
|-------------|------------------|---------|
| Variable                | Partial Correlation Coefficient* | n |
| Sexually experienced   | 0.11†            | 689 |
| Consistency of birth control use among 
  teenaged girls who have had sex | -0.02 | 174 |
| Among teenaged girls who have had sex, 
  those who have taken a pregnancy test | -0.07 | 130 |
| Learned a lot about birth control and 
  pregnancy from 
  Physician or nurse in physician’s office | 0.10† | 689 |
| School staff or classes | 0.03 | 689 |
| Friends                 | 0.07 | 689 |
| Parents                 | -0.04 | 689 |
| Among girls who read magazines regularly 
  Read magazines for information on sex, birth control, and sexually transmitted diseases | 0.13† | 497 |
| Has heard of ECPs       | 0.10† | 689 |

*The partial correlation coefficient (rₐ) represents what correlation remains between 2 variables when the effects of 1 or more other variables, in this case, age and race or ethnicity, are removed or eliminated. For example, when controlling for the powerful effects of age and race or ethnicity on awareness of emergency contraception, we found a highly significant correlation (0.10, P<.01) between sexual experience and having heard of emergency contraceptive pills.
†P<.01.

Girls who did not know this (84% vs 75%). Of the teen-
aged girls who knew they need to get a prescription to
obtain emergency contraceptive pills, 69% said that they
would be likely to use them if needed. In contrast, all those
who did not know they needed a prescription reported
being likely to use emergency contraceptive pills (100%).

Many of the teenaged girls least informed about
emergency contraceptive pills said that they would use
the pills. Although few younger teenaged girls (aged
12-16 years) had heard of emergency contraceptive pills, they were more likely than their older peers to report being likely to use them. Young teenaged girls may feel more opposed to becoming pregnant or bear-
ing a child than older teenagers and thus more eager to
prevent a potential pregnancy.

Why is it that older teenagers (aged 17-18 years) were
more likely to be aware of emergency contraceptive pills? In
part, this may reflect the fact that older teenaged girls
are more likely to be sexually experienced or have friends
who are and older teenagers might also be more likely
to have had an unplanned pregnancy scare. Forty-five per-
cent of sexually experienced teenaged girls reported that
they have taken a pregnancy test. It is possible that a small
proportion of these girls may have been informed about
emergency contraceptive pills by a health professional
when they went to get tested, although overall knowl-
edge among teenaged girls who had taken pregnancy tests
was low. Older teenaged girls were also slightly more likely
to read women’s magazines, which have devoted some
coverage to emergency contraception during the last few years. Older teenaged girls may be less inclined to say
that they would use emergency contraception because
they have more confidence in their ability to use contra-
ception or because they feel more capable of dealing with
an unplanned pregnancy.

African American teenaged girls, while less likely to
have heard of emergency contraceptive pills than their
white or Latina peers, reported being more likely to use
them once informed about the pills. African American
teenaged girls were also more likely than their white or
Latina counterparts to say that they are worried that they
will get pregnant and express a need for information about
how girls get pregnant, how to use different kinds of birth
control methods, and where to get birth control. Afri-
can American teenagers tended to rely on the same sources
of information, including their parents, about birth con-
tral and pregnancy as white or Latina teenagers. Yet, adult
African American women are less informed than their
white and Latina counterparts about emergency contra-
ception, perhaps contributing to the knowledge gap
among African American teenagers.

When asked which source they most prefer for in-
formation on birth control, teenaged girls cited their par-
ents. However, teenagers were more likely to say they get
their information on birth control and pregnancy from
school staff or classes rather than from their parents.

In light of American adults’ limited awareness of emer-
gency contraception, it is not surprising to find low lev-
els of knowledge among teenagers. However, the high
proportion of teenagers who reported that they would
be likely to use emergency contraception if they had un-
protected sex is especially striking. These analyses iden-
tify several subgroups of teenagers who said that they
would use emergency contraceptive pills if needed but
at the time of the survey lacked sufficient information
to seek services. These teenagers are appropriate targets
for further education. Research in other countries has
shown that it is possible to achieve high levels of aware-
ness about emergency contraception among both adults
and teenagers. Widespread awareness about this contra-
ceptive alternative is accompanied by higher levels of use
in these countries. Our research with American teenagers
suggests that this would likely be the case here as well.

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School, friends, magazines, and health professionals may potentially be important sources of information on emergency contraceptive pills. Those teenaged girls who rely on these sources for general birth control information were more aware of emergency contraceptive pills than were teenagers who rely on other sources. With regard to health professionals, however, earlier research has shown that even obstetricians-gynecologists do not take a significant role in informing patients about emergency contraceptive pills. Rather, they tend to inform patients only in response to emergency situations. 

Many factors point to the importance of having prior awareness of emergency contraceptive pills when it comes to the likelihood of using them. Teenaged girls who had heard of emergency contraceptive pills were significantly more likely to say that they would use them compared with teenaged girls who had not previously heard of them. The fact that teenaged girls who read magazines for information on sex, birth control, and sexually transmitted diseases and those who learned a lot about birth control and pregnancy from health professionals were more likely to say that they would use emergency contraceptive pills may reinforce their perception that emergency contraceptive pills are an acceptable option. In addition, teenaged girls who learn about emergency contraceptive pills from health professionals are probably also more informed about where to go for the pills if they need them. 

Sexually experienced teenaged girls who perceive themselves to be inconsistent contraceptive users (using birth control only sometimes) were significantly more likely to say that they would use emergency contraceptive pills yet were less informed about them than teenaged girls who reported using contraception consistently (most or all of the time). This suggests that inconsistent birth control users are interested in taking steps to improve their pregnancy prevention efforts and would benefit from more information. 

It appears that for some teenaged girls the likelihood of using emergency contraceptive pills is tempered by the perceived barriers to services, such as the need to get a prescription from a physician or the short time frame in which they think the pills are effective. Teenagers who underestimate how long they have to initiate the emergency contraceptive pill regimen were less likely to think they would use them, perhaps because they feel overwhelmed by the short interval for getting to a physician. The data also suggest that teenagers who were aware they would need to get a prescription from a physician for emergency contraceptive pills were less likely to think they would use them. The challenges of getting to a physician when many teenagers do not have a regular provider, sharing sensitive information, and finding a physician who will prescribe emergency contraception also may seem overwhelming. Teenagers' lack of knowledge about these hurdles may slightly bias them toward saying they would be likely to use emergency contraceptive pills. 

While the analyses in this article focus mostly on teenaged girls, the importance of teenaged boys' knowledge of emergency contraceptive pills should not be understated. It is interesting that there were few significant differences in awareness between teenaged girls and boys, although both sorely lacked knowledge about this emergency contraceptive option. Teenaged boys who are aware of emergency contraceptive pills and familiar with the time frame in which they can be used can inform and support their female sexual partners in times of emergency need. 

CONCLUSIONS 

Emergency contraceptive pills can be a valuable tool for reducing unplanned pregnancies among teenagers in the United States, yet few teenagers we surveyed were aware that this option existed. However, once told, many said that they would be interested in using emergency contraceptive pills. This survey helped to identify groups of teenagers who lack information about emergency contraception but who are particularly interested in using this option, in particular, younger teenagers, African American teenagers, and teenagers who use birth control inconsistently. 

To improve awareness, channels of communication with teenagers about emergency contraception need to be expanded to draw on sources that teenagers say they prefer and find most complete and reliable, such as their parents, health professionals, or staff and classes at school. Given that teenagers turn to their friends for information as well, elevating the level of knowledge among teenagers generally is an important concomitant strategy. Other sources, such as health professionals, can also play a role in informing teenagers by counseling them about this option in nonemergency situations when teenagers seek routine care, as well as when teenagers come to the office for pregnancy tests or after having unprotected sex. 

Several events have occurred in the past 2 years that may help to expand access to emergency contraceptive pills. In June 1996, the US Food and Drug Administration's Maternal and Reproductive Health Drugs Advisory Committee reviewed published clinical research and concluded that "emergency" use of oral contraceptive pills within 72 hours of unprotected intercourse is safe and effective in reducing the risk of pregnancy. The American College of Obstetricians and Gynecologists has also endorsed the emergency use of oral contraceptives and issued practice guidelines on this subject. In addition, the Reproductive Health Technologies Project has established a toll-free national hot line (1-888-NOT-2-LATE) to provide callers with information about emergency contraception and referrals to local health care professionals who can prescribe it. 

While many in the reproductive health community are familiar with and supportive of the provision of emergency contraceptive pills, health professionals not practicing in obstetrics and gynecology and health plans and health benefits purchasers would benefit from further information about this option. The health care industry can move beyond endorsing the use of emergency contraceptive pills to expanding their availability: health care professionals could take a more proactive role by telling their patients about the pills and providing them both in advance of and in response to emergency situations, health insurance plans could cover them explicitly, and
health benefits purchasers could put pressure on health plans to make emergency contraceptive pills a regular part of health insurance benefits packages. Most importantly, the public, especially teenagers, could be informed that this option exists. Only with greater awareness and availability can the potential for emergency contraceptive pills in reducing the number of unplanned pregnancies be realized.

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