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Original research article

Effect of previous induced abortions on postabortion contraception selection☆,☆☆

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Abstract

Objective: The objective was to compare contraceptive method selection in women undergoing their first pregnancy termination versus women undergoing repeat pregnancy termination in an urban abortion clinic. We hypothesized that women undergoing repeat abortions will select highly effective contraceptives (intrauterine device, subdermal implant, tubal ligation) more often than patients undergoing their first abortion.
Study design: We conducted a retrospective analysis of all women undergoing first-trimester surgical abortion at John H. Stroger, Jr., Hospital of Cook County from October 1, 2009, to October 31, 2011. We compared contraceptive method selection in the postabortion period after receipt of contraceptive counseling for 7466 women, stratifying women by history of no prior abortion versus one or more abortions.
Results: Of the 7466 women, 48.6% (3625) had no history of previous abortion. After controlling for age, race and number of living children, women with a history of abortion were more likely to select a highly effective method [odds ratio (OR) 1.19, 95% confidence interval (CI) 1.06–1.33]. Most significantly, having living children was the strongest predictor of a highly effective method with an OR of 3.17 (95% CI 2.69–3.75).
Conclusions: In women having a first-trimester abortion, the factors most predictive of selecting a highly effective method for postabortion contraception include history of previous abortion and having living children. The latter holds true independent of abortion history.
Implications: This paper is unique in its ability to demonstrate the high interest in highly effective contraceptive selection in high-risk, low-income women with prior abortion history. Efforts to integrate provision of highly effective methods of contraception for postabortion care are essential for the reduction of future unintended pregnancies.

Keywords: Long-acting reversible contraception; Repeat abortion; Postabortion; Contraception; Family planning

1. Introduction

Annually, there are 1.3 million abortions performed in the United States. Half of these pregnancies occur in women who have previously undergone an abortion. Women who have had a prior abortion are equally or more likely to be using contraception at the time of unintended pregnancy [1]. While they may be using contraception, it frequently consists of user dependent methods. The World Health Organization classifies contraception into effectiveness categories; the most highly effective methods are considered Tier 1, whereas those with the lowest efficacy are Tier 4 [2–4]. Tier 1 methods include male and female sterilization along with long-acting reversible contraception (LARC), intrauterine device (IUD) and subdermal implant. Tier 2 methods include injectables, pill, transdermal patch and vaginal ring. Tier 3 methods are modestly effective and include male/female condoms, sponge and diaphragm. Tier 4 methods are the least effective with the use of withdrawal and spermicide. Of women who conceive while using contraception, 85% are found to be utilizing Tier 3 or 4 methods [5]. Tier 3 and 4 contraception requires the highest degree of user compliance to be effective.

High rates of repeat abortions when women use lower-tier contraception have led providers to investigate the role of immediate postabortion LARC. Longer-acting methods present less room for error and may be the key in reducing repeat abortions [4]. These methods include the IUD and

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subdermal implant. Goodman et al. [2] demonstrated a lower rate of repeat abortions in women who received postabortion IUDs, with 34.6 abortions per 1000 woman-years versus 91.3 in the control group. Reeves et al. [6] used a decision analysis model to estimate that 20,000 repeat abortions would be prevented if 20% of women chose immediate postabortion IUD insertion. Despite the misconception that women having prior abortions are utilizing abortion as a method of contraception, previous research has shown that women who have had one or more prior terminations are 2.3 times as likely as women having no prior abortions to indicate an interest in LARC methods postabortion [7]. It is unclear, however, if women in a low-income urban setting undergoing repeat abortions will actually select more effective methods of contraception.

The objective of this study is to compare contraceptive method selection in women undergoing their first pregnancy termination versus women undergoing repeat pregnancy termination in a low-income urban setting when contraception is provided without the burden of cost. Women with a history of abortion may be more motivated to select more effective forms of contraception than women without a history of abortion. We hypothesize that women undergoing repeat abortions will select Tier 1 contraception more often than patients undergoing their first abortion.

2. Materials and methods

This study was a descriptive, retrospective analysis of individuals obtaining first-trimester surgical termination of pregnancy at John H. Stroger, Jr., Hospital of Cook County from October 1, 2009, to October 31, 2011. Institutional review board approval was obtained prior to the initiation of the study. The hospital is a tertiary care center that primarily provides medical services to Chicago's underserved and uninsured population. The population is primarily black non-Hispanic (90% of the population). Medicaid does not cover abortion services in Illinois; our institution offers a significantly discounted price of $50–$75 for first-trimester surgical abortion services. The population has a particularly high chlamydia (CT) rate among females 15–25 years of age at 13.3%, as compared to the national rate of 6.8% in the adolescent population [8,9]. All patients receive gonorrhea (GC) and CT screening at the time of surgical abortion, as well as prophylactic 1 g of azithromycin at the time of abortion.

After the termination procedure, patients receive basic information about contraceptive methods, and their contraceptive choice is recorded. Prescriptions are provided for oral contraceptive pills, contraceptive patch and contraceptive ring. Depot medroxyprogesterone acetate and subdermal implants are offered immediately postprocedure. Tubal ligation is scheduled 1 month postprocedure due to patient consent protocols and staffing constraints. Our clinic policy is to not offer immediate postabortion IUD placement due to the high CT/GC rate in our population. Women desiring an IUD are asked to return 2 weeks postprocedure for placement.

Statistical analysis was performed using SAS 9.2 (SAS Institute, Cary, NC, USA). Patient demographic information, past medical and obstetric history, contraceptive use at the time of pregnancy and CT/GC screening results were recorded for all patients. Data were abstracted and stored in a secure MS Access database. Patients with incomplete medical records were excluded from analysis. Data were stratified by number of previous abortions. Abortions were categorized as no previous abortion versus one or more abortions. Contraceptive selection was categorized according to the World Health Organization contraceptive tiers [2–4]. Age was treated as a continuous variable with mean and standard deviation reported. Differences in those undergoing their first pregnancy termination and those having prior pregnancy termination(s) were determined using a Student's t test for continuous variables and χ^2 tests for categorical variables. Unadjusted and adjusted odds ratios (ORs) were calculated to assess how age, race/ethnicity, number of living children and number of previous elective terminations impacted the odds of selecting Tier 1 methods of contraception. In multivariate logistic regression modeling, all factors of interest significantly related to the outcome in bivariate logistic regression (age, race/ethnicity, living children and number of elective terminations) were kept in the model. Statistical significance was set at a p value of .05.

3. Results

A total of 7809 underwent surgical termination of pregnancy from October 1, 2009, to October 31, 2011. Of these, 343 (4.4%) were excluded due to incomplete demographic information or obstetric history. The remaining 7466 women were included in the overall analysis. For the secondary analysis of CT and GC prevalence estimates, an additional 288 (3.9%) were excluded due to missing results.

Demographics, living children, CT/GC screening results and contraception use at conception are presented in Table 1. Approximately half of the patients (48.6%) had no history of previous abortion. Of note, women with one or more previous abortions were older and were more likely to be black non-Hispanic and to have no living children. These women were also less likely to be CT or GC positive. As expected, women seeking abortion were very unlikely (0.6%) to have been using a Tier 1 method at the time of conception. Of the 41 women who became pregnant while utilizing a Tier 1 method, 38 women (0.5%) were using an IUD and 3 women (0.1%) had previously undergone tubal ligation.

Table 2 details immediate postabortion contraception selection. Tier 1 contraceptive selection in the immediate postabortion period was 25.8% (1938 women). Among women with no history of abortion, 1.0% (36) selected a