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Implementation of the World Health Organization Decision Making Tool in Family Planning

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Abstract

Background and Purpose: Worldwide unintended pregnancy rates are reported at 40% of all pregnancies. The United States has an unintended pregnancy rate of 45%. Contraception is safe and available for most women. Many providers lack evidence-based tools and current information in assisting clients to choose a highly effective contraceptive method. Intrauterine devices (IUD) and implants are highly effective contraception. The American College of Obstetricians and Gynecologists (ACOG) and the American Academy of Pediatrics (AAP) recommend IUDs and implants as first tier contraception for most sexually active females.

Methods: Implementation of the World Health Organization Decision-Making Tool (WHO DMT) for contraceptive counseling guidance for clients and providers. The tool consists of a training manual for providers, exam room posters, flipcharts, and printed patient education materials. Pre and post intervention surveys were collected and analysis conducted.

Hypothesis 1: The WHO DMT will increase client selection of intrauterine devices as the preferred contraceptive method. **Hypothesis 2:** There will be an increased IUD selection by clients seen by providers using the WHO DMT for counseling. **Hypothesis 3:** Patients counseled with WHO DMT will be more satisfied with contraceptive method chosen.

Implications for practice: Use of WHO DMT can impact unintended pregnancy rate by educating women on the highly effective contraceptive methods, focusing on IUDs, to all populations, especially the underserved and vulnerable.

Keywords: Contraception, family planning, WHO DMT, intrauterine devices, shared decision-making, provider training

Implementation of the World Health Organization Decision Making Tool to Increase Intrauterine
Device Use

Background and Significance

Family planning is a decision for most sexually active women at some time in their lifetime. Almost all sexually active, heterosexual women of childbearing age have the potential for an unintended pregnancy if not using a reliable contraceptive method. On average, women spend three of their childbearing years attempting pregnancy, being pregnant, or immediate postpartum; the remaining thirty years of this life stage is spent trying to avoid pregnancy (Sonfield, Hasstedt, & Gold, 2014). Family planning and contraception is a means to decrease unintended pregnancies and provide women and men opportunities to plan when, or if, they want children (Mosher & Abna, 2015). The majority of American families have an average two children (Finer & Zolna, 2016).

The global unintended pregnancy rate is 40% of all reported pregnancies (Finer & Zolna, 2016). Currently, the unintended pregnancy rate in the United States is 45% of all reported pregnancies; 27% are reported as mistimed and 18% as unwanted (Finer & Zolna, 2016; Karpilow & Thomas, 2017; Wyatt et al., 2014). Studies show births resulting from unintended pregnancies are associated with more adverse maternal and child health outcomes (Sonfield, Hasstedt, & Gold, 2014; Kavanaugh & Anderson, 2013). Providing women the ability to plan their families improves health, educational pursuit, and economic opportunities for individuals, families, and communities (Bader, Kelly, Cheng, & Witt, 2014).

Throughout the ages, women have desired to have control over their fertility and family size. Popular contraceptive methods have varied through history, ranging from crocodile dung vaginal inserts to drinking a potentially lethal cocktail of arsenic and mercury, to prevent

pregnancy (Evans, 2009). Development of and access to modern, safe contraception is considered one of the greatest public health achievements of the 20th and 21st century (CDC, 1999; Frost & Lindberg, 2013). Family planning and contraception provide women the ability to choose timing of family, size, and spacing between pregnancies.

Currently, there are eighteen Federal Drug Administration (FDA) approved contraceptive methods available in the United States, and are considered safe for the majority of women seeking contraception. Each method has different delivery systems, benefits, risks, indications, contraindications, user profiles, and effectiveness rates. Many women do not use the most effective contraceptive method available (Langston, Rosario, & Westoff, 2010). Key factors contributing to contraceptive failure are incorrect, inconsistent, non-use of contraceptive method, or ill fit to lifestyle (Dehlendorf, Fitzpatrick, Steinauer, Swaider, Grumbach, Hall, & Kuppermann, 2017). Clients are more likely to choose a method and continue the method, if educated, informed, and take part of the contraceptive decision-making process (Dehlendorf, Kimport, Levy, & Steinauer, 2014).

The Department of Reproductive Health and Research at the World Health Organization, in partnership with Johns Hopkins Bloomberg School of Public Health, developed a tool known as the Decision Making Tool (DMT) for Family Planning in 2005 (WHO, 2005). The DMT is interactive and promotes participation of both provider and client. International experts, evidence based recommendations, and guidelines laid the foundation for the tool. The DMT consists of training manuals for providers, exam room posters, flipcharts with client education/provider prompts, and printable handouts for patient education materials that reinforce information presented in office. The tool has been used worldwide, but there are no published studies in the United States. Four studies were conducted using the tool in countries such as

Mexico, Indonesia, Nicaragua, and Iran (Kim et al., 2005; Kim Davila, Tellez, & Kols, 2007; Farrokh-Eslamlou, Aghmand, Eslami, & Homer, 2013).

Intrauterine devices (IUDs) are a highly effective method at 99.7% with typical use. The device is long acting and reversible, with no long-term effect on fertility. Depending on type of device, the product is active three to ten years and can be removed at any time. The IUDs are available to most women at no cost through insurance, Title X, and the manufacturer programs.

Purpose Statement

The purpose of this project is three-fold:

1. Implement and evaluate contraceptive counseling using the WHO DMT
2. Increase education of options, use, and continuation of chosen contraceptive method, with emphasis on intrauterine devices
3. Increase satisfaction with contraceptive method

Family planning providers are the gatekeepers to education and contraception. Provider education about contraception options and use of a tool could increase use of highly effective, long-acting, reversible contraceptive. Educated clients are more likely to be satisfied and to continue the chosen method. The importance of this project is to educate women with evidence-based, current information about contraception, to plan their family and to achieve reproductive, as well as, personal goals.

The capstone project questions are as follows: 1. Does implementation of the WHO DMT increase IUD use in women desiring contraception? 2. Is there a difference in selection of IUDs between WHO DMT group compared to non-WHO tool groups? 3. Is there an increase in patient satisfaction and continuation of the contraceptive method between the study group and control groups?

Literature Review

A systematic search of the literature was conducted using search words: contraception, family planning, unintended pregnancy, long-acting reversible contraception, intrauterine devices, shared decision-making, counseling tools, World Health Organization Decision-Making Tool and providers. Search engines included CINAHL, Cochrane Review, EBSCO host Medline, Pub Med, Psycinfo, and American College of Obstetricians and Gynecologists Compendium. Initial search used literature dating 2012-2017, but was expanded to include literature from 2002 and 2018.

Key focus of this literature review was unintended pregnancy, contraception, intrauterine devices, provider counseling, counseling tools and the WHO DMT.

Unintended Pregnancy

Unintended pregnancy is defined as a pregnancy that is mistimed or unwanted (Finer & Zolna, 2016). In 2011, there were 6.1 million pregnancies in the United States. Of those pregnancies, 2.8 million were reported as unintended and 42% ended in termination (Finer & Zolna, 2016). Data has been collected for the United States since 1981. Data shows an overall steady decrease in unintended pregnancy in the last three decades, with a significant decrease in the last ten years (Finer & Zolna, 2016). The unintended pregnancy rate in 2008 was 51% of all reported pregnancies, with a significant drop reported in 2011 of 45%, a 6% decrease (Finer & Zolna, 2016; Healthy People, 2010).

Unintended pregnancy places burdens on women, families, society, and the healthcare system (Dehlendorf, Krajewski, & Borrero, 2014; Finer & Zolna, 2016). Multiple variables (such as age, socioeconomic status, race, education level, marital, and insurance status) have been identified as unintended pregnancy risks (Finer & Zolna, 2016; Kavanaugh & Anderson, 2013;

Mosher, Jones, & Abma, 2015; Sonfield, Hasstedt, & Gold, 2014). Women reporting more unintended pregnancies are traditionally younger, unmarried, members of a minority group, of lower socioeconomic status, geographic location either urban or rural, and less educated (Finer & Zolna, 2016; Frost & Lindberg, 2013; Garbers, Meserve, Kottke, Hatcher, Ventura, & Chiasson, 2012; Kost, Finer & Singh, 2012). Specifically, uninsured women report more unintended pregnancies, black women more often report being unmarried, and Hispanic women tend to be younger when becoming pregnant (Kost, Finer, & Singh, 2012). Unplanned pregnancy occurs in all socioeconomic groups; however, it is more frequent in the most vulnerable populations. Rates of unplanned pregnancy are two to three more likely in women below the federal poverty level, while lowest rates are among higher-income, white, married, college graduates (Finer & Zolna, 2016; Kost, 2015). The rate of unintended pregnancy among the women of higher socioeconomic status was 18% versus the national rate of 45% (Finer & Zolna, 2016). The disparities are evident throughout the literature for unintended pregnancy rates, as well as contraceptive method chosen and successful use of method.

Contraception

Development of and access to modern contraception has been one of the United States Centers for Disease Control's greatest public health achievements of the 20th century (CDC, 1999; Frost & Lindberg, 2013). Women in the United States tend to use three different methods through their reproductive years: condoms in early sexual life, hormonal birth control to space children, and female sterilization to end childbearing (Mosher, Moreau, & Lantos, 2016). Research has shown links between contraceptive use to marriage at a later age, attainment of educational and financial goals, smaller families, longer intervals between children, and family size. Increasing contraceptive use among women, especially vulnerable populations, is critical to

reducing unintended pregnancy rates and setting reproductive and personal goals (Marshall, Nuru-Jeter, Guendelman, Mauldon, Raine-Bennett, 2017).

Presently, there are eighteen FDA approved contraceptive methods widely available in the United States, which are considered safe for the majority of women seeking contraception. Each method has a different delivery system, risks, benefits, uses indications and contraindications, user profiles, and effectiveness rate. Other factors that need to be considered in choosing contraception include access to health care, insurance coverage, client knowledge, transportation, partner or family input, and client-provider communication (Dehlendorf, Grumbach, Schmittiel, & Steinauer, 2017; Dehlendorf, Levy, Kelley, Grumbach, & Steinauer, 2013). Women do not always use contraception or the most effective method available to them (Kost, 2015; Mosher, Jones, & Abma, 2015). Research shows women are more likely to choose and continue a contraceptive method if educated about options, informed about methods, and are a part of the decision-making process (Dehlendorf, Kimport, Levy, & Steinauer, 2014; Langston, Rosario, & Westoff, 2010).

Contraceptive method popularity, use, and effectiveness rates have changed over the past five decades. Oral contraceptives have been available since 1960 and have remained the most popular hormonal contraceptive in the United States (Kavanaugh, Jerman, & Finer, 2015). Twenty-six percent of women using contraception choose oral contraceptives. Female sterilization ranks as the second most popular method at 25%, condoms use at 15%, intrauterine devices at 10% and male sterilization at 8%. Other options such as the patch, ring, or implant are used in less than 8% of women seeking contraception (Kavanaugh, Jerman, & Finer, 2015). Oral contraceptives, patches, vaginal rings, and condoms are referenced in the literature as short-acting reversible contraception and sub-dermal implants and intrauterine devices are known as

long-acting reversible contraception. The short-acting reversible methods are effective, but are considered less effective due to user error, inconsistent, incorrect, or non- use (Mosher, Jones, & Abma, 2015). Inconsistent or incorrect use of contraceptive method accounts for 41% of unintended pregnancies (Sonfield, Hasstedt, & Gold, 2014).

Four contraceptive methods are considered highly effective contraceptives: female sterilization, male sterilization, intrauterine devices, and sub dermal implants (ACOG, 2011). Sterilization has a place in family planning, but is not appropriate for clients under 21 years of age and women who are unsure of their desire for more children in the future. The long-acting reversible contraceptives (LARC), IUDs and implants, offer contraceptive effectiveness rate greater than 99% in preventing pregnancy, equal to or more effective than sterilization. Long-acting reversible methods are forgettable and do not require daily, weekly, or monthly user participation (Hubacher, Spector, Menteith, & Hart, 2017; McNicholas, Madden, Secura, & Peipert, 2014).

All contraceptive methods, excluding condoms, spermicides, and sponges, require consultation and prescription from a healthcare provider. Providers have a unique opportunity for contraceptive counseling and information sharing. Contraceptive choices, indications for use, and access have increased in the last twenty years, although most women and some providers are not aware of current methods available to them and use indications (Guida et al., 2014).

Intrauterine Device

Intrauterine Devices (IUDs) are the second most popular contraceptive method in the world, used by 14.3% of women worldwide, after sterilization (Buhling, Zite, Lotke, & Black, 2014; Joshi, Khadilkar, & Patel, 2015). IUD use varies by continent and region. In Asia, 18% of women of reproductive age use IUDs and over 40% in China alone (Joshi, Khadilkar, & Patel,

2015). North America accounts for 1% of total IUD use worldwide (Buhling, Zite, Lotke, & Black, 2014). IUDs are the most popular of long-acting reversible contraception in the United States, but continue to lag behind in popularity of oral contraceptives, female sterilization, and condoms (Mosher, Moreau, & Lantos, 2016).

In the last decade, there has been a significant increase in women choosing a long-acting reversible contraceptive use, both implants and IUDs. The overall rate has increased from 8.5% to 11.6% (Mosher, Moreau, & Lantos, 2016). IUDs have become more popular with women of all ages, have made the most significant contribution in the increase in long-acting reversible contraception, and have helped to decrease the unintended pregnancy rate (Mosher, Moreau, & Lantos, 2016). IUD rates increased from 7.7% to 10.3% among women desiring long acting reversible contraception (Kavanaugh, Jerman, & Finer, 2015; Mosher, Moreau, & Lantos, 2016).

The American College of Obstetricians and Gynecologists (ACOG) stated in 2011 that long acting reversible contraception, such as IUDs and sub-dermal implants, are the most effective form of reversible contraception available and are safe for most women seeking contraception. ACOG (2011) stated that long acting contraception should be considered for all women desiring long term contraception. Three years later, the American Academy of Pediatrics recommended long-acting reversible contraception as first-tier contraception for sexually active adolescents (AAP, 2014). In the past, IUDs were used in women who were married or in a monogamous relationship, previously given birth, and had been tested and treated, if indicated, for sexually transmitted infections. Current recommendations have replaced all of the previous guidelines, and contraindications, making IUDs a first line of contraception most women of childbearing age (ACOG, 2011; ACOG, 2016).

There are five IUDs available in the United States, the copper containing non-hormonal device (Paragard), levonorgestrel containing devices (Mirena and Liletta), and the smaller versions of Mirena (Skyla and Kyleena). Devices are active from three to ten years, depending on device, and are forgettable contraception. There is little to no room for user error or device failure. Few side effects are reported with the hormonal containing devices, with the most frequent side effect reported as irregular menses or spotting. Bleeding is often self-limiting or can be managed medically. Clients are more tolerant of the side effects of any method, if informed and aware of what to expect before starting a contraceptive method (ACOG, 2016; Mosher, Moreau, & Lantos, 2016).

There have been many barriers of cost, access, and education about long-acting reversible contraception in the past (Birgisson, Zhao, Secura, Madden, & Peipert, 2015; McNicholas, Madden, Secura, & Peipert, 2014). Most of these barriers have been removed with changes in health care coverage and user guidelines (Pace, Dusetzina, & Keating, 2016).

In 2007, a team of researchers at Washington University in St. Louis conducted a prospective cohort study of women ($n=9,256$) seeking contraception known. The study is known as Contraceptive CHOICE Project (McNicholas, Madden, Secura, & Peipert, 2014). Women were recruited from area family planning clinics and received in-depth counseling. Eligible women were offered the reversible contraceptive of their choice at no cost for two to three years, depending upon when they were enrolled. Women choosing IUDs or implants had insertion the same day. A negative urine pregnancy test was the only prerequisite for IUD or implant insertion (ACOG, 2011). Contraceptive effect was immediate with device insertion. Use of back-up for seven days post insertion was recommended as a safeguard. ACOG (2011)

recommends insertion at any time during the menstrual cycle, post-abortion, immediately after delivery or after four weeks postpartum.

A standardized counseling script was developed to provide accurate, up-to-date, and unbiased information on each method. The script described effectiveness, advantages, and disadvantages of each method. Researchers found women underestimated the effectiveness of long acting methods and 45% overestimated the effectiveness of oral contraceptives (McNicholas, Madden, Secura, & Peipert, 2014).

At the beginning of the Washington University study, fewer than 5% of women used LARC methods. When barriers (such as cost, access, and lack of knowledge) were removed, 75% of the CHOICE cohort chose a long-acting reversible contraceptive with 46% choosing levonorgestrel containing IUDs (Mirena, Liletta, Kyleena and Skyla), 12% non-hormonal copper IUD (Paragard), and 17% subdermal implant (Nexplanon). Long-acting reversible contraceptive users had a higher continuation rate over short-acting reversible method users at both 12 month and 24 month follow up (86% vs. 55% at 12 months, 77% vs. 41% at 24 months). The most common reason for discontinuation of an IUD was irregular bleeding and cramping. There was a 79% decrease in overall pregnancy rate in the CHOICE participants (McNicholas, Madden, Secura, & Peipert, 2014).

Dehlendorf, Park, Emermni, Comer, Vincett, & Borrero (2014) found that white women are more likely to use a highly effective contraceptive method (OR 0.65) when compared to black women (OR 0.49) and Hispanic women (OR 0.57). Women with incomes above 300% of the federal poverty level were more likely to use contraception, while sterilization was more prevalent in women at 150% and below the federal poverty level (Kavanaugh, Jerman, & Finer, 2015). Women with less than a college education, two or more children, 35 years of age or

older, living in a rural area, of a minority group, or report having public or private insurance are more likely to choose sterilization (Kavanaugh, Jerman, & Finer, 2015). IUD users were women with a high school education or above, at least one child, 25 to 34 years of age, and living in the western United States (Kavanaugh, Jerman, & Finer, 2015).

Many factors have changed in the last five years to increase access to IUDs for women. The Affordable Care Act and health insurance changes have helped women get health care and contraception at little or no cost. The popularity of long-acting reversible contraception has increased with clients through print, television advertising, social media, word of mouth, and information from healthcare providers. The majority of providers offering contraception are comfortable with the newer devices due to education by manufacturers and the updated recommendation by ACOG. Rubin, Davis, and McKee (2013) found approximately 18% of board certified women's health providers report not feeling comfortable with using or suggesting the long-acting methods. This could be due to training, education, or previous experiences with older IUDs. While the unintended pregnancy rate is declining, it is still at 45% in the United States. Gaps in provider and client education, attention to updates on policies and procedures, and client access to effective contraception need to be narrowed.

Provider Counseling

Women seek information from a variety of sources including friends, family, partner, social media, and healthcare providers (Donnelly, Foster, & Thompson, 2014). Not all information is correct, unbiased, or current. Healthcare providers continue to be the main source of reliable information, advice, and direction for contraception, and have the most influence in choice (Dehlendorf et al., 2017; Harper et al., 2013; Johnson, Pion, & Jennings, 2013).

Providers have a responsibility to give women complete, evidence-based, and health literate care

options. (Harper et al., 2013). Most clients want to participate in health care decisions, but desire provider input, information, and understanding of the options available to them (Chin-Quee, Janowitz & Otterness; Dehlendorf et al., 2016; Dehlendorf, Levy, Kelley, Grumbach, & Steinauer, 2013). Dehlendorf, Grumbach, Schmittidiel, & Steinauer (2017) found women reporting shared decision-making with their provider were more likely to be satisfied with contraceptive method, the family planning experience, and continue method. Clients report being provided information only did not help them reach a decision, but often helped reinforce what was discussed at the office visit. Providing up-to-date, user friendly, quality, evidence-based resources will improve outcomes, patient satisfaction, and continuation of method (Dehlendorf, Kimport, Levy, & Steinauer, 2014; Marshall, Nuru-Jeter, Guendelman, Mauldon, 2017).

Family planning differs from other health counseling due the intimate, sensitive, and personal nature of the subject. Women appreciate a close professional relationship with their provider based on mutual trust, and respect (Dehlendorf, Grumbach, Schmittidiel and Steinauer 2017; Zolnierek & DiMatteo, 2009). Relationship building increases communication, best fit, use, and continuation of method (Dehlendorf et al., 2016). Clients are more likely to listen to a provider with whom they have a relationship and will return to the provider if an issue arises (Zolnierek & DiMatteo, 2009).

Traditionally, most medical counseling tends to be task focused with providers giving information and specifics of a treatment plan. Interactions have historically been provider dominated, with clients having minimum input. Family planning research has demonstrated that if providers steer clients toward a method, over half of clients report being dissatisfied with both method and encounter with provider, leading to discontinuation of method (Johnson, Kim, &

Church, 2014). Client centered counseling improves patient satisfaction and continuation of method.

Clients and providers come to the appointment with different agendas and backgrounds. Multiple factors need to be considered for contraceptive choice: lifestyle, personal preference, partner input, and reproductive and personal goals. Research has shown age, race, ethnicity, education, income level, marital, and relationship status affect and influence contraceptive choice and risk for pregnancy (Kost, Finer, & Singh, 2012). A client's specific counseling needs and desires should be personalized, complete, accurate, and sensitive to client choice (Donnelly, Foster, & Thompson, 2014). Barriers (insurance coverage of method, transportation, and partner preference or opinion) need to be considered for best fit of choice (Donnelly, Foster, & Thompson, 2014). Relationship building, shared decision-making, anticipatory guidance, and evidence-based information help increase client use, continuation, and satisfaction (Dehlendorf, Krajewski, & Borrero, 2014).

Providers come from different backgrounds and specialties; therefore, providers may not be educated about contraception options and prescribing/use guidelines (Rubin, Davis & McKee, 2013). The American College of Obstetricians and Gynecologists (2011) recommended long acting reversible contraceptives as a first line contraceptive option for women of all ages, parity, and appropriate for most medical conditions. Three years later, The American Academy of Pediatrics recommended intrauterine devices and sub-dermal implants as first line prevention of pregnancy in sexually active adolescents (AAP, 2014). These recommendations are several years old, but their use is not reflected in practice settings. Long acting reversible contraceptives are increasing in use, but are used in less than a quarter of women using contraception (Rubin, Davis, & McKee, 2013). Providers have multiple tasks during a patient visit. Provider

education about contraceptive options, as well as access to resources and tools, can help clinicians counsel clients and provide best care options.

Adequate and evidence-based counseling is the key to providing family planning care and making every pregnancy wanted and intended. Contraceptive counseling aims to provide clients basic information to help the client to make an informed choice (Pazol, Zapapta, Tregear, Maeutone-Smith, & Garvin, 2015). Use of tools can aid clients and guide providers by offering explanation of qualities, risks, benefits, effectiveness, and contraindications of contraceptive methods. Research has shown that basic contraceptive counseling tools are more effective for clients than more complex tools (Steinauer, Trussell, Mehta, Condon, Subramaniam, & Bourne, 2006).

WHO DMT

In 2005, the World Health Organization and Johns Hopkins Bloomberg School of Public Health developed a family planning tool known as the Decision Making Tool for Family Planning. The tool's goal is to improve the quality of family planning counseling through information and guidance for clients and providers (WHO, 2005). The tool was developed for generic use and to be adapted for differences in language, culture, education level, populations, and available resources. The tool's design allows for use by professionals and laypersons trained in family planning through structured workshops and training manuals. Client education materials include exam room posters, flipcharts, and client education handouts. All materials are available through the World Health Organization and are no cost. The materials have been translated in 14 languages, written for limited health literacy, with simple diagrams and illustrations to aid in client education and understanding (WHO, 2005).

Several studies have used the Decision-Making Tool, but there is no published research using the tool in the United States. Kim, Kols, Martin, Silva, Rinehart, Prammawat, Johnson and Church (2005) used the WHO DMT in Mexico for contraceptive counseling. Thirteen providers participated and were videotaped while counseling family planning clients, three months before implementation of the tool and one month after implementation. Pre-intervention clients ($n=38$) were compared to post-intervention clients ($n=45$). After each consultation, a field researcher conducted an exit interview to collect demographic data and social history. The researchers found that providers using the tool gave clients more information, that the communication increased between provider and client, and that clients had increased understanding. The use of the flipchart improved accuracy of information and prompted providers to tailor information specific to the client. Clients sought more clarification, asked more questions, and expressed desire for a contraceptive method more often. The researchers analyzed decision-making, information given, eye contact, and usability and acceptability of the tool. The tool was found to improve the amount of information given, patient involvement, and support for informed decision-making.

Kim, Davila, Tellez, & Kols (2007) used the tool in Nicaragua to investigate impact on family planning communication. Fifty- nine providers were videotaped while counseling clients. A survey was given to pre-intervention clients ($n=210$) and post-intervention ($n=216$) to evaluate client contraceptive choices at one of 49 government health clinics. The results showed providers increased efforts to identify and meet client needs, especially new family planning clients, increased effort to involve clients, and provided more thorough client screening and education. Clients reported having improved understanding to make an informed decision for

contraceptive choice. The tool had more impact on less educated and new clients. Providers reported the flipchart a helpful to aid in client education.

Farrokh-Eslamlou, Aghlmand, Eslami, & Homer (2013) used the DMT in Iran to improve family planning processes and outcomes. The tool was implemented in 52 public health clinics in four areas of Iran. A pre- and post-intervention survey was conducted with providers ($n=78$), pre-intervention clients ($n=448$), and post-intervention clients ($n=547$). Data was collected by face-to-face observation, client-provider interaction, and exit interviews. The findings showed clients in the post-implementation group participated more actively in contraceptive selection. Providers gave clients more information and tailored to the individual. Increased provider-client communication (both verbal and nonverbal) positively impacted client choice of more effective methods, and increased the quality of the information provided to the client. Client satisfaction with family planning services increased from 72% to 99%.

A pilot study was conducted in Indonesia (2004) using the Decision Making Tool. The results of the study have not been published to date. Currently, a research team from the University of Pennsylvania is implementing the tool in Botswana. The study started three years ago; however, due to political and cultural challenges, has just recently started enrolling study participants.

Most family planning researchers develop their own education and outcome measurements tools. Differences in populations and cultures make having a universal tool and measurement difficult, if not, impossible. There was no standardized evaluation tool for the WHO DMT. The investigator contacted the WHO, Johns Hopkins Bloomberg School of Public Health, and researchers at the University of Pennsylvania, currently conducting a study using the WHO DMT in Botswana; no one knew of an outcome or evaluation tool.

Theoretical Framework

Ajzen's Theory of Planned Behavior (TPB, Appendix 1) provided guidance for this project. The Theory of Planned Behavior suggests that behavior is determined by intentions and/or attitudes (beliefs about a behavior or action), subjective norms (beliefs about other's attitudes toward a behavior), and perceived control (belief about one's own ability to perform the behavior). These three constructs make-up the theory (Ajzen, 2005). Individuals can make logical and reasoned decisions about a specific behavior by evaluating information available or presented to them.

The first construct is intention or attitude toward behavior. The individual has to decide if the behavior is either favorable or unfavorable, and that decision will lead to the consequences of the desired behavior change. In both the study and control groups, attitude and intention played a prominent role in the contraceptive decision. Some of the factors of influence were religious beliefs, age, relationship status, desire for children in the future, previous pregnancies, number of children, and desire for contraception.

The second construct, subjective norms include: social norms, social pressure, and outside influences on the client. Input from a parent, peer, or partner either assisted or deterred the client to choose a contraceptive method. For older teen (16-20 years old) participants, peer and partner played a large role. In younger teens, parents had more of a voice in contraceptive decision. Married or women who were cohabiting, were more likely to have partner input.

Perceived control and the perception of ease or difficulty of a task is the final construct. The more favorable the attitude and intention, support of social norms, and when the client perceives control, the more likely the intention to perform behavior.

Attitude of the client and the provider are both important for success. Both parties have personal beliefs, perceptions or attitude about contraceptive methods, outside influences, and goals. Social norms and perceptions carry a lot of weight and opinions or expectations from partner, family, friends, and healthcare providers can shape decisions. The performance of a behavior is determined by individual intention, influences of significant others, and the perception of control. The research shows a strong correlation between perceived control, behaviors, and follow through. (Ajzen, 2005).

Methods and Procedures

Sample

The pilot study was a randomized convenience sample between December 1, 2017 and March 1, 2018. The target population included females of childbearing age (12-50 years), desiring contraception, new or established clients, English or Spanish speaking, and consent to participate in the study. Exclusion criteria were females under 12 years or over 50 years of age, permanently sterilized, currently seeking a pregnancy, or declined study participation.

The study sample included an intervention group, and two control groups, each with 30 participants, totaling 90 subjects. The subjects in each group saw a different provider, all providers are board certified Women's Health nurse practitioners.

Group 1, the intervention group, used the WHO DMT for education and information on contraceptive methods. The provider for Group 1 performs all aspects of obstetric and gynecological care, including IUD and implant placement and removal. Group 2 was a control group using non-WHO materials for contraceptive education. The provider for Group 2 provides all aspects of care, including IUD and implant placement and removal. Group 3 was a second control group using non-WHO materials. The provider provides all aspects of care, except

procedures including IUD and implant placements or removals. Group 3 clients desiring a device are referred to the providers who perform procedures.

Setting

The project setting is an urban federally qualified community health center in the southeast United States. The health center provides primary and preventative services including primary care, pediatrics, women's health, and dental. The women's health area is composed of six exam rooms, three per provider. The three exam rooms used by the investigator were the only rooms with the WHO DMT materials.

The organization has eight different clinical sites around the city and provide care for homeless, refugee, and other vulnerable populations. The clinic serves all clients, without regard to the ability to pay, making healthcare accessible to all people. Fees are assessed by a sliding scale based on the federal poverty level guidelines. All nationalities, socioeconomic levels, insurance status, religions, sexual orientations, ages and languages are represented in the client base.

In 2016, women's health generated 6351 individual visit encounters, 2769 or 43.5% were family planning related. During that period, over 500 prescriptions were written for oral contraceptives and less than 200 clients were identified as IUD users.

Intervention

Most family planning researchers design their own data collection and measurement tools due to the unique properties and differences in populations. A pre-intervention retrospective chart review was conducted beginning December 1, 2017 and continued until March 1, 2018 to collect demographic data, sample characteristics, past and present contraception history, and facilitate assignment to provider group (Appendix 2).

The ORTHO Birth Control Satisfaction Assessment Tool was used to collect data at follow-up to assess patient satisfaction with contraceptive method. The ORTHO Assessment Tool was developed in 2004 for assessment of patient satisfaction with hormonal contraceptive methods: oral contraceptives, Depo-Provera, patches, and vaginal rings (Colwell, LoCoco, Karvois, Mathias, Cimms, & Friedman, 2004). The investigator contacted Dr. A. J. Friedman to obtain a copy of the tool, permission to use, and permission to adapt the tool for IUD use (Appendix 3). Only the last four questions were used due to being applicable to IUD use and client satisfaction. Data was collected from subjects choosing IUDs at a four week post-insertion follow up office visit for device placement and to address any problems. Clients choosing other contraceptives were contacted by phone call or office visit.

All subjects ($N=90$) were identified by chart number with no names or personal identifiers. Subjects were placed in group according to the provider seen, each group had 30 participants and data was filed accordingly. All paper copies of surveys and WHO DMT materials were in a locked file. Electronic data was entered into Statistical Package for the Social Sciences 25 (IBM, 2017) accessed by investigator only. All data is password protected on a secure server.

The implementation of the WHO tool began December 1, 2017. Exam rooms and materials were prepared with posters, flipchart, and printed material after clinic hours on November 30, 2017. Posters were placed on the wall near the exam table for clients to read while waiting for the provider. Patient charts were reviewed the day before office visit for collection of demographic data and preparation for visit.

Clients were asked about study participation and consent was obtained. Participants in the study group (Group 1) were seen in one of the exam rooms with the WHO DMT materials.

The WHO DMT group was provided with tangible, consistent information that was reinforced in three different ways; poster, flipchart, and printed education materials. During the first visit, the investigator asked a detailed sexual and contraceptive history, desire for continued contraception, preferred method, and future reproductive plan. The flipchart was used for client education to guide the discussion. The flipchart provided reminders to the provider for counseling clients. Printed take home materials were given to client matching the flipchart and poster.

If a client chose an IUD, a prescription was sent to the pharmacy and insertion was done at a follow up visit one to two weeks from decision to placement. At the return visit for insertion, clients were encouraged to ask any questions or concerns before device insertion. The two comparison groups (Group 2 and 3) used non-WHO materials for contraceptive education and clients were provided contraceptive method of choice. Each comparison group had equal numbers at the beginning of the study. The loss to follow-up was 14 subjects out of 90 participants or 15.5%. Two attempts by phone call were made to contact clients.

Instrument

The ORTHO Birth Control Satisfaction Assessment Tool (ORTHO BC-SAT) was used to guide questions on patient satisfaction after choosing a contraceptive method. The ORTHO BC-SAT consists of 13 questions for eight identified domains: Ease of use, Compliance, Lifestyle impact, Symptom/Side effect bother, Menstrual impact, Future fertility concerns, Assurance/Confidence, and Overall satisfaction (Colwell, Mathias, Cimms, Rothman, Friedman, & Patrick, 2006). All questions contributed information to the study, but only questions 10-13 directly related to satisfaction and were the only ones used. Each question is scored with a five to seven point Likert scale. The Likert scale items were categorized into dichotomous variables with 0=(1,2,3) “not satisfied” and 1=(4, 5, 6, 7) “satisfied”.

Evaluation Plan

Statistical analysis was completed under the guidance of Gwen Rinker, PhD. Data was analyzed with Statistical Package for the Social Sciences (Version 25 IBM, 2017). Statistical significance was defined a priori as $\alpha=.05$, two tailed. Comparisons of categorical data was analyzed using Chi-square for study questions one, two, and three. Continuous data was analyzed using paired t-tests for study question one.

Results

Demographics

Demographic and sample characteristics of Group 1 participants ($n=30$) and the comparison groups participants in Group 2 ($n=30$) and Group 3 ($n=30$), were analyzed using Chi-square for categorical variables and independent t-test for continuous variables. There were no statistically significant differences between the groups (Table 1). Comparisons of past and present contraceptive method of each group is listed in Table 2.

Question 1. Did the Implementation of the World Health Organization Decision Making Tool for Family Planning to increase selection of intrauterine devices?

Total number of intrauterine devices was compared between the number of women selecting IUDs before and after the intervention in both the study and control groups. A paired t-test was conducted to evaluate the impact of the WHO DMT on IUD selection/uptake (Table 3). There was a statistically significant increase in IUD use in the study group from Time 1 ($M=1.07$, $SD=.254$) to Time 2 ($M=1.63$, $SD=.49$), $t(-5.461)$, $p<.001$ (two-tailed). The mean increase in IUD use was $-.567$ with a 95% confidence interval ranging from $-.779$ to $-.354$. The eta squared statistic ($.51$) indicated a large effect size. The use of the WHO DMT had a statistically significant increase in IUD selection before and after the intervention.

Chi-square for independence was conducted to compare association between present IUD selection and information/tool use. Results show $\chi^2=4.887$ (1, $n=90$), $p=.027$, $phi=.254$. There was a significant association between present IUD selection and information/tool used for contraceptive education (Table 4). The findings indicate the WHO DMT information made a small to moderate difference with IUD selection.

Ten women had further questions after reading take home materials; all ten clients returned for device placement. Three of these women had chose oral contraceptives at initial office visit, but contacted the clinic to change methods. All three clients had the device placed and reported being satisfied at the four week post-insertion visit.

Question 2. Did provider make a difference in choice of contraception- focusing on intrauterine devices?

A Chi-square test for independence was conducted to compare association between the different provider groups and number of IUDs selected. The Chi-square indicated a significant association, $\chi^2= 31.02$ (2, $n=90$), $p<.001$, $phi=.587$. These findings indicate a large effect (Table 5). The subjects in Group 1 selected IUDs more than either control group.

A Chi square test for independence was conducted to compare association between the two control groups and number of IUDs selected. The Chi-square indicated no significant association between control groups, $\chi^2= .414$ (1, $n=90$), $p=.520$.

Results show a difference in provider between the study group and the control groups, but no difference between the two control groups.

Question 3. Did client satisfaction increase with contraceptive method use of the World Health Organization Decision Making Tool?

Chi-square tests for independence was conducted to compare association between the study group and several factors (happiness with contraceptive method, plan for continuation of method, recommendation to others, and overall satisfaction). There were no significant associations between client satisfaction and group membership (Table 6).

A Chi-square for independence was performed for individual provider seen and overall satisfaction with contraception and was found to have a significant association, $\chi^2=14.52$ (2, $n=90$), $p<.001$, $phi=.437$. The findings indicate that the provider a client sees can make a moderate difference in overall satisfaction with contraceptive method.

Ethical Considerations

The Internal Review Board from Bellarmine University approved the research study in November 2017 (Appendix 4). The health center approved the study in May 2017 (Appendix 5). Participation was voluntary and offered to all women meeting inclusion criteria. Subjects were asked for consent to participate and informed they could drop out at any time. Clients were provided with information on all methods of contraception, a copy of consent to participate in study, and the phone numbers to the committee chairperson, Dr. Ta’Neka Lindsay, and to the Bellarmine IRB (Appendix 6).

Coercion is a concern in family planning and contraception counseling. Clients have a choice of any contraceptive method they choose. Providers are not to judge, persuade, or withhold method a client chooses. For institutions receiving federal funds for family planning

(Title X), all contraceptive methods must be available at request. Failure to provide contraceptive methods can lead to loss of funding and/or fines.

Family planning has a set of regulations very different from the rest of medicine. Any client requesting contraception, regardless of age, can get services without parental consent. Parents or partners cannot force a method on a client. The choice of contraception is up to the individual. Providers often educate parents as well as clients about methods and their uses, risks, benefits, and alternatives.

Barriers

The main barrier was time with clients. Appointment and scheduling allows for 15 - minute visits throughout the clinic, walk-in or scheduled clients. Presenting the tool and counseling took an average of 12 minutes. Women seeking contraception for the first time took up to 30 minutes to educate on options and uses. Most women are eager to learn about contraception and family planning, but the materials worked best when tailored to individual client's desires and individual needs, and not the same for all women. Time management is essential for the WHO DMT to be of use and efficient. Printed materials readily available can help prepare for the office visit. During the study period, materials were not printed prior to visit due to communal office setting and to insure handouts were for Group 1 participants only. Upon completion of the study, materials will be pre-printed and available to any interested party. Eventually, video teaching will be available for exam room education using portable tablets and on a television monitor in the waiting room. Interpreters will record videos in Spanish. Due to lack of interpreter for all languages, only printed material will be available for some languages.

A few providers may not be open to new methods of teaching clients. This could be a barrier if the tool is adopted organization wide. During the study period, providers showed

interest in the materials and to implementation into their practice. All education information and representatives at the World Health Organization will be shared with anyone interested.

The pharmacy has been a barrier in the past. Before and during the study period, the investigator has worked closely with the pharmacy to ease workload for this project. A new process was initiated between pharmacy, nursing staff, and the provider. The director of pharmacy has been open to meeting, changing the process, and working with the investigator to improve the system.

Discussion

The most significant finding was the provider /study group and the information used when counseling clients made a difference on the outcome of increased IUD selection. Using the WHO DMT in clinical practice provided an opportunity to facilitate client-centered, consistent, current, and non-directive communication between the client and provider to make a choice about contraception. The tool was enthusiastically received by clients and the results show a trend toward more long-acting reversible contraceptive use, especially IUDs. Several clients had no previous knowledge of any of the long-acting reversible contraceptive methods, and if they did, they were not aware the methods were available to them.

The WHO DMT eliminated some of the provider bias. The tool is non-directive towards a specific method and presents all methods to the client, so she has access to information on all methods and can make the choice she is more likely to continue to use and able to achieve her reproductive goals. In the study group, women with a personal or reproductive plan or goal such as: joining the army, going to college, applying for graduate school, had fear of being deported or moving to another city, chose more long acting methods. Clients often stated that the IUD or implant gave them one less thing to worry about while settling into a new place or experience.

Group 1 clients commented often about liking the poster in the room and the take home material that matched what was presented. Individual providers use a variety for client education, which can vary greatly and be confusing to clients. Many of the pamphlets currently used are provided by pharmaceutical manufacturers and promote one method or another. Clients that see more than one provider may get confusing or conflicting information. The WHO DMT provides consistency.

Some of the weaknesses of the project include: provider resistance to change, bias about IUDs, and the time restraints with the WHO DMT. Some providers may not be interested in performing IUD or implant insertions, or some may have a bias or personal belief that does not support IUD use. Clients can always see a provider who does these procedures at the current or different clinical site. Time management is critical for successful use of the tool. Preparation of handouts and exam rooms before the client visit can decrease time educating the client. When the tablets and waiting room television for client education is complete, clients can be learning about contraception before the provider comes in for the visit.

Future studies need to be for longer a timeframe and follow clients at least two years. The investigator plans to follow the participants in Group 1 for 12 months, and Groups 2 and 3 assessed at annual exams. The long-acting reversible contraceptives became more popular and available in the last decade. Many women did not know about contraceptive options and opted for sterilization, bilateral tubal ligation continues to be the second most popular method of contraception. A future qualitative study to interview sterilized women and identify if sterilization would have been their choice, if long-acting reversible contraception had been available or discussed before the procedure.

Implication for Practice

Over a decade ago, international leaders in the field of family planning were consulted to develop a tool for educating clients about contraceptive options. The WHO DMT was developed in 2005 and continues to be used worldwide today. Use in the United States has not been evident in the literature. The United States continues to have an unintended pregnancy rate of 45%; the highest rate of a developed country. Multiple, effective contraceptive options are available to women at little or no cost. The gap appears to be education of both providers and clients about available contraceptive options and tools to aid in education.

The WHO DMT is available to all providers. The investigator will share information with the organization at the monthly provider staff meeting, which includes providers from all eight clinical sites within the organization. Presenting information of project findings could potentially increase the number of providers who offer family planning, training for internists and pediatricians could expand the target population and reach more women at risk for an unintended pregnancy. The investigator would like to present the study and the WHO DMT to the Louisville Metro Health and Wellness Program and the state family planning director for implementation to other facilities in the city and state. The tool could aid and educate providers and clients throughout the state, especially high- risk populations; rural areas, homeless women, refugees, and clients with limited health care access.

The current state of health care seems more uncertain than in the past decade. Insurance coverage and laws governing healthcare can change suddenly. Providing evidence-based, best practice guidelines, and effective options is one way to help clients be able to make the best choice for themselves and their families, present and plan for the future.

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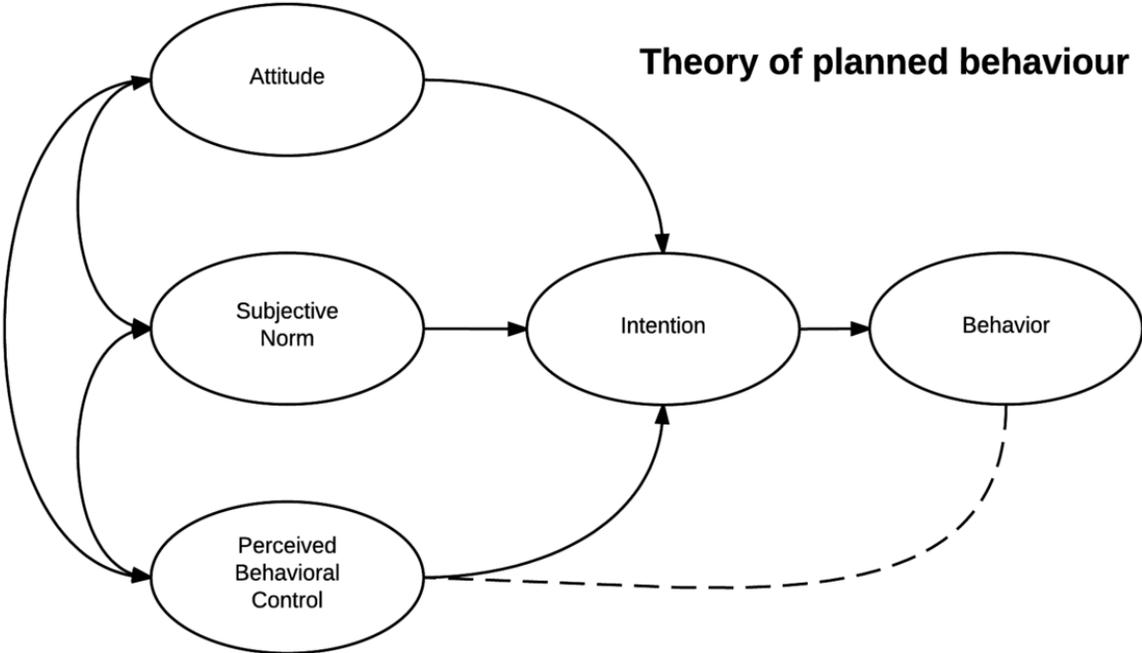
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Appendix 1



Appendix 2

To be obtained through chart and intake information by researcher

Demographic Data:

1. Age
2. Race
3. Ethnicity
4. Insurance Status
5. Employment Status
6. Education
7. Religious Preference
8. Sexual Orientation
9. Number of Pregnancies
10. Number of Live Births/Abortions-induced or spontaneous
11. Desire for children in future
12. Past Family Planning
13. Partner/Friend/ Family Input
14. Frequency of Intercourse
15. Medical Conditions
16. Relationship Status
17. New or Established Patient
18. Federal Poverty Level
19. Method Selected
20. Provider Seen

Appendix 3

ORTHO Birth Control Satisfaction Assessment Tool (Ortho BC-SAT)

In this section, we will be asking you questions about your current method of birth control. Please circle the one number for each answer that best describes you.

1. Birth Control is prescribed to be used on a specific schedule. How convenient or inconvenient is it for you to take your birth control exactly as directed?
 - a. Extremely convenient
 - b. Very convenient
 - c. Somewhat convenient
 - d. Neither convenient or inconvenient
 - e. Somewhat inconvenient
 - f. Very inconvenient
 - g. Extremely inconvenient
2. How easy or difficult is it for you to use your birth control exactly as directed (swallowing a pill, applying a patch, checking IUD strings, getting an injection)?
 - a. Extremely easy
 - b. Very easy
 - c. Somewhat easy
 - d. Neither easy or difficult
 - e. Somewhat difficult
 - f. Very difficult
 - g. Extremely difficult
3. How often do you forget to use or check your birth control exactly as directed?
 - a. None of the time
 - b. A little of the time
 - c. Some of the time
 - d. Most of the time
 - e. All of the time

4. How worried are you that you won't be able to get pregnant in the future, when you stop birth control?
 - a. Not worried at all
 - b. Somewhat worried
 - c. Very worried
 - d. Extremely worried
5. Have you been bothered by any side effects of birth control?
 - a. Breast tenderness
 - b. Feeling moody
 - c. Feeling irritated
 - d. Acne
 - e. Cramping
 - f. Irregular periods or spotting
 - g. Headaches
 - h. Bloating
 - i. Nausea
 - j. Weight gain
 - k. Hair loss or thinning
6. Some women have a period every month, while others experience it less often due to the method of birth control. How happy are you with the frequency of your period?
 - a. Extremely pleased
 - b. Very pleased
 - c. Somewhat pleased
 - d. Neither pleased or displeased
 - e. Somewhat displeased
 - f. Very displeased
 - g. Extremely displeased
7. Does your birth control help with these things? Circle all that apply.
 - a. Reduce menstrual pain
 - b. Lighten flow of your period
 - c. Reduce the number of days of your period

8. Do you have any side effects with your birth control?
 - a. Yes
 - b. Unsure
 - c. No
9. Do the side effects interfere with your daily life?
 - a. Yes
 - b. Unsure
 - c. No
10. Does your birth control interfere with your sex life?
 - a. Yes
 - b. Unsure
 - c. No
11. My sex life has become more spontaneous with my current birth control method.
 - a. Yes
 - b. Unsure
 - c. No
 - d. Not sexually active
12. I am happy with my birth control method.
 - a. Yes
 - b. Unsure
 - c. No
13. The advantages of my birth control outweigh the disadvantages.
 - a. Yes
 - b. Unsure
 - c. No
14. I have easily incorporated my birth control into my way of life and routine.
 - a. Yes
 - b. Unsure
 - c. No

15. My birth control interferes with my ability to participate in other activities Ex. Sports
- Yes
 - Unsure
 - No
16. My birth control is only known by those I choose to tell or show.
- Yes
 - No
17. I trust my body is receiving the right amount of hormone from my birth control.
- Yes
 - Unsure
 - No
18. I feel confident I am using the right birth control method for me.
- Yes
 - Unsure
 - No
19. I feel confident that my birth control is right for my partner(s) and me.
- Yes
 - Unsure
 - No
20. I am confident and pleased with my birth control method.
- Yes
 - Unsure
 - No
21. I feel secure that my birth control is working.
- Yes
 - Unsure
 - No

22. Would you recommend your current birth control to a friend or family member?
- Yes, definitely
 - Yes, probably
 - I am unsure
 - No, probably not
 - No, definitely not
23. How willing are you to continue your birth control?
- Extremely willing
 - Very willing
 - Somewhat willing
 - Not at all
 - No longer need birth control
24. Compared to other birth control methods you have used in the past, would you say...
- I am much more satisfied with my current method of birth control
 - I am somewhat more satisfied on my current birth control method
 - I am neither more satisfied or less satisfied
 - I am somewhat dissatisfied with my current method of birth control
 - I am much more dissatisfied with my current method of birth control
25. Overall, how satisfied are you with your birth control method?
- Extremely satisfied
 - Very satisfied
 - Somewhat satisfied
 - Neither satisfied or dissatisfied
 - Somewhat dissatisfied
 - Extremely dissatisfied

26. How helpful was your provider in helping choose a birth control method?
- Extremely helpful
 - Very helpful
 - Somewhat helpful
 - Neither helpful or unhelpful
 - Somewhat unhelpful
 - Extremely unhelpful
27. Did you find the information provided on birth control methods helpful?
- Extremely helpful
 - Very helpful
 - Somewhat helpful
 - Neither helpful or unhelpful
 - Somewhat unhelpful
 - Extremely unhelpful
28. Did you find the clinic helpful in providing you the birth control method of your choice?
- Yes, I got it that day
 - Yes, but I had to come back
 - Not sure what I want
 - No, the clinic did not provide what I wanted
 - No, I did not want a birth control method
29. Would you come back to the clinic or recommend the clinic to others?
- Yes, definitely
 - Probably
 - No

**Thank you for your participation in this survey. If you have any questions, please contact
Kim Anna at kanna@fhclou.org or 502-774-8631 ext.8594**

Appendix 4 IRB Approval

Institutional Review Board (IRB) received the submitted proposal, “Implementation of the World Health Organization Decision Making Tool for Increased IUD Use” and designated it #621. Approval was granted on November 21, 2017 after an expedited review and was approved under the category of “Collection of data through non-invasive means. The review period extends to November 21, 2018. The committee chair was notified by email from Frank Hutchins, Chair of the Bellarmine Institutional Review Board.

Appendix 5

**Consent to Participate in Research Study of World Health Organization
Decision Making Tool for Family Planning****Introduction:**

You are invited to participate in a research study. The study is using a tool and education materials to teach women about family planning and birth control methods. The World Health Organization developed information and a way to present it. The study is to see if the tool helps with family planning decisions.

This study is being done by Kim Anna at Family Health Center at Portland location. Bellarmine University School of Nursing is the sponsor. Dr. Ta’Neka Lindsay is the committee professor overseeing the study.

The study will be completed at the clinic during the time of the visit. A follow-up visit or phone call will be made in 4-12 weeks. There will be other people invited into the study. The study will take about 15 minutes to participate at a visit and follow up appointment or call.

Purpose and Background:

New techniques and tools are made in the health field every day. At Family Health Center, we are always looking at ways to best serve you. The tool being tested could be a help in teaching women about birth control and family planning options. A trial of the tool is needed to see if clients like it or it helps make decisions. Our best resources to find this information is our clients.

Procedures:

Clients will give consent or decline participation. The tool to be tested has three parts- an exam room poster, a flipchart, and handouts to take home. The entire teaching time is usually an average of 10-15 minutes in other studies using the tool. The tool will be used at the visit, while you are here. A follow up survey will be done at a later date. The researcher will gather information and comments from you. At any time, you can decide not to participate. You do not have to answer any particular question that makes you uncomfortable or which may render you prosecutable by law. All answers will be anonymous and confidential.

Risks/ Benefits:

If questions are too sensitive, they may produce discomfort.

There are no other foreseeable risks.

The data collected in this study may not benefit you directly. However, the information learned in this research may be helpful to others in the future.

Confidentiality:

Absolute confidentiality cannot be guaranteed. All data will be held in confidence to the extent permitted by law. If the data is published, the subject’s identity will not be revealed. All information will be gathered and kept in a secure, private and locked file cabinet- only accessible by researcher.

Voluntary Participation:

Participation is voluntary. Clients may refuse or withdraw at any time without any penalty or losing any benefits to which you are entitled.

Rights as a Research Subject:

If you have any questions about your rights as a research subject, you may call the Institutional Review Board at Bellarmine at 502-272-7963. You will be given the opportunity to discuss any question about your rights as a research subject, in confidence with a member of the Board. This

is an independent committee composed of members of the University community and lay members of the community not connected with this institution. The Board has reviewed this study. Kim Anna is the primary investigator and can be reached at 502-774-8631 ext. 8594 or at kanna@fhclou.org

Acknowledgement of Consent and Signatures:

Clients acknowledge giving consent and returning the completed survey, subject acknowledges participation.

Potential Conflict of Interest:

The researcher is part of a program of study and is not being compensated for the study or your participation. The researcher is studying the tool and outcomes and will be not direct or persuade clients into a family planning method- the survey is for information only.

Family Health Center, Bellarmine University, nor the individual researcher will not directly benefit from the study. The study will add to the knowledge about teaching methods and may give better ways and tools to teach and provide better care.

X _____
Client

Date _____

X _____
Investigator

Date _____

Appendix 6

Family Health Centers, Inc. Request to Conduct Research (rev. 04.04.12)

Name of Principle Investigator: Kim Anna

Name of Student (if not principle investigator): _____

E-mail Address: kanna@FHC.Louisville.org

Phone Number(s): 502-241-5784 Home / 502-609-4455 cell

Mailing Address: 200 Maple Ave Pewee Valley, KY 40056

School: Bellarmine University

Faculty Advisor or Instructor: Dr. Ta'Neke Lindsay

Beginning Date: Sept 1, 2017 Completion Date: December 1, 2017 Data written/complete 7/1/18

Are you and FHC employee? Yes No If so, what department? Women's Health

Where will the research be conducted?: Women's Health Portland location

Name of Project: Implementing World Health Organization Decision Making Tool for Family Planning

Brief Description of Proposed Research (attach additional information if needed): see attached

* Marshall versus - can use of the WHO tool change use of IUD use to decrease unintended pregnancies? And to see what methods most commonly used.

Does your school require you to submit the project to an Institutional Review Board? yes

Are you requesting Family Health Centers to provide you access to Protected Health Information? yes

Will you be asking your subjects to sign consent forms? yes

If this study does not require an IRB, I understand that any use of FHC data or study results outside of the class in which the student is enrolled requires the written permission of FHC.

Signature: Kim Anna Date: 3/14/17

Other information may be requested based upon the responses presented on this form. Please return to Bart Irwin, PhD, Family Health Centers, Inc., 2215 Portland Avenue, Louisville, Kentucky 40212 Phone: 502.772.8558

Approval:

William B. Wagner William B. Wagner, Chief Executive Officer
Date: 5/8/17

James Jackson, M.D. James Jackson, M.D., Chief Medical Officer
Date: 5-5-17

Appendix 7

SWOT Analysis

<p style="text-align: center;">Strengths</p> <p>Comprehensive, proven counseling</p> <p>International use</p> <p>User friendly</p> <p>Unbiased</p>	<p style="text-align: center;">Weaknesses</p> <p>Time consuming</p> <p>Requires provider training on tool</p> <p>Patient resistance</p> <p>May not be accepted at organization</p>
<p style="text-align: center;">Opportunities</p> <p>Better counseling = Better Outcomes</p> <p>Increase of highly effective contraception</p> <p>Decreased unintended pregnancy rates</p> <p>Increase use in US</p>	<p style="text-align: center;">Threats</p> <p>Not widely used in US</p> <p>Resistance- providers and clients</p>

Appendix 8

Budget

DNP Donated Hours	\$10,000
Program and Tools	\$0
Other Staff	\$400
Office Supplies	\$700
Statistician	\$300
SPSS 24 subscription	\$85
Office Space	\$0
Total	\$11,485

Appendix 9

Gantt Chart

Task	Semester Timeline							
	Summer 16	Fall 16	Spring 17	Summer 17	Fall 17	Spring 18	Summer 18	
Identify DNP Committee chairman • Dr. Ta’Neka Lindsay	Complete 7/16							
Select DNP Project Members • Dr. Kathy Hager • Dr. Joy Monsma	Complete 2/17							
Meet with Committee Members Discuss Proposal	Met individually							
Revision of Proposal	Pending							
Obtain Approval for Project	Pending							
IRB Approval Bellarmine University	Pending							
IRB Approval Family Health Center	Complete 5/17							
Retrospective Chart Review				Pending				
Educate staff WHO DMT				Pending				
Implement Data Collection Questionnaire (12/1-3/1)					Pending			
Follow Up Data Collection						Pending		
Update Committee Members		Ongoing						
Analyze Data with Statistician						Pending		
Finalize Draft to DNP Committee						Pending		
Present Findings with Staff at FHC						Pending		
Final DNP Presentation						Pending		

Appendix 10

Stakeholders/Key Personnel

Providers

Nursing

Medical Assistants

Scheduling/Front Desk

Billing/Accounting

Administration

Health Educators

Pharmacy staff

Clients

Insurers

Taxpayers

Community

Society as a whole

Table 1

Demographics Characteristics of Sample

Variable	Group1 Study Group	Group2 Control A	Group3 Control B	Total Population
Age in years/SD <i>Range 12-50</i>	28 (8.66) 16-48 yrs	27.9 (7.27) 15-41 yrs	31.8 (7.70) 19-45 yrs	29.16 yrs(SD 8.03)
Race				
<i>Caucasian</i>	10 (33%)	11 (37%)	12 (40%)	33 (37%)
<i>Black</i>	13 (43%)	13 (43%)	12 (40%)	38 (42%)
<i>Other</i>	7 (23%)	6 (20%)	6 (20%)	19 (21%)
Income Median <i>Range 0-95,000</i>	10,937 0-95,000	14,970 0-91,000	8688 0-83,000	11,531 0-95,000
Insurance				
<i>None</i>	8 (27%)	5 (17%)	4 (13%)	17 (19%)
<i>Public</i>	18 (60%)	18 (60%)	21 (70%)	57 (63%)
<i>Private</i>	4(13%)	7 (23%)	5 (17%)	16 (18%)
Percent Poverty/Median <i>Range 0-450%</i>	53%*FPL 0-450%	73%*FPL 0-450%	42%* FPL 0-404%	56% *FPL
Menarche <i>Range 9-16</i>	12.5 yrs 10-16 yrs	12.07 yrs 9-15 yrs	12.43 yrs 10-16 yrs	12.33 (SD 1.36)
Relationship				
<i>Single</i>	7 (23%))	9 (30%)	7 (23%)	23 (26%)
<i>Cohabitate</i>	12 (40%)	12 (40%)	14 (47%)	38 (42%)
<i>Married</i>	11 (37%)	9 (30%)	9 (30%)	29 (32%)
Age of first sex <i>Range 12-25 yrs</i>	15 12-24 yrs	17 13-25 yrs	14 12-25 yrs	15.6 yrs

Frequency of sex				
<i>Daily</i>	1 (3%)	1 (3%)	2 (7%)	4 (5%)
<i>Weekly</i>	18 (60%)	17 (57%)	23 (77%)	58 (64%)
<i>Monthly</i>	5 (17%)	1 (3%)	4 (13%)	10 (11%)
<i>Less than monthly</i>	6 (20%)	11 (37%)	1 (3%)	18 (20%)
Number of Pregnancies				
<i>None</i>	5 (17%)	13 (43%)	10 (33%)	28
<i>One</i>	6 (20%)	3 (10%)	5 (17%)	14
<i>Two</i>	7 (23%)	1 (3%)	6 (20%)	14
<i>Three</i>	7 (23%)	7 (23%)	4 (13%)	18
<i>Four or more</i>	5 (17%)	6 (20%)	5 (17%)	16
Number of Children				
<i>None</i>	7 (23%)	14 (47%)	12 (40%)	33
<i>One</i>	1 (10%)	2 (7%)	4 (13%)	7
<i>Two</i>	5 (17%)	5 (17%)	9 (30%)	19
<i>Three</i>	7 (23%)	5 (17%)	3 (10%)	15
<i>Four or more</i>	1 (3%)	4 (13%)	2 (7%)	7
Religion				
<i>None</i>	13 (43%)	19 (63%)	20 (67%)	52 (58%)
<i>Christian</i>	8 (27%)	3 (10%)	5 (17%)	16 (18%)
<i>Catholic</i>	7 (23%)	5 (17%)	4 (13%)	16 (18%)
<i>Muslim</i>	2 (7%)	2 (7%)	1 (3%)	5 (6%)
<i>Other</i>	0 (0%)	1 (3%)	0 (0%)	1 (1%)
Education				
<i>Less than HS</i>	6 (20%)	4 (13%)	1 (3%)	11 (12%)
<i>HS grad</i>	17 (57%)	21 (70%)	24 (80%)	62 (69%)
<i>Some college</i>	2 (7%)	1 (3%)	3 (10%)	6 (7%)
<i>College grad</i>	4 (13%)	3 (10%)	2 (7%)	9 (10%)
<i>More than college</i>	1 (3%)	1 (3%)	0 (0%)	2 (2%)
Transportation				
<i>Own car</i>	20 (67%)	23 (77%)	22 (73%)	65 (72%)
<i>Public</i>	5 (17%)	4 (13%)	6 (20%)	15 (17%)
<i>Walk or friend</i>	5 (17%)	3 (10%)	2 (7%)	10 (11%)
Patient Status				
<i>New</i>	2 (7%)	3 (10%)	4 (13%)	9 (10%)
<i>Established</i>	28 (93%)	27 (90%)	26 (87%)	81 (90%)

*FPL- Federal Poverty Level

Table 2

Contraceptive Methods Comparison between Groups Pre and Post Intervention

Group	BCM	Past Frequency	Past Percent	Present Frequency	Present Percent
Group 1 Study	Pills	13	43.3	2	6.7
	Depo Provera	4	13.3	1	3.3
	Condoms	6	20.0	1	3.3
	Vaginal Ring	1	3.3	1	3.3
	IUD	2	6.7	19	63.3
	Implant	4	13.3	6	20.0
	Total	30	100.0	30	100.0
Group 2 Control A	Pills	8	26.7	8	26.7
	Depo Provera	8	26.7	13	43.3
	Condoms	11	36.7	5	16.7
	Patch	1	3.3	1	3.3
	IUD	1	3.3	2	6.7
	Implant	1	3.3	1	3.3
	Total	30	100.0	30	100.0
Group 3 Control B	Pills	17	56.7	17	56.7
	Depo Provera	2	6.7	4	13.3
	Condoms	6	20.0	4	13.3
	Patch	1	3.3	2	6.7
	IUD	3	10.0	2	6.7
	Implant	1	3.3	1	3.3
	Total	30	100.0	30	100.0

Table 3

Hypothesis 1: The WHO DMT will increase IUD use.

Dependent variable- IUD use

Independent variable- WHO DMT

Comparison of IUD Use Rates Before and After Implementation of WHO DMT

Groups N=90	Previous IUD M (SD)	Present IUD M (SD)	t- value	Significance p-value
Group 1/Study (n=30)	1.07 (.254)	1.63 (.490)	-5.461(29)	.000
Group 2/Control (n=30)	1.00 (.000)	1.07 (.254)	-1.439(29)	.161
Group 3/Control (n=30)	1.10 (.305)	1.10 (.305)	.000(29)	1.000

Paired t-test

Confidence Interval 95%

Table 4

WHO DMT/IUD

Variable	χ^2	df	p-value	phi
Tool/IUD	4.887	1	.027	.254

Chi-square for independence

Table 5

Hypothesis 2: There will be a difference in IUD use between providers groups using the WHO DMT.

Dependent variable- IUD use

Independent variable- provider group

Variable	χ^2	df	<i>p</i> -value	<i>Phi</i>
Provider/IUD	31.023	2	<i>p</i> =<.001	.587
IUD/Control	4.14	1	<i>p</i> =.520	-.126

Chi-Square for Independence

Table 6

Hypothesis 3: There is a difference in patient satisfaction with birth control method between the group/WHO DMT use.

Dependent variable- Patient satisfaction

Independent variable- Group/WHO DMT

Client Satisfaction

Variable	χ^2	df	<i>p</i> -value	<i>phi</i>
Happy with BCM	.155	1	.694	-.045
Advantages /Disadvantages	.760	1	.383	.10
Recommend to others	.262	1	.609	-.162
Continue method	.458	1	.499	.078
Information Helpful	33.4	1	.000	.609
Provider Helpful	9.972	1	.002	.362
Overall Satisfaction	19.484	1	.002	.465

Chi-Square for Independence