

A Survey of Teenagers' Attitudes Toward Moving Oral Contraceptives Over the Counter

CONTEXT: Evidence suggests that over-the-counter access to oral contraceptives may help expand use among adult women. Teenagers may particularly benefit from this approach, as they experience disproportionately high rates of unintended pregnancy and face unique challenges accessing contraceptives. However, limited research has explored teenagers' attitudes toward over-the-counter access.

METHODS: In 2014, a sample of 348 females aged 14–17, recruited via Facebook advertisements, participated in an online survey assessing teenagers' attitudes toward over-the-counter access and their understanding of how to use oral contraceptives after reading a prototype over-the-counter product label. Differences by participants' characteristics were assessed in bivariate analyses (Pearson chi-square and Fisher's exact tests for categorical measures, and independent t tests and one-way analyses of variance for continuous measures).

RESULTS: Seventy-three percent of participants supported over-the-counter access, and 61% reported that they would likely use oral contraceptives available through this approach. Few subgroup differences were found. Notably, sexually experienced participants were significantly more likely than others both to support this approach (85% vs. 63%) and to be interested in obtaining oral contraceptives this way (77% vs. 48%). Participants understood an average of 7.1 of eight key concepts that the prototype product label was intended to convey; no significant differences were found among subgroups.

CONCLUSIONS: Over-the-counter access may be a promising approach for providing oral contraceptives to teenagers. Additional research is needed to evaluate whether teenagers can screen themselves for contraindications to oral contraceptive use and correctly use oral contraceptives obtained over the counter.

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Unintended pregnancy among teenagers in the United States is an important public health issue, as 82% of pregnancies among women aged 15–19 are unintended.¹ Inconsistent use or nonuse of contraceptives accounts for the majority of all unintended pregnancies,² and lack of access to contraceptives is a main reason for nonuse among teenagers experiencing an unintended pregnancy.³ Barriers to contraceptive access—including cost, lack of transportation or health insurance, inconvenient health care provider and pharmacy locations, and confidentiality concerns—can lead to gaps in contraceptive use or to contraceptive nonuse and increase teenagers' risk of unintended pregnancy.^{4–6} Strategies to increase access and use among this population are needed.

Removing the prescription requirement for oral contraceptives has been recommended as an approach to reduce unintended pregnancy and increase contraceptive access among U.S. women. Several medical organizations have issued statements in support of removing the prescription requirement, citing the safety and effectiveness of over-the-counter access.^{7–9} And available evidence demonstrates that women support and are interested in such access. In 2011, a nationally representative survey of 2,046 adult women at risk of unintended pregnancy found that 62% supported over-the-counter access, and 37% considered

themselves likely to obtain oral contraceptives through this method.¹⁰ Several characteristics have been linked with increased likelihood of support for and use of over-the-counter access: being relatively young; having recently had unprotected sex; having experienced a pregnancy; having ever used or being a current user of oral contraceptives; living in the South, rather than the Northeast; and being uninsured or having private insurance, as opposed to having public insurance.^{10–12} Additionally, research shows that women believe over-the-counter access would make it easier and more convenient to get oral contraceptives, reduce unwanted pregnancies, and save users time and money by eliminating the need to visit a health care provider.^{10–14}

Teenagers may particularly benefit from over-the-counter access, as they experience disproportionately high rates of unintended pregnancy and face unique challenges accessing contraceptives.^{1,4,5,15} In a 2011 survey of women seeking abortion care at six U.S. clinics, 69% of 15–17-year-olds supported over-the-counter access, and 47% reported they would be likely to obtain oral contraceptives through this method.¹² However, few data exist on attitudes toward over-the-counter access among teenagers not seeking abortion care. Additionally, adult women have expressed concern about whether teenagers can learn to use oral contraceptives correctly without guidance from a health care

provider;^{10,13,16} teenagers' ability to understand instructions on a product label has not yet been explored.

Given concerns about removing the prescription requirement for emergency contraception without age restriction,¹⁷ any efforts to move oral contraceptives over the counter will likely generate similar discussions regarding teenagers' access. Research on teenagers and over-the-counter access can help inform future policy decisions about whether to move oral contraceptives over the counter without age restriction. The aims of this study were to assess female teenagers' attitudes toward oral contraceptives' being available for teenagers over the counter, as well as through pharmacy access (another provision model that may expand use^{10,18}), and their understanding of a prototype over-the-counter product label.

METHODS

Study Design

During September 2014, females aged 14–17 were recruited via Facebook advertisements to participate in an online survey. Facebook is an effective recruitment tool for adolescent health research,¹⁹ and the majority of 14–17-year-olds use it;²⁰ additionally, the distribution of Facebook users by race and ethnicity is estimated to be similar to that of the U.S. population.²¹ Advertisements were targeted to appear only on the Facebook pages of females aged 14–17 living in the United States. The target population excluded 18–19-year-olds because they have different opportunities for contraceptive access than younger teenagers, who are minors.²² The advertisements were paid for using a strategy in which a cost was incurred each time the advertisement was clicked, regardless of consent or participation in the study. The average cost per click was \$0.52, and the average cost per complete survey was \$5.98, as not all people who clicked on the advertisement completed the survey.

The advertisement included a brief description of the study and prompted interested users to click for more information. Those who did so were directed to the Web site of an online survey, where they were given information about the purpose of the study and were screened for eligibility. Criteria for participation were being age 14–17, female and proficient in reading and writing English. All eligible individuals were provided with an assent form detailing the research project and were asked to electronically indicate their assent to participate. A waiver of parental consent was obtained, and the study protocol was approved by the Emory University Institutional Review Board. Participants who completed the survey and provided an e-mail address received a five-dollar Amazon gift card.

Measures

The survey instrument was developed after a review of the literature on over-the-counter access and consultation with experts in the study's subject matter. It was then reviewed in person with three teenage peer educators to ensure that questions were correctly understood, and piloted with 35 Facebook users (recruited using the same eligibility criteria

TABLE 1. Percentage distribution of participants in a study of teenagers' attitudes toward over-the-counter access to oral contraceptives, by selected characteristics, 2014

Characteristic	% (N=348)
Age	
14	12.9
15	24.4
16	30.5
17	32.2
Race/ethnicity	
White	67.3
Hispanic	13.3
Black	5.6
Asian	2.9
Other†	10.9
Region	
West	30.2
South	27.0
Midwest	22.1
Northeast	20.7
Geographic area	
Suburban	52.8
Rural	26.4
Urban	20.8
Type of insurance	
Private	40.7
Public	32.6
Have insurance, don't know type	20.8
None	5.9
Ever had sex	
Yes	44.4
No	55.6
Ever had unprotected sex‡	
Yes	59.6
No	40.4
Ever used birth control‡	
Yes	89.9
No	10.1
Ever used oral contraceptives§	
Yes	57.5
No	42.5
Ever been pregnant‡	
Yes	12.2
No	87.8
Ever been tested for STDs‡	
Yes	43.8
No	56.3
Total	100.0

†Includes participants who reported more than one race. ‡Among participants who had had sex. §Among participants who had used birth control. Note: Percentages may not add to 100.0 because of rounding.

described above) to validate the data collection process. Participants were asked about their age, race and ethnicity, health insurance status, education level and state of residence, and whether they lived in a rural, suburban or urban area. Questions about participants' sexual and reproductive characteristics included whether they had ever had sex (defined as penile-vaginal intercourse), ever used any contraceptive (and, if so, which methods), ever been pregnant and ever been tested for STDs.

Participants were also asked about their attitudes toward oral contraceptives' being available for teenagers through over-the-counter access and through pharmacy access. The term "teen" was used in the survey instrument and was intended to refer to individuals of the same age-group as the study participants, though this was not stated. Over-the-counter access was described as follows: "Teens could buy birth control pills at a drugstore or grocery store, just like vitamins or shampoo. Teens wouldn't need a prescription and wouldn't need to talk to anyone about buying birth control pills (not a doctor, pharmacist, or parent) unless they wanted to. Health insurance may or may not cover the cost of birth control pills bought over the counter." Pharmacy access was described in the following way: "Teens could buy birth control pills from a pharmacist (someone that gives out medicine) at a drugstore or grocery store. Teens wouldn't need a prescription, but they would need to ask the pharmacist for birth control pills and answer some questions about their health before getting the pills. Health insurance may or may not cover the cost of birth control pills bought through pharmacy access."

Support for each type of access was measured separately. Participants were considered to support the given approach if they reported being strongly or somewhat in favor of it (as opposed to being strongly against, somewhat against or not sure, or preferring not to answer). Similarly, likelihood of using each type of access was measured separately. Participants were considered likely to use an approach if they reported being very or somewhat likely to use it (as opposed to being very or somewhat unlikely, not sure or not interested in using birth control pills, or preferring not to answer).

Participants were asked the highest price they would be willing and able to pay for each month's supply of birth control pills obtained over-the-counter and through pharmacy access. Possible responses were \$0, a five-dollar price range beginning at \$1–5 and ending at \$46–50, and \$51 or more.

Another question asked participants to indicate the one biggest advantage and disadvantage of over-the-counter access. Participants could choose from a list of options identified in previous research as reasons why women support over-the-counter access (e.g., "Fewer teens would get pregnant") or oppose it (e.g., "Teens might not use condoms to protect against STDs"),^{10,12,13} or they could write in their own responses.

The survey also included questions assessing comprehension of a prototype label* for an over-the-counter progestin-only pill. A label for this type of product was selected because progestin-only pills have fewer medical contraindications to use than combined pills and would likely be the first type of oral contraceptive to move over the

*The Oral Contraceptives Over the Counter Working Group, a coalition of organizations, researchers and clinicians committed to providing women with easier access to contraceptives, developed the product label by reviewing the Food and Drug Administration's requirements for an over-the-counter drug facts label, the United States Medical Eligibility Criteria for Contraceptive Use and the norethindrone prescription progestin-only pill product label.

TABLE 2. Percentages of participants who support over-the-counter and pharmacy access to oral contraceptives, and who are likely to use these access strategies, by selected characteristics

Characteristic	Over-the-counter access		Pharmacy access	
	Support	Likely to use	Support	Likely to use
All	72.7	60.9	79.3	56.9
Age				
14	66.7	48.9	75.6	51.1
15	77.6	63.5	75.3	50.6
16	73.6	61.3	82.1	55.7
17	70.5	63.4	81.3	65.2
Race/ethnicity				
White	72.8	63.2	80.3	58.3
Hispanic	71.1	62.2	75.6	60.0
Black	78.9	47.4	73.7	36.8
Asian	60.0	50.0	70.0	50.0
Other†	75.7	59.5	81.1	56.8
Region				
West	71.4	55.2	81.9	55.2
South	73.4	63.8	76.6	56.4
Midwest	70.4	59.7	75.3	54.5
Northeast	72.2	66.7	83.3	62.5
Geographic area				
Suburban	74.7	63.5	86.5	61.2
Rural	70.6	57.6	72.9*	56.5
Urban	80.6	64.2	79.1	55.2
Type of insurance				
Private	70.4	63.2	83.2	61.6
Public	81.0	66.0	85.0	60.0
Have insurance, don't know type	81.3	62.5	82.8	59.4
None	61.1	66.7	77.8	66.7
Ever had sex				
Yes	84.7*	77.3*	85.3*	72.7*
No	62.8	47.9	74.5	44.1
Ever had unprotected sex				
Yes	85.1	81.6	83.9	71.3
No	86.4	72.9	88.1	74.6
Ever used birth control				
Yes	86.6	79.9	85.8	75.4
No	73.2	60.0	86.7	53.3
Ever used oral contraceptives				
Yes	84.4	77.9	85.7	75.3
No	89.5	82.5	86.0	75.4
Ever been pregnant				
Yes	72.2	72.2	88.9	61.1
No	86.8	78.3	86.0	75.2
Ever been tested for STDs				
Yes	76.2*	73.0	82.5	73.0
No	91.4	80.2	87.7	71.6

*Differences among subgroups are significant at $p < .05$. †Includes participants who reported more than one race.

counter.²³ Participants were asked to read the product label and answer closed-ended questions about eight key concepts that were determined to be important for safe and effective use of progestin-only pills. (For example, a question to assess understanding that these pills do not prevent STDs read as follows: "Katie used this pill because she wanted to be sure she didn't get any STDs or HIV. Was this a correct use of this pill?" Another question tested understanding that women

TABLE 3. Percentage distribution of participants, by characteristic of over-the-counter access to oral contraceptives that they considered the greatest advantage and the greatest disadvantage

Characteristic	%
Greatest advantage	
Fewer teenagers would get pregnant	44.5
It would be easier for teenagers to get oral contraceptives	22.4
It would be more confidential	13.5
It would feel less embarrassing	6.3
It would be more convenient	6.0
Other†	2.6
No benefits	4.6
Greatest disadvantage	
Teenagers might not use condoms to protect against STDs	21.6
Teenagers need a doctor to decide if oral contraceptives are safe for them	18.7
Teenagers might have sex at a younger age	18.1
Teenagers might use oral contraceptives incorrectly	15.8
Teenagers might not get tested for STDs	6.6
Oral contraceptives might cost more over the counter	5.5
Teenagers might not talk to their parents about birth control	4.6
Other‡	2.0
No worries	7.2
Total	100.0

†Includes respondents who answered “don’t know” or “it would save time,” or who provided a write-in response. ‡Includes respondents who answered “don’t know” or provided a write-in response. Note: Percentages may not add to 100.0 because of rounding.

TABLE 4. Percentage of participants who understood key concepts from prototype progestin-only pill label

Concept	%
Pills do not prevent STDs, including HIV	94.8
Pills should not be used by individuals with an allergy to any ingredient	93.7
Side effects include irregular periods	93.1
Condoms should be used for at least the first two days after starting pills	92.5
Pills should be taken at the same time each day	92.5
If a pill is taken more than three hours late, users should employ condoms or abstain from sex for two days	90.2
Users should contact a doctor immediately if they experience abdominal pain	86.5
Another pill should be taken immediately if vomiting occurs within two hours of taking pills	63.2

who vomit within two hours of taking a progestin-only pill should take another pill immediately: “Destiny vomited 1 hour after taking this pill. She takes another pill as soon as she can. Was this a correct use of this pill?”) Participants could refer to the product label while answering questions.

Analysis

All statistical analyses were conducted in SPSS 22.0. Primary outcomes related to participants’ attitudes were support for over-the-counter access and likelihood of over-the-counter use; secondary outcomes were support for pharmacy access and likelihood of pharmacy access use. For the label comprehension component of the survey, the primary outcome was the mean number of key concepts understood by participants.

Bivariate analyses were conducted to determine differences by participant characteristics that have previously been found to have an association with support for and likelihood of over-the-counter use (age, race and ethnicity, U.S. region, health insurance status, having experienced a pregnancy, having had unprotected sex, and having used

contraceptives and oral contraceptives),^{10–12,18} as well as characteristics that have been shown to be associated with teenagers’ contraceptive behaviors (sexual activity, rural-urban residence and STD screening).^{24,25} Pearson chi-square and Fisher’s exact tests were conducted to determine subgroup differences in categorical measures; independent samples t tests and one-way analyses of variance were conducted for our one continuous measure (mean number of key concepts participants understood after reading the prototype label). Participants who preferred not to answer questions about their demographic and reproductive characteristics were excluded from analyses.

RESULTS

Sample Characteristics

The Facebook advertisements received 3,720 clicks; 482 teenagers consented to participate, and 348 completed the survey. Demographic and reproductive characteristics are not available for those who did not complete the survey.

Most participants (63%) were 16 or 17 years old; 24% were 15, and 13% were 14 (Table 1). The majority were white (67%). Participants were from 44 states and the District of Columbia (not shown); no U.S. region predominated. Some 53% of participants lived in suburban areas. The majority had health insurance (41% private and 33% public); 21% reported having health insurance but not knowing what type, and the rest were uninsured.

Forty-four percent of participants had had sex; among this group, 60% had had unprotected sex, 90% had used contraceptives, 12% had been pregnant and 44% had been tested for STDs. Among ever-users of contraceptives, 58% had used oral contraceptives.

Over-the-Counter Access

Overall, 73% of respondents supported teenagers’ being able to access oral contraceptives over the counter (Table 2). Participants who had had sex were significantly more likely to support over-the-counter access than were those who had not (85% vs. 63%). Additionally, participants who had never been tested for STDs were significantly more likely to support over-the-counter access than were those who had been tested (91% vs. 76%).

Sixty-one percent of respondents reported being likely to use oral contraceptives if they were available over the counter. Sexually experienced participants were significantly more likely than others to report they would use oral contraceptives available by this means (77% vs. 48%).

Among participants who considered themselves likely to use oral contraceptives over the counter, 1% would not be willing and able to pay any amount for each month’s supply of pills, 20% would pay \$1–10, 43% would pay \$11–20, 33% would pay \$21 or more, and 4% were unsure how much they would pay (not shown).

Most commonly, participants reported that the greatest advantage of teenagers’ being able to get oral contraceptives over the counter is that fewer teenagers would get

pregnant; 45% cited this advantage (Table 3). Other common responses were that it would be easier for teenagers to get birth control (22%) and it would be more confidential (14%). When asked the greatest disadvantage of teenagers' being able to get oral contraceptives over the counter, the largest proportion of participants (22%) reported that teenagers might not use condoms to protect against STDs. Other common responses were that teenagers need a doctor to decide if birth control pills are safe for them (19%), might have sex at a younger age (18%) and might use birth control pills incorrectly (16%).

Pharmacy Access

Overall, 79% of respondents supported teenagers' being able to obtain oral contraceptives through pharmacy access (Table 2). Participants with sexual experience were significantly more likely than others to support pharmacy access (85% vs. 75%). In addition, participants who were from suburban areas were significantly more likely to support pharmacy access (87%) than were those from rural and urban areas (73% and 79%, respectively).

A total of 57% of respondents reported being likely to use oral contraceptives if they were available through pharmacy access. Sexually experienced participants were significantly more likely than others to report this (73% vs. 44%).

Among participants who said that they were likely to use oral contraceptives available through pharmacy access, 3% would not be willing and able to pay any amount for each month's supply of oral contraceptives, 16% would pay \$1–10, 42% would pay \$11–20, 36% would pay \$21 or more, and 3% were unsure how much they would pay (not shown).

Label Comprehension

On average, participants understood 7.1 of the eight key concepts that the prototype label was intended to convey. The question that the greatest proportion of participants (95%) answered correctly described a scenario about use of oral contraceptives to prevent STDs, including HIV; the question that the smallest proportion (63%) answered correctly described a scenario about use of oral contraceptives if vomiting occurs (Table 4). The mean number of key concepts understood by participants was compared across characteristics outlined in Table 1; no statistically significant differences were found.

DISCUSSION

The majority of participants in this sample supported over-the-counter and pharmacy access for oral contraceptives and would use those approaches. These findings echo ones from previous studies that have shown that women are interested in obtaining oral contraceptives through these provision models.^{10,12–14,18} Levels of support for and interest in using over-the-counter access were higher among participants in this study than among a sample of teenage abortion clients.¹² These differences may reflect that this sample is generally more interested in using oral contracep-

tives or the different demographic makeup of the two study populations. Most participants in this study were white and insured, and had not been pregnant. By contrast, the abortion clients in the earlier study were predominantly black and low-income, and all of them had been pregnant.

Sexually experienced participants were significantly more likely than others to report they would use oral contraceptives available through over-the-counter access. This finding is encouraging, given that this subgroup has a demonstrated need for contraceptives, and it may suggest that participants both understand this need and are open to accessing contraceptives over the counter. Notably, there were no significant differences in likelihood between those who had used oral contraceptives and those who had not, although previous research has found that interest in over-the-counter access is associated with both current oral contraceptive use¹⁰ and ever-use.¹² The difference in findings may highlight differences in teenagers' and adult women's contraceptive preferences and experiences. A 2011 survey of adult women at risk of unintended pregnancy found that the majority of oral contraceptive nonusers were not interested in the method, regardless of over-the-counter status,¹⁰ whereas only a minority of never-users in our sample were not interested.

The high levels of interest in using over-the-counter oral contraceptives and participants' perceptions of its advantages for teenagers—fewer pregnancies, easier access to birth control and increased confidentiality—highlight the potential of this strategy to reduce barriers to contraceptive access, as well as unintended pregnancies. Confidentiality and ease of access are important factors in teenagers' decisions to use contraceptives;²⁶ our findings suggest that over-the-counter access could increase teenagers' contraceptive use. Additionally, participants' belief that over-the-counter access could reduce teenage pregnancies speaks to the value of exploring this provision model further. A 2015 study estimated that making oral contraceptives available over the counter could reduce the number of unintended pregnancies among women aged 15–45 by 7–25%.²⁷

At the same time, participants reported disadvantages similar to those identified in other studies about teenagers' access to over-the-counter oral contraceptives—that teenagers need a health care provider to determine if oral contraceptives are safe for their use and that teenagers would have sex earlier, stop using condoms or use oral contraceptives incorrectly.^{10,12,13,18} Studies on over-the-counter emergency contraception demonstrate that easier access does not increase sexual risk-taking and that teenagers can safely use over-the-counter emergency contraception;^{28,29} however, teenagers' behavior surrounding over-the-counter oral contraceptives is unknown. Further, while only a minority of participants reported that cost was their greatest concern about moving oral contraceptives over-the-counter, the majority would not pay more than \$20 per month for an over-the-counter product. Cost will be an important determinant of whether teenagers actually use this method, as

financial barriers to contraceptive access are particularly pronounced among this population.⁴⁻⁶

Finally, the majority of participants understood the key concepts that the prototype over-the-counter product label was intended to convey, and there were no significant differences among subgroups. This suggests that participants can understand through independent label review alone how to use oral contraceptives effectively. These data offer some empirical evidence in response to concerns raised in this study and others about teenagers' comprehension of over-the-counter use.^{10,13,16} However, research is needed on actual use.

This study has several limitations. First, participants were a convenience sample recruited through Facebook, and results cannot be generalized to the larger population. Participants were predominantly white and insured, and may not represent teenagers at greatest risk for unintended pregnancy. Furthermore, participants had to choose to click on the Facebook ad; 13% who did so enrolled in the study. While this response rate is similar to rates in other adolescent health studies using Facebook,¹⁹ our data still may be affected by selection bias. Second, participants were asked hypothetical questions about their use of over-the-counter and pharmacy access; their future uptake of oral contraceptives through these provision models may differ. Third, this study did not collect data on participants' literacy levels, which could influence their understanding of key concepts about the product label and should be evaluated in future studies on label comprehension. Finally, the small sample size and cell counts limited the scope of our analyses. Future research would benefit from broader sampling and inclusion of subgroups not represented in this study (e.g., teenagers who are uninsured, whose primary language is not English or who do not use Facebook) to identify correlates of likelihood of use.

Despite these limitations, in conjunction with existing evidence documenting the safety and effectiveness of over-the-counter access,⁷ this study lends support to this strategy for providing oral contraceptives without age restriction. Important next steps include assessing teenagers' abilities to screen themselves for contraindications to oral contraceptive use and correctly use oral contraceptives obtained over the counter, as well as exploring reproductive health behaviors (e.g., condom use, STD screening) and outcomes (e.g., unintended pregnancy, STDs) that may be associated with over-the-counter oral contraceptive use.

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