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Abstract

The rise in rates of opioid addiction among women of childbearing age, alongside the consistent rates of unintended pregnancy, has changed the landscape for the public health risks and outcomes of unintended pregnancies in the United States. Concurrently, uptake of long-acting reversible contraception (LARC) remains low among all women, particularly those with substance use disorder. This project explores the perceived barriers to LARC among women enrolled in medication-assisted treatment (MAT) for opioid addiction. A mixed methods, cross-sectional survey design was used to capture how women in MAT access care, their reproductive planning and intention, contraceptive knowledge and behavior, and their perceived barriers to LARC. Of the 50 women interviewed, 84% experienced at least one unintended pregnancy in her lifetime. Although approximately 75% of women indicated awareness of both the IUD and implant, only 6% reported the use of either of these devices. A total of 21 themes related to the likelihood of LARC uptake were identified among free-text responses. Of these, the greatest barriers to the uptake of LARC were women's expressed fears of complication related to LARC use, and the myths propagated by the relationship influences of family, friends, and acquaintances. The design and implementation of grassroots LARC marketing could replace or mute the misinformation and cautionary advice that seems to be cultivated along the social grapevine. Frequent, often daily, contact with the healthcare system for women within medication-assisted treatment facilities provides an excellent avenue for improved access to appropriate LARC information alongside the provision of appropriate resources for reproductive health. Integrating these services aligns with current recommendations for comprehensive care of women seeking treatment for SUD and can serve to support each woman's commitment to sustained recovery by promoting both contraceptive choice and reproductive autonomy.

Introduction and Background

Despite the development of many safe, affordable, and effective family planning services, approximately half of all reported pregnancies in the United States are unintended (CDC, 2015). In the year 2010, public costs of births resulting from unintended pregnancies were an estimated $21.0 billion (Sonfield &Kost, 2015). As such, the improvement of pregnancy planning and spacing, and the prevention of unintended pregnancies remain top objectives of Healthy People 2020 (ODPHP, 2017). Support and enhancement of family planning services within the United States not only provides women and their families with increased control over their future, but also preserves government funding by saving nearly $4 in pregnancy-related Medicaid expenditures for every $1 spent in prevention (ODPHP, 2017).

Further complicating the health of women living in the United States, is the epidemic rise in rates of opioid addiction and overdose. The death of women by overdose from prescription painkillers increased by 400% from 1999 to 2010, and the use of heroin increased 100% between 2002 and 2013 (U.S. Department of Health and Human Services Office on Women's Health [OWH], 2016). From 2007 to 2012, The National Surveys on Drug Use and Health (NSDUH) indicate an increase in opioid misuse among women who were pregnant and between the ages of 15 to 44 years (SAMHSA, 2017). The rise in rates of opioid addiction among women of childbearing age, alongside the consistent rates of unintended pregnancy, has changed the landscape for the public health risks and outcomes of unintended pregnancies in the United States.

As this trend continues, there is a parallel mortality and morbidity related to newborn infants with Neonatal Abstinence Syndrome (NAS). NAS is a constellation of health problems-including diarrhea, poor feeding, seizures, sleep problems, slow weight gain, and tremors, that

occur in newborns exposed to opiate drugs during pregnancy (McQueen & Murphy-Oikonen, 2016; Lee, 2015). In addition to the health effects on the infant, NAS increases maternal stress in perinatal and postpartum periods (Corr & Hollenbeak, 2017; Velez & Jansson, 2008).

These public health issues are prevalent nationwide, and the state of Tennessee has the second highest opioid prescribing rate per capita in the nation. In 2012 it was estimated that 69,100 individuals were addicted to opioids, with prescription-related deaths totaling nearly 1,300 in 2014 (Stewart, 2016). In 2014, women in Tennessee, ages 25 to 44 years, had higher rates of inpatient hospital stays and emergency department visits related to opioid use compared men (Weiss et al., 2017). Additionally, almost half of the pregnancies in Tennessee from 2011 were reported as unintended. Among those that were trying to avoid pregnancy, over one-half were not using birth control (Tennessee Department of Health, 2011). The confluence of these public health issues has contributed directly to an incidence of NAS in the state of Tennessee that has increased 15-fold over the last decade, amounting to 973 cases of NAS in 2014. The cost for increased care of these newborns amounted to nearly $48 million in healthcare expenditures (Stewart, 2016). Compared to the 3-fold increase of NAS within the United States as a whole, it is apparent that Tennessee has a particular need for public health interventions related to both prevention of unplanned pregnancy and treatment of substance use disorder (SUD) in women of childbearing age. The primary prevention of unintended pregnancies creates an opportunity for secondary prevention of neonatal abstinence syndrome for babies born to women with substance use disorder.

Increasing access to reliable and effective contraceptive options for all women of childbearing age is one such intervention. To effectively prevent unintended pregnancy, the American College of Obstetricians and Gynecologists (ACOG) and the American Academy of

Pediatrics (AAP) advocate for increased access to contraceptive implants and intrauterine devices (IUDs), otherwise known as long-acting reversible contraception (LARC). While implants and IUDs are not new devices, a lag in their uptake within the United States has persisted since their introduction in the 1960's (Strasser, Borkowski, Couillard, Allina & Wood, 2016). LARC is the most reliable and effective form of birth control, second only to sterilization. However, only 7.2% of women in the U.S., between the ages of 15 and 44, are currently using LARC (Daniels, Daugherty, Jones & Mosher, 2015). Given that women with substance abuse disorder related to opioid addiction have higher rates of unplanned pregnancies compared to women who do not use drugs, one might assume that rates of LARC use among this particular population are similar to, if not lower than, the aforementioned rates within the United States (Terplan, Hand, Hutchinson, Salisbury-Afshar & Heil, 2015). Therefore, increasing the uptake of LARC among all women of reproductive age may have an added benefit in the subpopulation of women with substance use disorder, by decreasing both unintended pregnancies and the myriad health consequences, including NAS, related to fetal exposure to illicit substances in utero.

Problem Statement

Though LARC devices are considered first-line for the reduction of unintended pregnancies, rates of LARC uptake remain low in this country for reasons that are not well understood. Additionally, there is little in the literature regarding the use of LARC to reduce the rates of unintended pregnancies within a population of women who experience substance abuse disorder. Specifically, little is mentioned regarding the introduction of the option of LARC to women in treatment for opioid addiction as a way to prevent unintended pregnancies and subsequently decrease the rates of neonatal abstinence syndrome in the United States.

Purpose

The purpose of this study was to identify the perceived barriers to long-acting reversible contraception (LARC) among women of childbearing age enrolled in medication assisted treatment for opioid addiction.

Review of Evidence

The intrauterine device (IUD), both hormonal and non-hormonal, as well as the contraceptive implant, tout efficacy rates of less than one pregnancy per 100 women in one year, a rate comparable to the permanent method of sterilization, or tubal ligation (ACOG, 2015). These devices maintain their effectiveness due to a one-time insertion process that eliminates user dependence and error from the efficacy equation (ACOG, 2015; Parks & Peipert, 2016). In contrast, the most commonly used contraceptive method, the oral contraceptive pill, has an estimated 9% contraceptive failure rate within the first 12 months of typical use (Daniels et al., 2015). The male condom, used by approximately 5.8 million women as a primary form of pregnancy prevention, carries an 18% failure rate within the same time period. These contraceptive failures are attributed to inconsistent or incorrect use of these birth control methods (Daniels et al., 2015).

Recent recommendations for the use of LARC have expanded beyond previously specified health populations to include adolescent girls, women who are nulliparous, and women who living with chronic medical conditions, like certain cancers and HIV, for whom pregnancy could contribute to known health risks associated with disease progression (ACOG, 2015; AHA Media, 2017). Increased access to LARC for all women has the potential to lower the rates of unintended pregnancies, and thereby mitigate the risks of maternal depression, low-birthweight infants, low education and income levels, and higher rates of intimate partner violence (Parks &

Peipert, 2016). Some believe these devices should be offered to women who experience substance use disorder related to opioid addiction, in an effort to assist those seeking to control their own family planning patterns and protect their recovery (Harding & Ritchie, 2003; Krans, Cochran, & Bogen, 2015; Patrick & Schiff, 2017; Terplan et al., 2015).

Unique Barriers to LARC

Although barriers to LARC exist for all women in the United States, women with substance use disorder face a unique set of challenges that increase their risk for unintended pregnancy and their vulnerability to the poor outcomes associated with it (Black et al., 2012; Patrick et al., 2017; Terplan et al., 2015).. One study found that eight in ten women with SUD who had ever been pregnant reported at least one unintended pregnancy, a rate significantly higher than the national average in the United States (Terplan et al., 2015). These higher rates of unintended pregnancy may be attributed to high risk behaviors associated with the misuse of prescription and street drugs.

In addition, women who are addicted to opioids and experience an unplanned pregnancy are at high risk for preterm birth, low birth weight infants, and infants born with neonatal abstinence syndrome (Black et al., 2012; Patrick et al., 2017; Terplan et al., 2015). These same risks are found in women who are in medication-assisted treatment (MAT) for opioid addiction. It is expected that babies born to women using prescribed methadone or buprenorphine treatment will experience symptoms of NAS during the neonatal period (Velez & Jansson, 2008). These outcomes may create stress for any woman, let alone those with the additional burden of substance abuse disorder. It is widely accepted that the postpartum period is stressful for most women. As stress is a known trigger for relapse, women are often at increased risk of relapse and overdose during this time (ASAM, 2017; Velez & Jansson, 2008). These outcomes not only

increase the burden of stress and guilt for women and their families, but also increase costs to the families, hospitals, and states (Velez & Jansson, 2008).

Additional barriers to LARC such as cost, physician bias, knowledge gaps, and decreased access to care, present a challenging scenario for women seeking reproductive autonomy and greater control over their reproductive health. Increased access to programs that promote positive reproductive health may encourage intentional engagement in healthcare services, and the opportunity for control over health-related choices. Women involved in MAT often have access to more consistent points of care as they interact with providers for medication adjustment and psychological therapy. Studies indicate that women in these settings have the opportunity for consistent family planning counseling and patient-centered education on the availability of contraceptive devices, including long-acting contraception (Black et al., 2012; Patrick et al., 2017; Terplan et al., 2015). At a minimum, the American Society of Addiction Medicine (ASAM) (2017) recommends that all women seeking substance use disorder treatment should be screened for 12-month pregnancy intention, at intake, and offered referrals to comprehensive family planning services, including contraception.

As these scenarios continue to present themselves, opportunities arise for healthcare providers and public health officials to create patient-centered family planning services that are appropriate and readily available to women in outpatient treatment for substance abuse disorder. A clear understanding of the perceived barriers to the uptake of LARC can inform the development of patient-centered family planning services that integrate easily into a model of sustained recovery for women.

Generalized Barriers to LARC

Gaps in appropriate LARC knowledge and common misconceptions of these devices remain a significant barrier to LARC uptake among all women. The association of early era IUDs and implants with high rates of negative side effects, pelvic inflammatory disease (PID), infertility, miscarriages, and hospitalizations has continued to pepper the current LARC environment with thoughts of harm and mistrust (Russo et al., 2013; Strasser et el., 2016). Other patient misconceptions regarding the use of LARC include ideas that these devices cause abortion, infertility, ectopic pregnancy, and menstrual irregularities (Russo et al., 2013). These misunderstandings are not limited to patients but reflect the perception of some providers as well. Studies indicate some providers continue to have overly restrictive criteria for LARC insertion, excluding women with a history of PID, ectopic pregnancy, or nulliparity (Higgins et al., 2016; Strasser et al., 2016). Still other providers reported negative attitudes about certain contraceptive methods as well as lack of knowledge, training, and comfort inserting and managing these devices (Akers, et al., 2010; Strasser et al., 2016). Awareness of these common misperceptions highlights an opportunity for advocacy as well as patient and provider education related to the actual risks and benefits of LARC insertion and maintenance (ACOG, 2015).

Breaking Down Barriers

While existing barriers perpetuate the low rate of LARC uptake by women in the United States, statewide initiatives including patient and provider education programs, contraceptive cost reductions, marketing strategies, and public outreach are increasing awareness of LARC within patient populations, decreasing provider resistance to LARC provision, and eliminating the prohibitive cost barrier (Birgisson, Zhao, Secura, Madden & Peipert, 2015; Goldwaithe, Duca, Johnson, Ostendorf & Sheeder, 2015; Sundstrom, et al., 2016; Strasser et al., 2016). The

Iowa Initiative, Colorado Initiative to Reduce Unintended Pregnancy (Colorado Initiative), and the CHOICES project in St. Louis, Missouri, seek to increase access to family planning services through grants and other sources of government funding. These monetary awards decrease the prohibitive costs of LARC devices for patients, and fund the education and training of providers in Title X clinics and other family planning sites that serve low-income women without access to reproductive health care (Birgisson et al., 2015; Goldwaithe, et al., 2015; Strasser et al., 2016). Additionally, programs in the states of Iowa and South Carolina allocate funding towards marketing and outreach for LARC, and the promotion of family planning clinics in general (Strasser et al., 2016, Sundstrom et al., 2016). The success of these programs is demonstrated in a strong correlation between the increase of LARC use among women of childbearing age and subsequent declines in the rates of unintended pregnancies, shortened pregnancy intervals, preterm births, low-birthweight infants, and associated healthcare costs related to these outcomes (Birgisson et al., 2015; Goldwaithe, et al., 2015; Strasser et al., 2016; Sundstrom et al., 2016).

Theoretical Model

The Health Belief Model (HBM) was developed in the 1950s by a group of psychologists who sought to understand the reasoning behind the decreased uptake of preventative screenings and health behaviors in the United States (Janz & Becker, 1984). The model was founded upon assumptions strongly based in psychological and behavioral theory. These assumptions include the idea that health behavior is dependent upon an individual's desire to avoid illness, and on his or her belief that a specific health action will prevent or cure an illness (Janz & Becker, 1984). The decision of whether or not to perform a health behavior is influenced by six constructs found within the HBM.

Key constructs of the HBM include; perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy. Each construct individually affects the likelihood of whether or not an individual will engage in a health-promoting behavior. Figure 1 represents a visual depiction of the influential relationship between each construct and the probability that one will enact a health-promoting behavior (Dadgarmoghaddam, M. et al., 2016).

Often, the initial push towards engaging in a health-promoting behavior is an individual's perceived susceptibility to and severity of an illness. Perceived susceptibility is the risk that one feels he or she has of acquiring an illness or disease, otherwise described as feelings of vulnerability. Perceived severity refers to the individual's feelings of how serious potential medical or social consequences, including death, disability, pain, or changes family life and social relationships could be in the event that he or she did acquire the illness in question (Janz & Becker, 1984). The combination of these two constructs, susceptibility and severity, creates an overarching concept of perceived threat, which ultimately impacts the participation in health behavior.

The concepts of perceived benefits and barriers can be equally influential in determining an individual's choice of health-promoting behaviors. Perceived benefits encompass an individual's views on the feasibility and efficacy of various actions as they relate to the prevention or cure of an illness. That is, an individual must believe that a specific course of action will succeed in thwarting the undesired illness from developing (Janz & Becker, 1984). In contrast, perceived barriers, including cost, side effects, and inconvenience, are often weighed against any perceived benefits to determine whether a specific health action merits an attempt (Janz & Becker, 1984).

Cues to action are the stimuli needed for an individual to accept a recommended health action. These stimuli may be internal, including symptoms of an illness such as coughing, pain, and shortness of breath, or they may be external, including advice from others, and stories heard in the news (Janz & Becker, 1984). Once these cues are received, an individual must also believe that he or she can successfully perform the recommended health behavior. The construct of self-efficacy accounts for one's level of confidence in accomplishing this goal (Janz & Becker, 1984).

Application of Theoretical Model

The use of long-acting reversible contraception is touted as one of the most effective health behaviors available for the prevention of unintended pregnancy (ACOG, 2015). However, low rates of uptake of these devices suggest a disconnect between how women perceive the intended benefits of LARC and how they perceive the barriers related to the use of either device. The concepts found in the Health Belief Model, were used as the theoretical framework through which to explore and understand the perceived barriers towards LARC use among women receiving medication-assisted treatment for opioid addiction.

Project Design

A cross-sectional mixed methods survey design was used to examine the perceived barriers to LARC among women receiving medication-assisted treatment for opioid addiction. This scripted, interview-based, survey design allowed for a one-time capture of participant responses, which minimized non-response errors and adjusted for suspected differences in literacy levels within the sample population. This project was approved by the Belmont University Institutional Review Board. Data collection occurred between October and November 2017.

Clinical Setting

Participant recruitment and data collection occurred at the Behavioral Health Group (BHG) Opioid Addiction Treatment Center in Nashville, Tennessee. BHG is a large urban treatment center that provides daily access to outpatient pharmacotherapeutic maintenance and detoxification services for men and women seeking treatment for opioid addiction. Individuals who seek detoxification services have access to a patient-centered treatment program including both Medication Assisted Treatment (MAT) using methadone or buprenorphine, and team-based behavioral counseling to assist with the psychological dependence aspect of opioid addiction. A single private office within the BHG facility was used to complete participant interviews.

Project Population

Participants eligible for this project were English-speaking women, ages 18 to 44 years, currently enrolled in treatment at BHG Nashville, who were not currently pregnant. Women who did not meet these criteria were excluded from the sample population.

Of the 778 total individuals enrolled in BHG's program at the time of the project, 330 patients were female. There was no available data to determine how many female patients fell within the age parameters. However, of the total patient population, 635 men and women were between the ages of 18 to 49 years. At the time of the project, 12 women were listed as currently pregnant, and were not eligible to participate in the survey.

Instruments

Data collection for this study was conducted using a scripted interview-based survey that included 70 questions and lasted approximately 10 minutes. The survey was adapted by the project leader using questions from two surveys identified separately in the literature. A detailed review of the adapted survey may be found in the Appendix.

The "LARC on College Campuses" survey was identified in a study used to explore the knowledge of and perceived barriers to LARC among women on college campuses (Hall, et al., 2016). The authors of the study created a 55-item survey that uses a multi-level approach to measure women's understanding of, experience with, and perceived barriers to intrauterine devices (IUD) and implants. The project leader used questions 15a, 15b, 15c, 16a, and 16b of the identified survey. These questions specifically relate to the use of and perceived barriers to LARC (Hall, et al., 2016).

In addition to the Hall et al. (2016) survey, the project leader adapted questions from Black and Day's "Improving Contraception Uptake Baseline Questionnaire" (2016). This survey was identified within a study that explored unplanned pregnancy and contraceptive use in women of childbearing age, 18 to 54 years, receiving drug treatment services (Black & Day, 2016). Questions within this survey were based on the National Survey of Sexual Attitudes and Lifestyles (NATSAL) in the United Kingdom. The original 89-question survey was used to explore questions related to sexual health, knowledge of long-acting reversible contraception, reproductive history, and reproductive healthcare (Black & Day, 2016). The project leader identified 43 questions within this survey to be adapted for the use of this project. The project leader included questions; 36-50, 52-60, 62-64, 68, 73, 74, 76, 78a, 80-82, and 89, in the current project survey. The questions address contraceptive use, sexual health, healthcare practices, awareness and knowledge of long acting reversible contraception, and reproductive history and intentions.

Both surveys were developed and used in original exploratory research and were found to address key barriers and points of knowledge identified in the literature that apply to populations

including women of childbearing age and women receiving treatment for co-morbid substance use disorders.

Demographic questions including age, education, income, marital status, health insurance, and ethnicity were adapted from the United States Census. Section I of the adapted survey tool addressed access to healthcare and healthcare practices. Section II included information related to reproductive history and intentions, as well as general contraceptive access. Section III addressed general contraceptive awareness, behaviors, and barriers to uptake. These questions were specifically related to the oral contraceptive pill, the condom, and the Depo-Provera shot, as these three methods are the most commonly used non-permanent forms of contraception in the United States (Guttmacher Institute, 2016). Sections IV, V, and VI addressed the awareness of, perceived barriers to, and uptake of the intrauterine device (IUD) and the implant specifically.

The adapted survey was reviewed and revised with an expert panel comprised of a Doctor of Nursing Practice (DNP) with experience working directly with the patient population at BHG Nashville, TN, and a DNP serving as the project advisor. The revised survey was then piloted with a group of women of childbearing age, not in the healthcare field, to improve item clarity and content validity. All revisions were reviewed with the project advisor.

Data Collection Process

Prior to participant recruitment, a meeting was held with staff counselors, the Program Director, and Medical Director in order to brief these individuals on the premise of the project and appropriate inclusion and exclusion criteria. Advertising for participants was conducted in the form of flyers placed in communal areas of the BHG Nashville facility one week prior to data collection initiation. At the same time, smaller versions of these flyers, handbills, were

distributed to the BHG counselors to be placed on their desks for patient perusal and uptake. Handbills were also placed at the front desk and inside the dosing booths. Each of these resources directed potential participants to their dosing nurse or counselor for further instructions on study participation. See Appendix for an example of the advertisement flyer.

Upon review of the flyer or handbill, volunteers were directed by their counselor or nurse to a private office within the building to meet with the project leader individually. The project leader determined the eligibility of each volunteer before obtaining written informed consent. Signed consent forms were stored in a lock box, which remained in the possession of the project leader.

The project leader read each individual the prompt and question to the participant before entering responses directly into the online survey. With each participant, a new survey was started within the database. Survey responses were both anonymous and confidential. Upon completion of the interview, each participant was thanked for her time and given a $5 gift card to a local supermarket. This data collection process was repeated between the hours of 0530 and 1130am, Monday through Friday for four weeks.

Data Analysis

Once all surveys were completed, the data was transferred directly from Qualtrics into IBM SPSS 23.0 statistical analysis software and Microsoft Excel to be analyzed. Frequency statistics were calculated to identify patterns and trends related to healthcare access, reproductive history, reproductive intentions, contraceptive knowledge and behaviors, and LARC awareness and perceptions.

The Health Belief model was used to guide analysis and organization of the qualitative survey results. Themes identified in the results were organized using the constructs of the HBM

including; perceived benefits, perceived barriers, perceived seriousness, perceived susceptibility, and cues to action. The identification of qualitative themes related to the reasons for decreased LARC engagement, helped to identify potential areas of improvement as they relate to the increased likelihood of LARC use within the sample population.

Open-coding analysis of free-text responses was conducted to identify themes related to the perceived benefits and barriers to LARC uptake. The iterative process of coding took place in a series of three sessions in which each participant's response was reviewed separately and key phrases were identified. After thorough review of each response, key phrases were then examined for patterns, similarities, and differences. Identification of these patterns then resulted in the assignment of one or more themes to each key phrase. The reflective process of memoing was used after each coding session to detail the process of analysis, theme assignment, and identification of any possible relationships between each theme. An example of the memoing process is found in the Appendix. All final themes were organized using the concepts of Health Belief Model. Those that did not fit cleanly within the concepts of the model were assigned to a separate category.

Results

A total of 60 women completed the eligibility survey. Of these, 5 women were not eligible to participate due to a reported age greater than 44 years, 4 women were ineligible because they were currently pregnant, and 1 woman was ineligible because she was not currently enrolled in the outpatient treatment program. This resulted in a final sample of 50 participants, all of whom completed the survey in its entirety. Table 1 provides a full report of participants' demographic characteristics.

Quantitative Analysis

Access to care.

One-half of the women in this project reported having a primary care provider (PCP). Seventeen (34%) women stated they were under the care of an OBGYN. When asked where care was received during episodes of illness, 17 (34%) women indicated care from a PCP, 14 (28%) women reported using the Emergency Department, and 3 (6%) reported staying home or not seeking care for an illness. Some women acknowledged the use of the Health Department, Emergency Department, low-income clinics, or methadone treatment facilities for preventative screenings such as Pap smears and STD testing. Access to care is illustrated in Figures 2, 3, and 4. All data related to access to care and health-seeking behaviors are available in Tables 2a and 2b.

Reproductive planning.

Of the 50 women surveyed, 45 (90%) had experienced at least one pregnancy and forty-two women (84%) reported experiencing at least one unplanned pregnancy. Figure 5 demonstrates the number of unplanned pregnancies among women who reported having ever been pregnant. Age at first pregnancy ranged from 13 to 30 years, with a mean of 20 years. At the time of the unplanned pregnancy, 24% of the women reported using some form of birth control and 60% reported they were not using any birth control. At the time of the survey, the majority of women (92%) indicated they were not trying to become pregnant, and 68% stated they were actively preventing pregnancy. All data related to reproductive history and pregnancy intentions may be found in Tables 3a and 3b.

Contraceptive knowledge and behavior.

Overall, greater than 50% of the women indicated awareness of condoms, oral

contraceptive pills, intrauterine devices (IUD), Depo Provera injections, and withdrawal as primary forms of pregnancy prevention. Thirty-nine women (78%) acknowledged the IUD, and 20 women (40%) reported the implant as a potential birth control method without prompting. In the past month, two women (4%) used the IUD as their primary form of birth control, and one woman (2%) indicated use of the implant during this time. These rates were considerably lower than other contraceptive selections including; sterilization for women (26%), abstinence (20%), and condoms (12%). Twenty-two percent of women reported not using any form of birth control. All data related to contraceptive knowledge and behavior may be found in Tables 4a and 4b.

LARC awareness and perceptions.

When asked directly, 100% of the women reported that they had heard of the IUD. Comparatively, 74% of the women indicated they had heard of the implant. Perceptions of efficacy, safety, and cost, along with perceived rates of STDs, side effects, and unintended pregnancy for both IUD and implant are found in Figures 6 and 7. Eighty-two percent of participants reported that they have known at least one woman who used an IUD. However, only 62% knew at least one woman reported a positive experience with the IUD. Likewise, while 52% of the women in this study reported that they knew least one woman who used had an implant, only 40% knew women who acknowledge a positive experience with the implant. Overall, 58% of the women stated they agreed or strongly agreed when asked if they would consider using an IUD. Fifty-four percent of the women agreed or strongly agreed that they would consider using the implant. All information related to LARC awareness and perceptions may be found in Table 6.

Qualitative Analysis

Perceived benefits and barriers to LARC.

Qualitative analysis using an open-coding approach to naming abstract concepts was used to analyze the free-text interview responses for all 50 women, and revealed 21 themes related to the increased or decreased likelihood of uptake of LARC. Some responses included more than one theme, in which case these participant responses were given more than one code. Responses of "I don't know" for both the IUD (2) and the implant (2) were removed from analysis, as they did not provide insight into the question at hand. Eight women (16%) recognized no need for a current contraceptive method due to a history of a hysterectomy or a bilateral tubal ligation. However, these answers were not removed from analysis as many of these participants offered input related to their personal experience of either device. After themes were finalized, themes were then organized using concepts found within the Health Belief Model. All identified themes, the frequency at which they occurred, and corresponding exemplars are found in Table 2.

Perceived benefits.

Three identified themes reflected the HBM core concept of "perceived benefits". These themes described benefits to the use of either an IUD or an implant, including perceived effectiveness of either device, positive experiences with either device, and the ability to maintain normality. Maintaining normality was identified as a perceived benefit when the woman associated her ability to maintain a regular menstrual cycle as a favorable side effect of the device. Perceived effectiveness included concepts such as reliability, and maintenance of a non-pregnant status. Positive experiences were coded as such when women noted an absence of side effects or complications.

Perceived barriers.

Thirteen identified themes reflected the HBM core concept of "perceived barriers". Each of these themes was presented as a reason to not use either an IUD or an implant. Twenty women (40%) reported a fear of complication related to the use of these devices. Fears included physical side effects such as bleeding, pain, displacement of the device, or the need for surgical removal if the device was misplaced. Fear also included failure of the device to prevent pregnancy or cause miscarriage. Fear of complications also involved concern for interference with sexual intercourse both physically and psychologically. Fear of complications was identified more frequently among those discussing the IUD (30%), compared to those discussing the implant (10%). Conversely, four women reported having actually experienced complications when they had used a LARC in the past. Because these complications were lived experiences for the women themselves, they were coded separately as lived complications. Twelve women (24%) cited a discomfort with the idea of a foreign object being inserted into the body. This unease was cited equally among those considering the IUD (12%) and the implant (12%). Eleven women (22%) cited a lack of knowledge when asked whether they would or would not use a LARC at this time. Lack of knowledge was coded when women made statements such as "…I don't know a lot about it…" or "…I've never heard of it…". Lack of knowledge was coded with eight women (16%) discussing the implant and three women (6%) discussing the IUD. A procedural barrier theme was identified when the woman referred to the process of insertion or removal of either device. There were an increased number of responses coded as procedural barrier when referring to the implant (10%) compared to the IUD (4%). Additional themes identified as perceived barriers to LARC uptake were; method preference (8%), perceived contraindication (6%),

delayed acquisition (2%), fear of change (2%), concern for delayed pregnancy (2%), financial barrier (6%), competing options (2%), and maintaining normality (2%).

Perceived seriousness.

One theme was subsumed under the core concept of "perceived seriousness". Eight women reported statements indicating their desire for pregnancy as a reason for not using an IUD, an implant, or both at this time. Desire for pregnancy was interpreted in responses indicating both an active conscious attempt to conceive, and the ambivalence of preventing pregnancy demonstrated through statements such as "…we are not *not* trying to get pregnant…". This theme, pregnancy intention, was categorized under the HBM concept of "perceived seriousness", with the understanding that in the context of this project, a desire to become pregnant indicates a decrease in the perceived severity of an unintended pregnancy.

Perceived susceptibility.

One identified theme echoed the HBM core concept of "perceived susceptibility". Eight women reported they did not believe they were in need of birth control at the time of the survey. These statements were assigned the theme of low perceived risk. Low perceived risk was categorized within this HBM concept, as these women did not believe they were at risk for, or susceptible to an unintended pregnancy. Women's references to little or no sexual activity, increased age, and perceived decreased fertility levels were coded as indicators of low perceived risk.

Cues to action.

Two identified themes were categorized under the HBM concept "cues to action". Fifteen women (30%) indicated that they had received information about the IUD or implant from their friends or family. These phrases were coded relationship influence and categorized within the

"cues to action" concept, as these anecdotes appeared to influence whether or not the woman was likely to use a LARC in the future. Similarly, two women (4%) noted the influence of professional recommendation by a healthcare provider. This theme was placed under the same concept.

Additional themes.

Seven women reported answers that led the project team to believe they were open to the possibility of using a LARC in the future. These answers included phrases such as "…I haven't talked to my doctor yet…", "…I would use the Mirena, I just haven't asked for it yet…", and "…I haven't had a chance to use it…". The theme of open possibility did not fit neatly within the concepts of the HBM, and as such was included as an additional theme in Table 2.

Discussion

The women in this project reported an unintended pregnancy rate of 84%, almost twice as high as the rates found in both state and national statistics (CDC, 2015; Tennessee Department of Health, 2011). However, when compared to the rates of unintended pregnancy found among women with substance use disorders, these findings remain consistent (Black & Day, 2016). Although 66% of these women indicated that they were actively trying to avoid pregnancy at the time of the survey, they also reported low rates of continued birth control use, and decreased access to care in both primary care and gynecological services. In this setting, where the majority of the population communicates a clear intention to prevent future pregnancy, there is a distinct lack of engagement in evidence-based preventative actions. While women in the sample have committed themselves to a life of sustained recovery, yet this lifestyle remains threatened by the consequences of unintended pregnancy.

The threat of unintended pregnancy to sustained recovery is amplified by ineffective or inconsistent use of reliable contraception, and use of LARC among women in recovery from SUD could help them successfully achieve their intention to avoid pregnancy and support their commitment to recovery. However, at the time of this survey, only three women (6%) reported actively using a LARC. This low rate of LARC uptake is consistent with rates of uptake among women with substance use disorder found in the literature (Black & Day, 2016). To increase LARC use among women receiving MAT, it is imperative to understand and appropriately address the barriers women in this community describe.

Perceived Barriers and Cues to Action

Of the themes identified as perceived barriers among women receiving MAT, the fear of complication related to the use of LARC was overwhelmingly prominent (40%), followed closely by foreign object (24%), and lack of knowledge (22%). These barriers are consistent with the barriers identified among women overall (Black & Day, 2016). However, according to the Health Belief Model, perceived barriers alone are not the only factors that influence the likelihood of engagement in preventative health behavior. The role of social influences, or cues to action, plays an equally persuasive part in the activation of health related behaviors (Abraham & Sheeran, 2015).

In this project, fifteen women (30%) indicated that they had learned information about LARC through the stories of others. Of these fifteen accounts, identified as relationship influence, fourteen were associated with one or more fears of complication. None of these fourteen women had used a LARC. In comparison, one woman did not associate relationship influence with fear of complication, but instead indicated she had received a LARC recommendation from her health care provider. This woman was actively using an IUD at the

time of the survey. Her response, "…My doctor recommended it. I've heard so many horror stories, but I've never had a problem…", indicates that a professional recommendation initiated the uptake of the IUD, and despite accounts from others dispersed through the grapevine, her personal experience with the device was successful enough for method continuation. This suggests an untapped potential for circumventing the peer-influenced grapevine, through which unmitigated fears have spread.

It is important to note, however, that though this woman cited a recommendation from her provider, only 50% of the women in this study noted access to a primary care provider, and 34% cited access to an OBGYN. Therefore reliance on information from providers alone may not be sufficient to overcome the barriers shaped by social cues. As such, there is a need to create well-informed, educational, grassroots messaging that supplies women in MAT with the intellectual autonomy to choose LARC.

Modifying Cues to Action

In order to break the cycle of negative news heard through the grapevine, it is essential to create and support appropriate health campaigns aimed at creating awareness, appropriately informing, and inciting contraceptive choice among women. Campaigns such as South Carolina's "Keep Calm and LARC On", the Colorado Initiative to Reduce Unintended Pregnancies, and the Iowa Initiative to Reduce Unintended Pregnancies, have been developed to provide increased provider training, decrease LARC cost, and create social marketing campaigns geared towards adolescents and college students (Association of State and Territorial Health Officials [ASTHO], 2014). These social marketing campaigns were used to increase awareness, decrease discomfort, and dispel the myths surrounding LARC use through outlets such as social media, brochures, info graphics, and promotional videos (Sundstrom, Billings, & Zenger, 2016).

The successes of these campaigns suggest that similar forms of outreach may be beneficial in breaking down barriers when initiated within medication-assisted treatment facilities. Studies suggest that the provision of contraceptive counseling within MAT facilities may help break down barriers to access for women in treatment (Black & Day, 2016, Terplan et al., 2015). Though some treatment facilities may not be equipped to provide contraceptive services onsite, the provision of educational and professional resources at these sites may begin to bridge the gap between theoretical knowledge and actual LARC engagement. Because most MAT clients experience frequent access to treatment facilities, the implementation of awareness campaigns appropriately designed increase knowledge of LARC and decrease fears related to complication myths may increase contraceptive autonomy and the likelihood of LARC uptake among women in MAT.

Limitations

There are limitations to this study. The sample of 50 women was only 15% of the potential female population one medication-assisted treatment facility within the state of Tennessee.. As such, the views and experiences expressed by these women may not be an accurate representation of the entire clinic population, and can certainly not be generalized to all women using MAT to recover from active SUD.. The semi-structured interview style of this project alongside the sensitive nature of this subject may have contributed to social desirability bias related to women's discomfort when reporting accurate answers to the interviewer.

Conclusion

While the rates of unintended pregnancy remain high in the United States, there remains a great need to encourage contraceptive choice and reproductive autonomy among women receiving medication-assisted treatment for substance use disorder. Doing so represents a

commitment to women's health, sustained sobriety, and a strategy for primary prevention of neonatal abstinence syndrome. The introduction of grassroots marketing campaigns within treatment facilities, alongside appropriate access to professional resources, creates the possibility to decrease antagonistic cues to action and the additional barriers related to uptake of LARC. With increased awareness, appropriate knowledge of, and perceived benefits to LARC, women in MAT may be able to successfully navigate their commitment to sustained recovery by decreasing unintended pregnancy through their informed choice of long-acting reversible contraception.

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Figures

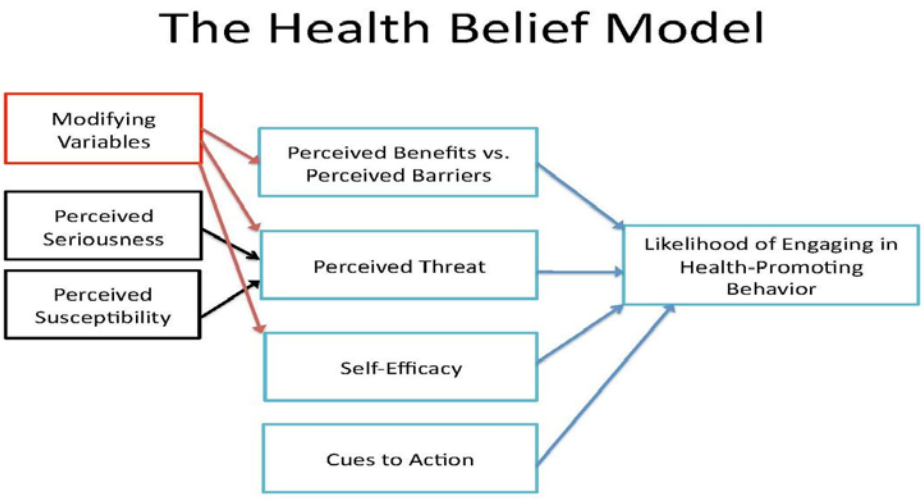

Figure 1. The Health Belief Model**.** (Dadgarmoghaddam, M. et al.,2016).

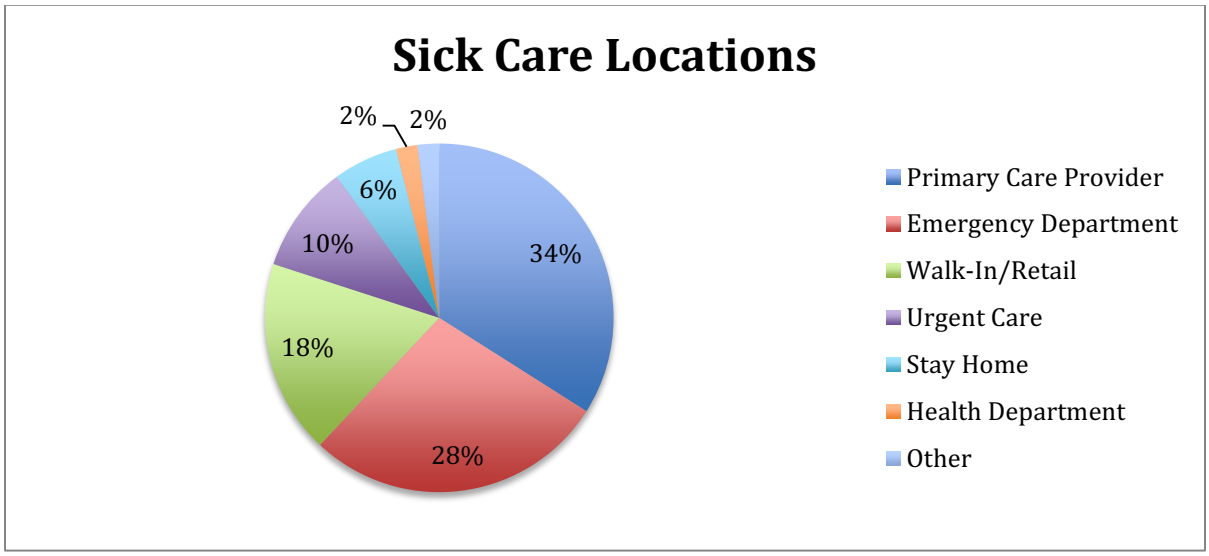

Figure 2. Locations utilized for treatment of illness among women enrolled in medication-assisted therapy. (N=50).

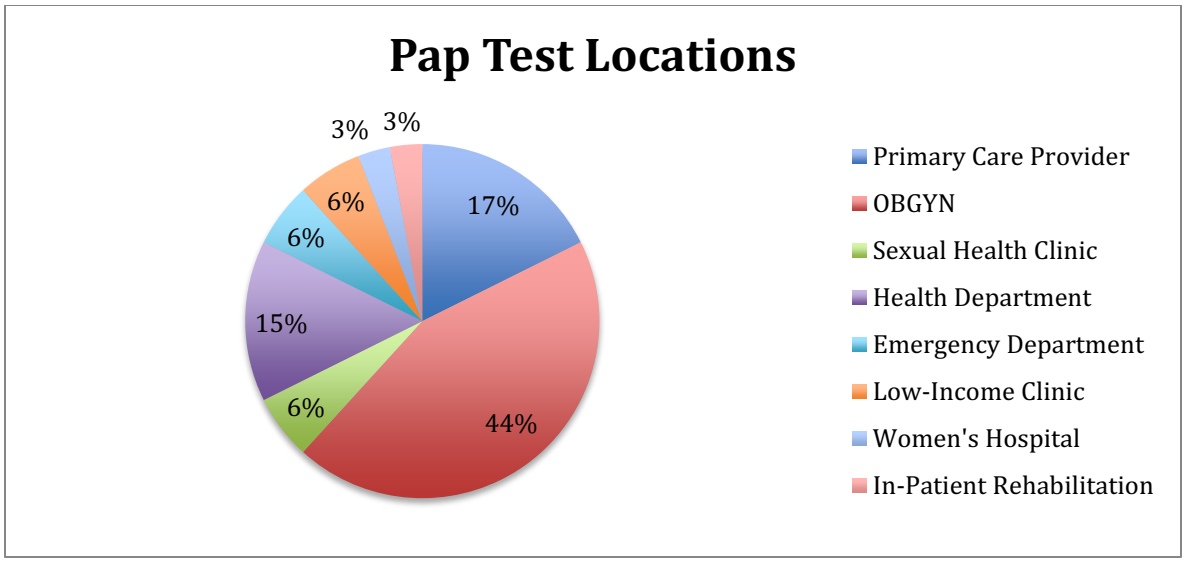

Figure 3. Locations utilized for Pap smears among women enrolled in medication-assisted therapy. (N=50).

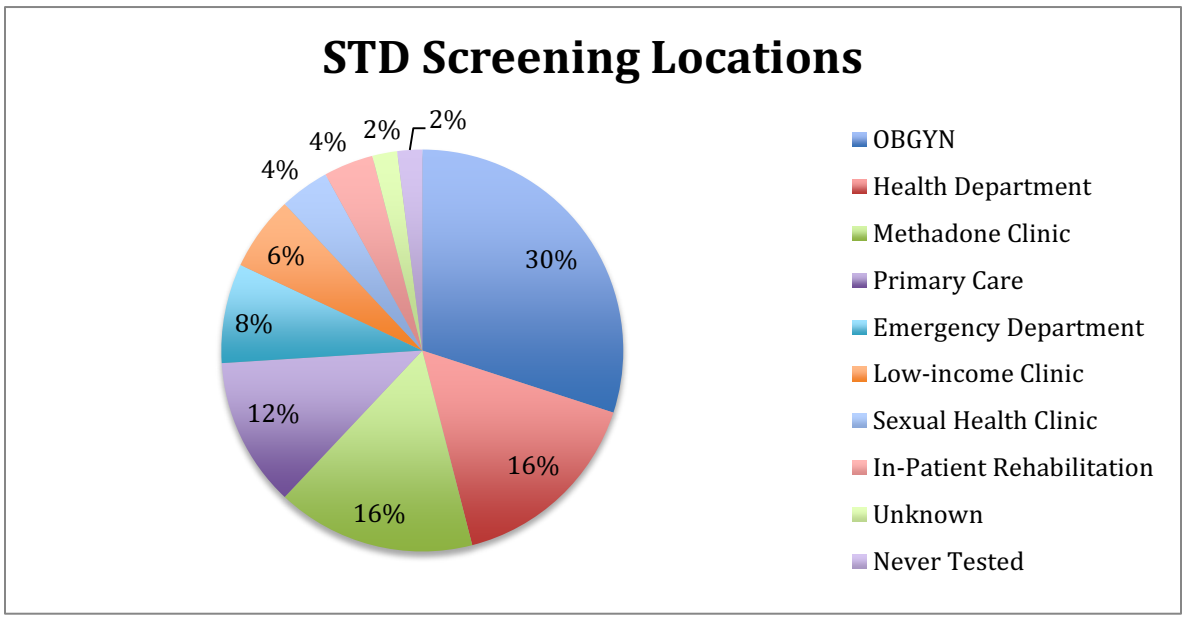

Figure 4. Locations utilized for STD testing among women enrolled in medication-assisted therapy. (N=50).

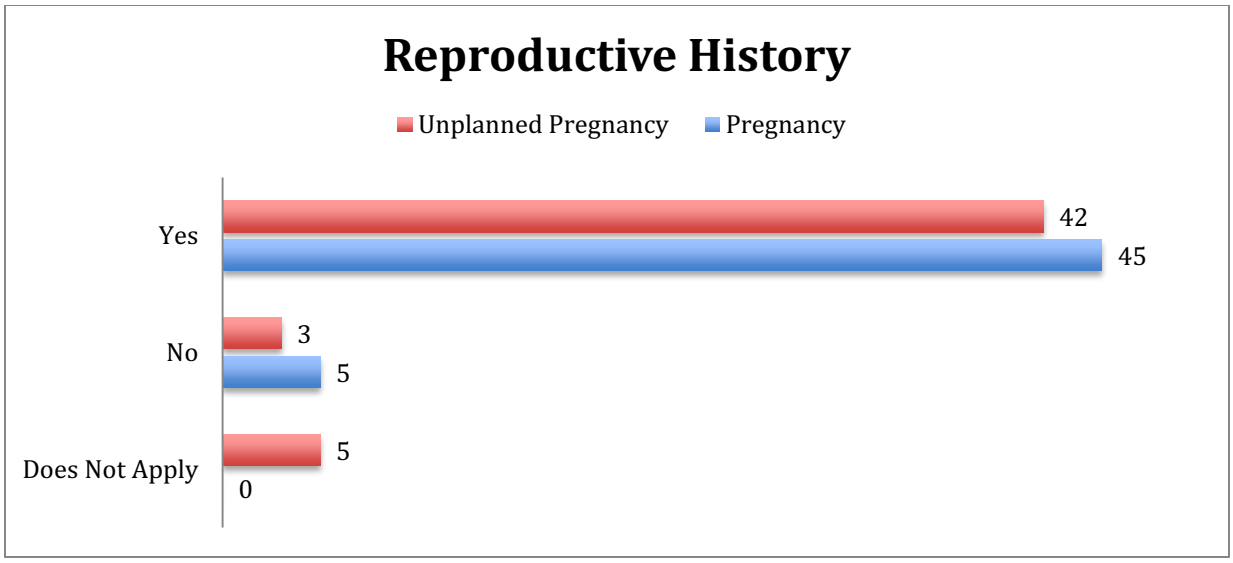

Figure 5. Number of pregnancies, planned and unplanned, among women at a medication-assisted treatment clinic in Nashville, Tennessee. (N=50)

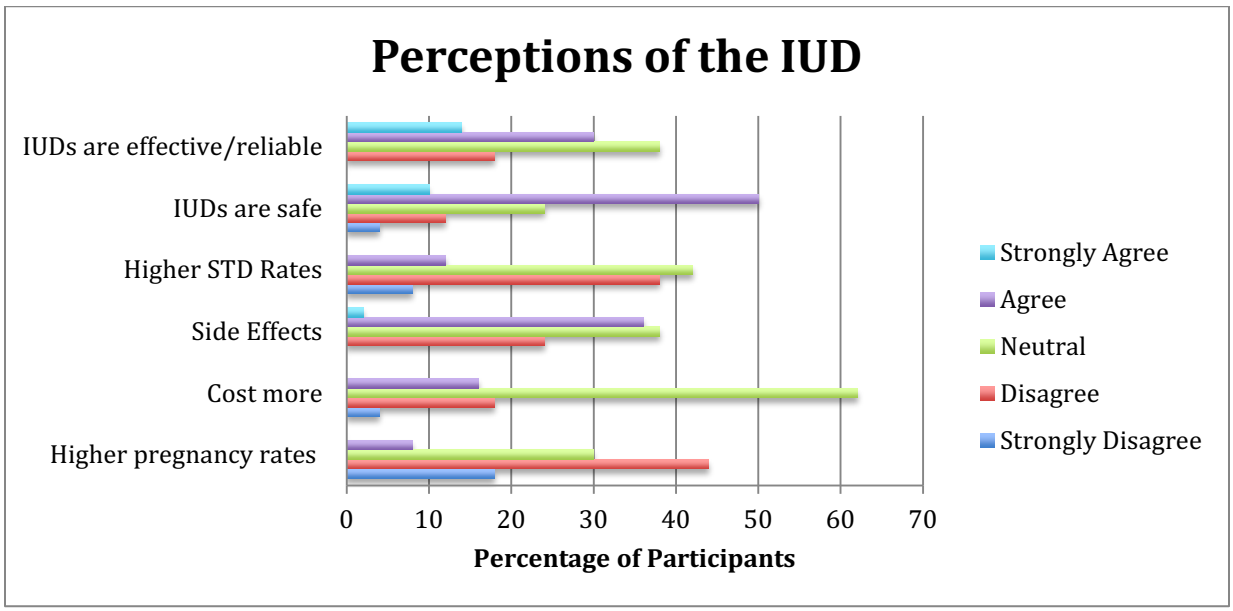

Figure 6. Participant perceptions of the IUD, captured using a 5-point Likert scale for each concept. Concepts include efficacy, safety, and cost of the device, as well as rates of STDs, side effects, and unintended pregnancy when the device is in use.

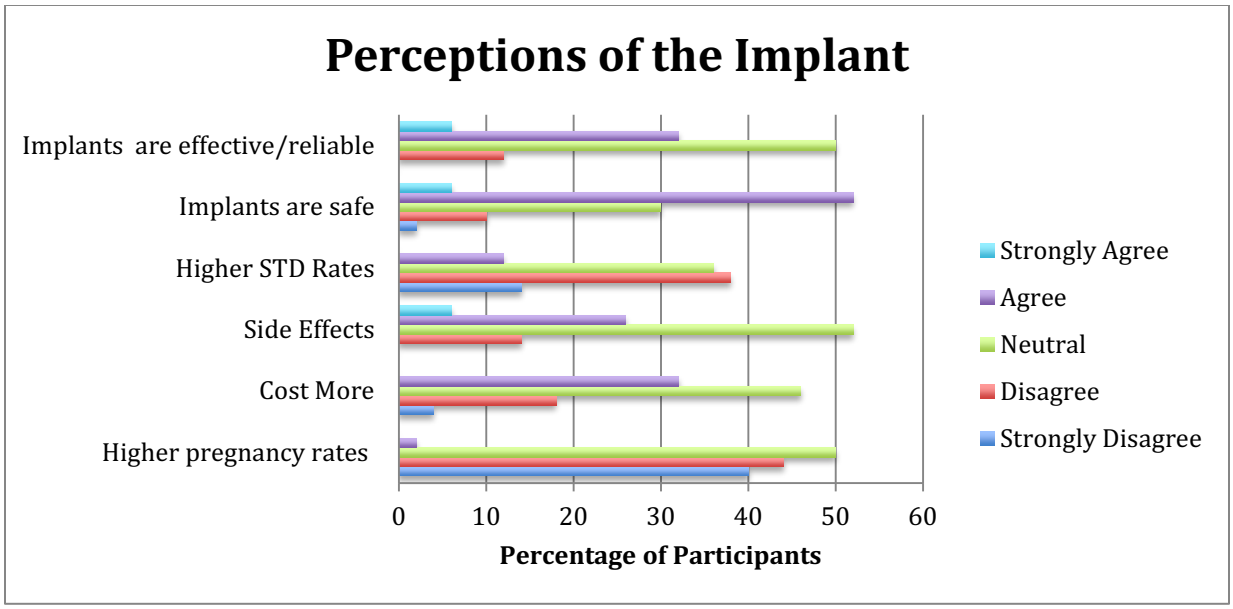

Figure 7. Participant perceptions of the Implant, captured using a 5-point Likert scale for each concept. Concepts include efficacy, safety, and cost of the device, as well as rates of STDs, side effects, and unintended pregnancy when the device is in use.

Tables

Table 1. Sample demographics of women in medication-assisted treatment for opioid use disorder in Nashville, Tennessee (N=50).

Characteristic	*n* (%)
Age (years)	
22-29	12 (24%)
30-39	28 (56%)
40-49	10 (20%)
Ethnicity	
African American/Black	5 (10%)
Hispanic/Latino	2 (4%)
White	41 (82%)
Native American/ American Indian	1 (2%)
Asian/Pacific Islander	1 (2%)
Education	
Some High School	7 (14%)
High School or GED	10 (20%)
Some college	26 (52%)
Associate's Degree	3 (6%)
Bachelor's Degree	3 (6%)
Master's Degree	1 (2%)
Marital Status	
Single	21 (42%)
Married	14 (28%)
Divorced	13 (26%)
Separated	2 (4%)
Income Source	
Unemployed	5 (10%)
Unemployed with Government Assist	3 (6%)
Part-Time	5 (10%)
Full-Time	22 (44%)
Other	15 (30%)
Household Income	
0-$10,000	5 (10%)
$10,001-$20,000	8 (16%)
$20,001-$30,000	10 (20%)
$30,001-$50,000	10 (20%)
>$50,000	11 (22%)
I don’t know	6 (12%)
Insurance	
Employer	11 (22%)
Insurance Company Direct	2 (4%)

Medicaid/Medicare	20 (40%)
Other	17 (34%)

Table 2. Identified themes related to the increased or decreased likelihood of LARC uptake among women receiving medication-assisted treatment for opioid use disorder in Nashville, Tennessee.

Health Belief Model Concepts	**Identified Themes for both IUD & Implant**	**Examples**
Perceived Benefits	Perceived Effectiveness (n = 4)	"It's the most reliable with the least amount of maintenance. It seems to have the least amount of side effects" "...I did use the IUD for five years. It worked. I got it after my 16 year-old-pregnancy..."
	Positive Experience (n = 3)	"…I've never had a problem with it. I've heard so many horror stories, but I've never had a problem..."
	Maintaining Normality (n=1)	
Perceived Barriers	Fear of Complication (n=20)	"I had a friend who had it get stuck - it moved. She had to go get surgery. Ever since it happened it freaked me out" "I heard that it made women really sick, a lot of side effects and problems with having an implant in your arm. And I've heard women got pregnant while using this." "I couldn't get on board with it. I kept picturing it stabbing me. What if it's too big? What if it gets lost?"
	Foreign Object (n= 12)	"I wouldn't like the idea of something being inserted inside me" "It's just kind of weird. I don't think I would want something up underneath my skin."

Lack of Knowledge (n=11)	"I don't know a lot about it" "I have never heard of it before" "...I haven't done my research…"
Procedural Barrier (n = 7)	"I have an eversion to needles in general. I couldn't get on board. I didn't want to put something inside me." "…I don't know. It's just scary how they take it out…"
Method Preference (n=4)	"I just always used the pill. It always worked for me" "I would just prefer to take a pill, it seems kind of drastic"
Complication (n = 4)	"...I stopped using the IUD because I never stopped bleeding. It would stop for a short time and then start right back…"
Perceived Contraindication (n= 3)	"I had endometriosis. I thought it would not be a good idea"
Delayed Acquisition (n= 1)	
Fear of Change (n = 1)	
Concern for Delayed Pregnancy (n=1)	
Financial Barrier (n = 3)	"It was not offered on my insurance" "The pill was free so I didn't look into it"
Competing Options (n = 1)	
Maintaining Normality (n=1)	

Perceived Seriousness	Pregnancy Intention (n= 8)	"I thought about it, but I thought for a long time. Now that I'm at this age, I wouldn't mind getting pregnant soon. I'm just gunna wait and do condoms for now" "I was thinking about maybe getting pregnant in the near future"
Perceived Susceptibility	Low Perceived Risk (n= 8)	"I've heard about it, but I don't have a lot of sex. So I don't think about what I should use." "I just don't feel like at my age I would need it, i probably am not going to be fertile for very much longer any way."
Cues to Action	Relationship Influence (n= 15)	"Every woman I've talked to have had some complications and had to get it out, was hurting them, or it had to be taken out, they started bleeding - some type of complication" "...I would not use an IUD because both the women I knew who used one got pregnant..."
	Professional Recommendation (n = 2)	"…Just because it's reliable, safe. My doctor recommended it…"
Additional Theme (Does not coincide within Health Belief Model Concepts)	Open to Possibility	"…I need to make the time to go do it. Between drug use and life, it didn't seem like a priority…" "…I would want to learn more…"

Table 3a. Access to health care providers and preferred locations for treatment of illness among women in a medication-assisted treatment clinic in Nashville, Tennessee. (N=50).

Access to Care	n (%)
Primary Care Provider	
Yes	25 (50%)
No	22 (44%)
Other	3 (6%)
Sick Care	
Primary Care Provider	17 (34%)
Emergency Department	14 (28%)
Walk-In/Retail	9 (18%)
Urgent Care	5 (10%)
Other	5 (10%)
OBGYN	
Yes	17 (34%)
No	31 (62%)
Other	2 (4%)

Table 3b. Health behaviors of women in a medicated-assisted treatment clinic in Nashville, Tennessee. (N=50).

Health Behaviors	*n* (%) *or mean +/- standard deviation*
Pap Test	
Yes	50 (100%)
No	0
Time since last Pap Test	2.68 years (+/- 2.24)
Pap Test Location	
Primary Care Provider	6 (12%)
OBGYN	15 (30%)
Sexual Health Clinic	2 (4%)
Other	11 (22%)
Health Department	5 (10%)
Emergency Department/Women's Hospital	3 (6%)
Low-Income Clinic	2 (4%)
In-Patient Rehabilitation	1 (2%)
STD Test	
Yes	49 (98%)
No	1 (2%)
Time since last STD Test	3.61 years (+/- 3.61)

STD Test Location	
Primary Care Provider	6 (12%)
OBGYN	15 (30%)
Sexual Health Clinic	2 (4%)
Does Not Apply	1 (2%)
Other	26 (52%)
Health Department	8 (16%)
Methadone Clinic	8 (16%)
Emergency Department/ Women's Hospital	4 (8%)
Low-Income Clinic	3 (6%)
In-Patient Rehabilitation	2 (4%)
Unknown	1 (2%)
Mammogram	
Yes	16 (32%)
No	32 (64%)
Don't Know	1 (2%)
Declined to Answer	1 (2%)
Time since last Mammogram	1.71 years (+/- 3.50)
Smoke Cigarettes	
Yes	40 (80%)
No	8 (!6%)
Quit	2 (4%)

Table 4a. Reproductive history of women in a medication-assisted treatment clinic in Nashville, Tennessee. (N=50).

Reproductive History	*n* (%) *or mean +/- standard deviation*
Ever Pregnant	
Yes	45 (90%)
No	5 (10%)
Age of 1st Pregnancy	20 years (+/- 3.55)
Number of Pregnancies	2.9 (+/- 1.56)
Unplanned Pregnancy	
Yes	42 (84%)
No	4 (8%)
Does Not Apply	4 (8%)
Using Birth Control	
Yes	12 (24%)

No	30 (60%)
Does Not Apply	7 (14%)
Declined to Answer	1 (2%)
Trouble Accessing Birth Control	
Yes	6 (12%)
No	43 (86%)
Have not tried to Access	1 (2%)

Table 4b. Pregnancy intentions of women in a medication-assisted treatment clinic in Nashville, Tennessee. (N=50).

Pregnancy Intentions	n (%)
Trying to get Pregnant	
Yes	4 (8%)
No	46 (92%)
Want to be Pregnant	
Strongly Disagree	28 (56%)
Disagree	7 (14%)
Neutral	8 (16%)
Agree	7 (14%)
Strongly Agree	0
Wouldn't Mind Being Pregnant	
Strongly Disagree	19 (38%)
Disagree	4 (8%)
Neutral	12 (24%)
Agree	15 (30%)
Strongly Agree	0
Trying to Avoid Pregnancy	
Strongly Disagree	1 (2%)
Disagree	8 (16%)
Neutral	8 (16%)
Agree	6 (12%)
Strongly Agree	27 (54%)

Table 5a. Behaviors related to the use of Oral Contraceptives, Depo Provera Injections, and Condoms as primary birth control methods. (N=50)

Birth Control Methods	n (%)
Oral Contraceptives	
Used	
Yes	44 (88%)
No	6 (12%)
Missed a Dose	
Yes	6 (12%)
No	38 (74%)
Does Not Apply	6 (12%)
Depo Provera Injection	
Used	
Yes	27 (54%)
No	23 (46%)
Missed a Dose	
Yes	1 (2%)
No	39 (78%)
Does Not Apply	10 (20%)
Condoms	
Used	
Yes	49 (98%)
No	1 (2%)
Decided Not to Use	
Yes	35 (70%)
No	14 (28%)
Does Not Apply	1 (2%)
Discomfort Asking Partner	
Yes	10 (20%)
No	39 (79%)
Does Not Apply	1 (2%)
Partner Refusal	
Yes	6 (12%)
No	43 (86%)
Does Not Apply	1 (2%)
Purpose	
Prevent STDs	7 (14%)
Prevent Pregnancy	5 (10%)
Both	37 (74%)
Does Not Apply	1 (2%)

Table 5b. Awareness of and actual use of contraceptive methods by women enrolled in a medication-assisted treatment clinic. Participants were able to select more than one answer for each question.

Birth Control I've Heard Of	*n* (%)	Birth Control I've Used in the Last Month	*n* (%)
Condom	40 (80%)	Condom	6 (12%)
Oral Contraceptive Pills	46 (92%)	Oral Contraceptive Pills	2 (4%)
IUD/IUS	39 (78%)	IUD/IUS	2 (4%)
Depo-Provera	34 (68%)	Depo-Provera	2 (4%)
Implant (Implanon)	20 (40%)	Implant (Implanon)	0
Withdrawal	26 (52%)	Withdrawal	4 (8%)
Sterilization for men	5 (10%)	Sterilization for men	1 (2%)
Sterilization for women	11 (22%)	Sterilization for women	13 (26%)
Safe period/Rhythm Method	2 (4%)	Safe period/Rhythm Method	0
Diaphragm/Cap	12 (24%)	Diaphragm/Cap	0
		None, I am not sexually active	10 (20%)
Other	34 (68%)	Other	18 (36%)
Nuva Ring	7 (14%)	None, I am sexually active	11 (22%)
Spermicide	10 (20%)	Spermicide	1 (2%)
Sponge	9 (18%)	Hysterectomy/ Tubal Ligation	4 (8%)
Film/Foam	4 (8%)		
Plan B Pill	4 (8%)		
Patch	8 (6%)		
Dental Dam	1 (2%)		
E-Sure Procedure	1 (2%)		
Abstinence	9 (18%)		

Table 6. Awareness and observation of IUDs and Implants. (N=50).

IUD	n (%)	Implant	n (%)
Heard of		Heard of	
Yes	50 (100%)	Yes	39 (78%)
No	0	No	9 (18%)
		I Don't Know	2 (4%)
Know Women Who Used It		Know Women Who Used It	
None	9 (18%)	None	24 (48%)
A Few	24 (48%)	A Few	20 (40%)
More Than A Few	17 (34%)	More Than A Few	6 (12%)
All	0	All	0
Know Women Who Liked It		Know Women Who Liked It	
None	19 (38%)	None	30 (60%)
A Few	20 (40%)	A Few	16 (32%)
More Than A Few	9 (18%)	More Than A Few	4 (8%)
All	2 (4%)	All	0
I would consider using the IUD		I would consider using the Implant	
Strongly Disagree	10 (20%)	Strongly Disagree	5 (10%)
Disagree	5 (10%)	Disagree	11 (22%)
Neutral	6 (12%)	Neutral	7 (14%)
Agree	23 (46%)	Agree	25 (50%)
Strongly Agree	6 (12%)	Strongly Agree	2 (4%)

Appendix

Adapted Survey

SCRIPT: *Thank you so much for agreeing to participate in this women's health and birth control survey. I really appreciate your time. Over the next few minutes I will be asking you some questions about to your personal health, the health care you receive, and some specific questions about birth control. When I say birth control I am referring to any way you would prevent pregnancy including pulling out, condoms, the pill, the shot, the patch, IUDs, implants, or sterilization. You do not have to answer the questions you don't want to. Please stop me at any time if you have questions about what I say. I am happy to answer any questions and repeat any information. Everything we say during this session is confidential, including all of your answers and any personal information. At the end of this survey you will receive your gift card. Are you ready to get started?*

Section I: Access to Care. *I'd like to start by asking you a few questions about to your health care.*

1. Do you have a Primary Care Provider?
    a. Yes
    b. No
    c. Other (please specify)
    _____

2. Do you have an OBGYN?
    a. Yes
    b. No
    c. Other (please specify)
    _____

3 . If you are sick, where do you go for care?
    a. My Primary Care Provider
    b. Retail Health Clinic/Walk-In Clinic
    c. Urgent Care
    d. The Emergency Department
    e. Other (please specify)
    _____

4. Have you ever had a pap test?
    a. No
    b. Yes
    c. Don't know
    d. Decline to answer

5. If yes, when was the last time? (*When was your last one?)*
    _____ weeks/months/years

6. If yes, where was it performed? (*Where did you get it?)*
   a. Primary Care Provider Office
   b. OBGYN Office
   c. Sexual Health Clinic
   d. Other (please specify):
   _____
   e. Does not apply (I have not had a pap test)

7. Have you ever been screened for sexually transmitted infections? (*Have you ever been tested for an STD?)*
   a. No
   b. Yes
   c. Don't Know
   d. Decline to Answer

8. If yes, when was the last time? (*When was the last time?)*
   _____ weeks/months/years

9. If yes, where was it performed? (*Where did you have it done?)*
   a. Primary Care Provider Office
   b. OBGYN Office
   c. Sexual Health Clinic
   d. Other (please specify):
   _____
   e. Does not apply (I have not had an STD test)

10. Have you ever had a mammogram?
   a. No
   b. Yes
   c. Don't Know
   d. Decline to Answer

11. If yes, when was the last time? (*When was the last time*?)
   _____ weeks/months/years

12. Do you smoke cigarettes?
   a. No
   b. Yes
   c. I used to, but I have quit
   d. Decline to answer

SECTION II: Reproductive Planning. *These next few questions are about pregnancy and plans for pregnancy*

13. Have you ever been pregnant?

a. No
b. Yes, in the past
c. Yes, currently pregnant
d. Declined to Answer

14. If yes, how many times have you been pregnant? (*How many times?*)
_____ (times)
a. Does not apply (I have never been pregnant)

15. How old were you when you first became pregnant?
_____ (years)
a. Does not apply (I have never been pregnant)

16. Have you ever experienced a pregnancy that wasn't planned?
a. No
b. Yes
c. Declined to Answer
d. Does not apply (I have never been pregnant)

17. If you have experienced a pregnancy that wasn't planned, were you using contraception (birth control) at that time? (*Were you using any birth control at the time of your unplanned pregnancy?*)
a. No
b. Yes
c. Declined to Answer
d. Does not apply (I have never been pregnant)

18. If you were using contraception (birth control), what method(s) were you using?
_____ (free text)

19. Have you been trying to get pregnant in the last 12 months?
a. No
b. Yes
c. Declined to Answer

20. Have you had any difficulty accessing services for contraception? (*Have you ever had a problem getting birth control*?)
a. Yes
Please explain _____
b. No
c. I haven't tried to access these services

Please select the most appropriate answer for the following statements. *I am going to read you a few sentences about pregnancy. I would like you to tell me if you Strongly Disagree,*

Disagree, are Neutral, Agree, or Strongly Agree with each sentence. You are welcome to use this visual guide to help you see the answers to choose from.

21. I want to be pregnant in the next year.

____Strongly Disagree ____Disagree ____ Neutral ____ Agree ____ Strongly Agree

22. I wouldn't mind if I was pregnant in the next year.

____Strongly Disagree ____Disagree ____ Neutral ____ Agree ____ Strongly Agree

23. I am trying to avoid pregnancy in the next year.

____Strongly Disagree ____Disagree ____ Neutral ____ Agree ____ Strongly Agree

24. I feel that I should always use contraception (*birth control*) when having intercourse (*sex*).

____Strongly Disagree ____Disagree ____ Neutral ____ Agree ____ Strongly Agree

25. It is okay for my counselor to talk to me about contraception (*birth control*).

____Strongly Disagree ____Disagree ____ Neutral ____ Agree ____ Strongly Agree

Section III: Contraceptive Knowledge and Behavior. *These next few questions are about birth control.*

26. Could you please list the types of birth control that you have heard of? (*Mark all that apply*)

_____ Condoms
_____ Oral contraceptive pills
_____ IUD/IUS
_____ Depo-Provera
_____ Implant (Implanon)
_____ Withdrawal
_____ Sterilization for men
_____ Sterilization for women
_____ Safe period/Rhythm method
_____ Diaphragm/cap
_____ Other (please specify):
_____
_____ Declined to answer

27. What types of birth control have you used in the past month? (*Mark all that apply*)

_____ Condoms
_____ Oral contraceptive pills
_____ IUD/IUS

_____ Depo-Provera
_____ Implant (Implanon)
_____ Withdrawal
_____ Sterilization for men (Vasectomy)
_____ Sterilization for women (Bilateral Tubal Ligation)
_____ Safe period/Rhythm method
_____ Diaphragm/cap
_____ None, I am not sexually active
_____ Other (please specify):
_____
_____ Declined to answer

28. Have you ever taken the pill?
    a. No
    b. Yes
    c. Declined to Answer

29. While you were taking the pill did you ever forget or miss a dose?
    a. No
    b. Yes
    c. Declined to Answer
    d. Does not apply (I have never taken the pill)

30. If you have chosen not to use the pill, please say why:
    _____ (Free Text)

31. Have you ever used a condom?
    a. No
    b. Yes
    c. Declined to Answer

32. When you were using condoms, did you ever forget or decide not to use one?
    a. No
    b. Yes
    c. Declined to Answer
    d. Does not apply (I have never used a condom)

33. Have you ever not used a condom because you were uncomfortable asking your partner to use one?
    a. No
    b. Yes
    c. Declined to Answer
    d. Does not apply (I have never used a condom)

34. Have you ever not used a condom because your partner refused to use one?
    a. No

b. Yes
c. Declined to Answer
d. Does not apply (I have never used a condom)

35. When you were using condoms were you primarily using them to prevent pregnancy, to prevent sexually transmitted diseases (STDS), or both?
a. To prevent pregnancy
b. To prevent STDs
c. Both
d. Declined to answer
e. Does not apply (I have never used condoms)

36. If you have ever chosen not to use a condom for another reason, please say why:
_____ (Free Text)

37. Have you ever used the Depo shot (also called Depo Provera) for birth control?
a. No
b. Yes
c. Declined to Answer

38. While you were using the shot did you ever forget or miss a dose?
a. No
b. Yes
c. Declined to Answer
d. Does not apply (I have never used the shot)

39. If you have chosen not to use the shot, please say why:
_____ (Free Text)

Section IV: Intrauterine Devices. *The next few questions are about the intrauterine device, or IUD. These devices have brand names such as the Mirena. Skyla, Liletta, Kyleena, and Paragard. When I say IUD, I'm referring to any of these specific devices.*

40. Have you ever heard of the IUD?
a. No
b. Yes
c. Not sure

41. About how many women do you know who have used an IUD?
a. None
b. A few
c. More than a few
d. All the women I know have used an IUD

42. About how many women do you know who liked using the IUD?
a. None

b. A few
c. More than a few
d. All the women I know liked using an IUD

Please select the most appropriate answer for the following statements. *The next few statements are about IUDs. I'd like you to tell me if you strongly disagree, disagree, are neutral, agree, or strongly agree with each statement. You are welcome to use guide to help you see the answers to choose from.*

43. I think women using IUDs are more likely to become pregnant than women using the pill to prevent pregnancy.

____ Strongly Disagree ____Disagree ____ Neutral ____ Agree ____ Strongly Agree

44. I think IUDs cost more than the pill, when both are used for 3 years.

____ Strongly Disagree ____Disagree ____ Neutral ____ Agree ____ Strongly Agree

45. I think women using IUDs are more likely to have side effects than women using the pill.

____ Strongly Disagree ____Disagree ____ Neutral ____ Agree ____ Strongly Agree

46. I think women using IUDs are more to get sexually transmitted infections (*an STD*) than women using the pill.

____ Strongly Disagree ____Disagree ____ Neutral ____ Agree ____ Strongly Agree

47. I believe IUDs are a safe form of birth control.

____Strongly Disagree ____Disagree ____ Neutral ____ Agree ___ Strongly Agree

48. I believe IUDs are a more effective/reliable form of birth control, compared to the pill.

____Strongly Disagree ____Disagree ____ Neutral ____ Agree ___ Strongly Agree

49. I would consider using an IUD for birth control.

____Strongly Disagree ____Disagree ____ Neutral ____ Agree ___ Strongly Agree

Section V: Implants. *The next few questions are about the Implant. The implant is also called a Nexplanon. When I say Implant, I'm referring to this device.*

50. Have you ever heard of an Implant (or Nexplanon)?
a. No
b. Yes

c. Not Sure

51. About how many women do you know who have used an Implant? (*You may use this visual guide to help you choose your answer)*

a. None
b. A few
c. More than a few
d. All the women I know have used an Implant

52. About how many women do you know who have were happy using an Implant? (*You may use this visual guide to help you choose your answer)*

a. None
b. A few
c. More than a few
d. All the women I know have been happy using an Implant

Please select the most appropriate answer for the following statements. *The next few statements about implants. I'd like you to tell me if you strongly disagree, disagree, are neutral, agree, or strongly agree with each statement. You are welcome to use guide to help you see the answers to choose from.*

53. I think women using implants are more likely to become pregnant than women using the pill to prevent pregnancy.

____ Strongly Disagree ____Disagree ____ Neutral ____ Agree ____ Strongly Agree

54. I think implants cost more than the pill, when both are used for 3 years.

____ Strongly Disagree ____Disagree ____ Neutral ____ Agree ____ Strongly Agree

55. I think women using implants are more likely to have side effects than women using the pill?

____ Strongly Disagree ____Disagree ____ Neutral ____ Agree ____ Strongly Agree

56. I think women using implants are more likely to get sexually transmitted infections than women using the pill.

____ Strongly Disagree ____Disagree ____ Neutral ____ Agree ____ Strongly Agree

57. I believe implants are a safe form of contraception.

____Strongly Disagree ____Disagree ____ Neutral ____ Agree ____ Strongly Agree

58. I believe implants are a more effective/reliable form of contraception than the pill.

____Strongly Disagree ____Disagree ____ Neutral ____ Agree ____ Strongly Agree

59. I would consider using an implant for contraception.

____Strongly Disagree ____Disagree ____ Neutral ____ Agree ____ Strongly Agree

Section VI: Barriers to LARC. *This next set of questions is related to reasons why you have or have not used an IUD or Implant.*

60. Have you ever thought about using the IUD or implant as a birth control method option but decided not to get one?

a. Yes
   _____ (If yes, please specify which one)
b. No
c. Declined to Answer
d. Does not apply (I am currently using a LARC).

61. Please tell me a little bit about your choice to use/or not use an IUD.
Free Text:

_____
____

62. Please tell me a little bit about your choice to use/or not use to use an Implant.
Free Text:

_____
____

Section VII: Demographics. *This final set of questions include some general information about yourself.*

63. How old are you?

a. 18-21
b. 22-29
c. 30-39
d. 40-49

64. What is the highest level of education you have completed?

a. Some High School
b. High School Diploma or GED
c. Some college credit, but did not graduate college
d. Associate's Degree
e. Bachelor's Degree
f. Master's Degree or higher

65. What is your main source of income?
    a. Unemployed
    b. Unemployed and receiving government benefits
    c. Part-time
    d. Full-Time
    e. Maternity leave
    f. Other: _____

66. What is your approximate household income?
    a. 0 - $10,000
    b. $10,000 - $20,000
    c. $20,001 - $30,000
    d. $30,001 - $50,000
    e. > $50,000
    f. Don't know

67. What is your current marital status?
    a. Single, never married
    b. Married
    c. Divorced
    d. Separated, not divorced
    e. Widowed

68. Do you have insurance? If so what kind?
    a. Insurance through a current or former employer or union
        (by you or another member of your family)
    b. Insurance purchased directly from an insurance company
        (by you or another member of your family)
    c. Medicaid, Medical Assistance, or any kind of government-assistance plan for those
        with low incomes or a disability
    d. TRICARE or other military health care
    e. VA (including other those who have ever used or enrolled for VA health care)
    f. None
    g. Any other type of health insurance of health coverage plan
        Specify: _____

69. Please specify your ethnicity.
    a. African American or Black
    b. Hispanic or Latino
    c. White
    d. Native American or American Indian
    e. Asian/Pacific Islander
    f. Other

70. Finally, we would like to know how good or bad your health is today on a scale numbered from 0 to 100. If 100 means the best health you can imagine and 0 means the worst health you can imagine, please tell me a number that indicates your health today.

_____.

*You have reached the end of the survey. I am very grateful for your time***.**

Women's Health Survey

Be a part of an important women's health survey!

- **Are you a woman between 18 and 44 years of age?**
- **Are you interested in sharing your thoughts on women's health and family planning?**

If you answered *YES* to these questions, you may be eligible to participate in a survey about women's health and family planning.

We want to understand how women taking methadone think about family planning.
To thank you for your time, you will receive a $5 gift card to Kroger at the conclusion of the survey.
No medication will be given.

.

The study will take place at Behavioral Health Group in Nashville, TN.
From October 10th to November 3rd, 2017

Please see your dosing nurse or counselor for more information

Memo One (January 3rd 2018)
Carleigh Smith
Scholarly Project Results

The process of identifying themes within the free text responses of this survey began on Wednesday, January 3rd. Prior to the start of this process, the project and survey tool were reviewed with Dr. Busby to provide an understanding of the reasoning behind the asking of Questions 60, 61, and 62. Each participant response was reviewed separately. Key words or phrases were identified and agreed upon in a joint effort to capture the participants' thoughts.

In Question 61, the first participant response yielded two possible themes: "Relationship-Influence" & "Fear of Complications". "Relationship-Influence" was identified through the use of the phrase "every woman I've talked to". It was understood that this participant relied on feedback from others to help make her decisions. "Fear of complications" was identified through words including "complications", "hurting them", and "bleeding".

Response 2 was coded as "Open to Possibility" as the statement "I haven't talked to my doctor about it yet" indicated the participant may be willing to discuss the use of such as method but has not yet.

Response 3 was coded "Fear of Complications (FOC)" and "Foreign Body". "No Foreign Body" was taken from the statement "my body doesn't like foreign things'. "FOC" was understood from the phrase "It pushes it out…"if…my body tried to push it out, where is it going to go?".

Response 4 included a participant that had previously used a Mirena (IUD). This was different from previous answers, as no one had yet to use the device in question. It was thought to note that the participant stated she had considered using BOTH devices, but has ultimately chosen the IUD. She has not used implant at the time of this survey. In response to her use of the IUD the participant noted she was "allowed to still have a period" which was coded as "Maintaining Normality" (it was also though that "seeking neutrality" may be used). Additionally she mentioned "didn't say anything about weight gain" this was then coded as "Lack of Complication", as weight gain was not a problem for this participant.

Response 5 was "I'm not sure" this was determined to be unhelpful in determining reasoning behind the use or non-use of an IUD and was set aside as a response. From this point, all "I'm not sure", "I don't know" or similar answers were set aside and not assigned codes.

Response 6 was coded "Foreign Body" for the phrase "getting something put in me" this was determined to be similar to Response 3.

Response 7 was coded "Open to Possibility" as the respondent noted "I would use…just haven't asked for it". This was similar in response to #2. The lack of conversation with the doctor – which seemed to have placed ownership of the participant themselves, not a provider's refusal or inattention to the device.