Original Study

Factors Associated with Contraceptive Satisfaction in Adolescent Women Using the IUD

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A B S T R A C T

Study Objective: To estimate satisfaction and to identify factors contributing to an adolescent woman's satisfaction with the levonorgestrel-containing or copper intrauterine device (IUD).
Design: Adolescent women presenting to an urban clinic within 1 month of IUD insertion completed survey questionnaires about prior use of contraception, gynecologic/obstetric history, and a pain scale. Participants were contacted at 3 and 6 months post-insertion to complete surveys regarding satisfaction with the IUD, their menstrual bleeding patterns, and pain and cramping due to the IUD. Chi-square test, Fisher exact test, and logistic regression were used for analysis.
Setting: Mount Sinai Adolescent Health Center in New York City.
Participants: Seventy-nine adolescent women aged 15-24 y.
Interventions: None.
Main Outcome Measure: Satisfaction was measured at 3 and 6 months post-IUD insertion as a 10-point Likert item.
Results: 82% and 76% percent of participants were available for follow-up at 3 and 6 months, respectively. Satisfaction with the IUD was high overall with 75.4% (49/65) of participants choosing a satisfaction rating of eight or higher on the 10-point scale at 3 months and 76.7 % (46/60) at 6 months. Prior history of pregnancy and selecting the levonorgestrel containing IUD were predictive of higher satisfaction at 3 months, but not at 6 months. Parity and prior use of contraceptive methods were not predictive of satisfaction.
Conclusion: The finding of high satisfaction across participants supports the current recommendation for the IUD as a first-line contraceptive for adolescents. Nulliparous young women and those who are naïve to contraception should be considered as candidates for the IUD.
Key Words: Intrauterine device, IUD, IUS, Adolescent, Satisfaction, Contraception

Introduction

Despite the increasing use of contraception by adolescents,[1] many remain at risk of unintended pregnancy because of contraceptive method failure, inconsistent or improper use, or lapses between discontinuing a method and starting a new contraceptive.[2] Providing contraception that is easy to use and highly effective with proper counseling regarding side effects affords adolescent women the opportunity to avoid unintended pregnancy. Therefore, long-acting reversible methods are ideal for adolescents. However, relatively few teens and young adult women have chosen to use the intra-uterine device (IUD).[3]

Provider bias against offering the IUD to nulliparous women and adolescents contributes to the underutilization of the IUD in this population.[4] Many adolescent women who are at high risk for pregnancy have not heard of the IUD. A study conducted in 2009 in Hawaii of adolescent women ages 14-19 years attending a reproductive health clinic found that only 20% of nulliparous adolescents and 40% of parous adolescents had heard of the IUD as a method of contraception.[5] Furthermore, a high percentage of young women who choose the IUD discontinue use within 1 year of contraceptive initiation because of side effects including inter-menstrual bleeding and pain.[6] Teens must be provided with accurate and comprehensive anticipatory guidance regarding the course of side effects common with the IUD.

Satisfaction among IUD users has been studied in the adult literature; however, few studies are focused on adolescents. The Contraceptive CHOICE Project conducted in St. Louis, MO, comprising 5087 women looked at contraceptive satisfaction with a variety of methods provided free of charge to participants. Eighty-seven percent of 1890 LNG-IUS (levonorgestrel containing intrauterine system) users continued the method at 12 months and 70.4 % were “very satisfied” with the LNG-IUS. Eighty-four percent of 434 women using the copper containing IUD were using the IUD at 12 months and 65.6% stated that they were “very satisfied” with the method. When dichotomized for age (>20 y vs ≤ 20 y), there were no statistically significant differences for continuation among women choosing LNG-IUS, but women younger than 21 were more likely to discontinue the copper-containing IUD at 12 months (28% compared with 15% for the LNG-IUS, hazard ratio 2.10, 95% CI 1.11, 4.02).[7] In a subanalysis of the CHOICE Project of adolescent

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participants, prior history of unintended pregnancy was associated with selecting the IUD over other methods of contraception.[8]

The aims of this study were to estimate rates of adolescent satisfaction at 3 and 6 months post IUD placement. We presumed that satisfaction could be a proxy for continuation past 6 months, and that factors that predicted satisfaction could be used to identify adolescents who might be good candidates for the IUD. Our hypotheses were that young women who have had previous pregnancies, those who have had children, and those who have tried more types of contraceptive methods would report higher satisfaction ratings with the IUD as a method of contraception. Reaction to pain varies widely among individuals, and catastrophizing, defined as an exaggerated negative orientation toward noxious stimuli,[9] has been found to be a unique predictor of pain.[10] Since cramping is a known side effect of the IUD, we hypothesized that those who were more tolerant to pain as assessed using the Pain Catastrophizing Scale[9] would have higher satisfaction.

Methods

Sample

Seventy-nine young women ages 15-24 years old who presented to an adolescent health center in New York City for a follow-up visit within 1 month after insertion of either the LNG-IUS or copper containing IUD at this clinic were recruited to participate in a paper-and-pencil survey about IUD satisfaction. Three of the adolescent women who were approached to participate declined. Prior to IUD insertion, all subjects had received counseling about the available contraceptive methods at the clinic (including combined hormonal contraceptive pills (OCPs), patches and vaginal rings, depot medroxyprogesterone acetate (DMPA), and etonorgestrel implant), all of which are provided free of charge. Contraceptive counseling was provided either by a health educator or by the individual's health care provider. Screening for gonorrhea and chlamydia was performed within 3 months but usually within 2 weeks of insertion of the IUD and again at the time of IUD insertion. Adolescent women who tested positive for gonorrhea or chlamydia were treated with antibiotics and were not eligible for IUD insertion until after having a negative test for reinfection. Each individual was counseled about the increased risk for pelvic inflammatory disease (PID) within 3 weeks of IUD insertion and routine follow-up visits were scheduled 2 weeks after the insertion procedure such that each young woman would be evaluated to ensure that she did not have signs of PID by that visit. Participants were eligible to participate if they presented to clinic for follow-up within 1 month of IUD insertion, were English speaking, and were between 15-24 years old.

Procedure

Participants were consented at this 2-week follow-up (or any visit within 1 month of IUD insertion) from February to November 2011 and then followed at 3 and 6 months post-IUD insertion. The baseline questionnaire was completed during the initial clinical visit, but follow-up surveys were administered during clinic visits or via telephone. Written informed consent was gathered from patients enrolled in the study. The Institutional Review Board of Mount Sinai School of Medicine approved this project.

Measures

The initial survey questionnaire included questions about prior use of contraception, obstetric history (gravidity and parity), menstrual history (bleeding duration and flow), pain tolerance, as well as cramping and bleeding post-procedure. The survey was adapted from a validated survey of IUD knowledge in teens,[4] and was piloted in a small sample of clinic patients.

Pain tolerance in general, not related to the IUD, was assessed at the initial follow-up visit at the time of recruitment using the Pain Catastrophizing Scale (PCS) developed by Sullivan, Bishop, and Pivik.[9] The PCS is a validated 13-item pain tolerance scale that assesses general pain.[9] The PCS has been used previously in patients with pelvic pain and in the obstetric setting.[11-13] Following Sullivan and colleagues, those who score on the upper and lower thirds of the distribution of PCS were classified as "catastrophizers" and "non-catastrophizers," respectively.

Three- and 6-month post-insertion assessments included questions about patient satisfaction with the IUD as a method of contraception, pain, and cramps (measured on a 10-point Likert scale) and menstrual bleeding. The dependent variable was patient satisfaction defined on a 10-point Likert scale in response to the question, "How satisfied are you with the IUD?" as previously described by Brockmeyer et al's definition of satisfaction in IUD users.[6] We dichotomized the sample into 2 satisfaction groups: satisfied ($\geq$8 ratings) vs. not satisfied ($<$8 ratings).

Data analysis was conducted in SPSS version 17 (Chicago, IL). To examine the contribution of predictor variables (prior use of contraception, obstetric and menstrual history, pain catastrophizing) on patient satisfaction ratings, the analytical plan proceeded in 2 stages. First, we conducted univariate analyses using chi-square tests with a P-value of $\leq$ .05 for significance for categorical variables to examine the individual contribution of the predictor variables on participant satisfaction ratings. Fisher exact test was used for small sample sizes. Secondly, we used binary logistic regression models which included variables found significant in the univariate analyses to examine the unique contribution of these variables on satisfaction ratings.

Results

Sample Characteristics

The mean age of study participants was 19.1 $\pm$ 2 years, median 19 years; and participants were mostly of ethnic minority background, either Hispanic (52%) or African American (38%). In regard to obstetrical history, 52% had been pregnant at least once, and of those, 73% (30/41) had at