INCREASING LARC UTILIZATION THROUGH STANDARDIZED CONTRACEPTION EDUCATION

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Valerie Rose Tweit Erickson

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The Supervisory Committee certifies that this ***disquisition*** complies with North Dakota State University's regulations and meets the accepted standards for the degree of

DOCTOR OF NURSING PRACTICE

SUPERVISORY COMMITTEE:

Molly Secor-Turner, Ph.D., MS, RN
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Approved:

4/4/16
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Department Chair

ABSTRACT

Reducing unintended pregnancy is an important goal for any woman of childbearing age and optimizing contraceptive effectiveness should be a priority for healthcare providers serving this population. One subset of this population at increased need for optimization of contraceptive technologies is women presenting for abortion care. In most cases women presenting for abortion care have been on some method of contraception in the past, and either discontinued use due to side effects or lifestyle, or became pregnant while using contraception. The efficacy, safety, and convenience of long acting reversible contraceptive (LARC) methods have been widely recognized and LARC methods are recognized as first line contraceptives for almost all women of childbearing age. Unfortunately, many barriers such as access, cost, and misconceptions exist in the United States, which prevent optimal use of LARC methods. The purpose of this practice improvement project was to assess current knowledge of available contraceptives in women presenting for abortion care and to determine the efficacy of using a standardized LARC-centric contraceptive method education.

Pre- and post-contraceptive education surveys were used to compare contraceptive method decision-making among women who received treatment as usual on the day of their abortion to women receiving a standardized contraceptive method overview. Contraceptive education resulted in increased understanding among patients presenting for abortion care, however, a significant difference between a routine contraceptive education session compared to a standardized contraception education script was not found. Although a statistically significant difference was not found, women who received standardized contraception education did choose LARC methods at a higher rate. In examining how to best educate women in preventing unintended pregnancy, every opportunity should be taken to enhance knowledge of available

contraceptive methods before a woman is presenting for abortion. If unintended pregnancy has occurred and abortion is being chosen, education and support before, during, and after the procedure is necessary to ensure understanding.

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1. INTRODUCTION

1.1. Background

Unintended pregnancy is an enormous burden for women, their families, and taxpayers. Although the majority of women make efforts to prevent pregnancy, often proper access, education, and financial resources are not often made available (Simmonds & Likis, 2005). It is estimated that over half of pregnancies in the United States are unintended. In 2008, approximately 12.5 billion taxpayer dollars were spent on unintended pregnancies that led to live births (Finer, 2010). In addition to the financial burden placed on women, families, and taxpayers by unintended pregnancy, the emotional and social burden is immeasurable. In particular, the rate of teen unintended pregnancy in the United States is the highest among comparable developed countries and is associated with higher school drop-out rates, lower educational attainment, and lower income (Finer, 2010). The United States is also one of the only developed countries that still under-utilizes effective comprehensive reproductive health education and utilizes ineffective abstinence-only education (Finer, 2010). Women of all ages have not received the education necessary to choose an optimal pregnancy prevention method and are therefore at increased risk for unintended pregnancy. When presenting for abortion services, women are uniquely motivated learners because they have a more realistic understanding of the ineffectiveness of their previously chosen pregnancy prevention method and may be more aware of their own lifestyle limitations related to successful contraceptive method implementation (Rose, Cooper, Baker, & Lawton, 2011). By optimizing the health of women and their families countless individual and community benefits can be achieved.

1.2. Significance

Education, social support, access to contraception, and adherence to contraceptive regimen are all factors affecting unintended pregnancy (Eisenberg, McNicholas, & Peipert, 2013). Effective strategies to increase women's adherence to their contraceptive regimen include ensuring that it is cost effective, fits their lifestyles, and has few side effects (Stuart, Secura, Zhao, Pittman, & Peipert, 2013). Long-Acting Reversible Contraceptives (LARCs) including Intrauterine devices (IUDs) and implants, have demonstrated low risk of side effects and ease of use compared to non-LARC methods, such as injectable contraceptives (Stuart et al, 2013). In order to understand the under-utilization of LARC methods, barriers to their use must be examined. Due to the lack of outside education most women presenting for abortion have previously received, it is necessary to lay out all pregnancy prevention options in an accurate, standardized way. Ensuring that each woman presenting for abortion receives non-biased information in a supportive setting, allows her to choose an optimal contraceptive method. Both quantitative and qualitative data serve to examine the environment surrounding the use of LARC methods in the United States for the prevention of unintended pregnancies.

2. LITERATURE REVIEW

The review of literature gives an insight to the available research examining the relationship between use of LARC contraceptive methods and unintended pregnancy. With nationwide and local restrictions on reproductive education available to adolescents, access to factual information regarding preventing pregnancy is extremely limited and may be carried into adulthood. Previous studies have demonstrated that assumptions and current knowledge of LARC methods in women presenting for abortion are inaccurate, incomplete, and overwhelmingly negative (Rose et al, 2011; Sundstrom, Baker-Whitcomb, & DeMaria, 2014). The Affordable Care Act (ACA) attempts to address the financial barriers present in pregnancy prevention by making contraception a covered part of preventive medicine without women having to pay high deductibles in order to receive their chosen method. However, without awareness of enhanced coverage and all available methods, women can still be poised to employ sub-optimal pregnancy prevention within the scope of abortion care; education to prevent repeat, unintended pregnancy can be optimized.

2.1. Available Contraceptive Methods

In addition to identifying the significance of motivating factors in women facing abortion, a comparison of available contraceptive methods is imperative. The wealth of quantitative clinical trial data outlining the differences in effectiveness between contraceptive methods is exhaustive, however many other factors affect women's ability to select and use a method correctly (Randel, 2012; American College of Obstetricians and Gynecologists, 2012). Most patients presenting for abortion have at one point used non-LARC methods and are now facing unintended pregnancy, and 54% of women presenting for abortion were currently using some method of contraception (Kavanaugh, Frohwirth, Jerman, Popkin, & Ethier, 2013; Russo,

Miller, & Gold, 2013). LARC method use is associated with less than half the amount of unintended pregnancies as compared to non-LARC methods (Finer, 2010). LARC utilization was correlated with a decrease in unintended pregnancy over three years in a large sample cohort study demonstrating a 4.55% pregnancy rate in patients who used non-LARC methods compared to a 0.27% pregnancy rate in patients using a LARC method (Winner, Peipert, Zhao, Buckel, Madden, Allsworth, & Secura, 2012). The results from this study pale in comparison to real-life scenarios in which the failure rate of non-LARC contraceptive methods is even more pronounced; estimates place the likelihood for methods such as condoms and oral contraceptives to fail at a rate about 10-20 times greater than those of a LARC methods (Russo et al, 2013). Another concept integral to unintended pregnancy prevention is continuation of contraceptive method. In the postpartum period in an adolescent population, LARC methods were found to prevent repeat pregnancy for about 23.8 months as compared to 18.1 months for oral contraceptive users, and to have significantly higher continuation rates compared to any other method in several studies (Russo, Miller, & Gold, 2013). By optimizing contraceptive choice, risk for unintended pregnancy can be significantly reduced.

2.2. Clarifying Myths and Misconceptions of LARC Methods

Many misconceptions regarding the safety of LARC methods exist from both the perspective of the patient and the healthcare provider. One possible cause for misconception about the safety of the IUD is the previous release of the Dalkon Shield, an IUD that was introduced in the 1970s, and later found to increase the risk of Pelvic Inflammatory Disease (PID) and other life-threatening complications. That IUD was quickly taken off the market (Russo et al, 2013). In contrast, today's IUDs do not carry the same risks as the Dalkon Shield, yet many women considering their contraceptive options have negative impressions of this

method due to older relatives recalling the media attention surrounding the Dalkon Shield's failure. With modern IUDs, risk for PID is only increased as compared to the general population in the first 21 days post-placement, and this risk is no greater if Chlamydia and Gonorrhea tests are performed at insertion (Smith & Daley, 2012; Stoddard, McNicholas, & Peipert, 2011, Russo et al, 2013). Another myth surrounding IUD use is increased risk for infertility. However, studies have demonstrated that IUDs removed due to complications result in no difference in pregnancy rates as compared to IUDs that had been removed in order to become pregnant (Russo et al, 2013). Risk for ectopic pregnancy is a commonly discussed risk associated with IUDs, however, the risk is actually one tenth that of a woman not using any method of contraception (Russo et al, 2013). IUDs and the implant reduce risk for overall pregnancy; this reduction also applies to ectopic pregnancy, however, if a pregnancy does occur in the presence of an IUD, it is more likely to be an ectopic pregnancy (Russo et al, 2013). With the implant, the rate of ectopic pregnancy was found to be about equal to the general population (Russo et al, 2013). Bone Mineral Density (BMD) reduction is another misconception related to LARC use. Several studies have found that there exists no statistically or clinically significant difference in BMD in women using Mirena and the implant as compared to the non-hormonal Paragard IUD (Russo et al, 2013; American College of Obstetricians and Gynecologists, 2012). The hesitancy to use the IUD in nulliparous women is also outdated. Current evidence suggests that there exists no reduction in bleeding or cramping side effects, as well as no reduction in placement capability regardless of IUD size and parity of the patient (Russo et al, 2013). Additionally, the risk of expulsion (5%), and the risk for uterine perforation (0-1.3%) are equal regardless of the parity of the patient or the type of IUD being inserted (Russo et al, 2013). Pain with IUD insertion is another perceived barrier for both patients and providers. Nulliparous women are found to have

higher pain scores associated with IUD insertion than multiparous woman, but in both groups low pain scores are reported (Russo et al, 2013). Although attempts at reducing IUD insertion pain have been thoroughly examined, no analgesic attempt has shown benefit over another as of yet. The largest factor found to reduce pain is by lessening patient anxiety, and the literature indicates that a provider's professionalism in showing knowledge and confidence in the process of IUD placement, thorough counseling, and creating an environment in which the patient does not feel rushed are paramount to pain reduction during IUD insertion (Gemzell-Danielsson, Mansour, Fiala, Kaunitz, & Bahamondes, 2013). One 2012 survey of family medicine and obstetrician-gynecologist physicians and advanced practice providers found that 80% either rarely or never prescribe IUDs in nulliparous women (Russo et al, 2013).

Often these misconceptions lead to LARC methods not being discussed accurately or thoroughly, thus putting patients who are already at high likelihood for unintended pregnancy at an even higher probability. The balance of all risk factors and benefits associated with LARC methods has been comprehensively investigated by several credible organizations, including but not limited to: The Centers for Disease Control (CDC), The National Institutes of Health (NIH), The World Health Organization (WHO), The American College of Obstetricians and Gynecologists (ACOG), the American Academy of Family Physicians (AAFP), the American Academy of Pediatrics (AAP), and the American Academy of Nurse Practitioners (AANP); the conclusion that each organization has come to is that LARC methods are to be recognized as a first line method of pregnancy prevention in clients of all ages and parities and that these methods are currently grossly underutilized (Clinical Effectiveness Unit, 2009; Smith et al, 2012; Winner, Peipert, Zhao, Buckel, Madden, Allsworth, & Secura, 2012; Stoddard et al, 2011; Kavanaugh et al, 2013; American College of Obstetricians and Gynecologists, 2012; American

Academy of Pediatrics, 2014; and Randel, 2012). The concepts discussed provide only a snapshot into the available research, but give an idea of the data available to healthcare providers considering the use of LARC methods in helping prevent the occurrence of unintended pregnancy in the United States.

2.3. LARC Methods in the Abortion Setting

One additional benefit of LARC methods is their enhanced efficacy with patients facing intimate partner violence (IPV). Adolescents, defined as age ten through nineteen, make up a proportionally large section of women presenting for abortion, and this population carries a one in three risk for IPV (Russo et al, 2013). In addition, IPV is a recognized risk factor for unintended pregnancy due to reproductive coercion (Pallitto, García-Moreno, Jansen, Heise, Ellsberg, & Watts, 2013). Along with the increased risk for unintended pregnancy, women experiencing IPV have a statistically significant higher rate of abortion, both legal and illegal, reported and not (Palitto et al, 2013). By having an "invisible method" such as an IUD with strings trimmed or an arm implant, women who are experiencing IPV can combat reproductive coercion with more success.

While unintended pregnancy prevention is important for all women regardless of age, socioeconomic status, and stage in life, the magnitude of unintended pregnancy is heightened immediately following an initial unintended pregnancy (Rose & Lawton, 2012). When facing an unintended pregnancy, women can be more open to different contraceptive methods, possibly because they became pregnant while on a less effective method of pregnancy prevention, or simply due to the negative consequences and stressors they are facing with their current unintended pregnancy (Rose, Lawton, & Brown, 2010). This unique situation can create results different from a general population of women presenting for contraception. Results of research

involving women considering future pregnancy prevention at the time of abortion care in New Zealand and in the United States has shown that women consistently rated themselves at a higher level of self-reported confidence and motivation in selection and compliance aspects of pregnancy prevention methods (Thompson, Speidel, Saporta, Waxman, & Harper, 2011; & Rose et al, 2010). The phenomenon is clearly identified and results of these studies are relevant to patients facing abortion worldwide, and can be applied in clinical practice. Additionally, in the post-pregnancy state, whether post-partum or post abortion, patients who wait to have a LARC placed have a longer delay to initiation of the method and greater risk for having unprotected intercourse before contraceptive initiation (Russo et al, 2013). In the context of abortion reduction, LARC methods have also been proven to be a successful strategy. Between 2008 and 2011 unintended pregnancy rates in the United States were reduced by 18%, while LARC method utilization increased by more than 300%. During this same time period, relative abortion rates remained stable, indicating that when a woman was facing unintended pregnancy, her likelihood to terminate the pregnancy had not decreased (Finer, & Zolna, 2016). Available research gives a window into how women understand LARC methods, how women facing unintended pregnancy are distinctly positioned for learning, and the research also guides practice in improving women's overall understanding of contraception.

2.4. Financial Significance

Although LARC methods may oftentimes be the most desirable contraceptive for a patient, cost has been an overwhelming barrier for many women. Regardless of insurance status, prior to the ACA most women would incur at least one thousand dollars in charges for consultation and placement of a LARC method (O'Neil-Callahan, Peipert, Zhao, & Secura, 2013). In addition to patient cost, cost to insurers and taxpayers should be taken into

consideration. For publicly funded family planning services, LARC methods save $4 for every $1 invested (Eisenberg, et al, 2013). The Iowa Initiative of 2007 was a privately funded group that supplied education, advocacy and access for LARCs and removed cost barriers. The initiative resulted in 218% increase in IUD placements, 829% increase in implants and decreased abortion rates by 19%; overall cost savings for 14-19 year olds was $17.23 saved for every $1 dollar spent on contraception (Eisenberg et al, 2013). The drastic financial data supporting LARC methods further serves to increase the potential benefits at both the personal and population level.

Addressing misconceptions about LARC methods, especially in a high needs population such as women presenting for abortion, is a large step in breaking down barriers of misunderstanding and increasing the use of LARC methods. The objective of clarifying misconceptions of LARC methods in patients, providers, and legislators is imperative to reducing future unintended pregnancies and assessing what misperceptions currently exist so that healthcare providers can address the misinformation in a clinical setting.

3. PROJECT DESCRIPTION

3.1. Objectives

The objectives of this practice improvement project were to:

1. Standardize evidence-based contraception education in a supportive, private environment.
2. Increase understanding of and openness to LARC methods in women presenting for abortion.
3. Increase the number of LARC methods placed post abortion.

3.2. Project Setting

The Red River Women's Clinic (RRWC) located in Fargo is the only abortion provider in the state of North Dakota. Women of all ages, ethnicities, and socioeconomic levels travel hundreds of miles to receive necessary care. Regardless of the geographic distance between home and the clinic, for many patients, abortion care is the only medical attention they have received in a sustained amount of time, if ever. In addition to basic medical care, many patients are lacking in preventive care and reproductive health education due to lack of access (Rose et al, 2011).

Due to the lack of knowledge and awareness of contraceptive options, women often do not possess the tools necessary in order to prevent repeat pregnancy. In order to meet this need, RRWC takes proactive steps to educate and empower women to prevent future unintended pregnancies. As part of treatment as usual, each patient routinely fills out necessary consent forms and medical history paperwork during a visit, as well as participates in a private education session before the abortion procedure, in which contraception is discussed. During this private session, the contraception conversation is led by the patient educator asking the patient what she has used in the past, what she believes will work best for her, etc. Once the patient has identified

which method she desires post abortion, education is given on that particular method. Typically patient educators make an effort to mention LARC methods to as many patients as possible but there currently exists no standardized discussion of any other method besides the contraceptive method the patient is requesting. In the session, a patient's insurance status, financial capabilities, comparison of daily schedule with requirements of each method, effectiveness of method, level of commitment to preventing pregnancy, and medical history are taken into consideration and a contraceptive method is determined.

For patients recovering after an abortion or delivery, repeat pregnancy prevention strategies are necessary. LARC methods have proven to be more effective than non-LARC methods in both the short and long-term (Rose et al, 2012). Although abstinence is recommended for seven days post abortion, and as a long-term pregnancy prevention option, many women are noncompliant with abstinence recommendations and end up having unprotected intercourse (Rose et al, 2010). For example, after an abortion, a patient may choose to become sexually active less than seven days afterwards, in which case her oral contraceptive would not yet be effective, but if she has a LARC method placed, it is significantly more effective at preventing pregnancy (Rose et al, 2011). On the contrary, if a patient has all the children she wants, there may be twenty years remaining in which pregnancy prevention is necessary, in which successful method use is necessary and one year adherence would be considered short-term. The CHOICE project found that 47% of OCP users, 49%, of ring users and 58% of patch users discontinued their method of contraception by 12 months. The biggest reasons for discontinuation were side effects and method-related factors (O'Neil-Callahan et al, 2013). These results can be applied to the population of women the RRWC serves as an indicator that although women may have more

comfort with non-LARC methods, they are more likely to be successfully adherent to LARC methods in both the short-term and long-term settings.

The intricacies of pregnancy prevention are vast, and although there are countless outside factors influencing unintended pregnancy rates, abortion providers such as RRWC can make a lasting impact to reduce repeat unintended pregnancy rates. RRWC upholds high patient care standards through contraception education and provision, which are fundamental aspects of abortion care. After abortion care is completed, the patient receives contraception education with a patient educator and is provided with her chosen contraception method. Although all patient educators are aware of the benefits of LARC methods, presently there exists no standardized way to educate patients regarding the efficacy of these methods and there is potential for patients to be receiving sub-optimal education.

Abortion clinics and providers must meet stringent regulations set by accrediting bodies in order to be certified to provide care. These accrediting bodies include the National Abortion Federation (NAF) and the Abortion Care Network (ACN), which administer quality of care and facility assessments and impose strict guidelines similar to the Joint Commission on Accreditation of Healthcare (JCAHO). The comprehensive care RRWC patients receive, parallel to other accredited abortion clinics in the United States, is consistently monitored and adjusted to reflect updated peer-reviewed evidence in order to maximize safety and efficacy.

3.3. Theoretical Framework

One theory that is applicable in examining women's choices regarding contraceptive methods is Virginia Henderson's Need Theory (Henderson, 1986). The Need Theory states that each person or patient has 14 activities or aspects in life where health and wellness exist and can be enhanced by nursing care (Henderson, 1986). The aspects include sociological, psychological,

spiritual, and physiological areas of wellness. Patients are viewed in relation to their families and the nurse is viewed as acting for individuals who are unable to function independently (Henderson, 1986). In educating and counseling women who are choosing a contraceptive method, the patient educator must take into consideration the patient's level of wellness in each of the fourteen aspects when determining which contraceptive method she will be most successful with. For a patient whose religious beliefs guide her against abortion, choosing a LARC method can help support that woman in worshipping according to her faith, which is one of the fourteen aspects of wellness. Similarly, for a patient who actively serves in the military, choosing a LARC method can also help support the patient in two other aspects of wellness: keeping her safe and well groomed by greatly minimizing or even eliminating her period. For every woman, supporting her need to "learn, discover, or satisfy the curiosity that leads to normal development and health," the final aspect of wellness, by preventing unintended pregnancy is paramount (Henderson, 1986, p. 2). In using Virginia Henderson's Need Theory framework as a baseline for patient counseling and education, the healthcare provider can help the patient find the method with which she will be the most successful. By effectively preventing future unintended pregnancy, each woman can optimize each of the fourteen aspects of well ness identified in the Need Theory.

3.4. Logic Model

In planning and evaluating a practice improvement project, utilizing a model to enhance structure is imperative. A Logic Model will be used to guide the proposed contraceptive method education standardization project. There are four sections to the logic model: the inputs or resources necessary, the activities that will be performed, the outputs or direct effect of the activities, and the outcomes or impact of the long-term effects of the activities (W.K. Kellogg

Foundation, 2004). The resources necessary include the facility in which to perform the intervention. Director Tammi Kromenaker granted permission to perform the project at the RRWC. Other necessary resources such as an hour-long training session and use of the copying machine and paper supplies were also granted. Patients already fill out multiple forms during downtimes between stations during the day of their appointment; the project survey will be added to these forms. As part of treatment as usual, patients are currently required to attend a patient education session regarding contraceptive method choices; this education session will be changed to include the contraceptive method overview script but the time it will incur will be negligible. After abortion care is complete and patients are in the recovery room, they are already offered a brief survey regarding the care they have received, so patients participating in the education tool and pre- and post-surveys will incur no extra wait time. Activities included preparing the materials for informed consent, the patient survey, and the education material itself. There are many available patient education resources available at little to no cost through the Association of Reproductive Health Professionals (ARHP), ACOG, and the CDC. Leading a training session with patient educators, and the education sessions the patient educators performed with patients, was also undertaken. Immediate results or outputs of the activities included the potential for participating patients to report increased knowledge and decreased aversion regarding LARC methods, and also included a higher number of LARC methods being placed immediately post surgical abortion. Many women report discussing pregnancy prevention methods and often choose their methods based on experiences they have heard about from friends and family. A potential impact that could be gained from the activities is that although only one patient receives a LARC method on the day of her appointment, the education and benefits she is receiving from the LARC method may be reported back to her friends and family,

creating enhanced awareness and confidence in choosing a LARC method over other contraceptives for the women in her community. By reaching, educating, and empowering one patient at her abortion appointment, RRWC can use the standardized education tool to increase LARC method use and awareness all across North Dakota, South Dakota, and Minnesota.

Table 1

Project logic model

Inputs/Resources	Activities	Outputs	Outcomes
Facility-Red River Women's Clinic	Preparing written materials	Increased knowledge of LARCs	Enhanced positive LARC communication
Patient Education Training Session	Performing training session	Increased utilization of LARCs	Enhanced family and community awareness
Office Supplies	Patient education sessions	Decreased aversion and barriers	Increased overall LARC utilization in population

3.5. Project Design

Standardizing contraceptive education and measuring patient attitudes and knowledge helps identify barriers to avoiding future unintended pregnancy. Often healthcare providers utilize outdated information or allow their personal beliefs regarding pregnancy prevention to affect their patient education (Simmonds et al, 2005). In order to optimize pregnancy prevention, every clinician and staff member who comes into contact with a patient seeking pregnancy prevention should be up to date with best practice guidelines.

To facilitate the proposed project, routine contraceptive education procedures were followed, referred to as "treatment as usual," with the addition of standardized evidence-based LARC-centric patient education. All patient educators at RRWC were given standardized patient education in both written and verbal form. The LARC-centric education presents LARCs as first

line pregnancy prevention, and subsequently discusses realistic effectiveness of all methods. Each patient has a one on one session where specific contraception concerns can be addressed and insurance status can be verified privately. By having patient educators both disseminate evidence-based education for patients and clarify potential barriers, successful contraception implementation can be achieved.

Several projects across the United States have already been develop and employed in order to increase the utilization of LARC methods and subsequently reduce unintended pregnancy. The CHOICE project in St. Louis Missouri, as well as the Colorado Family Planning Initiative, are similar studies already in place, however researchers were able to provide every contraceptive method at no cost to the patient. Successes from these projects included statistically significant increases in LARC method utilization and statistically significant decreases in unintended pregnancies, high risk births, abortions, and infant enrollment in the Women, Infants, and Children (WIC) public health program (O'Neil-Callahan et al, 2013; Ricketts, Klingler, & Schwalberg, 2014). The practice improvement project was unable to even the financial playing field but with expanded Medicaid coverage, the ACA requiring insurances to cover contraception, patients' requirement of having health insurance, and payment plans available from manufacturers, LARC methods theoretically should become more accessible.

In order to further advocate for patients, the conception, execution, and evaluation of the clinical improvement project adheres to standards that protect the right of its' participants and keep protected health information (PHI) private. Certain demographic data was omitted from collection due to the paramount importance of anonymity and patient comfort with answering questions honestly. All participants were approached in a private, low-pressure setting, and had every step of the project explained and any questions and concerns addressed before consenting

to participate. All participants' care records were kept inside the clinic, following current Health Insurance Portability and Accountability Act (HIPAA) protection measures currently in place. Evaluation of the project was accomplished by examining anonymous patient survey feedback data, feedback from patient educators, healthcare providers, and other staff at RRWC. At every step of the practice improvement project process, patient advocacy was key in improving overall care.

3.6. Project Implementation

The practice improvement project was completed at RRWC during May and June of 2015. The project began with a dissemination of the education script and visual tool to all staff two weeks before a training session with all patient educators. The educational script was developed using updated evidence based material as well as specific phrases that RRWC providers preferred. The CDC's handout entitled "Effectiveness of Family Planning Methods" was used as a visual tool to enhance education sessions. This tool was chosen because it was up to date, evidence based, peer reviewed, and available at no cost and without necessitating a specific approval process. During this training session staff feedback was received which lead to minor edits to the script such as adding a "frequently asked questions" section that included items that were not able to be included in the three minute time frame but were helpful if patients had follow up questions. The pre- and post-surveys were distributed to patients for two clinic days before any change to patient education sessions. After two clinic days of collecting pre- and post-surveys indicating results found during treatment as usual, six following clinic days utilized both the pre- and post-surveys while the patient education intervention tool was in use. Staff impressions were gathered throughout the data collection process, and impressions from the project were discussed at a staff meeting after termination of the data collection.

3.7. Institutional Review Board (IRB)

The project was reviewed by the North Dakota State University (NDSU) IRB and was determined exempt from the formal IRB approval process.

3.8. Data Collection

To assess the effectiveness of a standardized evidence-based contraceptive counseling session that encourages the use of LARC methods, pre- and post-patient surveys were completed. Forty-seven patients were surveyed prior to implementation of the intervention to use as a comparison group. Data were collected during two clinic days, which occurred over two weeks. The comparison group surveys were used to assess participants' current understanding of available contraceptive methods and gain understanding about their plans for future pregnancy prevention. Following collection of comparison values, data were collected to assess the impact of using the standardized LARC-centric education tool. The intervention sample size included 109 patients, or the majority of patients seen in about six weeks. These patients also performed the same pre-patient education and post-patient education surveys to evaluate their contraception knowledge and future pregnancy prevention plan. The participant sample sizes represent 50-75% of the amount of patients seen at RRWC over a total period of two months as some patients did not qualify or were not interested in participating. For both groups, pre-intervention surveys were handed out within a packet of paperwork routinely given to patients at the initiation of their appointment. These were filled out during downtimes in the clinic appointment and were then handed back to staff. Post-intervention surveys were distributed in the recovery room and handed in to the recovery room nurse. Surveys were distributed at these times so that care would not be delayed in order to participate in the project. Data collected was then entered into an Excel spreadsheet and sent to an NDSU statistics consultant for analysis.

4. EVALUATION

4.1. Evaluation Methods

To assess understanding and change in attitude towards LARC methods, pre- and post-intervention surveys were compared. The survey was standardized for every patient, and included quantitative questions regarding current knowledge of available contraceptive methods, past and current contraceptive methods used, presence of limiting factors on contraceptive choice, current knowledge of LARC methods, as well as age group of participants (Appendix A). Likert scales and true/false questions were utilized in order to gauge LARC understandings of both the pre- and post-intervention surveys. Comparison between the group of participants who did not receive the standardized educational tool and the participant group that did receive the standardized educational tool were examined to determine if any significant change in Likert scale responses is found.

Table 2

Project objectives

Project Objective	**Evaluation Method**	**Sample Item**
Standardizing contraceptive method education	Direct and indirect supervision of patient educators	Researcher and Director's monitoring of patient educators during clinic days
Increase understanding and openness to LARC methods in women presenting for abortion	Compare pre/post survey results regarding pregnancy prevention plans	Likert scale questions 7-9 and 14-16, relating to LARC effectiveness, safety, and side effects.
Increase LARC methods places post-abortion	Compare LARC methods place post-abortion between groups	Question #12: "If you are going home with a birth control plan, what is it?"

The above table gives an overview of the project objectives. Objective one, standardizing contraceptive method education in a supportive, private environment, was evaluated by supervision and discussion with patient educators to ensure the educational tool is being utilized

with every patient on a one on one basis. Objective two, increasing understanding of and openness to LARC methods in women presenting for abortions, was assessed by comparing pre-intervention survey results regarding pregnancy prevention plans to post-intervention pregnancy prevention plans. Objective three, increasing LARC methods placed post-abortion, was assessed by comparing the number of LARC methods placed in participants who had received treatment as usual to participants who had received the standardized educational tool. Subjective evaluation of the project was also conducted by discussing the effect of the intervention with patient educators and other RRWC staff.

5. RESULTS

5.1. Presentation of Findings

Standardized patient education was performed and pre- and post-education surveys were completed at RRWC during the summer of 2015. One hundred and fifty six adult patients seeking abortion services completed surveys during this time. The following figures give understanding to the participant population presenting for abortion. Age distribution of participants is found in Figure 1 and reflects what is found in the literature: that the majority of women presenting for abortion services are under the age of thirty (Pallitto et al, 2013; Rose et al, 2011; and Simmonds et al, 2005). Demographics such as race, ethnicity, living setting, religious affiliation, marital and socioeconomic status, etc. were initially considered for inclusion in participant surveys but were ultimately not included in order to avoid any concerns of anonymity for participants. The figures give an insight into participants' understanding of available contraceptive options, responses from the treatment as usual group are displayed in blue and responses from the intervention group are displayed in red.

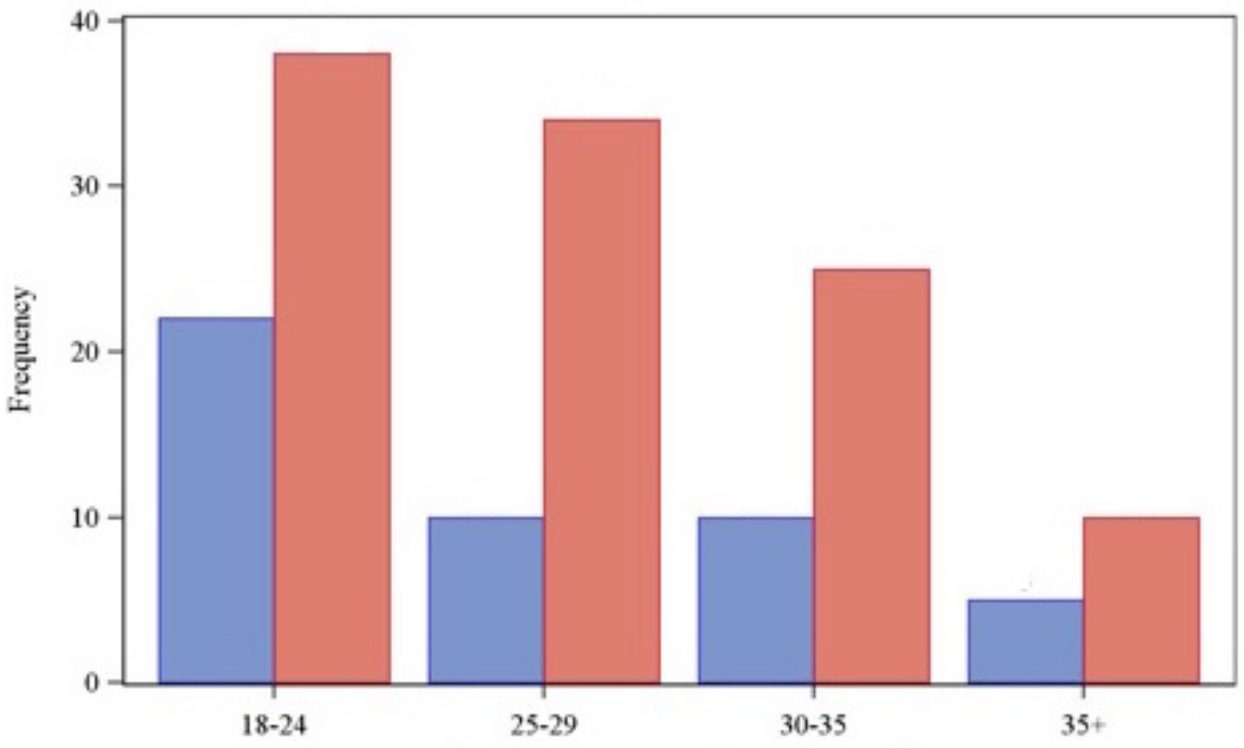

Figure 1. Age Distribution of participants in both treatment as usual and intervention groups.

Figure 2 below represents participant responses related to whether or not they had ever experienced formal "sex education" outside of family and friends; 83% of treatment as usual group participants stated that they had received some form of sex education, compared to 86% of intervention group participants. It should be noted that in the state of North Dakota sex education is required in the public school system, however the only aspect of sex education that is required as a standard is abstinence education, and anything above and beyond is decided by the particular school district and its funding capabilities (Medoff, 2012).

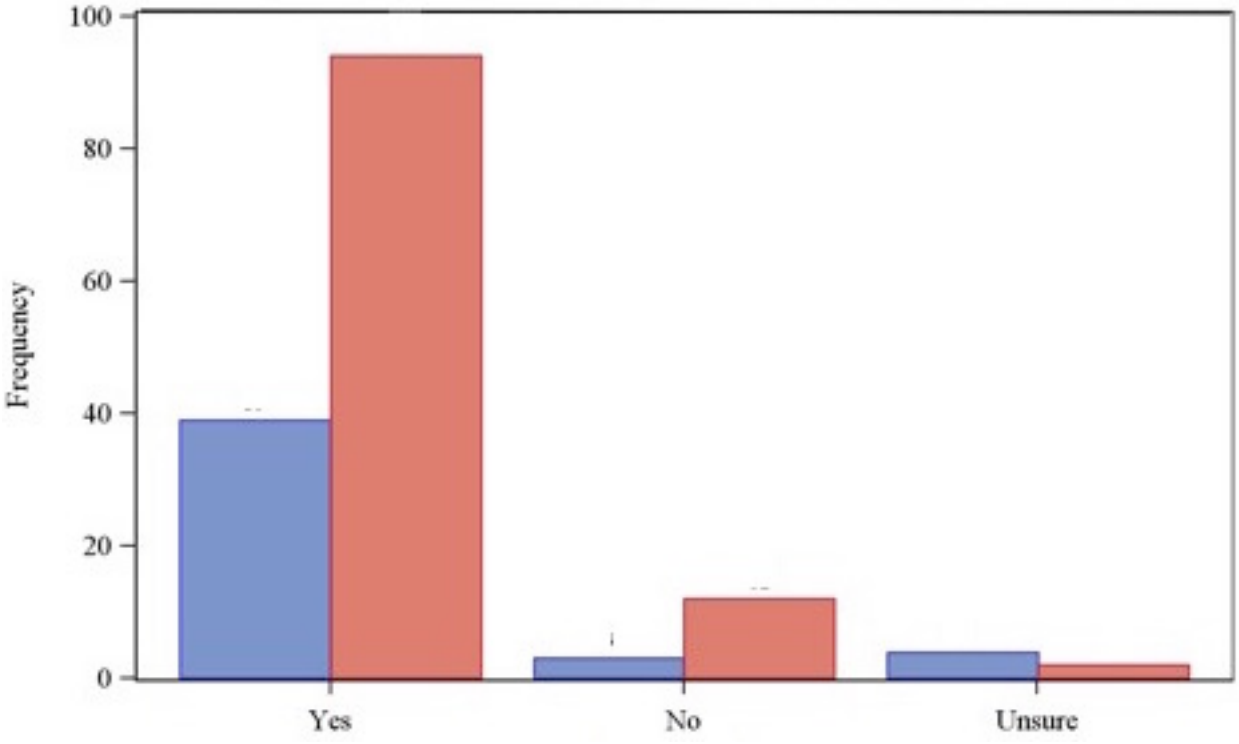

Figure 2. Responses to the question, "Have you ever received formal contraception education?" in both treatment as usual and intervention groups.

Figure 3 below shows the previous pregnancy status of participants who were able to choose multiple responses to reflect their varied choices regarding previous pregnancies, and intention of previous pregnancies was not queried. Each column represents a positive response from a participant, and given the ability for women to have had multiple pregnancies with different outcomes, responses represent greater than 100% of participants. Variation was noticed between the treatment as usual and intervention groups, but in both groups a majority of participants had experienced a pregnancy before the current unintended pregnancy they were facing while taking the survey, and in both groups the majority of previous pregnancy outcomes was continuing the pregnancy and choosing to parent. The participant responses again reflect the literature quite closely, which states that abortion is chosen in about 21% of all pregnancies in

the U.S., and that about 61% of abortions are chosen by women who are already a parent (Simmonds et al, 2005, Rose et al, 2011).

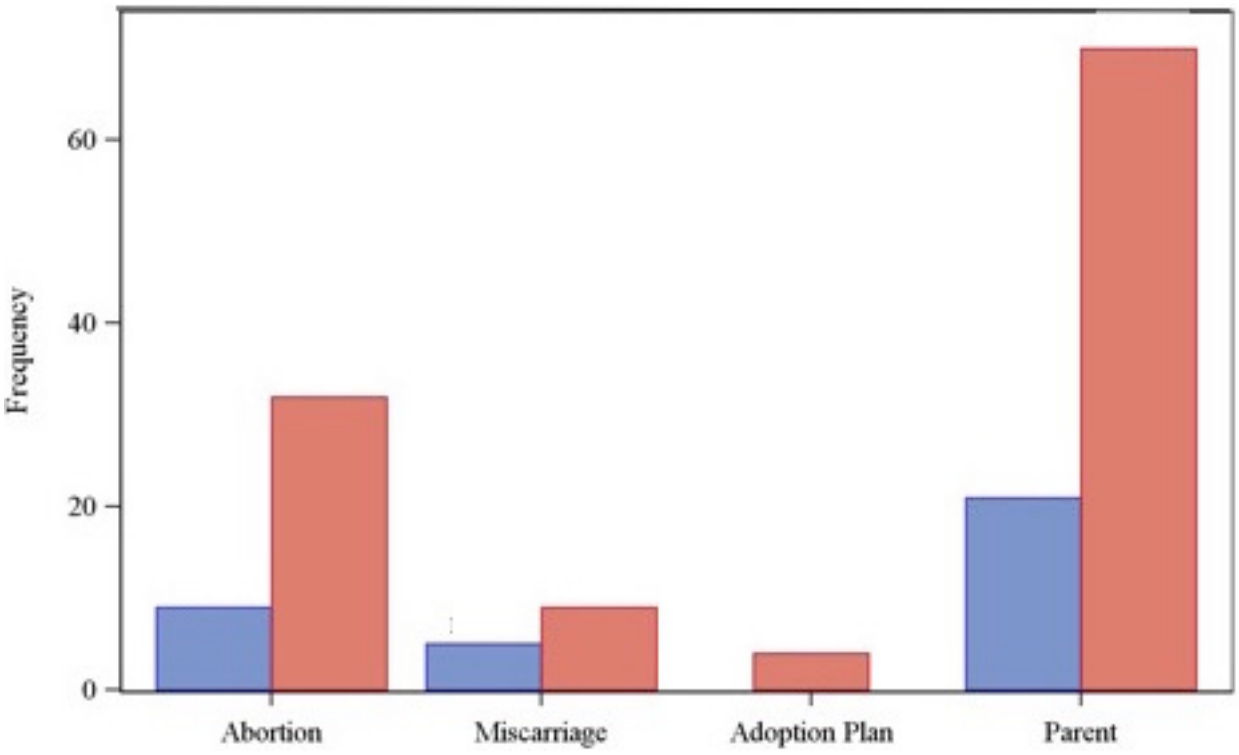

Figure 3. Previous pregnancy responses from participants in both treatment as usual and intervention groups.

Figure 4 below discusses any previously used methods of contraception. Again, due to the possibility for a woman to have tried more than one type of contraception previously or even concurrently, percentages have the capability of representing greater than 100%. Only the top four responses are represented in the graphic. In both the treatment as usual and intervention groups, only 8.9% of participants reported using no contraception at some point in their history of sexual activity. In both the treatment as usual and intervention groups the most commonly used contraception method was oral contraceptives, with 72% and 67% respectively. In the remaining responses, condoms were the second most reported method, but third and fourth most

commonly used methods differentiated. In the treatment as usual group, withdrawal method was the third most common response, followed by emergency contraception. In the intervention group, the third most commonly reported contraceptive method was the Depot Medroxyprogesterone injection (Depo shot) followed by withdrawal method.

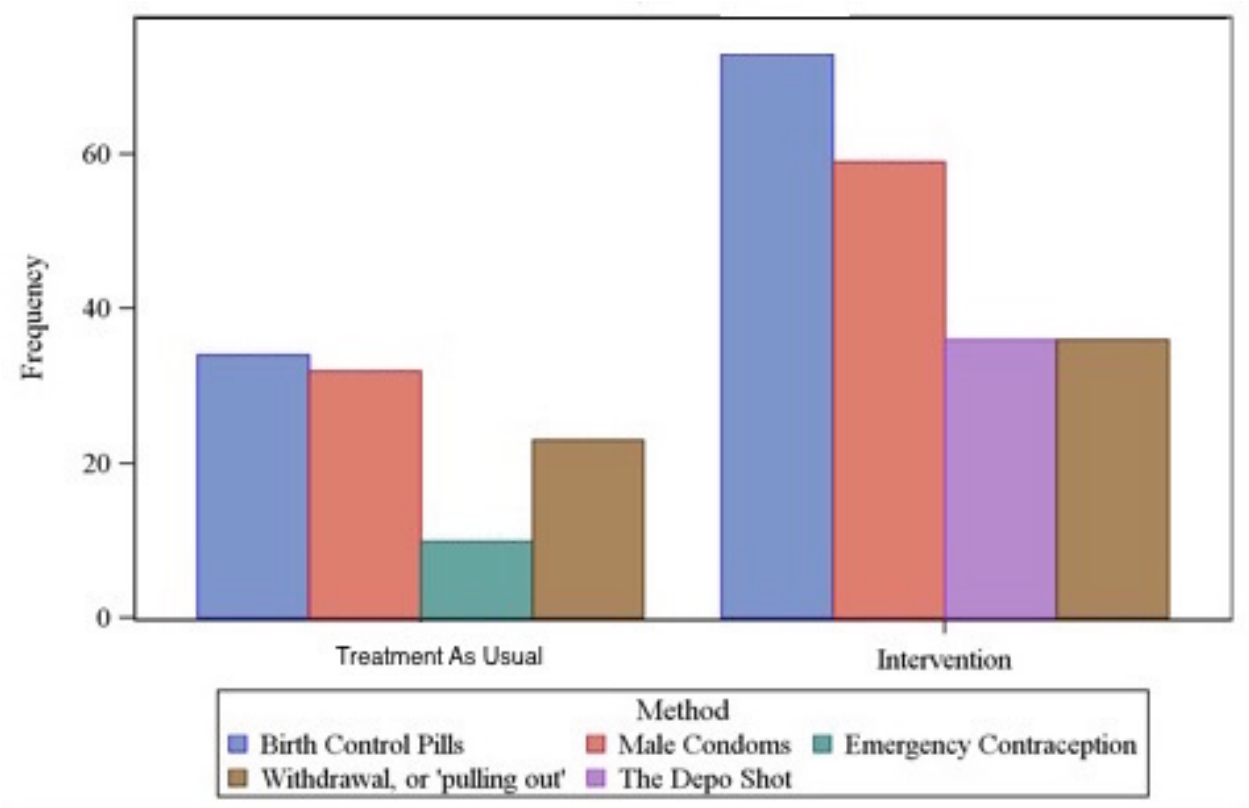

Figure 4. Previous contraception methods used by treatment as usual and intervention groups.

Figure 5 below discusses participants' future contraception plans before they have experienced any education as either a treatment as usual group participant or an intervention group participant. In both treatment as usual and intervention groups, oral contraceptives are the number one choice, followed by male condoms.

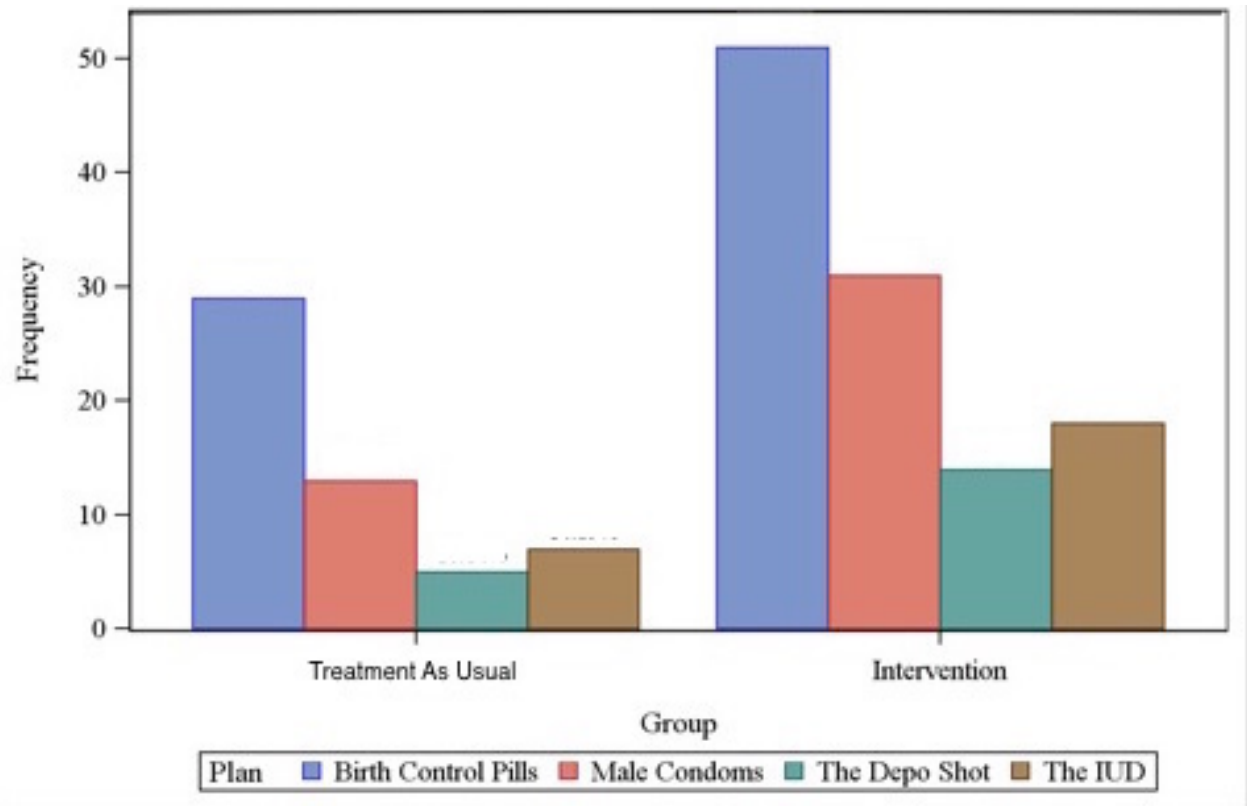

Figure 5. Planned contraceptive method post-abortion in treatment as usual and intervention groups.

Figure 6 below displays limiting factors associated with contraceptive choice; note that participants were able to select multiple responses. The greatest limiting factor in both treatment as usual and intervention groups was the ability to be consistent with a routine associated with a particular method, such as remembering to take an oral contraceptive pill at the same time every day. Effect on period and cost were the next two limiting factors to contraceptive method choice in both the treatment as usual and intervention groups, however, the meaning behind "effect on period" was not clarified. Patients could have responded indicating that they would choose a contraceptive method based on its ability to reduce their monthly bleeding and cramping associated with their period, or in their response they could have been indicating that they would choose a method which allows them to continue a monthly menstrual cycle.

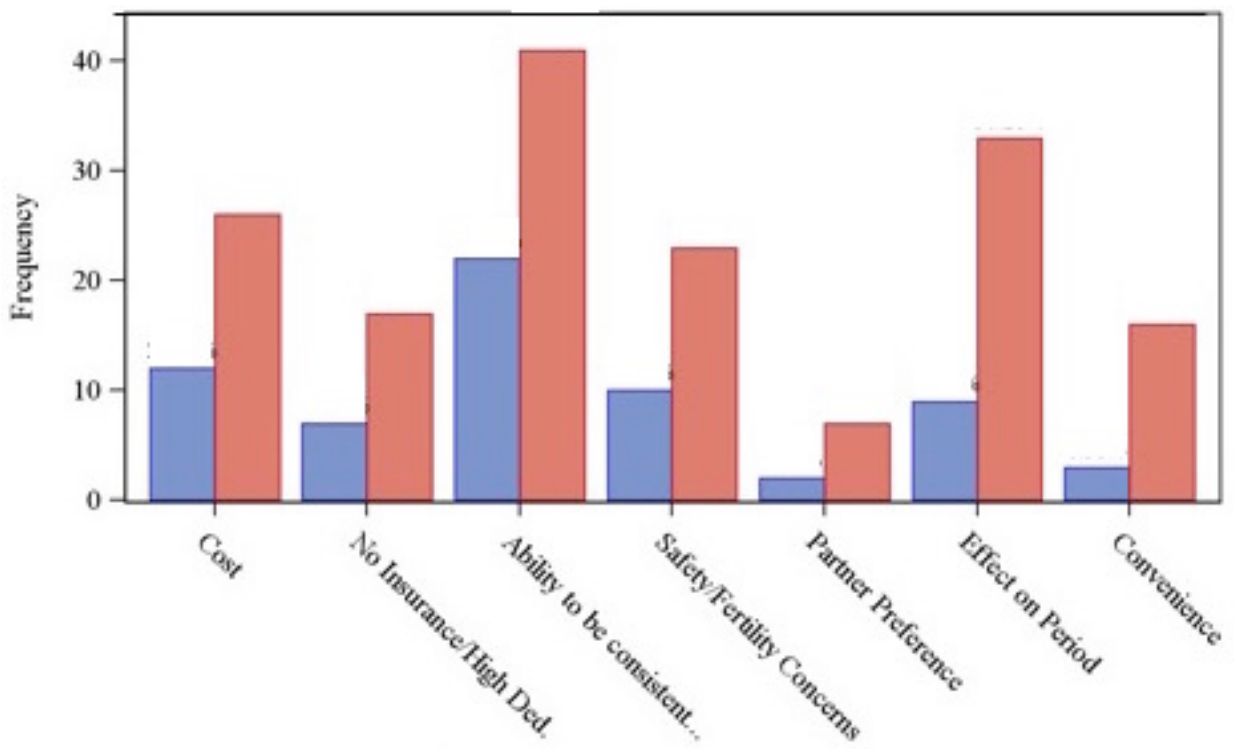

Figure 6. Factors limiting contraceptive choice in treatment as usual and intervention groups.

Figure 7 below displays participants' contraceptive method choice post-abortion and post-education sessions in both the treatment as usual and intervention participant groups. Again, the number one contraceptive chosen by both groups was oral contraceptives followed by male condoms, despite participants' recognition that ability to be consistent with this type of method was the number one limiting factor. Notable, however, is the increase in both IUD and Depo shot contraceptive plans, and the reduction in the number of participants without any post-abortion contraception plan.

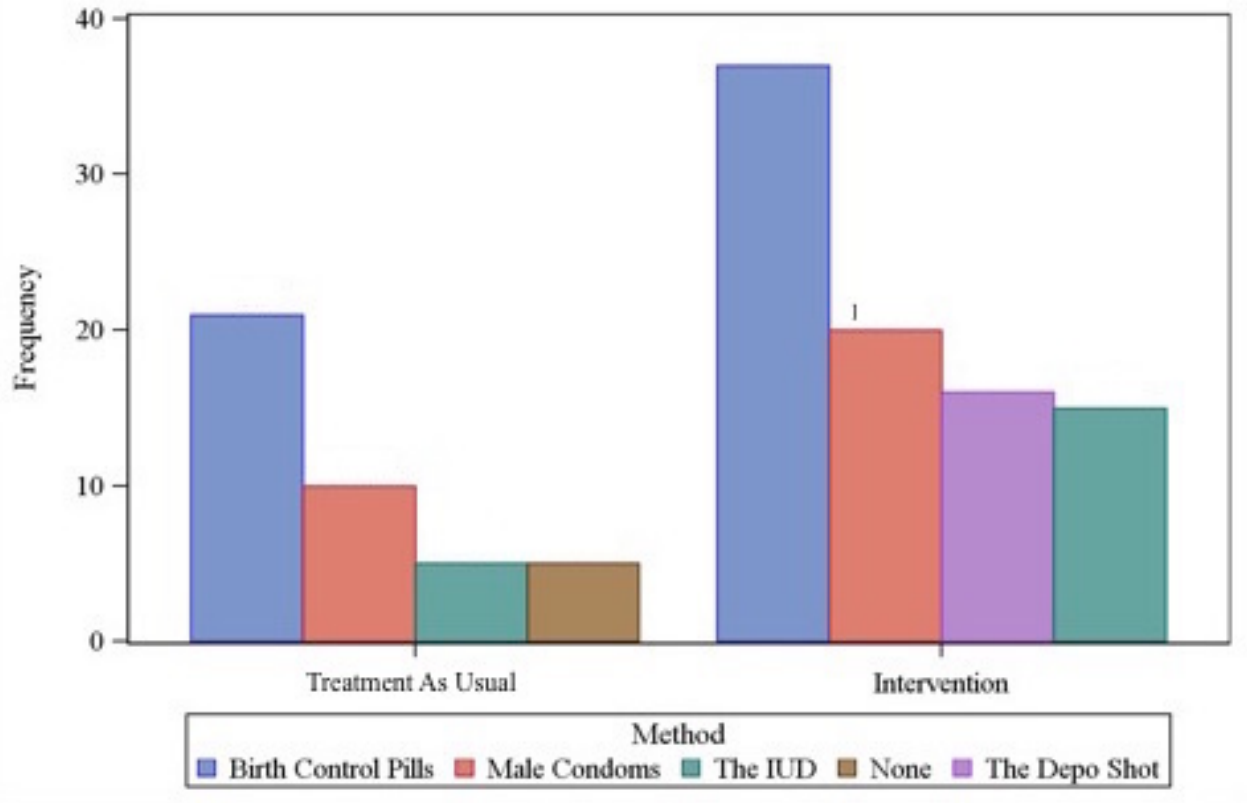

Figure 7. Post-abortion and post-education contraceptive plan in both treatment as usual and intervention groups.

In order to eliminate the confounding effects of any external variables it was first necessary to determine that no significant difference existed between the group receiving treatment as usual and the group receiving the standardized educational tool. Assessment was achieved by comparing the first-round survey results of participants in both groups. By comparing the results from the pre-education survey responses from both groups in a statistical manner we were able to determine if both groups had, on average, similar baseline understanding of LARC methods. Utilizing a 95% confidence interval level, no significant differences emerged between the treatment as usual and intervention participant groups for pre-test scores indicating an absence of external confounding variables. Statistical comparison of pre-education true/false survey questions can be found in the pre-test section of Table 3 below. Results of pre-test group

comparison of Likert-scale questions can be found in the pre-test section of Table 4 below. The absence of any statistical significance in pre-test responses between the group survey responses indicates that both groups had similar baseline knowledge prior to any education. Thus, any statistical differences between group responses on the post-test can be attributed to the effects of the education intervention.

Table 3

Pre-education true/false question response comparison

	Frequency		Chi Square	p-value
	Tx As Usual	Intervention		
IUD Eligibility	44	99	3.972	0.52
Implant Effectiveness	42	100	0.8337	0.36

Table 4

Pre-education Likert scale response comparison

	N		Mean		t-test	p-value
	Tx As Usual	Intervention	Tx As Usual	Intervention		
Knowledgeable	39	92	4.053	4.048	0.015	0.98
Safety	38	89	4.467	4.171	0.914	0.36
Side Effects	36	92	3.930	3.755	0.619	0.53

Effects of the educational intervention were assessed by comparing the differences in pre-test and post-test survey scores of the treatment as usual and intervention participant groups. Results of post-test true/false survey questions can be found in the post-test section of Table 5. The results of Table 5 indicate no significant difference in response changes in true/false questions from participants in the treatment as usual and intervention group. The results in Table 6 indicate no significant difference in Likert score response changes from participants in the treatment as usual and intervention group. In addition, within group responses indicate that no significant change was found in examining differences between pre- and post-test surveys.

Actual number of LARC method placements post-abortion was also asked in post-education surveys, c^2 (1, N = 156) = 0.50, p = 0.48. No significant difference was found in LARC placements between participants in the treatment as usual and intervention groups on the abortion appointment day. In examining conclusions from the comparison of pre- to post-survey changes in both treatment as usual and intervention groups, no significant changes were found.

Table 5

Comparison of true/false question response changes between treatment as usual and intervention groups

	Frequency		**% False**		**Chi Square**	**p-value**
	Tx As Usual	Intervention	Tx As Usual	Intervention		
IUD Eligibility	36	83	94.4%	92.77%	1.0882	0.9029
Implant Effectiveness	36	82	41.67%	34.15%	0.5694	0.5804

Table 6

Comparison of Likert scale changes noted between treatment as usual and intervention groups.

	N		**Mean**		**t-test**	**p-value**
	Tx As Usual	Intervention	Tx As Usual	Intervention		
Knowledgeable	39	92	-0.0897	0.1413	-0.78	0.4354
Safety	38	89	0.1316	0.2921	-0.56	0.5745
Side Effects	36	92	0.0556	0.1848	-0.50	0.6163

5.2. Objectives

The first objective of the practice improvement project was to standardize evidence-based contraceptive method education in a supportive, private environment. Because patient educators are already trained in creating a supportive and private environment in which patients feel comfortable honestly discussing their concerns with contraception and considerations for the future, the education tool was a small enhancement to their usual practice. The routine already in place for patient educators and all staff was a facilitator to the project. One potential barrier was

time, however patient educators reported that subjectively the education tool did not take up more time than previous contraception discussions. The objective was met by meeting with patient educators before, during, and after the project to ensure compliance with standardization of the education tool. Patient educators reported ease of use with the education tool, and were randomly audited to ensure the standard of care was upheld and the education tool was being utilized.

The second objective was to increase the understanding of and openness to LARC methods in participants presenting for abortion. The outcome of objective two was determined by comparing Likert score responses from participants before receiving the education tool and after they had experienced the education tool. Time proved to be a barrier in objective two as well; the education tool was shortened due to time and key points about the IUD and implant were removed from the script. A major facilitator to participants' understanding and openness to LARC methods was RRWC patient educators' vast understanding and openness to LARC methods. It is established in the literature that the more comfortable a provider is with LARC methods, the more knowledgeable and open their patients will be to using LARC methods as contraceptives (Teal & Romer, 2013).

The third objective was to increase the number of LARC methods placed in participants post abortion. In comparing the participant group who received treatment as usual to the participant group who received the standardized contraceptive method education tool, no significant difference was noted. One large limiting factor was the cost of the LARC methods; it is RRWC policy to collect the full cost of the LARC placement, and bill insurance, if insurance does cover the LARC method. Then the patient would receive a rebate in the mail subsequent to insurance payout. Interestingly, participants listed the biggest limiting factor to having a

contraceptive method initiated on the day of the abortion appointment was a preference to discuss contraceptive management with their primary care provider. Patient educators attempted to address this concern by clarifying any specific concerns that remained, and subsequently encouraging participants to make an appointment with their primary care providers as soon as possible. Facilitators to objective three, increasing the number of LARC methods placed, is that it is already routine at RRWC to place LARC methods on the day of the abortion procedure, so all staff were prepared if a patient did choose that method. In attempting to meet the specific objectives of the project, barriers proved to outweigh facilitating factors.

6. DISCUSSION AND RECOMMENDATIONS

6.1. Interpretation of Results

Overall differences between pre- and post-survey responses and comparison of participant groups who had and had not received the standardized educational tool were slight. Participant demographic data and responses reflected established nationwide statistics indicating that women presenting for abortion have an unmet need for contraceptive knowledge and optimization (Rose, et al, 2011). After a standardized educational tool aimed at increasing awareness and knowledge of LARC methods, participants' likelihood of utilizing a LARC method remained low. Assessing participants' reasoning in choosing a contraceptive method was attempted, however most common specific barriers identified in participant responses could not be addressed by the practice improvement project. In examining identified barriers and limitations of the project, enhanced efforts at increasing LARC method utilization and subsequent reduction of unintended pregnancy can be attained.

6.2. Limitations

Several limitations existed in the design, execution, and dissemination of the contraceptive method educational tool practice improvement project. In the patient education script, positive aspects of the LARC methods had to be taken out due to constriction in the time available to meet with each participant in order to maintain RRWC clinic flow. In addition, aspects of the pre- and post-survey were possibly unclear to patients. For example, the true or false statement, "If you have not had a baby before you cannot get an IUD," may have caused confusion and subsequent inaccurate responses. Identified barriers to LARC method placement such as financial and insurance issues and desire to follow up with support system or primary care provider could not be addressed by the project. Permanent methods of contraception, such

as sterilization and vasectomy, were also removed from the standardized educational tool due to time constriction but may have been a part of some participants' pregnancy prevention plans. Due to IRB hurdles, minors were not eligible to participate in the project, though their responses may have shed further light on participants' position. Long term follow up of participants was also not achievable in the timeline of the project; following up with patients to see how many of them subsequently received LARC methods through their primary care providers would have been valuable data. Satisfaction of participants with LARC methods and continuation rate in comparison to participants who had not chosen a LARC method would be fascinating data to gather. Another follow up item that would have given insight to the success of LARC methods would be to assess the occurrence of subsequent unintended pregnancies in participants and compare contraceptive method choice. One sizeable limiting factor in participants' ability to learn may have been the timing of the education. Women presenting for abortion, as with any medical procedure, may be anxious, distracted, and focused on their current goals of having their procedures completed safely. For this reason, optimal learning may not be realistically achievable and a follow up appointment with primary care professionals may be a more ideal learning setting. In general, time and financial resources were the largest limitations to the practice improvement project, which reflects what is already represented in the literature.

6.3. Recommendations

Recommendations can be gathered from the contraceptive method education tool practice improvement project. In continuing efforts to increase LARC method utilization in patients presenting for abortion, aspects of the project should be continued and expanded. The project as it appears now should be reduced or phased out, but aspects of the project will still continue to enhance learning for both staff and patients. In order to enhance LARC method awareness and

utilization in women presenting for abortion, many changes can be made to future projects. Evaluating patients' understanding of the material being investigated is essential to ensure that true comprehension of the chosen topic is being measured, rather than confusion over phrasing of questions. Pre- and post-surveys could be streamlined in order to more clearly ascertain patients' understanding and subsequent responses. A script could be developed that only discusses LARC methods rather than a full contraceptive overview, and goes into more detail regarding safety and effectiveness. According to RRWC staff, the script will continue to be used as appropriate, but not for every patient in every education session. Staff found the script to be a useful tool when working with patients who had no definite idea of which type of contraception they were interested in. According to staff, the proportion of patients requesting an overview of all available methods is high and the tool was useful in assisting these patients. The script will continue to assist patient educators with the high number of patients presenting for abortion who clearly state that they do not know what contraceptive methods are available and ask to hear about all methods. Patient educators can be better prepared to address the needs of their patients by attempting to understand current limiting factors to choosing LARC methods, by being knowledgeable and confident in LARC methods, and by providing a private, comfortable environment. By addressing patients' limiting factors several benefits can be achieved, such as learning facilitation, rapport building, increased LARC method placement, and subsequent patient satisfaction enhancement and reduction in unintended pregnancy.

6.4. Implications for Future Research

In attempting to increase LARC utilization in women presenting for abortion, time and financial barriers were the most prevalent limitations; in order for a future project to increase LARC utilization, addressing these two barriers is a must. Financial facilitation of LARC method

placement and involvement of patients' primary care providers would increase the likelihood of LARC method initiation. Ideally if time could be set aside for a standardized contraception education tool to be implemented in the family practice setting, unintended pregnancy could be further reduced. Women presenting for primary care, rather than abortion care, may be more able to absorb the information, have more time to contact their health insurance provider to ascertain coverage, and have more time to consider their contraceptive choice and discuss their options with their healthcare provider and with their support system.

In order to recognize patients' feedback that primary care provider involvement was important, several steps can be taken. When patients first call to schedule their abortion, they could be encouraged to also call their insurance to inquire about LARC method coverage and/or schedule an appointment with their primary care provider in order to plan ahead for future contraception. Financial concerns and uncertainty regarding insurance status are significant limiting factors on the day of abortion care. If a funding source was available to provide LARC methods at no cost to women presenting for abortion, as has been done in other projects across the United States, increased LARC utilization could be attained. Nationwide, increasing access to both insurance and contraception is imperative. Changes to insurance coverage of contraception and expansion of the Affordable Care Act can enhance women's ability to choose a LARC method. If abortion clinics could have a designated staff person to either call or meet with patients before or on the day of their appointment to assist them in signing up for healthcare, clarifying their insurance benefits, or signing up for a manufacturer's payment plan, patients would be better financially prepared to choose a LARC method on the day of their abortion. Historically, abortion care has aimed at reducing the time burden of the appointment and necessary follow up care due to women having busy schedules and needing to travel

extensively in order to obtain abortion care (Pallitto et al, 2013; Medoff, 2012). Essentially the standard of care has been maintained while reducing unnecessary and outdated restrictions as much as possible, so the addition of some of the above recommendations may not be considered appropriate for the patient population in a real-life clinical setting. Although reduction of repeat pregnancy is vital, women may be coping with so much stress and anxiety that they may not be in optimal positions for learning. For this reason, the capability of enhancing preparation and follow up may enhance the potential for LARC method utilization in woman presenting for abortion.

6.5. Implications for Practice

In order to enhance an increase in LARC utilization by women attempting to avoid unintended pregnancy, many strategies can be advised by the healthcare provider. In general, the single most predictive aspect of LARC utilization by patients is how knowledgeable and confident their healthcare providers are with placing LARC methods (Kavanaugh et al, 2013; Rose et al, 2011; and Russo, 2013). By addressing contraception with every female patient of childbearing age and reviewing all contraceptive methods while outlining the benefits and background about why LARC methods are recommended first line, more women can enjoy the increased convenience, efficacy, and safety of these methods while avoiding unintended pregnancy. Currently, a majority of women are interested in oral contraceptives, but the more LARC methods are normalized, the more women will be utilizing them. Addressing future contraception at the time of abortion care is imperative to a successful abortion experience just as nutritional education is imperative at a diabetic check. By making contraception education as thorough and LARC-centric as possible, healthcare providers can help their patients achieve enhanced protection from future unintended pregnancies.

6.6. Application to other Nurse Practitioner Roles

In disseminating to other nurse practitioner roles, this practice improvement project can provide enhanced understanding of the necessity and impact of health promotion and education. It was shown that although a high majority of women have received information about how to prevent pregnancy, unintended pregnancy still occurs and is a stressor on women and their families. Knowledge gained from the practice improvement project can help solidify nurse practitioners' knowledge that patient education and rapport building are essential pieces to the healthcare provider-patient relationship and cannot be overlooked. It also serves as a reminder of how far-reaching financial and insurance constraints can be for patients, and how short term choices made due to these constraints can lead to negative and costly consequences in the long term. Advocating for increased availability of LARC method educational resources for patients and healthcare providers, increased insurance coverage of LARC methods, and increasing the number of patients who have health insurance coverage are all ways in which nurse practitioners can expand their role in preventing future unintended pregnancy at a population level.

6.7. Conclusion

A clinical improvement project aimed at accurately educating patients and clarifying lifestyle needs can reduce unintended pregnancy and standardize healthcare providers' understanding of LARC methods. By implementing standardized patient education in both written and verbal form, and having a private session in which the patient's capabilities, lifestyle, and insurance status is assessed and rapport is built, unintended pregnancy can be reduced. By increasing patients' and healthcare providers' knowledge and awareness of LARC methods, future unintended pregnancy can be prevented.

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APPENDIX A. PARTICIPANT SURVEY

The following survey is being used to improve practice at the Red River Women's Clinic (RRWC); it is a part of a study involving research conducted by North Dakota State University. The questions are regarding your background and current knowledge about birth control methods. You will be asked to complete an anonymous questionnaire right now in the waiting room and in the recovery room. The survey can take about 5-10 minutes to complete during downtime and will not add to your appointment time today. This survey will have no identifying information on it, it will not be connected with your chart and you will not be identified in any reports that are written; we hope that you will feel comfortable answering the questions honestly. Some questions on the questionnaire are sensitive and it is possible you may feel uncomfortable answering them; you do not have to answer any questions that make you feel uncomfortable. The goal of this project is to develop better ways of helping women learn about birth control, so a possible benefit of participating could be that your feedback will help improve patient education. Completing the questionnaire is voluntary; if you do decide to fill out the questionnaire you are free to leave any questions blank. Whether or not you participate in the questionnaire will not affect your care at RRWC. If you have any questions, please ask them now before you begin, if you have questions afterwards please contact Val Erickson at 701-371-2288. You have rights as a research participant, if you have questions about your rights please contact the NDSU Human Research Protection Program at 701-231-8908 or toll free at 855-800-6717, they are responsible for making sure your rights and safety are protected in this research. Answering the survey questions gives researchers at NDSU permission to use the information you provide.

1. Which of the following age groups are you in?
   - ❑ 18-24
   - ❑ 25-29
   - ❑ 30-35
   - ❑ 35+

2. Have you ever received some form of formal sex education outside of your family or friends?
   - ❑ Yes
   - ❑ No
   - ❑ Unsure

3. Have you ever been pregnant before? If so, what was the outcome of your previous pregnancy (ies)? Please check all that apply.
   - ❑ Abortion
   - ❑ Miscarriage
   - ❑ Continued pregnancy and made an adoption plan
   - ❑ Continued pregnancy and are a parent

4. Which of the following, if any, methods of birth control have you used?
   - ❑ Birth Control Pills
   - ❑ Male Condoms
   - ❑ The Depo Shot
   - ❑ The Patch
   - ❑ Nuva Ring
   - ❑ The Implant (Implanon or Nexplanon)
   - ❑ The IUD (Mirena or Paragard)
   - ❑ Emergency Contraception
   - ❑ Diaphragm, cervical cap, female condom, or sponge
   - ❑ Withdrawal or "pulling out"
   - ❑ None

5. Do you have any plans for pregnancy prevention after today? If so, what are they?
   - ❑ Birth Control Pills
   - ❑ Male Condoms
   - ❑ The Depo Shot
   - ❑ The Patch
   - ❑ Nuva Ring
   - ❑ The Implant (Implanon or Nexplanon)
   - ❑ The IUD (Mirena or Paragard)
   - ❑ Emergency Contraception
   - ❑ Diaphragm, cervical cap, female condom, or sponge
   - ❑ Withdrawal or "pulling out"
   - ❑ None

6. Which of the following are the two most limiting factors that affect your birth control method choice?
   - ❑ Cost of birth control method
   - ❑ Lack of insurance or high deductible/co-pay
   - ❑ Ability to be consistent- random schedule, etc.
   - ❑ Safety or fertility concerns

- ❑ Partner preference
- ❑ Effect on period
- ❑ Convenience (of the method itself, getting to the clinic, etc.

For the following questions, please circle a number from 1-7 that most closely represents your feelings.

7. How knowledgeable are you about Long-Acting Reversible Contraceptive (LARC) methods such as the arm implant and IUD?
(Ranging from 1- I have never heard of them, to 7- I know everything about them)
1 2 3 4 5 6 7

8. How safe do you think Long-Acting Reversible Contraceptive (LARC) methods such as the arm implant and IUD are? (Ranging from 1-Definitely unsafe, to 7-Extremely Safe)
1 2 3 4 5 6 7

9. How substantial do you think side effects are with Long-Acting Reversible Contraceptive (LARC) methods? (Ranging from 1-Too many side effects to be worth having, to 7- No side effects at all)
1 2 3 4 5 6 7

For the following questions, please circle T for true or F for false.

10. If you have not had a baby before you cannot get an IUD. T / F
11. The IUD and arm implant are about the same at preventing pregnancy as the pill. T / F

Thank you for filling out these questions. Please hand this form in with the rest of your paperwork and you will have an opportunity to complete the following questions in the recovery room.

1. If you are going home with a birth control plan, what is it?
   - ❑ Birth Control Pills
   - ❑ Male Condoms
   - ❑ The Depo Shot
   - ❑ The Patch
   - ❑ Nuva Ring
   - ❑ The Implant (Nexplanon)
   - ❑ The IUD (Mirena or Paragard)
   - ❑ Emergency Contraception
   - ❑ Diaphragm, cervical cap, female condom, or sponge
   - ❑ Withdrawal or "pulling out"
   - ❑ None
2. If you are not going home with the birth control method you plan to use long-term, what is the reason?
   - ❑ Want to speak to support system (mother or partner, etc.) before deciding on a method
   - ❑ Want to follow up with primary care provider
   - ❑ Cost is too high to get today
   - ❑ I want to get my insurance status clarified or contact my insurance company or caseworker before deciding.
   - ❑ I don't plan to use a birth control method after today.

3. How knowledgeable are you about Long-Acting Reversible Contraceptive (LARC) methods?
(Ranging from 1- I have never heard of them, to 7- I know everything about them)
1 2 3 4 5 6 7

4. How safe do you think Long-Acting Reversible Contraceptive (LARC) methods such as the arm implant and IUD are? (Ranging from 1-Definitely unsafe, to 7-Extremely Safe)
1 2 3 4 5 6 7

5. How substantial do you think side effects are with Long-Acting Reversible Contraceptive (LARC) methods?
(Ranging from 1-Too many side effects to be worth having, to 7- No side effects at all)
1 2 3 4 5 6 7

For the following questions, please circle T for true or F for false.

6. If you have not had a baby before you cannot get an IUD. T / F
7. The IUD and arm implant are about the same at preventing pregnancy as the pill. T / F

Thank you for completing this survey and helping women in the future! Please turn this paper in to your recovery room nurse.

APPENDIX B. PATIENT EDUCATION SCRIPT

Today I'll present the most common birth control methods in order of most effective to least effective. Even if you already know what your plan is after today, it's recommended that we go over all of your options. There are many urban legends or stories you may have heard about some of these methods, and if you have specific concerns I'd be happy to discuss those with you today.

The most effective reversible methods of contraception available today are the Intrauterine device or IUD and the arm implant. These methods are just as effective as getting your tubes tied, but reversible so that if you do choose to become pregnant in the future you can. These methods are over 20 times more effective than pills, patches, and rings, and are recommended to be tried first for every woman, regardless of if she has been pregnant in the past.

(*Hold up or point to IUD).* IUDs are a safe method of birth control that are placed by your healthcare provider through the vagina and into your uterus. Irregular bleeding and cramping are the most common side effects after the IUD is inserted, and improve after the first 3-6 months. There are two different IUDS available here at Red River. With the Mirena or hormonal IUD, for most women the bleeding subsides and most women lose their period or at least have much lighter and shorter periods. With the Paragard or Copper IUD, your periods should go back to normal after the first 6 months. The Mirena IUD lasts for 5 years and the Paragard IUD lasts for 10 years, but they can be removed at any time and your fertility will return. The insertion of the IUD can feel like heavy menstrual cramps, but most women state they don't even notice it being placed immediately after a surgical abortion.

The arm implant is the other most effective method of birth control; it lasts for 3 years but can be taken out at any time. It is a small rod that is placed under the skin of your arm, and a numbing medicine is used to place it. (*hold one arm up and point to area implant is placed)* The implant can cause irregular bleeding. There is no way to predict how your bleeding will be with the implant but over 9 out of 10 women are happy with it and choose to stay on it.

The birth control shot or Depo, is another very effective method. You need to go to your clinic every 3 months to get your shot. It can cause some irregular bleeding which improves over time, and most women eventually lose their period altogether.

The pill, the patch, and the vaginal ring are all effective birth control methods, but they require consistent effort on your part. The birth control pill needs to be taken every day at the same time to make it effective. The patch is an adhesive that sticks to your skin, it needs to be changed weekly. With the Nuva Ring, you insert the ring into your vagina at home on a monthly basis. Women usually will have regular, lighter, and shorter periods with these methods, some women may experience irregular bleeding or spotting, nausea, bloating, or breast tenderness during the first few months after starting these methods, but as your body adjusts these side effects will most likely get better.

When condoms are combined with another method of birth control they can further decrease your risk for pregnancy in addition to helping reduce the risk for sexually transmitted infections.

Emergency contraception or EC can be used after unprotected sex to decrease the risk of pregnancy, it can be taken up to five days from unprotected sex but is most effective the sooner you take it. It is not as effective as primary methods of birth control. EC is available over the counter without a prescription and can be purchased at most local pharmacies.

What questions do you have for me?

Which method sounds like a good fit for you? What do you like about this method?

END OF SCRIPT

FAQs

IUD
The two most common urban legends about IUDs are the risks of it falling out, becoming lodged in your uterus, or causing ectopic pregnancy. The risk of the IUD falling out is less than 3-5 women out of one hundred. The risk for the IUD to puncture or harm the uterus is less than 1 out of 1000, and the IUD does not increase the risk of ectopic pregnancy. Even if one of these rare complications happens there is still low risk that your fertility would be affected. Both IUDs are inserted into your uterus by a clinician following your abortion.

When it is time to have them removed, you can have a new one placed in the same appointment.

There are strings connected to the IUD that become softer and usually do not cause any discomfort to you or your partner during sex, some women even choose not to tell their partner about these strings.

NEXPLANON
The first 3-6 months are the worst as your body adjusts, about one third of women continue getting their period like normal, about one third of women have irregular spotting or bleeding, and about one third of women do not get a period at all.
The clinician will use numbing medicine to place the implant under your skin and you will need to keep a bandage on that arm for 24 hours, a bruise may form but will go away.

DEPO

The biggest urban legend about the shot is weight gain, in clinical trials there was only shown to be about 3-5 pounds of weight gain associated with the shot. The hormone in the shot could increase some women's appetite, we recommend keeping healthy snacks around and being conscious of this side effect to avoid this effect. Usually what we find is that for women who have never struggled with their weight the Depo shot does not have this effect, but for women who struggle with their weight, this side effect may be more pronounced.

NUVA RING

Most partners don't notice or are not bothered by the ring during sex, but it can be removed for up to 3 hours.

CONDOMS

Condoms have an expiration date and should never be used past that date. Store condoms in a cool, dry place out of direct sunlight and only use water-based lubrication with them. A new condom should be used for each act of sexual intercourse, including oral, vaginal, or anal sex, never use the same condom twice.

Patient wanting more information?
Give written info on method she is considering
Bedsider.org- has educational info and financial help info
CDC.gov
http://www.plannedparenthood.org/learn/birth-control

FINANCIAL CONCERNS

Is patient a MN resident?

- Does she have any relatives (aunts, uncles, grandparents, etc.) who could receive mail for her in MN?
- Minnesota Family Planning Program- 651-431-3480 or toll free 888-702-9968
- MNsure website for medical assistance sign up: https://www.mnsure.org/

Is patient a ND resident?

- ND MA phone: 701-328-2310, toll free 800-472-2622
- ND MA website: http://www.nd.gov/dhs/services/medicalserv/medicaid/

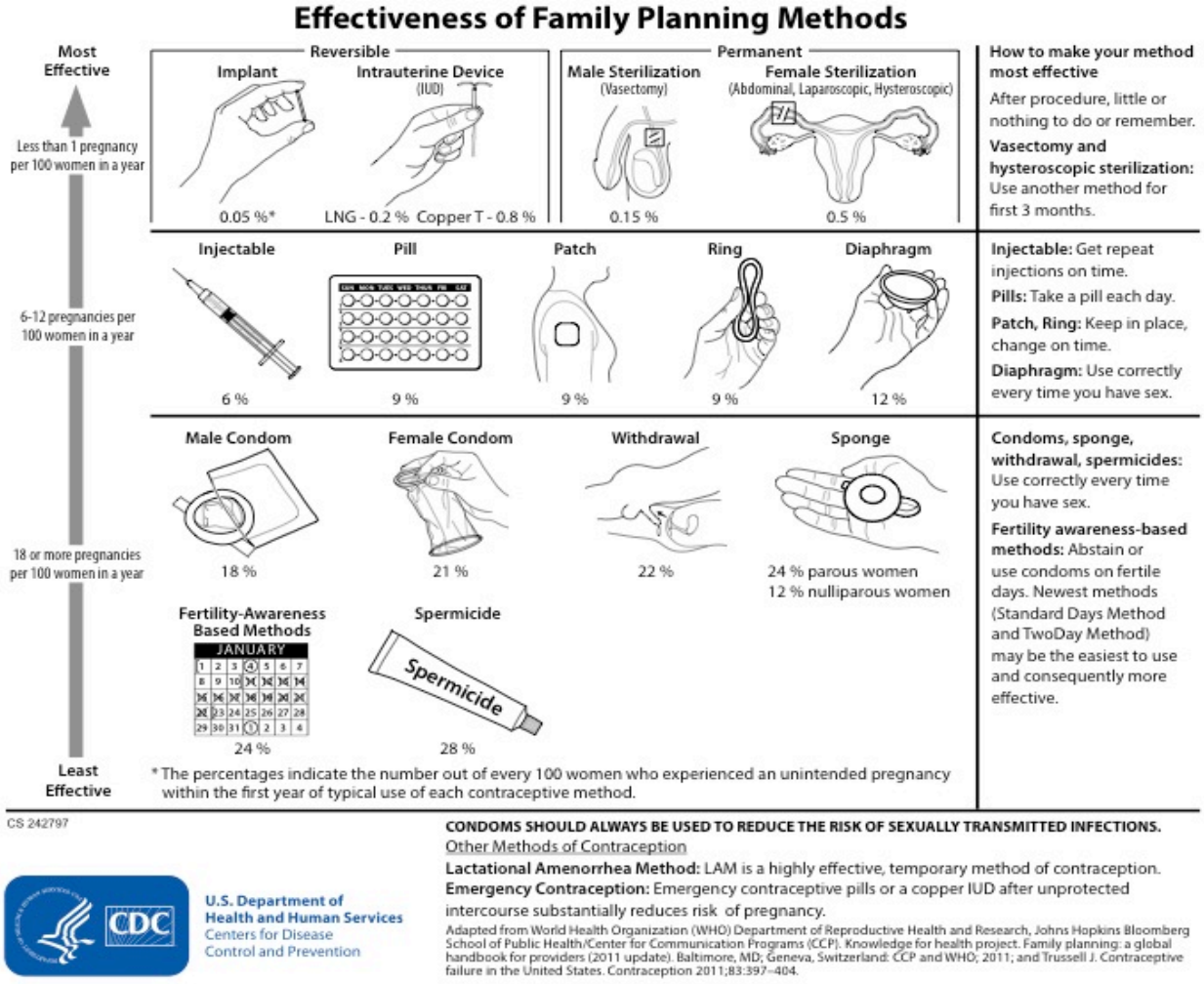
SD resident?

- SD Medicaid phone number: 605-773-4678
- SD MA website: http://dss.sd.gov/medicaid/

Skyla and Mirena Help website (Bayer patient assistance program)
http://www.archpatientassistance.com/

Family Healthcare Center in Fargo-701-271-3344
Website: http://www.famhealthcare.org/

APPENDIX C. PATIENT EDUCATION HANDOUT



CS 242797

CONDOMS SHOULD ALWAYS BE USED TO REDUCE THE RISK OF SEXUALLY TRANSMITTED INFECTIONS.

Other Methods of Contraception

Lactational Amenorrhea Method: LAM is a highly effective, temporary method of contraception.

Emergency Contraception: Emergency contraceptive pills or a copper IUD after unprotected intercourse substantially reduces risk of pregnancy.

Adapted from World Health Organization (WHO) Department of Reproductive Health and Research, Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs (CCP). Knowledge for health project. Family planning: a global handbook for providers (2011 update). Baltimore, MD; Geneva, Switzerland: CCP and WHO; 2011; and Trussell J. Contraceptive failure in the United States. Contraception 2011;83:397–404.

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

APPENDIX D. IRB APPROVAL NOTIFICATION

NDSU NORTH DAKOTA STATE UNIVERSITY

May 15, 2015

Molly Secor-Turner
Nursing
Sudro 222J

Re: IRB Certification of Exempt Human Subjects Research:
Protocol #PH15250 , "Increasing LARC Utilization Through Standardized Birth Control Method Education"

Co-investigator(s) and research team: Valerie Erickson

Certification Date: 5/15/15 Expiration Date: 5/14/18
Study site(s): Red River Women's Clinic
Sponsor: n/a

The above referenced human subjects research project has been certified as exempt (category # 2) in accordance with federal regulations (Code of Federal Regulations, Title 45, Part 46, Protection of Human Subjects). This determination is based on the original submission with revised consent letter (received 5/11/15).

Please also note the following:
□ If you wish to continue the research after the expiration, submit a request for recertification several weeks prior to the expiration.
□ The study must be conducted as described in the approved protocol. Changes to this protocol must be approved prior to initiating, unless the changes are necessary to eliminate an immediate hazard to subjects.
□ Notify the IRB promptly of any adverse events, complaints, or unanticipated problems involving risks to subjects or others related to this project.
□ Report any significant new findings that may affect the risks and benefits to the participants and the IRB.

Research records may be subject to a random or directed audit at any time to verify compliance with IRB standard operating procedures.

Thank you for your cooperation with NDSU IRB procedures. Best wishes for a successful study.
Sincerely,
Kristy Shirley

Kristy Shirley, CIP, Research Compliance Administrator

For more information regarding IRB Office submissions and guidelines, please consult http://www.ndsu.edu/research/integrity_compliance/irb/. This Institution has an approved FederalWide Assurance with the Department of Health and Human Services: FWA00002439.

INSTITUTIONAL REVIEW BOARD
NDSU Dept 4000 | PO Box 6050 | Fargo ND 58108-6050 | 701.231.8995 | Fax 701.231.8098 | ndsu.edu/irb
Shipping address: Research 1, 1735 NDSU Research Park Drive, Fargo ND 58102