

## Original Study

## A Snapshot of Urban Adolescent Women's Contraceptive Knowledge at the Onset of a Community Long-Acting Reversible Contraceptive Promotion Initiative

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### ABSTRACT

**Study Objective:** To contextualize young women's knowledge and attitudes regarding contraception at the outset of an intervention promoting long-acting reversible contraceptive (LARC) use for teen pregnancy prevention.

**Design and Setting:** Our intervention was on the basis of diffusion of innovation theory, and at the outset we were interested in likely early adopters' existing knowledge and attitudes toward contraception. This mixed methods study consisted of focus groups within positive youth development programs in Rochester, New York; we discussed young women's knowledge and sources of information for all US Food and Drug Administration-approved contraceptive methods.

**Participants:** Seven focus groups and 24 female adolescent participants aged 15–19 years.

**Interventions and Main Outcome Measures:** Quantitative ranking of all contraceptive methods; qualitative themes from focus group discussions.

**Results:** Our findings showed a high level of knowledge about a select group of methods, which included LARC methods, and that participants received contraceptive information from peers and family. Participants had more concerns than positive impressions regarding the effectiveness, safety, practicality, and partner reception of the contraceptive methods, with the exception of the condom. Quantitatively, the condom received the highest average rating.

**Conclusion:** The importance of personal anecdotes in our findings supports the use of outreach and information campaigns; providing medically accurate information and spreading positive personal anecdotes will be key to improving young women's impressions of the safety and acceptability of LARC use. This snapshot of contraceptive knowledge indicates that young women can be mature, informed consumers of sexual and reproductive health care, and through diffusion of innovation could be key players in promoting the most effective means of pregnancy prevention.

**Key Words:** Diffusion of innovation, Adolescent, Contraception, Health education

### Introduction

Adolescent pregnancy and childbearing can predict a number of critical health and social problems, and the United States has adolescent birth rates among the highest in the developed world.<sup>1</sup> Inconsistent or incorrect contraceptive use contributes to this high incidence, and what gains we have made in decreasing our teen pregnancy rate are predominantly because of increased use of better contraception.<sup>2</sup> However, very few teens are using the best forms of contraception—the intrauterine device (IUD) and the contraceptive implant (CI)—despite their being recommended as first-line by multiple expert and professional groups.<sup>3,4</sup> Together called long-acting reversible contraception (LARC), the IUD and CI together have only ever been used by 5% of US teens.<sup>5</sup>

In contrast to typical population use, the Contraceptive CHOICE Project showed that young women wanting to

prevent pregnancy would overwhelmingly choose LARC methods of contraception when barriers of information, access, and cost were removed.<sup>6</sup> One of the major differences between CHOICE and typical clinical practice was overcoming the barrier of information (or misinformation) around LARC through evidence-based contraceptive counseling.<sup>7,8</sup> A number of qualitative studies<sup>9,10</sup> contribute to our understanding of factors that might prevent American women from choosing LARC. These factors include fear of medical complications from more novel or unknown forms of contraception,<sup>11</sup> as well as the misperception that a permanent loss of fertility might follow use of an IUD.<sup>12</sup> Aside from inadequate formal education about LARC, many women in these studies reported a lack of personal experience—firsthand or anecdotal—with the IUD and CI.<sup>13,14</sup>

The low level of community adolescent LARC use and this lack of positive personal or peer experience can be explicated through the diffusion of innovation (DOI) theory. This social science theory, widely used in health communications, postulates that any new innovation is adopted as a process requiring early adopters. Early adopters can influence opinion leaders who then sway more deliberative, later

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adopting segments of the population; for LARC in teens, these early adopters are likely to be found in the self-selected group of teens in positive youth development (PYD) groups focused on peer sexual and reproductive health education. When a “tipping point” of early adopting and then wider community use is reached, the innovation will take off and be adopted at a faster rate.<sup>15</sup> If the community norms and conversations around contraception do not include favorable LARC information, DOI theory suggests that moving toward community-wide adoption will be inhibited.<sup>16</sup>

The City of Rochester, New York has higher teen pregnancy rates than the United States as a whole, with some zip codes with more than 100 pregnancies per 1000 teens per year.<sup>17</sup> Rochester suffers from high rates of poverty, school dropout, and infant mortality,<sup>18</sup> all associated with high rates of unintended adolescent pregnancy.<sup>19</sup> In response to these needs, we developed the Greater Rochester LARC Initiative to facilitate uptake of LARC for prevention of teen pregnancy. The LARC Initiative teaches adults who work with youth in community and health care settings about the safety, efficacy, and availability of LARC for teens in Rochester, thereby reducing the barriers of information, cost, and access at the community level. If the intervention works as planned, youth interested in contraception will obtain accurate, practical information from adults they trust, and this should lead to an increase in LARC use among teens.

The current study aimed to contextualize young women's knowledge and attitudes regarding all forms of contraception at the onset of the community-based initiative. We needed to assess the acceptability of contraceptive messaging in our target community, and the sources of their contraceptive knowledge to assess the feasibility of an intervention on the basis of DOI theory. We hypothesized that young women would show interest in birth control, would have varying levels of knowledge across methods, and that this knowledge would include LARC misperceptions, and that their sources of information would stem largely from personal relationships.

## Materials and Methods

We recruited young women ages 15–19 years involved in PYD programs in Rochester, New York to participate in contraception focus groups. These groups are located in our target neighborhoods, and we expected their members to include possible early adopters of LARC, because PYD-engaged youth often experience comprehensive sex education as a part of their after school programming. These groups were purposively sampled to be representative of Rochester's PYD groups. All study visits took place during a regularly scheduled group meeting, and focus groups were conducted between July 2014 and March 2015. At the initial visit, the study coordinator described the study and distributed study information letters for 15- to 17-year-old participants' parents; parental consent was not required as a part of our protocol. To allow ample time for parents to opt out of their children's participation, the study coordinator returned a week later to conduct the focus group. The study coordinator obtained and documented verbal assent or consent directly from all participants at the time of focus

group participation. Participants who fell outside the study's age range (15–19 years old) or whose parents were not notified the previous week (for participants younger than 18 years old) were excluded from the present analysis. This study was approved by the research subjects review board of the University of Rochester.

The focus groups followed a semistructured, open-ended format. Participants received line drawings of 8 contraceptive methods: oral contraceptive pill, patch, ring, shot, condom (male and female), CI, IUD, and emergency contraceptive pill. Participants were asked to discuss any of the methods depicted, and as needed the discussion was directed until all methods were discussed. After open-ended responses to the visual prompts, the moderator asked for each method, “On a scale from 1 to 10, how likely are you to recommend this method to a friend?” Participants were invited to expand on their numeric response as desired.

Focus groups were recorded and transcribed by study coordinators. Transcriptions were examined using an inductive iterative approach to identify themes regarding participants' knowledge and attitudes about all contraceptive methods. Upon discovery of emergent themes, the study team developed a coding structure. All members of the study team crosschecked initial transcripts, and discrepancies were resolved through consensus. The subsequent transcripts were coded and crosschecked by at least 2 members of the study team. We conducted frequency tabulation to identify themes most frequently discussed. We coded sources of information regarding contraception if a participant explicitly identified a source. We coded expressed attitudes as positive or negative if a participant expressly stated a motivating or concerning attribute about a method. Only 1 mention was recorded if 1 participant repeated the same attitude or source for a given method.

## Results

We held 7 focus groups, each with 2–8 participants. Twelve participants were excluded because of age or lack of parental notification, leaving a total of 25 participants for transcription and analysis. See Table 1 for participant demographic characteristics. Participants are identified in the following text by focus group date (month.day) and assigned number (P1, P2, etc).

**Table 1**  
Participant Demographic Characteristics (N = 25)

Characteristic	% (n)
Race/ethnicity	
Black/African-American	60 (15)
Multi-racial, 2 or more stated race/ethnicities	20 (5)
White	16 (4)
Hispanic/Latina	4 (1)
Age, years	
15	8 (2)
16	8 (2)
17	48 (12)
18	12 (3)
19	24 (6)

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