

Original research article

There's always Plan B: adolescent knowledge, attitudes and intention to use emergency contraception[☆]

Rachel Johnson, Montsine Nshom, Andrea M. Nye, Alwyn T. Cohall*

Mailman School of Public Health, Columbia University, New York, NY 10027, USA

Received 2 February 2009; revised 13 August 2009; accepted 19 August 2009

Abstract

Background: It can prove challenging to create social marketing materials aimed at a specific subsection of the population, especially when the topic is relatively new and possibly misunderstood. Therefore, the objective of this study was to assess adolescent knowledge of and attitudes towards emergency contraception (EC), with the goal of creating a locally relevant social marketing campaign and intervention.

Methods: This qualitative study consisted of 18 in-depth interviews and four focus groups ($n=29$) with adolescents and young adults ages 15 to 21 years, conducted in New York City between August and December 2006.

Results: While respondents seemed generally aware of EC's existence, most were unclear about circumstances warranting its use and its mechanism of action. The FDA change to behind-the-counter availability appeared to increase knowledge and access to EC, although substantial barriers to EC access and use remain, including price.

Conclusions: Further work remains in educating those in need of EC, especially adolescents under the age of 18 years. Results from this study initiated a social marketing campaign and intervention aimed at increasing adolescent knowledge of and access to EC.

© 2010 Elsevier Inc. All rights reserved.

Keywords: Emergency contraception; Urban; Adolescents; Pregnancy prevention; Health education; Birth control

1. Introduction

Every year in the United States, approximately 750,000 young women aged 15–19 years become pregnant [1]. The pregnancy rate is highest among African American and Latino teens, a demographic disproportionately represented among lower socioeconomic status thresholds [1].

Teen pregnancy is associated with a myriad of serious consequences affecting teen mothers and their children over their lifespan, as well as society at large. Comparatively, teens who have children are less likely to finish high school, have lower earning potential, are more likely to depend upon public welfare assistance and are more likely to have larger families, thus increasing the financial burden

on the mother and society [1,2]. Unfortunately, research about teens and birth control shows inconsistent use of contraception despite the individual's desire to not become pregnant [3,4].

Access to emergency contraception (EC) as a backup birth control method has the potential to significantly reduce rates of unintended pregnancy [5–7]. Widespread awareness and use of routine birth control options, combined with access to EC as an emergency option, can significantly decrease unwanted teen pregnancy, especially among high-risk populations [5]. However, various studies indicate that general awareness about EC is lacking among those at risk for unintended pregnancies. For example, a recently published study by Mollen et al. [8] found several misconceptions about EC, including mistaking EC for an abortifacient and not being able to correctly explain its mechanism of action. Several barriers to EC use were also cited, with studies reporting age, confidentiality and location as limiting factors [9,10]. Additionally, providers who work with youth may be hesitant to discuss or provide EC given their own lack of knowledge or comfort about its

[☆] Financial support: This work was funded by the New York City Department of Health and Mental Hygiene, Bureau of Maternal, Infant and Reproductive Health, Contract no. 20070027374. The Harlem Health Promotion Center is funded by the CDC, Contract no. 5 U48 DP000030-05.

* Corresponding author. Tel.: +1 646 284 9725.

E-mail address: atc1@columbia.edu (A.T. Cohall).

use, thus limiting opportunities to promote awareness and utilization [11,12].

An overall review of the literature shows that when planned and executed correctly, media campaigns may be effective in changing health-related knowledge, attitudes and behaviors [13]. Media such as the internet and film have the potential to improve young people's overall health literacy by allowing them to engage in health education interventions in forums in which they already feel comfortable [14,15]. However, most of the literature around the effectiveness of media campaigns for youth focuses on anti-tobacco and substance use campaigns (i.e., "truth" and the National Youth Anti-Drug Campaign) [16,17]. Relatively few papers have been published citing the effectiveness of new media, such as websites and film (standalone or tutorial), for health education around pregnancy, sexually transmitted infection (STI) or HIV prevention.

Therefore, in an attempt to improve awareness and enhance utilization of EC, we sought to develop a social marketing campaign and related intervention aimed at urban youth of color in New York City. In order to survey our target population about informational needs and preferred forms of media before designing and implementing the intervention, we conducted formative research to ascertain general EC awareness and attitudes, factors associated with EC utilization, and perceived benefits and barriers associated with the then recent switch to behind-the-counter sales of EC [18]. We hypothesized that the FDA policy change to behind-the-counter status would impact the target populations' knowledge of and access to EC, regardless of ability to meet the newly imposed age restrictions.

2. Methods

Approval to conduct research was obtained from Columbia University's Institutional Review Board. This qualitative study included in-depth interviews and focus groups conducted at local youth-serving community-based agencies in New York City between August and December 2006. Participants included male and female African-American and Hispanic adolescents between the ages of 15 and 21 years. We used existing community contacts to gain access to key informants in partner organizations. Once initial contact was made, we used snowball sampling to generate connections to key informants in other organizations. The study purpose and rationale were explained to each potential participant prior to a request for consent. Participants received additional information on health-related issues and community resources and were compensated for their time with two movie tickets and a roundtrip New York City transit subway card. Interviews and focus groups were digitally recorded, transcribed and imported into ATLAS.ti version 5 for qualitative analysis, with coding performed by a member of the research team [19].

2.1. Semistructured interviews

We conducted 18 qualitative in-depth interviews at three different community-based organizations in New York City using a semistructured topic guide. Potential participants were invited to participate in a 1-h interview conducted by members of the research team. Interviews were intended to obtain detailed qualitative information on the target population, including thoughts, feelings and experiences with EC. Due to the sensitive nature of the material covered in this phase of the study, interviews were chosen as opposed to focus groups.

2.2. Focus groups

To assess the impact of the 2006 policy change making EC available behind-the-counter for those aged 18 years and older, we held four focus groups at four different community sites in New York City. Focus groups lasted approximately 1 h and were moderated by a member of the research team. After introductions, participants were given a copy of a *New York Daily News* article from late August 2006 highlighting the then recent label change status for EC and describing basic facts about EC. Participants were asked to share general opinions about the potential benefits and barriers associated with the policy change.

3. Results

A total of 18 individuals participated in in-depth interviews. The additional four focus groups had between five and 10 participants each, for a total of 29 total focus group participants. Participants in both interviews and focus groups ranged in age from 15 to 21 years; the average age in the interviews was 17 years, while the average age in the focus groups was 16.2 years. In terms of gender, interview and focus group respondents were 50% and 66% female, respectively. Participants were 62% Latino/Hispanic and 38% African American. Table 1 describes basic participant demographics.

3.1. Baseline knowledge about EC

More than half of the participants in the in-depth interviews reported having heard of EC in one of its forms

Table 1
Demographics of participants

	Interviews (n=18)	Focus groups (n=29)	Total (N=47)
Gender			
Female	9 (50.0)	19 (65.6)	28 (59.6)
Male	9 (50.0)	10 (34.5)	19 (40.4)
Ethnicity			
African American	9 (50.0)	9 (31.0)	18 (38.3)
Latino/Hispanic	9 (50.0)	20 (69.0)	29 (61.7)

Values are shown as n (%).

(EC, Plan B® or morning-after pill), and approximately one third ($n=5$) seemed aware that these were different names for the same product. Additionally, when participants stated that they knew about EC, Plan B® or the morning-after pill, they were able to give fairly accurate descriptions of the product.

In the in-depth interviews, the majority of respondents (83%) were sexually active. Of those, 75% ($n=10$) reported having been in a situation in which the condom broke, slipped off or was not used at all. None of these respondents (or their partners) reported hormonal birth control use at the time. When asked if there was something they could have done to prevent pregnancy after sex, most said “no” and seemed resigned to the potential outcome of the situation.

Of those who said there was something that could have been done, only two mentioned EC as an option. Instead, the majority mentioned condoms or birth control to begin with or using withdrawal or abstinence. Interestingly, even when the participant went on to demonstrate awareness of EC, this form of birth control was not mentioned as something they could have used to prevent pregnancy.

3.2. Common misconceptions

Results from both in-depth interviews and focus groups showed that the most common myth or misconception about EC was that it was often confused with the abortion pill mifepristone. In the in-depth interviews, fewer respondents referred to EC directly as an abortion, although the misconception that EC causes an abortion was present in several of the interviews. One respondent noted that she originally thought that EC was “a minor abortion” and went on to describe a time that she thought about using EC but decided against it for this reason. Another apparent misconception mentioned in the in-depth interviews was that EC prevents STIs.

As in the in-depth interviews, focus group participants also equated EC to an abortion. However, participants in the focus groups mentioned several other misconceptions about EC that were not mentioned in the interviews. For example, some focus group participants thought that EC was a patch or a shot, not two pills. One participant noted that the term “emergency” gave a sense of urgency that the notion of two pills did not match visually. Other participants incorrectly thought of EC as a form of birth control to be taken daily.

3.3. Attitudes towards EC use

After receiving accurate information about EC from the interviewer, respondents were asked whether they would consider using EC or suggest friends use it if warranted by the situation or context. Most participants answered that they would use it or recommend it to a friend. Participants who had friends they described as “wild” or “loose” said they would recommend it to friends. Several mentioned sexual assault as another situation in which EC would be particularly appropriate. Some interview participants, how-

ever, mentioned wanting more information on side effects and costs before giving friends information about EC.

By completion of the focus groups, most participants seemed enthusiastic about EC and felt the benefits outweighed the barriers in terms of accessing and utilizing it. While participants acknowledged the potential risk of misuse or abuse associated with minors’ unsupervised access to EC, most felt that it would prevent unwanted pregnancies and provide more independence and additional options to those who need it.

3.4. Access to health-related information

Interview respondents were asked how and where they access health-related information. For health issues, common resources included a doctor, their mother, the internet, health clinics and bosses or mentors, such as a case worker at a community-based organization. However, many respondents reported that their doctors or primary physicians had never mentioned EC to them. More surprisingly, of participants who mentioned that their unprotected sex had resulted in pregnancy (terminated, miscarried or otherwise), most stated that their clinicians or health care providers had not mentioned EC. They reported that they were either given information on regular forms of birth control, put on birth control or had abortions. Of those who were told about EC, they said it was too late for them to use it.

3.5. Impact of EC availability policy change

In late August 2006, the Food and Drug Administration approved Barr Pharmaceutical’s request to allow nonprescription sales of their EC product, Plan B®, to men and women aged 18 years and older. It was hypothesized that this policy change would impact knowledge of and access to EC, regardless of one’s ability to meet the newly imposed age restrictions.

In each of the focus groups, at least one participant was aware of the policy change that made EC available behind-the-counter to adults aged 18 years and older. When asked about benefits associated with the new policy, most participants felt that teen pregnancy and teen abortion rates would likely decrease because of EC. In general, participants thought that behind-the-counter availability would make it easier for older teens to get EC, giving them more independence and saving time.

Participants also thought that it would be easier for those under the age of 18 to get EC behind-the-counter, even though it was made clear that a valid proof of identification would have to be shown. Respondents were adamant this would not stop most minors “...because teens will find a way to get [EC], regardless.” When asked who they would go to if they needed EC and were under the age of 18, answers ranged from older siblings and friends to bribing people off the street and even stealing.

However, when the interviewer probed participants on asking older family members, responses were mixed. For most participants, asking a parent or guardian was not an

option because many participants mentioned that they would not want their parents to know they were sexually active.

Some participants also noted potential drawbacks associated with the behind-the-counter availability of EC. Some participants felt that having more access to EC would cause teens to act promiscuously and irresponsibly in regard to safer sex practices. Participants also acknowledged that behind-the-counter availability might increase misuse of EC, with some youth taking EC without fully understanding the directions and the potential side effects.

Finally, when asked whether they thought more individuals would buy EC and keep it accessible as a precaution, most participants, while acknowledging that this was a good idea, felt it would most likely not happen. Respondents stated that it would depend on the price, but that it would be hard to justify spending money on something that might not be needed. However, the general consensus was that EC availability behind-the-counter would do more good than harm.

3.6. Barriers to access

Participants made it clear that the age restriction was less of a barrier to EC than its monetary cost, with participants' hesitation to pay \$50 for behind-the-counter EC contrasted with their willingness to spend money on "stuff that lasts." When asked how the cost of EC would influence the decision of someone their age to purchase it, many participants expressed doubts and disbelief that anyone, regardless of age, would be willing to "pay \$50 for two pills...and it may not even work!" Similarly, most felt that one is either pregnant or not pregnant, and that the in-between "maybe-I-am—maybe-I'm-not" phase was not worth spending money on.

When asked what factors other than cost might keep youth from getting EC behind-the-counter, morals and family views against birth control were cited. Some youth also acknowledged feeling uncomfortable and intimidated by the thought of asking adults or a pharmacist for EC, especially in community settings where "everyone knows everyone." When asked where they would go to get EC, most participants noted that they would probably travel to a pharmacy or drug store in another neighborhood, as opposed to a pharmacy near their home, in an attempt to avoid familiarity and maintain confidentiality.

In general, while the majority of teens surveyed mentioned that they would take EC because they were too young to want to be pregnant, many seemed ambivalent about their own risk for unintended pregnancy, with a clear disconnect between the desire not to be pregnant and the willingness to take proactive measures to prevent pregnancy. There appeared to be a similar disconnect between awareness of EC and lack of motivation to apply that knowledge to a situation in which EC might be needed.

4. Discussion

The level of EC awareness in our study population was comparable to that reported in similar populations, specif-

ically among urban youth of color [8]. However, our findings show that the FDA decision may have a more pronounced impact on awareness of EC than on access to and intention to use the product, pointing to an ongoing need for education around this birth control method.

In regard to barriers, monetary costs, perceived lack of confidentiality, and lack of insurance or disposable income are clear access barriers that must be addressed by EC advocates. Additionally, the idea that pregnancy is not a definitive outcome until a pregnancy test comes back positive exemplifies a concrete view of pregnancy that made some participants hesitant to see the prospective benefits of EC. While the price of EC may be nonnegotiable, referring youth to locations that provide EC for free or at a low cost seems crucial to increasing potential use among teens.

The information gathered through this research has substantial public health implications, especially for youth-focused social marketing campaigns or interventions aimed at increasing knowledge and access to EC. Respondents appeared to want health information from their peers, thus making it imperative that social marketing campaigns or interventions involve youth as much as possible. In addition to addressing EC facts and myths, social marketing and interventions should be targeted to specific audiences, while also focusing on general adolescent ambivalence about pregnancy. Those providing information about EC should address side effects and cost of the product in addition to providing basic information about what EC does. Resources should also appeal to males in particular, as they too seem concerned about unintended pregnancy and are potential (passive) consumers for EC.

Sources of health information, such as the internet, media and peers, were another particularly interesting finding. Our findings were consistent with those reported by others with respect to trustworthy sources for sexual health information [15]. Our sample's preference for internet-based health information could speak to the autonomy that young people seek by minimizing face-to-face interactions with adults. The internet allows individuals to educate themselves first before seeking more information from others, including health care professionals [15]. Public health professionals should take advantage of various new forms of media and technology to improve health education interventions, especially with youth. Additional intervention research would help to identify, develop and evaluate effective social marketing campaigns and interventions aimed at youth, particularly for those at higher risk for unintended pregnancy.

In response to the findings from this study, the Harlem Health Promotion Center worked with their Youth Advisory Board to create social marketing materials aimed at youth of color in New York City, with the goal of engaging youth and educating them about reproductive health care services, including EC. The materials created address many of the issues raised in the focus groups and interviews, including myths and misconceptions about EC, where to obtain it, men as EC consumers, the internet as a health information

resource, and the need for more reproductive health services after using EC, such as STI testing and regular birth control use. The “EC as 1, 2, 3” campaign features posters, a brochure, a website (<http://www.ec123.org>) and a health education film entitled *My Life, My Decision*. Filmed in New York City, the 30-min DVD features Black and Latino young adults in their attempts to prevent unintended pregnancy using family, friends and the internet as resources. Posters and brochures are distributed to high schools and community-based organizations throughout New York City, and the film is used in health education workshops about pregnancy prevention and EC. A formal evaluation of the utility of these materials is underway. Samples of materials can be viewed at <http://www.ec123.org>.

4.1. Limitations

There were several limitations to this qualitative research study. Social desirability may have led participants to respond in ways thought to reflect positively with the interviewer or focus group facilitator. Due to the sensitive nature of the topic, in-depth individual interviews were chosen to assess core knowledge, attitudes and past and future behaviors with regard to EC. However, while this design decision helped to reduce the social desirability bias inherent in group settings, there remains a potential for social desirability bias in interview responses. Furthermore, a convenience sampling method was used, and results may not be reflective of all youth on a local and national level. Some participants were members of youth groups or programs that may have featured health education components, and those previously exposed to health education programming may have had access to more information than peers without prior health education. Finally, all of the youth surveyed were from New York City and therefore are not necessarily generalizable to other persons, places, settings or times.

Acknowledgments

The Harlem Health Promotion Center (HHPC), one of 33 Prevention Research Centers, would like to thank the Centers for Disease Control and Prevention for their continued support. HHPC greatly appreciates and acknowledges that work of members of the Youth Advisory Board (Delta KABB) affiliated with this project; Board members, comprised of young people from the surrounding community, were involved in and had significant roles in every aspect of the project. HHPC would also like to acknowledge the community-based organizations that assisted with this research: the Bronx District Public Health Office, Center for

Community Alternatives-Brooklyn, Esperanza Del Barrio, Friends of Island Academy, Harlem RBI and the Harlem Adolescent Pregnancy Prevention Initiative (HAPPI) at Harlem Hospital Center.

References

- [1] Alan Guttmacher Institute. U.S. Teenage pregnancy statistics: national and state trends by race and ethnicity. [Online]. Available at: <http://www.guttmacher.org/pubs/2006/09/12/USTPstats.pdf> [Accessed November 1, 2008].
- [2] As-Sanie S, Gantt A, Rosenthal MS. Pregnancy prevention in adolescents. *Am Fam Physician* 2004;70:1517–24.
- [3] Manlove J, Ryan S, Franzetta K. Contraceptive use and consistency in teenagers' most recent sexual relationships. *Perspect Sex Reprod Health* 2004;36:265–75.
- [4] Ryan S, Franzetta K, Manlove J. Knowledge, perceptions and motivations for contraception: Influence on teens' contraceptive consistency. *Youth & Society* 2007;39:182–208.
- [5] Raine T, Harper C, Leon K, Darney P. Emergency contraception: advance provision in a young, high-risk clinic population. *Obstet Gynecol* 2000;96:1–7.
- [6] Trussell J, Rodriguez G, Ellertson C. Updated estimates of the effectiveness of the Yuzpe regimen of emergency contraception. *Contraception* 1999;59:147–51.
- [7] Food and Drug Administration. Plan B label information. [Online]. Available at: http://www.accessdata.fda.gov/drugsatfda_docs/label/2009/021998lbl.pdf [Accessed November 1, 2008].
- [8] Mollen CJ, Barg FK, Hayes KL, et al. Assessing attitudes about emergency contraception among urban, minority, adolescent girls: an in-depth interview study. *Pediatrics* 2008;122:395–401.
- [9] Cohall AT, Dickerson D, Vaughan R, Cohall R. Inner-city adolescents' emergency contraception. *J Am Med Womens Assoc* 1998;53(5 Suppl 2):258–61.
- [10] Karasz A, Kirchen NT, Gold M. The visit before the morning after: barriers to prescribing emergency contraception. *Ann Fam Med* 2004;2:345–50.
- [11] American Academy of Pediatrics Committee on Adolescence. Emergency contraception. *Pediatrics* 2005;116:1026–35.
- [12] Golden NH, Seigel WM, Fisher M, et al. Emergency contraception: pediatricians' knowledge, attitudes and opinions. *Pediatrics* 2001;107:287–92.
- [13] Noar SM. A 10-year retrospective of research in health mass media campaigns: where do we go from here? *J Health Comm* 2006;11:21–42.
- [14] Manganello JA. Health literacy and adolescents: a framework and agenda for future research. *Health Educ Res* 2008;23:840–7.
- [15] Borzekowski D, Rickert V. Adolescent cybersurfing for health information: a new resource that crosses barriers. *Arch Pediatr Adolesc Med* 2001;155:813–7.
- [16] The Truth Campaign. Available at: <http://www.protectthetruth.org/truthcampaign.htm> [Accessed on June 4, 2009].
- [17] National Youth Anti-Drug Campaign. Available at: <http://www.mediacampaign.org> [Accessed on June 4, 2009].
- [18] Bull S, Phibbs S, Watson S, McFarlane M. What do young adults expect when they go online? Lessons for development of an STD/HIV and pregnancy prevention website. *J Med Sys* 2007;31:149–58.
- [19] Muhr T. User's Manual for ATLAS.ti 5.0. Berlin: ATLAS.ti Scientific Software Development GmbH; 2004.