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Predictors of Less Effective Contraceptive Method Use at Twelve Weeks Post-Outpatient Abortion, Atlanta, Georgia.

By

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Master of Public Health

Global Epidemiology

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By

Timothy C. Nielsen

B.A., University of Pennsylvania 2012

Thesis Committee Chair: Kristin M. Wall, PhD, MS

An abstract of

A thesis submitted to the Faculty of the Rollins School of Public Health of Emory University in partial fulfillment of the requirements for the degree of Master of Public Health in Global Epidemiology

2016

Abstract

Predictors of Less Effective Contraceptive Method Use at Twelve Weeks Post-Outpatient Abortion, Atlanta, Georgia.

By Timothy C. Nielsen

Objective: Abortion clinic visits represent an important intervention point to prevent repeat unintended pregnancy. This study identifies factors associated with less effective contraceptive use 12 weeks post-abortion.

Methods: 114 women, aged 18 years or older, completed a baseline survey on the day of their elective 1st or 2nd trimester surgical abortion at the Atlanta Women's Center. 50 women (44%) completed an online follow-up survey 12 weeks later and were included in this analysis. Bivariate and multivariate logistic regression models assessed associations between demographic and reproductive health factors and use of less effective contraception (defined as no method, condoms, withdrawal, and natural rhythm methods) versus more effective contraception (defined as oral contraceptives, ring, patch, injectibles, IUD, implant, and sterilization) at follow-up.

Results: Most women (96%) reported resuming sexual activity at the time of follow-up. Seventeen women (34%) reported using less effective contraception, which was significantly associated with high school education or less (adjusted risk ratio, aRR= 2.80, 95% confidence interval (CI): 1.53 – 5.13) and not receiving a contraceptive method or prescription on the day of their abortion visit (aRR = 4.52, 95%CI: 1.55 – 13.19). The association between a history of prior abortion and less effective contraception trended toward significance (aRR=1.85, 95%CI: 0.91 – 3.78).

Conclusions: Over one third of women are at increased risk for unintentional pregnancy three months post-abortion due to less effective contraceptive use and resumed sexual activity. Education and abortion history may play an important role in more effective contraceptive use post-abortion. Immediate provision of contraceptives during the abortion visit is strongly associated with more effective contraceptive use following the procedure.

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Chapter I – Background/Literature Review

Unintended Pregnancy in the United States

Unintended pregnancy is a common problem that has widespread effects on the health of mothers and their children. The term unintended pregnancy refers to pregnancies that were either unwanted at the time of conception or occurred earlier than desired (i.e., mistimed) (1). In either case, women experiencing an unintended pregnancy are more likely to engage in negative reproductive health related behaviors (e.g., smoking and not taking folic acid) and are at higher risk for adverse pregnancy outcomes (e.g., low birth weight and preterm birth) (1,2). In acknowledgement of the importance of promoting intentional pregnancy, The United States Department of Health and Human Services (HHS) has included a reduction in unintentional pregnancy as part of their *Healthy People 2020* goals. Family Planning goal one (FP-1) states the department's goal of increasing the proportion of pregnancies that are intended from a baseline of 51% in 2002 to a target of 56% in 2020 (3).

Unfortunately, based on data from the National Survey of Family Growth (NSFG), there appears to have been little progress towards achieving this goal. From 2001-2008, the proportion of unintended pregnancies in the United States increased rather than decreased from 48% to 51% (4). Within these overall percentages, there were substantial disparities based on age, race/ethnicity, income, and relationship status. A larger proportion of unintended pregnancies were identified among women who were younger, Black non-Hispanic, lower income, and unmarried in both 2001 and 2008 (4). Clearly, more needs to be done to understand and address the issue of unintended pregnancy. An examination of trends in contraceptive use and abortion incidence in the United States is a good place to start.

Trends in Contraceptive Use

Consistent and effective contraceptive use is the most important way to prevent unintentional pregnancy among women who are sexually active. According to the National Center for Health Statistics (NCHS), 61.7% of women aged 15-44 years in the United States were using a contraceptive method in 2011-2013. Oral contraceptives were the most common method used (16%), followed by female sterilization (15.5%), condoms (9.4%), and long-acting reversible contraceptives (7.2%) (5). The term long-acting reversible contraceptives (LARC) refers to the contraceptive implant and intrauterine device (IUD), devices inserted in the body to prevent pregnancy over an extended period. Contraceptive methods vary in effectiveness and the Centers for Disease Control and Prevention (CDC) groups contraceptive methods into three tiers from most to least effective based on failure rate defined as the percentage of 100 women who experience an unintended pregnancy after 1 year of typical use (6). The contraceptive implant (0.05%), the intrauterine device (0.2-0.8%), male sterilization (0.15%) and female sterilization (0.5%) make up the most effective group followed by injectables (6%), oral contraceptives (9%), the patch (9%), the ring (9%), and the diaphragm (12%) in the intermediate group and finally male condoms (18%), female condoms (21%), withdrawal (22%), the contraceptive sponge (12-24%), fertility-awareness based methods (24%), and spermicide (28%) in the least effective group. An important factor in the differential effectiveness of methods is the fact that some methods are heavily dependent on consistent, proper use. For example, Trussel *et. al.* emphasize the difference between "perfect use" (i.e. exactly as directed) and "typical use" reporting a failure rate of 0.3% for oral contraceptives when used perfectly but a failure rate of 9% under typical conditions (7).

Women who do not use any contraceptive method are at the greatest risk of unintended pregnancy. NCHS reports 6.9% of women aged 15-44 years that reported sexual intercourse in the past 3 months were not currently using a contraceptive method (5). Women who are sexually active and do not use a contraceptive method have an estimated 85% probability of becoming

pregnant within a year (7). It is important to recognize that this population includes two distinct groups of women, those who consistently do not use a contraceptive method, or "serial nonusers" and those who are between contraceptive methods, or "temporary nonusers." Switching contraceptive methods is extremely common, with a 2002 study estimating 40% of married women in the United States switched methods during a 2 year period (8). Even the small gaps in coverage when switching directly between methods can leave a woman at risk for intended pregnancy, so best practice suggests 1 week overlap between most methods (9). Individuals may discontinue or avoid using contraceptives because of misconceptions about their risk of pregnancy, concerns about side effects, or a desire for autonomy and control over their body (10, 11). A cohort study of 1,387 women aged 15-24 years visiting family planning clinics in Northern California found the continuation rate at 12 months was low for all methods studied - patch (10.9 women per 100 person-years), injectable (12.1 women per 100 person-years), ring (29.4 women per 100 person-years), and pill (32.7 women per 100 person-years) (12). In addition, discontinuation was significantly associated with age, with younger women less likely to continue contraceptive use. The intentional termination of an unwanted pregnancy is also an important potential cause of a gap in contraceptive coverage and any discussion of contraceptive use should also include abortion care.

Abortion Incidence and Repeat Abortion

Roughly 1 million abortions are performed in United States annually and an estimated 1 in 3 American women will have an abortion in her reproductive lifetime (13). Based on a survey of 9,493 women obtaining an abortion in 2008, women aged 18-29 years, Black and Hispanic women, unmarried women, and poor women were over-represented among abortion patients (14). Perhaps the most troubling trend reported was a large increase in the percentage of abortion patients with incomes < 100% of the federal poverty line from 27% in 2000 to 42% in 2008. Not

surprisingly, the demographic characteristics of this population are very similar to those of women who reported being sexually active but not currently using a birth control method.

An estimated 40% of unintended pregnancies in the United States end in abortion and roughly half of abortions occur in women who have previously had an abortion (4, 14, 15). Additionally, during a 2008 survey of women undergoing an abortion, about half of participants reported using a contraceptive method during the month they became pregnant (16). Clearly, abortion incidence is an important indicator of unmet contraceptive need and there is a considerable population that is not consistently and effectively using contraceptive methods. These statistics also suggest that abortion clinic visits may be important intervention points for promoting contraceptive use and reducing future unintended pregnancies.

The Importance of Post-Abortion Contraception

Abortion clinic visits have great potential as intervention points for contraceptive promotion because contraceptive devices are desired by many patients, are safe and effective immediately post abortion, and are necessary to protect women who are at risk of unintended pregnancy soon after the procedure. While not every patient wishes to discuss contraceptives on the day of her abortion, a 2010 survey conducted at 5 large abortion clinics across the United States estimated that 2/3 of women want to leave the visit with a contraceptive method and 69% of women feel the clinic is an appropriate setting for contraceptive information (17). A more recent study of 199 women seeking abortion in Northern California found that 31% were interested in learning about methods that are easier to use than their current method and 22% wanted to know where contraception can be obtained (18). This study also found that of the women who wanted to discuss contraception in-clinic, 92% wanted to leave the clinic with a contraceptive method. These clinic visits represent an important point of contact to share information with women who are interested in contraception but may not have regular contact with a healthcare provider or health educator.

Contraceptive methods have been consistently shown to be safe and effective immediately post-abortion. LARCs have been under scrutiny most recently, since these methods were thought to be inappropriate for immediate post abortion placement due to concerns about expulsion, uterine perforation, and infection. However, a number of trials have shown intrauterine methods (both copper-IUD and levonorgestrel-IUD) are safe when placed immediately post procedure (19-22). While immediate placement does lead to higher expulsion rates (4.3% vs. 1.5% within 6 months) than interval placement (i.e. 2 – 6 weeks later), it increases contraceptive use at 6 months post abortion (65% vs. 46%) (19, 21-23). There are a number of barriers that can prevent women from returning to the clinic for interval placement (e.g. the cost and time required for a return visit) and loss to follow up outweighs the increased expulsion rate related to immediate placement (24).

Contraceptive use immediately post abortion is crucial because women resume sexual activity and are at risk for unintended pregnancy very soon after their procedure. A 2011 study of 75 women in Atlanta, Georgia found that 54% self-reported sexual activity within 3-5 weeks post-abortion and 31% were not using contraceptive methods effectively (25). Similarly, a 2010 survey of 562 women at 6 abortion clinics across the United States found that 23% reported they were "somewhat" or "extremely likely" to engage in unprotected intercourse in the 3 months following their abortion (10). Surgical abortion under 12 weeks gestation appears to have little effect on ovarian function, with ovulation occurring in 6-21 days (26, 27). Similarly, ovulation can occur as soon as 8 days after a medical abortion with 86% of women ovulating within 1 month of the procedure (28). There is clearly the potential for women to get trapped in a cycle of unintended pregnancy if they are unable or choose not to use contraceptives immediately post abortion. This evidence all points to the importance of healthcare providers and public health researchers focusing on improving uptake of effective contraceptive methods during abortion clinic visits.

Identifying Patients at the Highest Risk for Unintended Pregnancy

While there is definite value in providing contraceptive information and methods to all women who are interested in them, it is arguably more important to be able to predict and target services to patients who are at the highest risk for repeat unintended pregnancy post abortion. Very little research has focused specifically on predicting contraceptive use post abortion. Moslin *et al.* surveyed women about sexual activity and contraceptive use 3-5 weeks after their abortion procedure. In addition to descriptive statistics, logistic regression modeling was used to determine potential predictors of contraceptive use. Only indicating no desire for a birth control method/information at the time of the procedure had a significant association with use of a method at the time of follow up (OR 0.20, 95% CI 0.06-0.68) (25). Foster *et. al.* looked at intent to use contraceptives post abortion by surveying women about their willingness to engage in unprotected intercourse (UI) in the 3 month period following their abortion. Multivariate logistic regression revealed that women who were <20 years, who named partner or relationship benefits to UI, and who underestimated their risk of conception were significantly more willing to engage in UI (10). Other previous studies have measured contraceptive use 6 months or a year after an abortion, but most were conducted in Europe, and none have attempted to measure the independent effects of various determinants of effective contraceptive use (29-32).

It is plausible that factors shown to be predictive of unprotected intercourse more generally and/or repeat abortion may be predictive of ineffective use of contraceptives post abortion. Unprotected sex among adult women (> 18 years old) in United States has been significantly associated with increasing age, marriage, establishment of trust, recent experience of intimate partner violence, contraceptive side effects, infrequent sexual intercourse, and decreased arousal due to contraceptive use (33). The association between increasing age and UI seems to contradict other stated evidence, but this is likely due to differences in the populations considered. Looking specifically at contraceptive use during the month of an unintentional pregnancy, Jones

et. al. surveyed women receiving an abortion about income and their experience of "disruptive life events" such as financial difficulty, burglary, or incarceration of a partner. The researchers found no significant association between the occurrence of these disruptive events and non-use of contraception (16).

More research has been done to identify predictors of repeat abortion, particularly relating to contraceptive method selected post abortion. Cohort studies in New Zealand, Finland, and the United States have shown that IUD placement post abortion significantly reduces the incidence of repeat abortion compared to other contraceptive methods (34-36). In contrast, McCall *et. al.* report that use of the contraceptive implant as post abortion contraception actually increased the likelihood of having a repeat termination (AOR 1.78, 95% CI 1.50-2.11) among a retrospective Scottish cohort followed 1997-2013 (37). Surprisingly, Upadhyay *et. al.* report that women who had a recent or previous abortion were 60% more likely than women who had never had an abortion to become pregnant during the 12 month follow up period (38). Additionally, young age (< 20 years old), poverty, parity, and smoking status have all been shown to be associated with repeat abortion (35, 37).

Importance of this Research Study

This project expands upon this prior research to help address the gap in our understanding of the factors that influence less effective contraceptive use after an intentional termination of pregnancy. The study was implemented at the Atlanta Women's Center, a women's health clinic that serves women from the Atlanta metropolitan area as well as from throughout the Southeastern United States, a part of the country that has long been understudied by reproductive health researchers.

The study makes use of a prospective cohort design, enrolling women during their clinic visit for an elective 1st or 2nd trimester abortion, administering a baseline survey and then following via email or phone 12 weeks after the procedure. The use of an in-clinic survey allows

for consideration of additional factors not considered by Moslin *et. al.* who were limited by the exclusive use of medical records. The survey includes questions concerning personal opinions of and experiences with contraceptive methods in addition to demographics and a brief reproductive history.

Similarly, a follow up survey allows for the assessment of actual contraceptive use rather than stated intent to use contraceptives or engage in unprotected intercourse. Often women experience barriers to accessing contraceptive methods, so intent does not represent a good proxy for risk of unintended pregnancy.

Following up at 12 weeks post abortion, splitting the difference between 6 weeks and 6 months, is also an important element of the study design. Contraceptive switching is likely during the post abortion period and measurement at additional time points is valuable (39). Focusing on contraceptive use at 12 weeks also helps to identify individuals who are more likely to use no or ineffective contraception. Individuals who have not begun an effective contraceptive method by this time are unlikely to do so.

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Chapter II - Manuscript

A. Title, Authors, Abstract

Title: Predictors of Less Effective Contraceptive Method Use at Twelve Weeks Post-Outpatient Abortion, Atlanta, Georgia.

Author: Timothy Nielsen

Abstract

Objective: Abortion clinic visits represent an important intervention point to prevent repeat unintended pregnancy. This study identifies factors associated with less effective contraceptive use 12 weeks post-abortion.

Methods: 114 women, aged 18 years or older, completed a baseline survey on the day of their elective 1st or 2nd trimester surgical abortion at the Atlanta Women's Center. 50 women (44%) completed an online follow-up survey 12 weeks later and were included in this analysis. Bivariate and multivariate logistic regression models assessed associations between demographic and reproductive health factors and use of less effective contraception (defined as no method, condoms, withdrawal, and natural rhythm methods) versus more effective contraception (defined as oral contraceptives, ring, patch, injectibles, IUD, implant, and sterilization) at follow-up.

Results: Most women (96%) reported resuming sexual activity at the time of follow-up. Seventeen women (34%) reported using less effective contraception, which was significantly associated with high school education or less (adjusted risk ratio, aRR= 2.80, 95% confidence interval (CI): 1.53 – 5.13) and not receiving a contraceptive method or prescription on the day of their abortion visit (aRR = 4.52, 95%CI: 1.55 – 13.19). The association between a history of prior abortion and less effective contraception trended toward significance (aRR=1.85, 95%CI: 0.91 – 3.78).

Conclusions: Over one third of women are at increased risk for unintentional pregnancy three months post-abortion due to less effective contraceptive use and resumed sexual activity. Education and abortion history may play an important role in more effective contraceptive use post-abortion. Immediate provision of contraceptives during the abortion visit is strongly associated with more effective contraceptive use following the procedure.

B. Introduction

Despite being a focus of the country's *Healthy People 2020* goals, unintended pregnancy remains a persistent public health problem in the United States, with roughly half of all pregnancies estimated to be unintended (1, 2). Consistent and effective contraceptive use is the most important way to prevent unintended pregnancy and has long been a major focus of health programs and interventions. However, only an estimated 62% of women aged 15-44 years in the United States use a contraceptive method, and 55% of those use methods dependent on consistent, proper use (3, 4).

Abortion clinic visits represent an important potential intervention point for increasing contraceptive use and preventing unintended pregnancy and repeat abortions. An estimated 40% of unintended pregnancies in the United States end in abortion and roughly half of abortions occur in women who have previously had an abortion (2, 5, 6). Additionally, during a 2008 survey of women undergoing an abortion, only just over half (51%) of participants reported using any contraceptive method the month they became pregnant, and 65% of those women were relying on condoms or withdrawal (7). During an abortion clinic visit, providers have access to a population that is often not consistently and effectively using contraception and that may experience barriers to accessing effective contraceptive methods (8).

Women often resume sexual activity soon after an abortion, making timely effective contraceptive method uptake important to reduce unintended pregnancy. A 2011 study of 75

women in Atlanta, Georgia found that 54% self-reported sexual activity within 3-5 weeks post-abortion, and 31% were not using contraceptive methods effectively at this time (9). Similarly, a 2010 survey of 562 women at 6 abortion clinics across the United States found that 23% reported being "somewhat" or "extremely likely" to engage in unprotected intercourse in the 3 months following their abortion (10). Surgical abortion under 12 weeks gestation appears to have little effect on ovarian function with ovulation occurring within 6-21 days (11, 12). Similarly, ovulation can occur as soon as 8 days after a medical abortion, with 86% of women ovulating within 1 month of the procedure (13). Any contraceptive method can be initiated immediately post-abortion, as long as the individual does not have a comorbidity that prohibits use of that method.

It is important for providers to understand what factors are associated with less effective contraceptive use following abortion in order to tailor and target resources and interventions that increase effective method use for women seeking to delay fertility. However, very little research has been done to identify these predictors. The previously mentioned 2010 study of 75 women in Atlanta assessed the association between patient demographic (age, race, income, educational achievement, relationship status) and reproductive health characteristics (gestational age, history of prior abortion, parity, desire for contraception, and receipt of a prescription for contraceptives) and the use of any contraceptive method 1 month post-abortion and found only patient-reported desire for a birth control information or methods on her medical history form had a significant association (9). Similarly, the 2010 study of intent to use contraceptives post-abortion among 562 women at 6 abortion clinics found women who were <20 years, who named partner or relationship benefits to unprotected intercourse (UI), and who underestimated their risk of conception were significantly more willing to engage in UI post-abortion (10). Other studies have measured contraceptive use 6 months or a year after an abortion (14-17), but most were conducted in Europe, and none have attempted to measure the independent effects of various

determinants of effective contraceptive use. This study seeks to address this gap by examining the association between demographic and reproductive health factors and use of an effective contraceptive method 12 weeks post-abortion.

C. Methods

C.1. Study Design

Participants were recruited from the population of women presenting to the Atlanta Women's Center (AWC) for abortion services between October 2015 and December 2015. The AWC is a freestanding abortion clinic in the Atlanta metropolitan area that offers abortion services up to 23.6 weeks gestation. The study involved two surveys, one administered in-clinic and one administered via email or phone at 12 weeks (3 months) post-procedure. All patients at the AWC were notified of the study and those expressing interest in participating were consented, completed a written assessment of understanding (AOU), and were screened using an eligibility questionnaire. The in-clinic (baseline) survey was self-administered on a tablet computer after contraceptive counseling and before the abortion procedure. The follow-up survey was self-administered online if completed via email or administered and directly input by study staff using a standardized telephone script. Participation was incentivized by $15 compensation in gift cards ($5 for the completion of the baseline survey and $10 for the completion of the follow-up survey). This prospective cohort study was approved by the Emory University Institutional Review Board (IRB).

C.2. Study Participants

Patients aged 18 years and older, fluent in English, and seeking first or second trimester surgical abortion at the AWC were eligible for the study. Women who reported receiving abortion care due to a fetal or maternal condition, rape, or incest on the eligibility questionnaire were excluded. Additionally, participants must have agreed to participate in follow-up and provide a valid email and/or phone number for follow-up.

C.3. Measurement

The primary outcome was self-reported use of contraception at the time of follow-up, categorized as less effective versus more effective contraception. Less effective contraception is defined as using no method or any method with a typical-use failure rate ≥18% (Tier 3 methods: condoms, withdrawal, natural rhythm method), while more effective contraception is defined as any method with a typical-use failure rate <18% (Tier 1 or 2 methods: sterilization, intrauterine device (IUD), implant, injection, pill, patch, or ring) (18).

Multiple factors were considered as potential predictors. Sixteen exposures were selected *a priori* after a review of the relevant literature, including demographic factors (age, race/ethnicity, education, marital status, insurance status, employment status, household income, number of children in the household, and difficulty paying for expenses during the last 12 months), reproductive history (gestational age, parity, gravidity, prior abortion), and contraceptive attitudes/experiences (desire for future pregnancy, number of methods previously used, interest in starting a new method prior to visit, receipt of contraceptives during the visit). All variables were captured by patient report except for patient age and gestational age, which were extracted from the medical record by trained study staff. All study data were collected and managed using REDCap electronic data capture tools hosted on a secure server at Emory University (19).

C.4. Data Analysis

Descriptive statistics were calculated for women completing follow-up and chi-square, fisher's exact, and student's t-tests were used to compare participants by outcome. Bivariate logistic regression evaluated predictors of less effective contraceptive use. All variables that were significantly associated with the outcome in bivariate analysis ($p < 0.1$) were considered for multivariate logistic regression. Absence of multi-collinearity between independent variables was confirmed by calculating condition indices and variance decomposition proportions. A backwards

elimination method ($p < 0.1$) was used to a select the final model. Given the relatively small sample size, it was not possible to consider interaction between independent variables, as models including additional interaction terms failed to converge. Similarly, given the lack of a primary exposure of interest, assessment of confounding was not appropriate. Unadjusted and adjusted risk ratios (RRs) and 95% confidence intervals (CIs) estimated using predicted margins are reported. All analyses were performed using SAS version 9.4 (Cary, NC) and SAS-callable SUDAAN release 11 (RTI International, Research Triangle Park, NC).

D. Results

Approximately 624 women were notified of the study while at the AWC during the study period, 136 agreed to participate and were screened for eligibility, 114 of those were eligible, enrolled and completed the baseline survey. Of those completing the baseline survey, 50 women (44%) completed the follow-up survey.

Demographic characteristics of this population, stratified by the effectiveness of reported contraceptive method, are presented in **Table 1.** Oral contraceptives were the most common method reported (36%), followed by condoms only (22%), ring (8%), no method (8%), implant (6%), IUD (6%), patch (4%), sterilization (4%), withdrawal (4%), and injection (2%) (**Figure 1)**. Altogether, one third of women reported currently using a less effective contraceptive method. Women had an average age of 26.5 years, the majority were single (73%), had greater than a high school education (88%), and identified as Black (58%). Although 54% of women were employed full time and 69% had private insurance, roughly one third reported an annual household income ≤ $25,000 (38%) and difficulty paying for expenses during the last year (39%). There were statistically significant differences in education level ($p = 0.012$) and household income ($p = 0.049$) by outcome.

Reproductive health characteristics of the population, stratified by the effectiveness of reported contraceptive method, are presented in **Table 2**. Nearly all women (96%) had resumed

sexual activity by the time of follow-up, with 21 women (42%) engaging in vaginal intercourse in the first 4 weeks after her procedure. There was no statistically significant difference in return to sexual activity between groups (p = 0.671), but all women using less effective methods reported resuming sexual activity by the time of follow-up. Desire for future pregnancy was split roughly into thirds with 35% of women wanting to become pregnant again in less than 3 years, 40% in 3 years or more, and 26% wanting no future pregnancy. A slightly larger proportion of women using less effective contraception stated no desire for future pregnancy compared to women using more effective methods. Half of women received a contraceptive method or prescription during their visit and of those who did not, roughly half indicated they would follow up with the clinic or another physician about contraception. However, there was no association between this stated intent to follow up and effective contraceptive use 12 weeks later (p = 0.821). In addition to information on contraceptive use, participants answered basic questions about satisfaction with their current method. Overall, a majority of women (64%) reported using their preferred contraceptive method, but the proportion was larger, but not statistically significantly different, among women using a more effective method (73% v. 47%). All 8 women using sterilization, IUD, or implant were using their preferred method, and all 10 women reporting they would prefer another method identified one of these 3 methods as their desired form of contraception.

The results of bivariate analysis are presented in **Table 3**. Of the sixteen demographic and reproductive characteristics considered, five were significantly associated with less effective contraceptive use – lower education level (high school or less v. more than high school) (RR=3.18, 95%CI: 1.67-6.05), public v. private insurance status (RR=2.48, 95%CI: 1.10-5.59), having had a prior abortion (RR=2.60, 95%CI: 1.02-6.61), no reported interest in beginning a new contraceptive method prior to the visit (RR=2.84, 95%CI: 1.15-7.02), and not receiving a contraceptive or prescription during the visit (RR=4.67, 95%CI: 1.47-14.84). All these variables were included in the initial multivariate logistic regression model which showed no indication of

multicollinearity. A backwards elimination model selection procedure produced a final three variable model that is reported as the best fitting model (**Table 4**). Lower patient education (p=0.021), not receiving a contraceptive or prescription during the visit (p=0.006), and prior abortion (p=0.083) were all associated with less effective contraceptive use.

E. Discussion

While 60% of women reported using a more effective contraceptive method 12 weeks following their abortion, that still leaves 1 in 3 women at an increased risk for unintended pregnancy due to less effective contraceptive use. Among the more effective methods reported, the majority (76%) are Tier 2 user dependent methods with higher failure rates and lower 1-year continuation rates, which suggests a potential benefit to increased promotion of Tier 1 methods during clinic visits (20-22). Virtually all women had resumed sexual activity by the 12-week follow up survey. Additionally, the proportion of women that reported resuming sex during the first 4 weeks after their procedure is high (42%) and consistent with a previous survey in the Atlanta metropolitan area (9). The study results indicate a sizable population who could benefit from more effective contraception and suggests certain factors related to less effective method use.

Education may play an important role in determining effective contraceptive use following an abortion. Higher education status (more than high school) was very strongly associated with the use of more effective contraceptive methods (aRR=2.80, 95%CI: 1.53-5.13). This association differs from results of the 2011-2013 National Survey of Family Growth (NSFG), which found no consistent connection between educational attainment and more effective contraceptive use among women of reproductive age in the general population (3). Increasing education was associated with decreased use of female sterilization, increased use of oral contraceptives, and had no association with use of long-acting reversible contraceptive (LARC) methods. This may suggest that there is something different about the relationship

between education and contraceptive use in the post-abortion context or that the observed association is heavily influenced by the large proportion of oral contraceptive use. Following an abortion, it is possible that an individual has an increased desire to prevent unintended pregnancy and the use of effective contraception depends on knowledge of contraceptive methods and the availability of resources. According to this framework, increased education level could represent both greater contraceptive knowledge and access to resources (money, time, primary care provider, etc.) and therefore increased ability to use more effective contraception. This explanation is supported by the significant bivariate association between private insurance and more effective contraception, as well as the association between higher income and more effective contraception use that was trending towards significance. A simple *post hoc* analysis assigning all participants reporting "I don't know" to the lower income category does produce a nearly significant bivariate association (RR= 3.10 95%CI: 0.97-9.84). Both of these variables are indicative of higher socio-economic status and increased access to resources.

In contrast, there was no significant association between reporting a difficulty paying expenses during the last 12 months (reported by more than a third of all participants) nor desire for future pregnancy (reported by 75%) and effective contraceptive use at follow up. Difficulty paying expenses can be a valuable complimentary measure to income, however, such a variable is broadly defined and open to interpretation. In this case, the lack of a significant association does not necessarily contradict the idea that differential access to resources explains the difference in contraceptive choices. The lack of a connection between desire for future pregnancy and contraceptive use is surprising, but may also point towards limited access rather than limited intent as an explanation for the use of less effective contraception. In this sample, women desiring no future pregnancies were actually slightly *more* likely to use less effective method compared to women who desired a pregnancy after 3 or more years, but these differences were not statistically significant.

Another important finding is that a history of prior abortion appears to almost double the likelihood of using less effective contraception following the current abortion (aRR=1.85, 95%CI: 0.91-3.78). This association is troubling because it suggests that there is a population of "serial non users" that remains at high risk for repeated unintended pregnancies that isn't being reached by current interventions. This result is consistent with Upadhyay *et. al.* who report that women who had a recent or previous abortion were 60% more likely than women who had never had an abortion to become pregnant during a 12 month follow-up period (23). One might expect that the experience of an abortion would be a motivator for initiating a more effective contraceptive method, assuming women desired to delay fertility, but this may not be the case for all women. Even if interest exists, persistent barriers to access may be continuing to prevent women from using more effective methods. The Contraceptive CHOICE Project, which provided contraceptive methods free-of-charge in the St. Louis area, found a three-fold increase in the likelihood of selecting an IUD among women receiving contraception on the day of their abortion compared to women without a history of abortion (aRR = 3.30 95%CI: 2.67-4.85) (24). Comparing the results of this study and the CHOICE project suggests that the cost of Tier 1 methods may be such a persistent barrier preventing access to more effective methods. There may also be regional differences at play. Keene *et. al.* report that a history of prior abortion slightly increased the odds of selecting a Tier 1 method following an abortion by about 20% among women at hospital in Chicago (aOR = 1.19 95%CI: 1.06 - 1.33) (25). It is possible that a prior abortion influences contraceptive use differently in the Southeastern United States than in other parts of the country. Regardless of explanation, women with a history of prior abortion are an important target population for future research and interventions.

The results also confirm the importance of providing women with contraception at the time of abortion. The strong association between receipt of a contraceptive method or prescription during the abortion visit and more effective contraceptive use 12 weeks later (aRR=4.52, 95%CI: 1.55-13.19) is consistent with the large body of literature on immediate provision of

contraceptives. Studies of "Quickstart" oral contraception, or beginning oral contraceptives the day of a family planning visit have shown increased short-term continuation rates compared to women who delayed their first dose (26, 27). Similarly, multiple studies of immediate vs. interval IUD placement after abortion found that immediate placement resulted in more effective use, since the effect of increased expulsion rates is outweighed by the number of patients who fail to return for placement (28-31). The same trend can be seen in studies of immediate placement of LARC methods post-partum, which is safe and highly effective at preventing unintended pregnancy (32, 33). Clearly, more needs to be done to empower facilities and providers to provide contraception immediately post-abortion. Reliance on patients to follow up later is much less effective, as evidenced by the lack of an association between declared intent to follow up with the clinic or another provider about contraception and contraceptive use at the time of follow-up.

Additionally, the results suggest that a patient's intent to start a new method prior to the abortion visit may play an important role in more effective contraceptive use post-abortion. While intent to start a new contraceptive method prior to the abortion visit was removed from the final multivariate model, the significant bivariate association with more effective contraceptive use suggests the potential for interventions that provide information about specific methods prior to arrival at the clinic given the amount of information received during what may additionally be an emotional visit for some women. Additionally, in states where multiple visits are required for abortion services (e.g. Florida or Mississippi), it may be helpful to provide contraceptive information during the first visit (34). Matulich *et. al.* report that 64% of women surveyed at four abortion clinics in Northern California (N = 199) reported they did not want to talk to a counselor on the day of their abortion and roughly half (52%) of those women already knew what contraceptive method they wanted to use post-abortion (35). However, a majority (80%) of participants in this study did report that they considered "at the clinic one-on-one" to be the best way to receive contraceptive information during their visit (see **Table 2**). Future studies should

examine the efficacy of providing contraceptive information to women prior to their abortion visit as well as consider potential regional differences.

These results should be considered within the context of the limitations of the study. Unfortunately, the low response rate restricted sample size, limited the precision of estimates, and prevented the consideration of interaction between exposures. The possibility of selection bias due to differential follow-up was assessed by comparing women who completed the second survey to those who did not. The results of that comparison are presented in **Table A1** (included in the appendix). Women with public or no insurance and those with a high school education or less were significantly less likely to complete the follow-up survey. In this case, the potential bias would be expected to be towards the null, which would suggest that the associations between education level and insurance status and more effective contraception are even greater than estimated. Additionally, the study was limited by the use of convenience sample. Given that women self-selected into the study, the results are not necessarily generalizable to the entire clinic population or the entire Atlanta metropolitan area. However, given the demographics of the study population, these findings are generalizable to a population of women that are mostly single and African American, many of whom are living in low income households.

In conclusion, this study identified patient characteristics associated with less effective contraceptive use at 12 weeks post-abortion. These variables, lower education level, history of prior abortion, and not having received a contraceptive method or prescription during the visit, represent starting points for future research to better explain why women are using less effective contraception following their abortion and how providers and healthcare systems can help limit these risks.

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H. Figures and Tables

Figure 1.
Reported Contraceptive Use, 12 weeks post-abortion

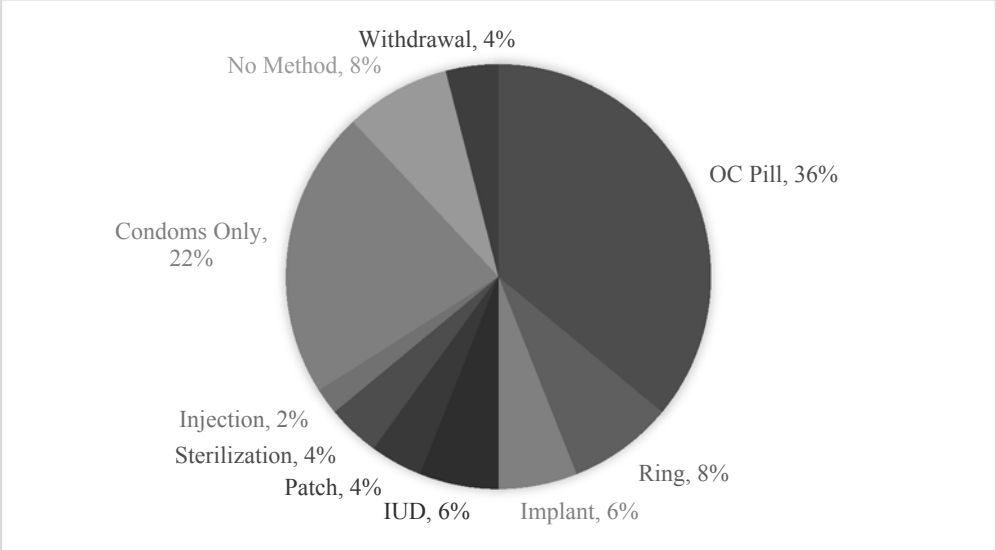

Table 1.
Demographic characteristics of women in an urban abortion clinic, Atlanta, GA (N=50)

	Contraceptive Use 12 weeks post-abortion, n (%)			
Characteristic	Less Effective Method*	More Effective Method‡	Total	p value†
n	17	33	50	
Age in years (mean, SD)	25.2, 4.3	27.2, 6.1	26.5, 5.6	0.18
Race/Ethnicity				0.29
Black	12 (75%)	16 (50%)	28 (58%)	
White	3 (19%)	10 (31%)	13 (27%)	
Other	1 (6%)	6 (19%)	7 (15%)	
Annual Household Income				0.049
> $25,000	3 (19%)	17 (53%)	20 (42%)	
≤ $25,000	7 (44%)	11 (34%)	18 (38%)	
"I don't know"	6 (38%)	4 (13%)	10 (21%)	
Household size				0.67
≤ 2 children	13 (81%)	28 (88%)	41 (85%)	
> 2 children	3 (19%)	4 (13%)	7 (15%)	
Employment				0.91
Full Time	8 (50%)	18 (56%)	26 (54%)	
Part Time	6 (38%)	9 (28%)	15 (31%)	
Unemployed	2 (13%)	5 (16%)	7 (15%)	
Insurance Status				0.085
Private	8 (50%)	25 (78%)	33 (69%)	
Public	6 (38%)	4 (13%)	10 (21%)	

None	2 (13%)	3 (9%)	5 (10%)	
Difficulty paying for expenses in last 12 months?				0.45
Yes	5 (31%)	14 (42%)	19 (39%)	
Education				0.012
Beyond High School Education	11 (69%)	31 (97%)	42 (88%)	
High School or less	5 (31%)	1 (3%)	6 (13%)	
Marital Status				0.65
Single	11 (69%)	24 (75%)	35 (73%)	
Married/Cohabitating	5 (31%)	8 (25%)	13 (27%)	

**Including no method, condoms, withdrawal, and natural rhythm methods*
‡Including oral contraceptives, ring, patch, injectibles, IUD, implant, and sterilization methods
† P-values are two tailed from Chi-Square or Fisher's exact test for categorical variables and Student's T-test for continuous variables

Table 2.
Reproductive characteristics of women in an urban abortion clinic, Atlanta, GA (N=50)

	Contraceptive Use 12 weeks post-abortion, n (%)			
Characteristic	Less Effective Method*	More Effective Method‡	Total	p value†
n	17	33	50	
Reproductive History/Goals				
Gestational Age (mean, SD)	9.4, 2.9	10.8, 4.5	10.3, 4.0	0.12
Primigravid	3 (19%)	12 (38%)	15 (31%)	0.32
Nulliparous	7 (44%)	21 (66%)	28 (58%)	0.15
Prior abortion	10 (67%)	10 (32%)	20 (43%)	0.027
Desire for future pregnancy				0.65
No desire for future pregnancy	4 (29%)	7 (24%)	11 (26%)	
Desires pregnancy in 3 years or more	4 (29%)	13 (45%)	17 (40%)	
Desires pregnancy in less than 3 years.	6 (43%)	9 (31%)	15 (35%)	
Resumed sexual activity				0.67
1 week after visit	1 (6%)	2 (6%)	3 (6%)	
2-4 weeks after visit	8 (47%)	10 (30%)	18 (36%)	
> 4 weeks after visit	8 (47%)	19 (58%)	27 (54%)	
Not yet resumed	0 (0%)	2 (6%)	2 (4%)	
Contraception				
Preferred method of contraceptive counseling during abortion care				0.93
At the clinic one-on-one	10 (71%)	21 (75%)	31 (74%)	
At a follow-up visit at the clinic	3 (21%)	3 (11%)	6 (14%)	
At the clinic in a group setting	1 (7%)	2 (7%)	3 (7%)	
Other	0 (0%)	2 (7%)	2 (5%)	
Interested in starting a new method prior to visit	5 (29%)	21 (68%)	26 (52%)	0.011
Number of previous contraceptive methods				0.60
≤ 2 methods used	8 (47%)	13 (39%)	21 (42%)	
> 2 methods used	9 (53%)	20 (61%)	29 (58%)	

Received a contraceptive method/prescription during their abortion visit	3 (18%)	22 (67%)	25 (50%)	0.002
Stated intent to follow-up with clinic or provider for contraception	7 (41%)	9 (27%)	16 (32%)	0.35
Using preferred method at time of follow-up				0.22
Yes	8 (47%)	24 (73%)	32 (64%)	
No	5 (29%)	5 (15%)	10 (20%)	
Unsure	4 (24%)	4 (12%)	8 (16%)	

**Including no method, condoms, withdrawal, and natural rhythm methods*
‡Including oral contraceptives, ring, patch, injectibles, IUD, implant, and sterilization methods
† P-values are two tailed from Chi-Square or Fisher's exact test for categorical variables and Student's T-test for continuous variables

Table 3.
Bivariate association between patient characteristics and less effective contraceptive use, 12 weeks post-abortion

Predictor of less effective contraception	Unadjusted RR (95% CI)	p value
Demographics		
Age		
18 – 22 years	1.0 (Reference)	
23 - 25 years	0.87 (0.31 – 2.42)	0.78
26 – 30 years	1.30 (0.50 – 3.39)	0.59
> 30 years	0.43 (0.10 – 1.93)	0.25
Race/Ethnicity		
White	1.0 (Reference)	
Black	1.86 (0.61 - 5.69)	0.24
Other	0.62 (0.07 - 5.27)	0.65
Annual Household Income		
> $25,000	1.0 (Reference)	
≤ $25,000	2.59 (0.75 - 8.92)	0.11
"I don't know"	4.00 (1.20 - 13.29)	0.023
Household size		
≤ 2 children	1.0 (Reference)	
> 2 children	1.35 (0.50 - 3.68)	0.57
Employment		
Full Time	1.0 (Reference)	
Part Time	1.30 (0.54 - 3.12)	0.56
Unemployed	0.93 (0.24 - 3.59)	0.91
Insurance Status		
Private	1.0 (Reference)	
Public	2.48 (1.10 - 5.59)	0.051
None	1.65 (0.46 - 5.91)	0.47
Difficulty paying for expenses in last 12 months?		
No	1.0 (Reference)	
Yes	0.72 (0.29 - 1.80)	0.46
Education		

Beyond High School Education	1.0 (Reference)	
High School or less	3.18 (1.67 - 6.05)	0.027
Marital Status		
Single	1.0 (Reference)	
Married/Cohabitating	1.22 (0.51 - 2.93)	0.65
Reproductive History		
Gestational age		
6 - 7 weeks	1.0 (Reference)	
8 - 9 weeks	1.50 (0.53 – 4.25)	0.43
10 – 13 weeks	1.16 (0.38 – 3.54)	0.79
≥ 14 weeks	0.65 (0.14 – 3.02)	0.57
Gravidity		
Primigravid	1.0 (Reference)	
Multigravid	1.97 (0.63 - 6.14)	0.21
Parity		
Nulliparous	1.0 (Reference)	
1 or more children	1.80 (0.78 - 4.14)	0.16
Prior abortion		
No prior abortion	1.0 (Reference)	
1 or more prior abortions	2.60 (1.02 - 6.61)	0.039
Desire for future pregnancy		
No desire for future pregnancy	1.0 (Reference)	
Desires pregnancy in 3 year or more	0.65 (0.19 - 2.15)	0.47
Desires pregnancy in less than 3 years.	1.10 (0.39 - 3.09)	0.85
Contraceptive Methods		
Number of previous contraceptive methods		
≤ 2 methods used	1.0 (Reference)	
> 2 methods used	0.81 (0.37 - 1.81)	0.61
Interested in starting a new method prior to visit		
Yes	1.0 (Reference)	
No	2.84 (1.15 - 7.02)	0.018
Received a contraceptive method/prescription during their abortion visit		
Yes	1.0 (Reference)	
No	4.67 (1.47 - 14.84)	0.004

Table 4.
Multivariate predictors of less effective contraceptive use (n = 46)

Predictor of less effective contraception	Adjusted RR (95% CI)	p value
Education		
Beyond High School Education	1.0 (Reference)	
High School or less	2.80 (1.53 – 5.13)	0.021
Prior abortion		
No prior abortion	1.0 (Reference)	
1 or more prior abortions	1.85 (0.91 - 3.78)	0.083
Received a contraceptive method/prescription during their abortion visit		
No	1.0 (Reference)	
Yes	4.52 (1.55 - 13.19)	0.006

Chapter III - Summary, Public Health Implications, Possible Future Directions

Summary of Results

This study shows that there is indeed a population at increased risk for unintended pregnancy following an abortion due to their return to sexual activity (96%) and use of less effective contraceptive methods (34%) at the time of follow-up. The results also suggest that education level and a history of prior abortion play an important role in effective contraception post-abortion and confirm that provision of contraceptives at the time of abortion is strongly associated with more effective contraceptive use following the procedure.

Public Health Implications

These results have a number of broad implications for reproductive health interventions and practice. The study achieved its primary goal of identifying potential influences of less effective contraceptive use in the post-abortion period. Predicting which individuals are more likely to be using less effective methods following their procedure is a valuable tool for abortion providers working to prevent unintended pregnancy and repeat abortion. With limited time and resources, targeting this population for interventions (additional counseling, contraceptive information, discounted methods, etc.) has the potential to produce the largest decrease in unintended pregnancy. Women with a history of prior abortion are a particularly important target population for more effective contraception. Less effective contraceptive use in this population is arguably an indication that our healthcare system is failing the same women over and over. The study results also support the existing body of literature that recommends immediate provision of contraceptives following an abortion to women who want them. It is clear that more needs to be done to empower providers to offer contraception at the time of the abortion visit. Ideally, this would involve changes in policies and collaboration between clinics, insurance providers, pharmaceutical/device vendors, and state regulators. Unfortunately, such changes seem

increasingly unrealistic in the Southeastern United States, where state governments are becoming increasingly hostile to the provision of contraceptives and abortion services.

It is also important to remember that contraceptive use is dependent on an individual's reproductive needs and desires and her decisions must be respected. Thirty five percent of women reported a desire for a future pregnancy in less than three years on the day of their procedure and this proportion increased to 44% when reassessed at the time of follow-up. Long-acting Tier 1 methods may not be an appropriate choice for these women. Additionally, nearly half (47%) of women using a less effective method reported using their preferred form of contraception. There will always be women who feel that more effective methods do not fit their needs and interventions should focus on providing women with complete and accurate information about all methods to encourage an informed decision.

In addition to reproductive health at a broader level, the study results have specific implications for practice at the Atlanta Women's Center. Providing a contraceptive method or prescription during an abortion visit at the AWC has the demonstrated benefit of increasing contraceptive use 12 weeks after the procedure. Prior to the initiation of the study, AWC leadership has taken steps to increase the availability of LARC methods during abortion visits. Additional data collected during the in-clinic survey does show potential demand for these methods. Sixteen percent of women came to the clinic with an intent to start using an IUD and 9% with an intent to start using a contraceptive implant. If cost is removed as a factor, 25% of women would consider an IUD and 21% would consider an implant, and roughly half of those women would have it placed immediately following their procedure if offered.

Possible Future Directions

All results reported in this document represent a subset of data (September 2015 to December 2015) from an ongoing cohort study. At the time of writing, the study has currently enrolled 259 participants and is targeting a total enrollment of 400 women. As sample size

increases, the precision of estimates will improve, additional variables are expected to become significant in the multivariate model, and it will hopefully be possible to assess potential interaction. Steps are also being taken to decrease loss to follow-up. In the future, it might also be valuable to consider expanding the study to other clinics in the Atlanta area or clinics in other Southeastern states, like Alabama or Florida, to make regional comparisons.

Looking past the current study, the identification of potential influences of more effective contraception post-abortion sparks additional research questions. For example, does the association between a history of previous abortion and less effective contraceptive use represent persistent external barriers (cost, transportation, etc.), persistent internal barriers (attitudes, opinions, etc.), or something else? A qualitative study of women with a history of multiple elective abortions making use of in depth interviews or focus groups could provide important data to answer that question. Similarly, the association between intent to initiate a new contraceptive method and more effective contraceptive use suggests the potential for interventions that provide contraceptive information to women prior to the day of their abortion. A randomized control trial would be able to assess the efficacy of such an intervention both on selection of a method in the clinic and use post-abortion. Finally, additional analysis is required to better understand the relationship between education level and contraceptive use at follow-up. One potential explanation is that education is a proxy for health knowledge or knowledge about contraceptives. The baseline survey did include some additional questions that assessed participant knowledge about LARC methods which could be used to assess confounding as part of a second analysis that considers education level as a primary exposure. An additional future cohort study could be designed specifically to consider the relationship between education and contraceptive use following an abortion.

Appendices

Appendix 1 – Additional Tables

Table A1.
Characteristics of women in an urban abortion clinic Atlanta, GA (N=114)

	Completion of Follow Up Survey, n (%)			
Characteristic	Completed	Did Not Complete	Total	p value†
n	50	64	114	
Demographics				
Age in years (mean, SD)	26.5, 5.6	27.3, 6.4	26.9, 6.0	0.51
Race/Ethnicity				0.96
Black	28 (58%)	34 (57%)	62 (57%)	
White	13 (27%)	16 (27%)	29 (27%)	
Other	7 (15%)	10 (17%)	17 (16%)	
Annual Household Income				0.53
> $25,000	20 (42%)	25 (42%)	45 (42%)	
≤ $25,000	18 (38%)	27 (45%)	45 (42%)	
"I don't know"	10 (21%)	8 (13%)	18 (17%)	
Household size				0.12
≤ 2 children	41 (85%)	43 (73%)	84 (79%)	
> 2 children	7 (15%)	16 (27%)	23 (22%)	
Employment				0.053
Full Time	26 (54%)	32 (54%)	58 (54%)	
Part Time	15 (31%)	9 (15%)	24 (22%)	
Unemployed	7 (15%)	18 (31%)	25 (23%)	
Insurance Status				< 0.001
Private	33 (69%)	17 (28%)	50 (46%)	
Public	10 (21%)	24 (40%)	34 (31%)	
None	5 (10%)	19 (32%)	24 (22%)	
Difficulty paying for expenses in last 12 months?				0.32
Yes	19 (39%)	29 (48%)	48 (44%)	
Education				0.007
Beyond High School Education	42 (88%)	39 (65%)	81 (75%)	
High School or less	6 (13%)	21 (35%)	27 (25%)	
Marital Status				0.81
Single	35 (73%)	45 (75%)	80 (74%)	
Married/Cohabitating	13 (27%)	15 (25%)	28 (26%)	
Reproductive History/Goals				
Gestational Age (mean, SD)	10.3, 4.0	10.8, 4.5	10.6, 4.3	0.58
Primigravid	15 (31%)	13 (22%)	28 (26%)	0.26
Nulliparous	28 (58%)	39 (67%)	67 (63%)	0.34

Prior abortion	20 (43%)	24 (41%)	44 (42%)	0.83
Desire for future pregnancy				0.45
No desire for future pregnancy	11 (26%)	20 (36%)	31 (31%)	
Desires pregnancy in 3 year or more	17 (40%)	22 (39%)	39 (39%)	
Desires pregnancy in less than 3 years.	15 (35%)	14 (25%)	29 (29%)	
Interested in starting a new method prior to visit	26 (54%)	38 (59%)	64 (57%)	0.58
Number of previous contraceptive methods				0.40
≤ 2 methods used	21 (42%)	32 (50%)	53 (46%)	
> 2 methods used	29 (58%)	32 (50%)	61 (54%)	
Received a contraceptive method/prescription during their abortion visit*	29 (58%)	31 (48%)	60 (53%)	0.31

**As documented in the patient chart.*

† P-values are two tailed from Chi-Square for categorical variables and Student's T-test for continuous variables

Appendix 2 – In-clinic Survey Questions

	Question	Answer Choices	Skip Pattern
This section will ask questions about the contraceptive counseling you have received during your visit today at the Atlanta Women's Center. There are no wrong answers; we are interested in your experience and opinions.			
1	When you were in your contraceptive counseling session today, about how much time did you and your counselor spend talking about birth control?	(Select One): ○ No time ○ 2 minutes or less ○ 3 to 5 minutes ○ 6 to 10 minutes ○ 11 to 15 minutes ○ 16 to 30 minutes ○ More than 30 minutes	Go to 2
2	Think about your contraceptive counseling session. How did you feel about the time you and your counselor spent talking about birth control options?	(Select One): ○ Too much time ○ The right amount of time ○ Not enough time ○ I don't know	Go to 3
3	Did your counselor tell you about the methods of birth control she has used before?	(Select One): ○ No ○ Yes ○ I don't remember	Go to 4
4	Did your counselor tell you she has/had an intrauterine device (IUD)?	(Select One): ○ No ○ Yes ○ I don't remember	Go to 5
5	Did your counselor tell you she has/had a contraceptive implant?	(Select One): ○ No ○ Yes ○ I don't remember	Go to 6
6	Did your counselor tell you any stories about women she knows who have used an intrauterine device (IUD)?	(Select One): ○ No ○ Yes ○ I don't remember	Go to 7
7	Did your counselor tell you any stories about women she knows who have used a contraceptive implant?	(Select One): ○ No ○ Yes ○ I don't remember	Go to 8
8A	While you were at the Atlanta Women's Center, did anyone else talk to you about the IUD and/or contraceptive implant? If "Yes", who?	(Select Multiple): □ No; No one else talked to me about these methods □ Yes; A different counselor contraceptive implant? □ Yes; Another person who works at the clinic (Doctor, Nurse, etc) □ Yes; Another patient at the clinic □ Yes; Other	If "Yes; Other" include 8B Go to 9
8B	Please specify "Other":	(Free Text)	
9	How satisfied were you with the contraceptive counseling at the Atlanta Women's Center today?	(Select One): ○ Extremely satisfied ○ Very satisfied ○ Satisfied ○ Unsatisfied ○ Very unsatisfied	Go to 10

		○ Extremely unsatisfied	
10A	Which contraceptive methods would you have liked to learn more about during your visit? (Check all that apply)	(Select Multiple): □ Birth control pill □ Injection (Depo-Provera) apply) □ Contraceptive implant (including Nexplanon, Implanon) □ Contraceptive patch (OrthoEvra) □ Vaginal Ring (NuvaRing) □ IUD (including Mirena, ParaGard) □ Female or male sterilization □ None of the above □ Other	If "Other" include 10B Go to 11
10B	Please specify "Other":	(Free Text)	
11	In your opinion, what is the best way to get contraceptive counseling during abortion care? (Check all that apply)	(Select Multiple): □ Over telephone BEFORE the abortion appointment □ At the clinic in a group setting □ At the clinic one-on-one □ At the clinic with another part of abortion care (lab work, sonogram, etc.) □ Over telephone AFTER the abortion appointment □ At a follow-up visit at the clinic □ Online	Go to 12
12	Of the options you chose in the previous question, which of these do you prefer the most (Chose BEST):	(Select One): ○ Over telephone BEFORE the abortion appointment ○ At the clinic in a group setting ○ At the clinic one-on-one ○ At the clinic with another part of abortion care (lab work, sonogram, etc.) ○ Over telephone AFTER the abortion appointment ○ At a follow-up visit at the clinic ○ Online	Go to 13
13	Select the items below that would make counseling contraception more useful for you (Choose all that apply):	(Select Multiple): □ Visual images that explain each method □ Hearing my health care provider's recommendation □ Reading material on each method	Go to 14
This section will ask questions about birth control methods or contraceptives that you may have heard about or used in the past. There are no wrong answers; we are interested in your experience and opinions.			
14A	Who has helped you figure out what you want to use for birth control? (Check all that apply):	(Select Multiple): □ Myself □ Family member □ Friend □ Partner/Boyfriend/Husband □ Doctor □ Counselor □ Internet □ Church member	If "Other" include 14B Go to 15

		□ Pamphlets/Information sheets □ Other	
14B	Please specify "Other":	(Free Text)	
15	Think about the people who helped you choose your birth control method. How much did these people influence your birth control decision?	(Select One): ○ Did not influence my decision ○ Influenced my decision a little ○ Really influenced my decision ○ I'm not sure	Go to 16
16	Before today, had you ever heard about the following contraceptive methods: (Check all that apply)	(Select Multiple): □ I had heard about the intrauterine device (IUD, e.g. Mirena, Paragard) before today. □ I had heard about the contraceptive implant (e.g. Nexplanon, Implanon, Norplant) before today.	If "IUD" go to 17 If "implant" only go to 18 If neither go to 19
17	Where did you first see/hear/read about intrauterine devices (IUDs)?	(Select One): ○ From a friend ○ From a relative ○ From a partner/boyfriend/husband ○ From a doctor/counselor ○ From another healthcare professional	If 16 = "IUD" AND "implant" go to 18 Else go to 19
18	Where did you first see/hear/read about the contraceptive implant?	(Select One): ○ From a friend ○ From a relative ○ From a partner/boyfriend/husband ○ From a doctor/counselor ○ From another healthcare professional	Go to 19
19	Before today, have you known someone who has used one of the following contraceptive methods: (Check all that apply)	(Select Multiple): □ I have known someone who used/uses the intrauterine device (IUD, e.g. Mirena, Paragard) □ I have known someone who used/uses the contraceptive implant (e.g. Nexplanon, Implanon, Norplant)	If "IUD" go to 20 If "implant" only go to 23 If neither, go to 26
20A	Who do you know who used/uses an IUD? (Choose all that apply)	(Select Multiple): □ Friend □ Sister □ Cousin □ Mom □ Someone who works at a clinic (Doctor, Nurse, Counselor) □ Someone else	If "Someone else" include 20B Go to 21
20B	Please specify "Someone else"	(Free text)	
21	About how many people do you know who used/use an IUD?	(Free text – positive integers only)	Go to 22
22	Think of the person you know best who used/uses an IUD. What impression did she give you about the IUD?	(Select One): ○ She liked the IUD a lot IUD ○ She liked the IUD a little ○ She felt neutral about the IUD ○ She did NOT like the IUD a little ○ She really did NOT like the IUD	If 19 = "IUD" AND "implant" go to 23 Else go to 26

		○ I don't remember	
23A	Who do you know who used/uses a contraceptive implant? (Choose all that apply)	(Select Multiple): □ Friend □ Sister □ Cousin □ Mom □ Someone who works at a clinic (Doctor, Nurse, Counselor) □ Someone else	If "Someone else" include 23B Go to 24
23B	Please specify "Someone else"	(Free text)	
24	About how many people do you know who used/use a contraceptive implant?	(Free text – positive integers only)	Go to 25
25	Think of the person you know best who used/uses a contraceptive implant. What impression did she give you about the implant?	(Select One): ○ She liked the implant a lot ○ She liked the implant a little ○ She felt neutral about the implant ○ She did NOT like the implant a little ○ She really did NOT like the implant ○ I don't remember	Go to 26
This section will ask questions about birth control methods or contraceptives that you have used in the past and general questions about your fertility goals. There are no wrong answers, please answer to the best of your knowledge.			
26	About how many people have you had sex with in the last month?	(Free Text – positive integers only)	Go to 27
27	About how many times have you had sex in the last month?	(Free Text – positive integers only)	Go to 28
28A	Have you ever used any of the following contraceptive methods? (Check all that apply)	(Select Multiple): □ Birth control pill □ Condoms □ Injection (Depo-Provera) apply) □ Contraceptive implant (including Nexplanon, Implanon) □ Contraceptive patch (OrthoEvra) □ Vaginal Ring (NuvaRing) □ IUD (including Mirena, ParaGard) □ Lactation amenorrhea method (LAM) □ Withdrawal (pulling out) □ None of the above □ Other	If "Other" include 28B If "IUD" go to 29 Else if "Implant" go to 30 Else go to 31
28B	Please specify "Other":	(Free Text)	
29	Would you classify your experience with the intrauterine device (IUD) as positive or negative?	(Select One): ○ Negative ○ Positive ○ Not sure	If 28 = "IUD" AND "implant" go to 30 Else go to 31
30	Would you classify your experience with the contraceptive implant as positive or negative?	(Select One): ○ Negative ○ Positive ○ Not sure	Go to 31
31A	What method of birth control were you using when you became pregnant the most recent time? (Check all that apply)	(Select Multiple): □ Birth control pill □ Condoms □ Injection (Depo-Provera) apply)	If "Other" include 31B Go to 32

		□ Contraceptive implant (including Nexplanon, Implanon) □ Contraceptive patch (OrthoEvra) □ Vaginal Ring (NuvaRing) □ IUD (including Mirena, ParaGard) □ Lactation amenorrhea method (LAM) □ Natural family planning (including rhythm method) □ Withdrawal (pulling out) □ None of the above □ Other	
31B	Please specify "Other":	(Free Text)	
32	Before you came to the clinic today, were you interested in starting a new contraceptive method?	(Select One): ○ No ○ Yes ○ Not sure	If "Yes" go to 33 Else go to 34
33A	Which method(s) did you come to the clinic with an interest in starting? (Choose all that apply)	(Select Multiple): □ Birth control pill □ Condoms □ Injection (Depo-Provera) apply) □ Contraceptive implant (including Nexplanon, Implanon) □ Contraceptive patch (OrthoEvra) □ Vaginal Ring (NuvaRing) □ IUD (including Mirena, ParaGard) □ None of the above □ Other	If "Other" include 33B Go to 34
33B	Please specify "Other":	(Free Text)	
34	When do you wish to become pregnant again?	(Select One): ○ Never ○ Less than 1 year ○ 1 to 3 years ○ Greater than 3 years ○ Unsure	Go to 35
This section will ask questions about contraceptives or birth control methods that you are interested in using in the future. There are no wrong answers, please answer to the best of your knowledge.			
35A	Please indicate all contraceptive methods you would consider using post-abortion, regardless of cost. (Check all that apply)	(Select Multiple): □ Birth control pill □ Injection (Depo-Provera) apply) □ Contraceptive implant (including Nexplanon, Implanon) □ Contraceptive patch (OrthoEvra) □ Vaginal Ring (NuvaRing) □ IUD (including Mirena, ParaGard) □ Female or male sterilization □ None of the above □ Other	If "Other" include 35B If "IUD" go to 36 Else if "implant" go to 39 Else if "injection" go to 42 Else if "pill" go to 44

			Else if "patch" go to 46 Else if "ring" go to 48 Else go to 50
35B	Please specify "Other":	(Free Text)	
36	If offered, would you have the IUD placed TODAY at the Atlanta Women's Center immediately after your abortion?	(Select One): ○ No ○ Yes ○ Not sure	If "No" or "Not sure" go to 37 Else if "Yes" AND 35 = "implant" go to 39 Else if "Yes" AND 35 = "injection" go to 42 Else if "Yes" AND 35 = "pill" go to 44 Else if "Yes" AND 35 = "patch" go to 46 Else if "Yes" AND 35 = "ring" go to 48 Else go to 50
37A	Mark the reasons why you do not plan on receiving an IUD TODAY at the Atlanta Women's Center. (Check all that apply)	(Select Multiple): □ IUD placement was not offered to me today □ It's too expensive for me to afford □ My insurance won't cover it □ I prefer to go to my primary doctor first □ I prefer to wait until a later date to receive an IUD □ Other reason	If "Other reason" include 37B Go to 38
37B	Please specify "Other reason":	(Free Text)	
38	Do you plan or hope to start the IUD within one to two months after today?	(Select One): ○ No ○ Yes ○ Not sure	If 35 = "implant" go to 39

			Else if 35 = "injection" go to 42 Else if 35 = "pill" go to 44 Else if 35 = "patch" go to 46 Else if 35 = "ring" go to 48 Else go to 50
39	If offered, would you have the implant placed TODAY at the Atlanta Women's Center immediately after your abortion?	(Select One): ○ No ○ Yes ○ Not sure	If "No" or "Not sure" go to 40 Else if "Yes" AND 35 = "injection" go to 42 Else if "Yes" AND 35 = "pill" go to 44 Else if "Yes" AND 35 = "patch" go to 46 Else if "Yes" AND 35 = "ring" go to 48 Else go to 50
40A	Mark the reasons why you do not plan on receiving an implant TODAY at the Atlanta Women's Center. (Check all that apply)	(Select Multiple): □ Implant placement was not offered to me today □ It's too expensive for me to afford □ My insurance won't cover it □ I prefer to go to my primary doctor first □ I prefer to wait until a later date to receive an implant □ Other reason	If "Other reason" include 40B Go to 41
40B	Please specify "Other reason":	(Free Text)	

41	Do you plan or hope to start the contraceptive implant within one to two months after today?	(Select One): ○ No ○ Yes ○ Not sure	If 35 = "injection" go to 42 Else if 35 = "pill" go to 44 Else if 35 = "patch" go to 46 Else if 35 = "ring" go to 48 Else go to 50
42	Do you plan or hope to have a contraceptive injection (Depo-Provera) TODAY at the Atlanta Women's Center immediately after your abortion?	(Select One): ○ No ○ Yes ○ Not sure	If "Yes" go to 43 Else if 35 = "pill" go to 44 Else if 35 = "patch" go to 46 Else if 35 = "ring" go to 48 Else go to 50
43A	After 3 months, do you plan to continue the contraceptive injection or switch to another contraceptive method?	(Select One): ○ Continue using the contraceptive injection ○ Switch to IUD (e.g. Mirena, ParaGard) ○ Switch to contraceptive implant (e.g. Nexplanon) ○ Switch to other	If "Switch to other" include 43B If 35 = "pill" go to 44 Else if 35 = "patch" go to 46 Else if 35 = "ring" go to 48 Else go to 50
43B	Please specify "Switch to other":	(Free Text)	
44	Do you plan or hope to leave the Atlanta Women's Center TODAY with	(Select One): ○ Yes	If "Yes" go to 45

	a sample or trial pack of birth control pills?	○ No	Else if 35 = "patch" go to 46 Else if 35 = "ring" go to 48 Else go to 50
45A	In the next 1-2 months, do you plan to continue using birth control pills or switch to another contraceptive method?	(Select One): ○ Continue using birth control pills ○ Switch to IUD (e.g. Mirena, ParaGard) ○ Switch to contraceptive implant (e.g. Nexplanon) ○ Switch to other	If "Switch to other" include 45B If 35 = "patch" go to 46 Else if 35 = "ring" go to 48 Else go to 50
45B	Please specify "Switch to other":	(Free Text)	
46	Do you plan or hope to leave the Atlanta Women's Center TODAY with a sample or trial pack of the contraceptive patch?	(Select One): ○ Yes ○ No	If "Yes" go to 47 Else if 35 = "ring" go to 48 Else go to 50
47A	In the next 1-2 months, do you plan to continue using the contraceptive patch or switch to another contraceptive method?	(Select One): ○ Continue using the contraceptive patch ○ Switch to IUD (e.g. Mirena, ParaGard) ○ Switch to contraceptive implant (e.g. Nexplanon) ○ Switch to other	If "Switch to other" include 47B If 35 = "ring" go to 48 Else go to 50
47B	Please specify "Switch to other":	(Free Text)	
48	Do you plan or hope to leave the Atlanta Women's Center TODAY with a sample or trial pack of the vaginal ring?	(Select One): ○ Yes ○ No	If "Yes" go to 49 Else go to 50
49A	In the next 1-2 months, do you plan to continue using the vaginal ring or switch to another contraceptive method?	(Select One): ○ Continue using the vaginal ring ○ Switch to IUD (e.g. Mirena, ParaGard)	If "Switch to other" include 49B Go to 50

		○ Switch to contraceptive implant (e.g. Nexplanon) ○ Switch to other	
49B	Please specify "Switch to other":	(Free Text)	
This section of the survey will ask questions about what you know and believe about two contraceptives or birth control methods: the intrauterine device (also called the IUD) and the contraceptive implant (also called the Implant). Please answer these questions to the best of what you know about these methods; there are not wrong answers to these questions.			
50	How much do you feel you know about IUDs and how they are used?	(Select One): ○ Know nothing ○ Know a little ○ Know a lot ○ Know everything	Go to 51
51	How much do you feel you know about contraceptive implants and how they are used?	(Select One): ○ Know nothing ○ Know a little ○ Know a lot ○ Know everything	Go to 52
52	IUDs and contraceptive implants are safe to be used immediately following an abortion.	(Select One): ○ True ○ False	Go to 53
53	An IUD or contraceptive implant can negatively affect my chances of getting pregnant in the future, even after the device is removed.	(Select One): ○ True ○ False	Go to 54
54	An IUD or contraceptive implant is more effective at preventing unplanned pregnancy than birth control pills.	(Select One): ○ True ○ False	Go to 55
55	An IUD or contraceptive implant cannot be removed early if I change my mind about wanting to get pregnant.	(Select One): ○ True ○ False	Go to 56
56	Please select the items which you know to be side effects of the IUD:	(Select Multiple): □ Irregular menstrual bleeding □ Weight gain □ Hives □ Nausea or vomiting □ Tender breasts	Go to 57
57	Please select the items which you know to be side effects of the contraceptive implant:	(Select Multiple): □ Irregular menstrual bleeding □ Weight gain □ Hives □ Nausea or vomiting □ Tender breasts	Go to 58
For this section, please tell us how important these each of these factors are for you personally in deciding to use or continue a birth control method.			
58	When deciding to use or continue a birth control method, which factors are important to you? (Choose all that apply):	(Select Multiple): □ I can afford it. □ It is easy to use. □ My partner accepts the method. □ The method doesn't affect my future fertility. □ The method doesn't change my menstrual cycle. □ The method doesn't cause weight gain.	Go to 59

		□ The method is the most reliable method available.	
59	Of the factors you selected in the previous question, which is the MOST important to you in deciding to use or continue a birth control method (choose 1):	(Select One): ○ I can afford it. ○ It is easy to use. ○ My partner accepts the method. ○ The method doesn't affect my future fertility. ○ The method doesn't change my menstrual cycle. ○ The method doesn't cause weight gain. ○ The method is the most reliable method available.	Go to 60
For this section, please answer the questions whether you are or are not considering using an IUD or contraceptive implant. There are no wrong answers; please answer to the best of your ability.			
60	Please indicate which of the following statements are true for you personally concerning the IUD. (CHECK ALL THAT APPLY TO YOU):	(Select Multiple): □ The IUD does not fit my contraceptive needs true □ I don't know enough about the IUD to feel comfortable getting one □ I don't believe my insurance covers the IUD □ An IUD is too expensive for me □ I don't have time to get an IUD placed □ An IUD is less safe than other contraceptive methods □ I am worried about the side effects of the IUD □ I am worried about pain with insertion of the IUD □ My partner/husband/boyfriend does not want me to use an IUD □ My parent(s) do not want me to use an IUD	Go to 61
61	Please indicate which of the following statements are true for you personally concerning the contraceptive implant. (CHECK ALL THAT APPLY TO YOU):	(Select Multiple): □ The implant does not fit my contraceptive needs true □ I don't know enough about the implant to feel comfortable getting one □ I don't believe my insurance covers the implant □ An implant is too expensive for me □ I don't have time to get an implant placed □ An implant is less safe than other contraceptive methods □ I am worried about the side effects of the implant □ I am worried about pain with insertion of the implant □ My partner/husband/boyfriend does not want me to use an implant □ My parent(s) do not want me to use an implant	Go to 62

This final section will ask about some general questions about you. Please answer to the best of your knowledge.			
62	Please enter your email address:	(Free Text)	Go to 63
63	Which of the following BEST describes your racial/ethnic background?	(Select One): ○ White ○ Black or African American ○ American Indian or Alaskan Native ○ Asian ○ Native Hawaiian or Pacific Islander ○ Multi-racial ○ Not specified/Other ○ Don't know/refuse to answer	Go to 64
64	Do you consider yourself to be Hispanic/Latina/Latino?	(Select One): ○ Yes ○ No	Go to 65
65	What is the highest level of school you have completed or the highest degree you have received?	(Select One): ○ Some High School or less ○ GED/ High School Diploma ○ Technical or Associates Degree ○ Some College Bachelor's Degree ○ Graduate or Professional Degree	Go to 66
66A	What is your insurance type?	(Select One): ○ Medicaid ○ Medicare ○ Private insurance, through employer ○ Private insurance, through ACA (e.g. Marketplace) ○ No insurance ○ Other	If "Other" include 66B Go to 67
66B	Please specify "Other":	(Free Text)	
67A	What is your marital status?	(Select One): ○ Single/divorced/widowed ○ Living with a partner ○ Married ○ Other	If "Other" include 67B Go to 68
67B	Please specify "Other":	(Free Text)	
68	Have you ever been pregnant before, regardless of outcome?	(Select One): ○ Yes ○ No	If "Yes" go to 69 If "No" go to 73
69	How many times were you previously pregnant?	(Free text – positive integers only)	Go to 70
70	How many miscarriages or ectopic pregnancies have you experienced?	(Free text – 0 or positive integers only)	Go to 71
71	How many C-sections or vaginal deliveries have you experienced?	(Free text – 0 or positive integers only)	Go to 72
72	How many abortions have you experienced?	(Free text – 0 or positive integers only)	Go to 73
73	Including yourself, how many adults (people aged 18 years or older) live in your household?	(Free text – 0 or positive integers only)	Go to 74
74	How many children (aged 17 or younger) live in your household?	(Free text – positive integers only)	Go to 75

75	Which of the following categories best describes your employment status?	(Select One): ○ Employed Full Time ○ Employed Part Time ○ Not currently employed	Got to 76
76	Which of the following categories best describes your student status?	(Select One): ○ Not a student ○ Full-time student ○ Part-time student ○ Continuing education/night classes	Go to 77
77	In the last 12 months, what was your yearly total household income before taxes? (Include your income, your husband's or partner's income, and any other income you may have received.)	(Select One): ○ Less than $10,000 ○ $10,001 - $25,000 ○ $ 25,001 - $50,000 ○ $50,001 - $75,000 ○ $75,001 - $100,000 ○ Greater than $100,000 ○ Don't Know	Go to 78
78	In the past 12 months, have you had trouble paying for transportation, housing, medical expenses, or food?	(Select One): ○ Yes ○ No	End Survey

Appendix 3 – Follow-up Survey Questions

	Question	Answer Choices	Skip Pattern
Thank you for your interest in this survey, it should take no more than 10 minutes to complete. Remember, you can stop this survey at any time or skip any questions.			
1	Since your visit to the Atlanta Women's Center, have you resumed vaginal sex?	(Select One): ○ No ○ Yes, about 1 week after the visit ○ Yes, about 2-4 weeks after the visit ○ Yes, after 4 weeks	Go to 2
2	Did you receive any birth control method OR a prescription/referral for a birth control method on the day of your abortion at the Atlanta Women's Center? (Check all that apply)	(Select One): ○ Yes, I was given a birth control method at the AWC ○ Yes, I was given a prescription or a referral at the AWC ○ No	Go to 3
3	What method(s) did you receive or get a prescription/referral for at the Atlanta Women's Center? (Select all that apply)	(Select Multiple): □ Birth control pill □ Condoms □ Injection (Depo-Provera ©) □ Contraceptive implant (Nexplanon©) □ Contraceptive patch (OrthoEvra©) □ Vaginal Ring (NuvaRing©) □ IUD (Mirena© or ParaGard©)	Go to 4
4	Have you started using this method?	(Select One): ○ Yes ○ No	Go to 5
5A	What birth control methods are you using currently? (Select all that apply)	(Select Multiple): □ Birth control pill □ Condoms □ Injection (Depo-Provera ©) □ Contraceptive implant (Nexplanon©) □ Contraceptive patch (OrthoEvra©) □ Vaginal Ring (NuvaRing©) □ IUD (Mirena© or ParaGard©) □Natural family planning (including rhythm method) □ Female or male sterilization (tubal ligation or vasectomy) □ Withdrawal (pulling out) □ None □ Other	If "Other" include 5B Go to 6
5B	Please Specify "Other":	(Free Text)	
6	Is there a birth control method you would prefer to use over your current method?	(Select One): ○ Yes ○ No ○ I don't know	If "Yes" go to 7 Else if 5 = "IUD" go to 9 Else if 3 = "IUD" AND 5 not "IUD" go to 13

			Else if 5 = "implant" go to 16 Else if 3 = "implant" AND 5 not "implant" go to 19 Else go to 21
7A	What would be your preferred method? (Select one)	(Select One): ○ Birth control pill ○ Injection (Depo-Provera ©) ○ Contraceptive implant (Nexplanon©) ○ Contraceptive patch (OrthoEvra©) ○ Vaginal Ring (NuvaRing©) ○ IUD (Mirena© or ParaGard©) ○ Female or male sterilization (tubal ligation or vasectomy) ○ Other	If "Other" include 7B Go to 8
7B	Please specify "Other":	(Free Text)	
8A	What is preventing you from using this preferred method? (Select all that apply)	(Select Multiple): □ The method is too expensive □ A doctor visit is too expensive (e.g. copay) □ Difficulty scheduling an appointment □Difficulty finding transportation to visit a doctor or clinic □ Difficulty finding time to visit a doctor or clinic □Sexual partner does not want me to use the method □ Other	If "Other" include 8B If 5 = "IUD" go to 9 Else if 3 = "IUD" AND 5 not "IUD" go to 13 Else if 5 = "implant" go to 16 Else if 3 = "implant" AND 5 not "implant" go to 19 Else go to 21
8B	Please specify "Other":	(Free Text)	
9A	What influenced your decision to choose an IUD? (Choose all that apply)	(Select Multiple): □ Overall experiences at the Atlanta Women's Center □ Contraceptive counseling at the Atlanta Women's Center □ Friend/family member's experience □ Sexual partner's opinion □ Advertisements on TV/radio/magazine □ The cost of this method □ The effectiveness of this method	If "Other" include 9B Go to 10

		□ I think this method is easy to use □ Other	
9B	Please specify "Other":	(Free Text)	
10	Are you considering discontinuing your IUD?	(Select One): ○ Yes ○ No	If "Yes" go to 11 If "No" go to 27
11A	Why are you considering discontinuing your IUD? (Choose all that apply)	(Select Multiple) □ Side effects of the IUD □ Desire to become pregnant □ Physician recommendation □ Friend/family member's experience with IUD □ Sexual Partner's opinion □ Other	If "Other" include 11B If "Side effects" go to 12 Else go to 27
11B	Please specify "Other":	(Free Text)	
12	Which side effect most influenced your decision? (Choose one)	(Select One): ○ Pain/cramping ○ Irregular/frequent bleeding ○ Heavy bleeding ○Acne ○ Mood Changes ○Vaginal symptoms (odor/discharge/itching/inflammation) ○ Headache ○ Weight gain ○ Amenorrhea (lack of periods) ○ Painful intercourse ○ Breast tenderness	Go to 27
13A	What influenced your decision to discontinue your IUD? (Choose all that apply)	(Select Multiple) □ Side effects of the IUD □ Desire to become pregnant □ Physician recommendation □ Friend/family member's experience with IUD □ Sexual Partner's opinion □ IUD was expelled □ Other	If "Other" include 13B If "Side effects" go to 14 Else go to 27
13B	Please specify "Other":	(Free Text)	
14	Which side effect most influenced your decision? (Choose one)	(Select One): ○ Pain/cramping ○ Irregular/frequent bleeding ○ Heavy bleeding ○Acne ○ Mood Changes ○Vaginal symptoms (odor/discharge/itching/inflammation) ○ Headache ○ Weight gain ○ Amenorrhea (lack of periods) ○ Painful intercourse ○ Breast tenderness	Go to 27

15A	What influenced your decision to choose the contraceptive implant? (Choose all that apply)	(Select Multiple): □ Overall experiences at the Atlanta Women's Center □ Contraceptive counseling at the Atlanta Women's Center □ Friend/family member's experience □ Sexual partner's opinion □ Advertisements on TV/radio/magazine □ The cost of this method □ The effectiveness of this method □ I think this method is easy to use □ Other	If "Other" include 15B Go to 16
15B	Please specify "Other":	(Free Text)	
16	Are you considering discontinuing your contraceptive implant?	(Select One): ○ Yes ○ No	If "Yes" go to 17 If "No" go to 27
17A	Why are you considering discontinuing your contraceptive implant? (Choose all that apply)	(Select Multiple): □ Side effects of the implant □ Desire to become pregnant □ Physician recommendation □ Friend/family member's experience with implant □ Sexual Partner's opinion □ Other	If "Other" include 17B If "Side Effects" go to 18 Else go to 27
17B	Please specify "Other":	(Free Text)	
18	Which side effect most influenced your decision? (Choose one)	(Select One): ○ Pain ○ Irregular bleeding ○Acne ○ Mood Changes ○Vaginal symptoms (odor/discharge/itching/inflammation) ○ Headache ○ Weight gain ○ Amenorrhea (lack of periods) ○ Nausea/Dizziness ○ Breast tenderness	Go to 27
19A	What influenced your decision to discontinue your contraceptive implant? (Choose all that apply)	(Select Multiple): □ Side effects of the implant □ Desire to become pregnant □ Physician recommendation □ Friend/family member's experience with implant □ Sexual Partner's opinion □ Other	If "Other" include 19B If "Side Effects" go to 20 Else go to 27
19B	Please specify "Other":	(Free Text)	
20	Which side effect most influenced your decision? (Choose one)	(Select One): ○ Pain ○ Irregular bleeding ○Acne ○ Mood Changes	Go to 27

		○Vaginal symptoms (odor/discharge/itching/inflammation) ○ Headache ○ Weight gain ○ Amenorrhea (lack of periods) ○ Nausea/Dizziness ○ Breast tenderness	
21	Are you considering starting either an intrauterine device (IUD) or contraceptive implant?	(Select One): ○ I'm considering using the IUD ○ I'm considering using the contraceptive implant ○ I'm not considering using either of these methods	If "IUD" go to 22 If "implant" go to 24 If neither go to 26
22	Do you currently have an appointment scheduled to have an IUD placed?	(Select One): ○ Yes ○ No	Go to 23
23A	What made you consider an IUD? (Choose all that apply)	(Select Multiple): □ Overall experiences at the Atlanta Women's Center □ Contraceptive counseling at the Atlanta Women's Center □ Friend/family member's experience □ Sexual partner's opinion □ Advertisements on TV/radio/magazine □ The cost of this method □ The effectiveness of this method □ I think this method is easy to use □ Other	If "Other" include 23B Go to 27
23B	Please specify "Other":	(Free Text)	
24	Do you currently have an appointment scheduled to have a contraceptive implant placed?	(Select One): ○ Yes ○ No	Go to 25
25A	What made you consider an implant? (Choose all that apply)	(Select Multiple): □ Overall experiences at the Atlanta Women's Center □ Contraceptive counseling at the Atlanta Women's Center □ Friend/family member's experience □ Sexual partner's opinion □ Advertisements on TV/radio/magazine □ The cost of this method □ The effectiveness of this method □ I think this method is easy to use □ Other	If "Other" include 25B Go to 27
25B	Please specify "Other":	(Free Text)	
26A	What has influenced your decision not to receive an IUD or implant? (Choose all that apply)	(Select Multiple): □ Overall experiences at the Atlanta Women's Center □ Contraceptive counseling received at Atlanta's Women Center	If "Other" include 26B Go to 27

		□ Friend/family member's experience with IUD or Implant □ Sexual partner's opinion □ Advertisements on TV/radio/magazine □ The cost of this method □ Limited time to go to clinic to get an IUD/Implant □ Pain associated with insertion □ Other	
26B	Please specify "Other":	(Free Text)	
27	Has your insurance status changed since your visit to the Atlanta Women's Center?	(Select One): ○ Yes ○ No	If "Yes" go to 28 If "No" go to 29
28A	What is your new insurance type?	(Select One): ○ Medicaid ○ Medicare ○ Private insurance, through employer ○ Private insurance, through ACA (e.g. the Marketplace) ○ No insurance ○ Other	If "Other" include 28B Go to 29
28B	Please specify "Other":	(Free Text)	
29	When do you wish to become pregnant in the future?	(Select One): ○ Never ○ in less than 1 year ○ in 1 to 3 years ○ In more than 3 years ○ Unsure	Go to 30
30	Since your visit to the Atlanta Women's Center about twelve weeks ago, have you talked with someone about one of the following contraceptive methods:	(Select Multiple): □ I have talked to someone who used/uses the intrauterine device (IUD, e.g. Mirena, Paragard) □ I have talked to someone who used/uses the contraceptive implant (e.g. Nexplanon, Implanon) □ No	If "IUD" go to 31 If "implant" only go to 34 If "No" go to 37
31A	Who have you talked to in the last twelve weeks who used/uses an IUD? (Choose all that apply)	(Select Multiple): □ Friend □ Sister □ Cousin □ Mom □ Someone who works at a clinic (Doctor, Nurse, Counselor) □ Someone else	If "Someone else" include 31B Go to 32
31B	Please specify "Someone else"	(Free text)	
32	About how many people have you talked to in the last twelve weeks who used/use an IUD?	(Free text – positive integers only)	Go to 33
33	Think of the person you know best who used/uses an IUD. What impression did she give you about the IUD?	(Select One): ○ She liked the IUD a lot IUD ○ She liked the IUD a little	If 30 = "IUD" AND

		○ She felt neutral about the IUD ○ She did NOT like the IUD a little ○ She really did NOT like the IUD ○ I don't remember	"implant" go to 34 Else go to 37
34A	Who have you talked to in the last twelve weeks who used/uses a contraceptive implant? (Choose all that apply)	(Select Multiple): □ Friend □ Sister □ Cousin □ Mom □ Someone who works at a clinic (Doctor, Nurse, Counselor) □ Someone else	If "Someone else" include 34B Go to 35
34B	Please specify "Someone else"	(Free text)	
35	About how many people have you talked to in the last twelve weeks who used/use a contraceptive implant?	(Free text – positive integers only)	Go to 36
36	Think of the person you know best who used/uses a contraceptive implant. What impression did she give you about the implant?	(Select One): ○ She liked the implant a lot ○ She liked the implant a little ○ She felt neutral about the implant ○ She did NOT like the implant a little ○ She really did NOT like the implant ○ I don't remember	Go to 37
37	Think about the people who helped you choose your birth control method. How much did these people influence your birth control decision?	(Select One): ○ Did not influence my decision ○ Influenced my decision a little ○ Really influenced my decision ○ I'm not sure	Go to 38
38	Please indicate which of the following statements are true for you personally concerning the IUD. (CHECK ALL THAT APPLY TO YOU):	(Select Multiple): □ The IUD does not fit my contraceptive needs true □ I don't know enough about the IUD to feel comfortable getting one □ I don't believe my insurance covers the IUD □ An IUD is too expensive for me □ I don't have time to get an IUD placed □ An IUD is less safe than other contraceptive methods □ I am worried about the side effects of the IUD □ I am worried about pain with insertion of the IUD □ My partner/husband/boyfriend does not want me to use an IUD □ My parent(s) do not want me to use an IUD	Go to 39
39	Please indicate which of the following statements are true for you personally concerning the contraceptive implant. (CHECK ALL THAT APPLY TO YOU):	(Select Multiple): □ The implant does not fit my contraceptive needs true □ I don't know enough about the implant to feel comfortable getting one □ I don't believe my insurance covers the implant	Go to 40

		□ An implant is too expensive for me □ I don't have time to get an implant placed □ An implant is less safe than other contraceptive methods □ I am worried about the side effects of the implant □ I am worried about pain with insertion of the implant □ My partner/husband/boyfriend does not want me to use an implant □ My parent(s) do not want me to use an implant	
40	What would have improved your experience at the Atlanta Women's Center?	(Free Text)	Go to 41
41	Any other feedback for the Atlanta Women's Center?	(Free Text)	End Survey