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Factors associated with initiating long-acting reversible contraception immediately after first-trimester abortion☆,☆☆,★

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ABSTRACT

Objective: The objective was to identify predictors of postabortion long-acting reversible contraception (LARC) initiation to increase providers' understanding of motivators of contraceptive choices.
Study design: We prospectively enrolled a cohort of women having abortions at <13 weeks' gestational age who were eligible to receive no-cost contraceptive methods immediately postprocedure (N=1662) to evaluate the demographic and reproductive factors associated with choosing and receiving a long-acting contraceptive versus a short-acting method. We used stepwise logistic regression to identify independent predictors of LARC initiation.
Results: During the study period, 1072 (64.5%) chose an immediate postabortion LARC method and 590 (35.5%) chose another method. Compared to the group of women who chose a non-LARC method, women who chose a LARC method were more likely to have a surgical abortion and were younger, more likely to be Hispanic, more likely to live greater than 70 miles from the clinic, more likely to have a nonurban address and less likely to have had a prior abortion.
Conclusions: We found that the differences in the demographic and reproductive factors of women choosing and receiving postabortion LARC were those which have been shown to be associated with difficulty in accessing contraception. Providers should offer a full range of contraceptive options to women immediately postabortion.
Implications: Postabortion LARC is more likely to be utilized by women from groups who have been shown to have difficulty accessing traditional family planning clinical care: those who are young, do not live in a city and are from groups with recognized health disparities. Offering postabortion LARC increases the options for these women.

1. Introduction

Immediate postabortion placement of intrauterine devices (IUDs) is safe and feasible [1-5]. Improving access to long-acting reversible contraception (LARC) for women undergoing abortion may reduce the risk of unwanted pregnancy and repeat abortion [1,6-9]. LARC methods may also meet the preferences of many women having abortions. In a survey of 574 women seeking abortions, contraceptive effectiveness and lack of side effects were the most important attributes of a contraceptive listed by the respondents [10]. Other authors have found that important attributes when choosing a type of contraception include cost, duration of effectiveness and forgettability [11]. However, no single attribute drives women's decisions in the type of contraception chosen, making each choice highly individualized [10-12], and not all women prefer to use LARC. While there have been several studies that examine demographic differences in contraceptive choice and a few exploring the contraceptive choices of women undergoing abortion [1,4,13-15], limited data exist on the demographic and reproductive factors associated with receiving LARC versus shorter-acting contraceptives postabortion in the United States. We hypothesized that women offered contraception immediately following an outpatient first-trimester abortion who choose LARC methods [levonorgestrel (LNG) IUD, copper IUD or the etonogestrel implant) will differ demographically from those

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who do not. Identifying possible group differences in postabortion LARC initiation may increase providers' understanding of motivators of contraceptive choices.

2. Materials and methods

2.1. Participants

We conducted a prospective cohort study between November 2009 and September 2013 at a single freestanding, university-affiliated clinic which provided outpatient abortion services between 5 and 13 weeks' gestational age. Women meeting certain financial criteria qualified for free contraception, including implants and IUDs, through a national service program. Criteria included earning less than 300% of the federal poverty level and at least one of the following: having an excessive insurance co-pay, not having insurance coverage for contraception or having insurance that did not cover two procedures on the same day. Women meeting these criteria were offered participation in a 1-year study of immediate postabortion contraceptive initiation, continuation and satisfaction. We offered participation in the initiation-only analysis to women who did not want to participate in long-term follow-up. Women who did not financially qualify for the service program were not eligible for this study because they were generally unable to receive immediate postabortion implants or IUDs and therefore would be differentially excluded from one of the study arms.

Throughout the time period of the study, a trained contraceptive counselor entered each patient's room to discuss contraceptive options should the patient desire to do so. The counseling occurred after the patient had seen a physician (resident, fellow or attending OB/GYN) for her history, physical exam, ultrasound and procedure informed consent. We did not attempt to control physician discussion of contraception prior to the contraceptive counselor interaction. There were two counselors over the time period of the study who were trained to elicit patient experiences and preferences, present LARC methods if the patient did not bring them up and explicitly tell patients that LARC methods would also be discontinued for no charge at any time in the future. The length and content of the interactions were thus dependent upon the patient's interest and knowledge. We presented the study and enrolled participants any time after the counseling visit and prior to contraceptive initiation. Participants who chose to initiate condoms, oral contraceptive pills, the contraceptive vaginal ring or the contraceptive transdermal patch were dispensed a 3-month supply and a prescription for 12 months. Participants who chose an etonogestrel subdermal implant, a copper IUD, an LNG IUD or Depo medroxyprogesterone acetate (DMPA) could receive it immediately after the abortion if desired. Participants receiving a medication abortion were offered placement of the desired contraceptive device at the 1- to 2-week follow-up visit.

2.2. Measures

We obtained all demographic data at the time of the initial healthcare visit and entered it into a Microsoft Access database. Sociodemographic variables included age, race, gravidity, parity, history of prior terminations, gestational age of pregnancy, distance patient traveled to clinic and rural–urban commuting code assignment (RUCA) [16]. We grouped the six RUCA urban cluster codes under the category "urban" and the three rural tracts (large, small or isolated) as "nonurban." We calculated the distance the patient traveled to the clinic by using the longitude and latitude of the clinic and given address and inputting these values into the Haversine formula to calculate the distance between the coordinates. This formula takes into account the curvature of the earth, but it provides an "as the crow flies" distance, not an actual driving distance [17]. We chose to categorize distance from the clinic as greater than or less than 70 miles because the three largest urban centers in our state are all within 70 miles of the clinic.

We categorized the participant's contraceptive method as the method which she initiated before clinic discharge. We defined "initiation" as placement of a LARC device, receipt of a DMPA injection or accepting a 3-month supply of self-administered contraceptives. Thus, if a patient stated that she wanted an IUD to be placed by her primary care physician at a later date and declined a bridging method, she was classified as "none." If the same patient began OCPs as a bridging method, she was classified as a pill user.

2.3. Data analysis

We used summary statistics to describe the study population. After tests for normality, we used nonparametric testing, t tests and χ^2 analyses as appropriate to compare the characteristics of patients who chose and initiated LARC versus those who did not. Characteristics that were statistically significant in bivariate analyses were entered into a backward stepwise logistic regression model to assess their relative contributions to initiating LARC. We performed all statistical analyses using SPSS version 23 (SPSS, Inc., Chicago, IL, USA). The Colorado Multiple Institutional Review Board approved this study.

3. Results

During the study time period, we performed 2314 induced abortions. Of these, 71.8% of patients (n=1662) met the qualifications of the free postabortion contraception program. All financially eligible patients consented to participate in the initiation-only analysis. The median age of the cohort was 25.9 years (13.4–46.7). The majority of participants identified as white (54.1%) followed by Hispanic (20.5%) and black (11.6%). The median gestational age of the cohort was 7.2 weeks (4.0–13.0). Of the women enrolled, 1072 (64.5%) chose an immediate postabortion LARC method (LNG IUD, copper IUD or etonogestrel implant), and 590 (35.5%) chose another method (DMPA, short-acting hormonal, condoms, none or defer choice until they saw their usual provider). Characteristics of women choosing LARC versus non-LARC after abortion are reported in Table 1. Compared to the group of women who chose a non-LARC method, women who chose a LARC method were younger, more likely to be Hispanic, more likely to live greater than 70 miles from the clinic, more likely to have a nonurban address and less likely to have had a prior abortion. They were also more likely to have surgical rather than medical abortion. The most common LARC method initiated was the LNG IUD (67%), and the most common non-LARC method was declining to receive any contraception at the abortion visit (53%) (Table 2).

The variables found to be significant in bivariate analyses (Table 1) were entered into a multivariable logistic regression model to examine independent predictors of LARC initiation (Table 3). Predictors of immediate postabortion LARC initiation remaining in the final model were, in order of strength, having a surgical abortion, having a nonurban address, being Hispanic, being under age 25 and having no prior abortions. Living greater than 70 miles from the clinic did not remain significant in the multivariable model. We repeated the analysis after removing the 10.8% of participants undergoing medical abortion to assess for interactions between the procedural choice and demographic/reproductive characteristics. Adjusted odds ratios for all other predictors remained unchanged.

4. Discussion

We sought to identify factors associated with patient initiation of long-acting contraceptives at the time of first-trimester abortion when we removed as many barriers as possible, such as cost and availability. In this setting, we evaluated demographic and reproductive predictors of initiating a LARC method. We found that women who initiated postabortion LARC were more likely to have a surgical abortion and were

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