Original Study

Adolescent and Young Adult Women's Knowledge of and Attitudes Toward Etonogestrel Implants

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A B S T R A C T

Study Objective: Long acting reversible contraceptives, including etonogestrel implants, are top tier contraceptives for adolescents, yet they remained underutilized. This study aimed to assess awareness of and attitudes toward etonogestrel implants among adolescent and young adult women.

Design, Main Outcome Measures: This is a cross sectional study. We distributed an original, self-administered survey to a convenience sample of anonymous subjects. The survey assessed demographic information, pregnancy and sexual history, general contraceptive preferences, and awareness of implants. Subjects then read a brief description of implants before completing the section assessing attitudes toward them. We used chi-square and *t*-test analyses to identify factors associated with awareness of and positive attitudes toward implants.

Setting, Participants: Women aged 10-24 attending a birth control education group at an adolescent health center in New York City.

Results: Of the 129 participants, only 40% had heard of etonogestrel implants. Some (33%) reported positive attitudes toward implants. Positive attitudes were associated with preferences for birth control convenience (OR = 3.3, 95% CI = 1.1- 9.5) and privacy (OR = 2.2, 95% CI = 1.0- 4.8). Neutral or negative attitudes were associated with a preference for birth control that maintained menstrual regularity (OR = 0.4, 95% CI = 0.2- 0.8) and with having experienced at least 1 unintended pregnancy (OR = 0.4, 95% CI = 0.2- 0.9). Age, race, and education were not associated with participants' attitudes toward implants.

Conclusions: Women who value convenience and privacy are more likely to report positive attitudes toward implants, and thus may represent especially receptive candidates for them.

Key Words: Contraception, Adolescent, Young adults, Awareness, Attitude

Introduction

Forty-nine percent of the over 6.7 million pregnancies in the United States are unintended, and adolescent and young adult women are disproportionately affected.[1] In 2006, 83% of pregnancies among women aged 15-19 and 64% among women aged 20-24 were unintended.[1] Socioeconomically disadvantaged young women in urban settings experience rates of unintended pregnancy even higher than the national averages in their age group. In a population of young women attending public health clinics in New York City, 90% of pregnancies experienced by women ages 10-19 and 80% among women aged 20-29 were unintended.[2]

These high rates of unintended pregnancy prevail despite high rates of reported contraceptive use among these same populations. According to data reported by the National Survey of Family Growth in 2011, 86% of unmarried women aged 15-19 reported using some form of contraception during their last sexual encounter. Among these women and those aged 20-24, oral contraceptive pills or condoms were by far the most widely used forms of contraception.[3] These methods have relatively high failure rates with typical use; in a study of 943 women using oral contraceptives, nearly half of all participants missed one or more pills monthly.[4]

Long acting reversible contraceptives (LARC), including etonogestrel implants and intrauterine devices (IUD), retain very low failure rates with typical use, due to their user independence. Unfortunately, implants in particular are highly underutilized; less than 0.7% of women in the United States currently use contraceptive implants as their form of birth control.[5]

Although etonogestrel implants were first approved in 2006, little is known about adolescent and young adult women's knowledge of the implant or the attitudes that drive this population to adopt or reject this form of birth control. Understanding these factors may provide important information for patient counseling and education, and potential improvements in utilization of this method. To that end, we designed a survey to assess whether adolescent and young adult women are familiar with contraceptive implants, what their attitudes are toward the implants, and what demographic characteristics or contraceptive

Funding provided by NCATS/NIH and Golden Family Community Pediatrics Research Award Program at Icahn School of Medicine at Mount Sinai.
The authors indicate no conflicts of interest.

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1083-3188/$ - see front matter
http://dx.doi.org/10.1016/j.jpag.2014.08.002

preferences are associated with knowledge of and positive attitude toward etonogestrel implants.

Materials and Methods

This is a descriptive, cross-sectional, anonymous survey with a convenience sample of adolescent and young adult women. We recruited women who attended a birth control education group between June and August 2012 at an adolescent health center that serves a population mainly of young people of color from medically underserved areas of New York City. All contraception offered at this clinic is provided at no charge to the patient. The study procedures and survey instrument were approved by the Mount Sinai Medical Center Program for the Protection of Human Subjects.

English speaking women aged 10-24 years who had the ability to give assent or consent and to read were considered eligible for the study. After eligible patients indicated their willingness to participate and signed assent or consent forms, we distributed a self-administered questionnaire. All questionnaires were administered before the birth control education began, to assess the participants' baseline knowledge of etonogestrel implants. We did not track patients who were screened and declined to participate.

We developed an original survey based on the aims of this research study. We tailored elements from Whitaker et al's 2008 survey[6] of knowledge of and attitudes toward the IUD to assess implant-specific knowledge and attitudes. Physicians, social workers, and health educators at the project site also provided input for survey development. The survey model is depicted in Fig. 1. Our survey contained 42 items that assessed demographic information, pregnancy and sexual history, familiarity with various forms of contraception, and contraceptive preferences. It contained closed-ended, open-ended, and Likert-scale-type questions and was written at a 6th grade level on the Flesch-Kincaid scale.[7] As part of the survey, we asked participants if they had ever heard of contraceptive implants (referred to as Implanon® in the survey), as well as 6 other forms of birth control, including condoms, patches, rings, pills, IUD, and injectables. We assessed implant specific knowledge depth with an 11-question true/false test.

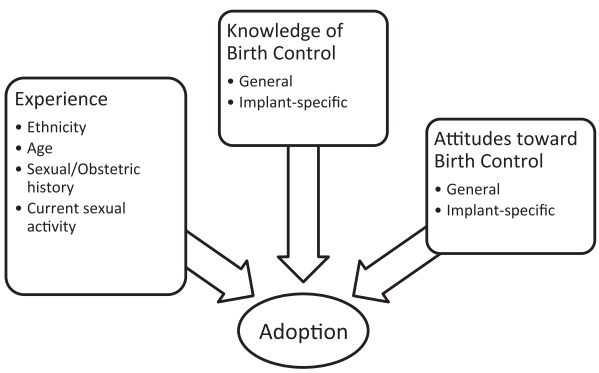

Fig. 1. Survey Model: Each box represents a domain contributing to the ultimate adoption of a given form of birth control; our survey included questions interrogating each domain.

The knowledge test included questions regarding implant effectiveness, insertion and removal processes, frequency of use, effect on fertility, menstrual side effects, and length of use.

We then assessed general contraceptive preferences with 6 Likert-scale-type questions and 1 multiple-choice question: the preferences included maintenance of menstrual regularity, privacy, reliability, ease of use, and duration of use. Next, participants read a short, 7-sentence description of the implant based on the New York City Department of Health's patient education materials, including its mechanism of action, efficacy, length of use, side effects, and insertion and removal processes. Participants responded to 6 Likert-scale-type questions about their general interest in implants and their attitudes toward particular characteristics of this form of birth control; many of these questions paralleled the earlier questions on general contraceptive preferences, but were tailored to the implant's particular characteristics. Participants also ranked the 7 forms of contraception discussed in the survey by their order of preference.

We used the Statistical Package for Social Sciences, version 20 (SPSS, Chicago, IL) for data entry and analysis. We assigned each survey participant a knowledge score as the percent of correct answers to the 11 questions on the knowledge test. Positive attitude toward the implants was defined as answering the question of "How much do you like the idea of having Implanon for yourself?" as either ≥7 on a scale of 1-10 (where 0 is "I do not like the idea" and 10 is "I really like the idea") or ranking implants as a first or second choice form of birth control of the 7 forms of contraception discussed in the survey.[6] Similarly, prioritizing a particular feature of contraception—privacy, convenience, etc—was defined as answering the question "How important is [X feature] to you?" as either ≥7 on a scale of 1-10, or selecting that feature as 1 of the 3 most important qualities in birth control. We used demographic and general contraceptive preference variables to assess significant univariate relationships with having ever heard of implants and having a positive attitude toward them. We applied chi-square analysis to assess the statistical significance of categorical variables, and *t* test analysis for that of continuous measures.

Results

We surveyed 129 adolescent females. Our study population represented a population at high risk for unintended pregnancy: the participants were mostly sexually active (ie, reported intercourse in the last 4 weeks [88%]) adolescent and young adult women identifying as Latina (54%) or Black (33%), nearly 40% of whom had already experienced at least 1 unintended pregnancy (Table 1). Participants were aged 14- 24, and mean age was 19.3 years; age as a variable was normally distributed.

Awareness of etonogestrel implants in the study population was low, both relative to more common forms of birth control (such as the birth control pill) and relative to other forms of LARC (Depo-Provera/DMPA, IUD). Only 41.1% of the population had ever heard of the implants. Overall awareness and attitudes are presented in Table 2.