Exploring Trends in Intrauterine Device (IUD) Usage Among Women in the United States: A Literature Review

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Abstract

Intrauterine devices (IUDs) have not been popular contraceptives in the US for the past 40 years. Recent evidence, however, has shown a slight rebirth in use, from a rate of approximately 2% in 2002 to over 5% in 2008 (Guttmacher Institute, 2010). Empirical evidence is favorable of IUD use in most women, but the still-low usage rate suggests practice has not caught up with theory. A literature review was conducted to explore and synthesize current trends of IUD use in the US. Factors associated with likelihood of use are country of origin, age, provider attitudes and training, and setting in which an IUD is sought. Lack of knowledge of potential users is also considered a barrier to the perpetuation of IUD use.

Health educators can increase IUD knowledge and awareness among providers and potential users through programs that target cognitive and affective domains of learning. In addition, health educators can play a role in IUD insertion training programs. Health educators can use social marketing principles to create public awareness of the safety and efficacy of IUDs, bridging the gap that still exists between the promotion of IUDs in the scientific literature and the continued negative perception among the general population.

Introduction

In 2002 only 2% of women living in the US were using IUDs (Mosher, Martinez, Chandra, Abma, & Wilson 2004; Thompson, Foster, & Harper, 2011). Recent literature, however, has shown a slight increase in usage to approximately 5.5% (Guttmacher Institute, 2010). Scientific evidence supports use of ParaGard®, the non-hormonal IUD comprised of mostly copper, and Mirena®, the progestin-only IUD also referred to as the LNG-IUS, in most women (Planned Parenthood, 2012). For example, two separate research studies further promoting IUDs were published recently. A systemic literature review of IUDs as emergency contraception (EC) over the past 35 years concluded ParaGard® to be a more effective form of EC than Plan B® (Cleland, Zhu, Goldstuck, Cheng, & Trussell, 2012). Another study published in the *New England Journal of Medicine* showed oral contraceptive pills to be inferior to

long-acting reversible contraceptives, such as IUDs and implants, for women, including adolescents (Winner et al., 2012).

Even with the slight recent rise in use and endorsement in scientific literature, IUDs are used less frequently than other forms of reversible contraception (Guttmacher Institute, 2010; Xu et al. 2011). The purpose of this article is to explore factors that influence IUD use patterns, with a specific focus on potential users and providers, and offer recommendations for health education practitioners.

Methods

Although this review is presented in a narrative format, deliberate search methods were employed. A combination of key words "IUD", "IUC", "IUD use in the United States", and "IUD or IUC and United States" were searched in databases Pubmed, Google Scholar, Popline, Health Source: Nursing Academic, and Academic Search Complete. Although priority was given to the most recent research (articles since 2006 were used for this study) this review contains three sources that are approximately a decade old. Articles from Cheng (2000), Forrest (1996), and Stanwood et al. (2002) were included due to their continued significance in literature on IUDs. Many of the current sources in this reference list also cite these older articles. For example, Tyler et al. (2012), Xu (2012), Xu (2011), and Yen (2012) cited Stanwood et al. (2002). In addition, Rubin (2010) and Thompson (2011) cited Forrest (1996) and Stanwood et al. (2002).

Characteristics of IUD Use and Non-Use Based on Literature Review

IUD Users are More Likely to be Born Outside the United States

A California study showed an increase in IUD use from 1997-2007 primarily among women born outside the US (Thompson et al., 2011). This study supports the claim that IUDs are the most popular reversible method of birth control, being used by over 100 million women worldwide (Hatcher et al., 2007). Xu et al., (2011) found IUD use to be more popular among women of Hispanic origin. These findings are consistent with research conducted over ten years prior that showed Hispanic women and women born outside the U.S. held more favorable opinions towards IUDs. This evidence may be reflective of the negative reputation left on IUDs in the United States after the Dalkon Shield caused serious health problems in some of its users in the 1970s (Xu, Macaluso, Ouyang, Kulczycki, & Grosse, 2012). Those who were not born or who were not living in the United States during this time likely may have more positive feelings about the device (Forrest, 1996).

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More Affluent Women are More Likely to Use IUDs

Xu et al., (2011) found IUD users had higher family incomes, reported some college education, had private insurance, full-time jobs, and mothers with some college education. "The concentration of the increase in IUD use among relatively affluent women may reflect a tendency for more affluent people to be the first to take advantage of new health technologies," (p. 1142). This claim is supported by the diffusion of innovation theory, which states early adopters of a new innovation (in this case the revival of IUD use in the US) are commonly affluent individuals (Glanz, Rimer, & Lewis, 2002).

The Youngest Women of Reproductive Age and Nulliparous Women are not Likely to Use IUDs

Thompson et al. (2011) and Xu et al., (2012) showed IUD use being highest among women ages 25-34 and lowest among ages 15-24. Studies that tracked patterns in IUD use have shown increased usage to be slowest in women 15-24 (Thompson et al., 2011; Xu et al., 2011; Xu et al., 2012). Although patterns show low usage rates in younger women, research has suggested IUDs to be viable contraceptives for adolescent and nulliparous women (women who have never produced a live birth) (American Congress of Obstetricians and Gynecologists [ACOG], 2012; Harper et al., 2008; Tyler et al., 2012).

"Nulliparous women in need of effective contraception represent a significant proportion of the United States population," (Tyler et al., 2012, p. 763). According to guidelines established by the World Health Organization (WHO) and American Congress of Obstetricians and Gynecologists (ACOG), nulliparity is not a contraindication to IUD use. In fact, these leading reproductive health organizations recommend use of long-term methods, including IUDs, to this population (ACOG, 2012; WHO, 2008). Despite the scientific documentation on the safety and effectiveness of IUDs, some clinicians still have reservations about inserting the device in nulliparous and adolescent women (Tyler et al., 2012). For example, Harper et al., (2008) found restrictions providers had on candidate eligibility. Less than half of providers considered nulliparous women, teenage females, HIV-positive women, postpartum (immediate), or postabortion (immediate) women to be suitable candidates for IUDs, despite that these conditions are not contraindications according WHO eligibility criteria (WHO, 2008).

Of the nulliparous women who choose IUDs, discontinuation rates are fairly low and satisfaction rates are high (Society of Family Planning, 2012; Tyler et al., 2012). One reason for discontinuation in younger populations, however, is increased menstrual bleeding. Since ParaGard® is linked to increased menstrual bleeding, while Mirena® is approved by the United States Food and Drug Administration (FDA) to treat that very condition, the LNG-IUS may be a better choice for younger women (Society of Family Planning, 2010; Yen, Saah, Adams Hillard, 2010). Therefore, it is recommended that practitioners inform young patients of potential bleeding and pain that may accompany IUD insertion and post-insertion, as well as the possibility of expulsion in nulliparous patients (Yen et al., 2010).

The ACOG recommends IUDs as a viable form of long-term reversible contraceptive for young women (ACOG, 2012). In addition, WHO eligibility criteria imply benefits outweigh risks of IUD use for young women (WHO, 2008). Studies also suggest IUDs could be particularly successful among adolescents, as this population has higher success rates with longer-term methods of contraception (Deans & Grimes, 2009; Winner et al., 2012).

Since adolescents are likely to have different family planning needs than older women, IUDs may or may not be an appropriate match for some teenagers. Adolescents are among the highest risk group for sexually transmitted infections (STIs). Therefore, consistent, correct condom use is recommended for women (and their partners) at risk for STIs even if another method is used concurrently for contraception (Centers for Disease Control and Prevention (CDC), 2008). And even though prevalence of side effects is relatively low, "young women may have more problems with their IUDs than adults," (Teal & Sheeder, 2012, p. 273). A specific problem cited in the literature perhaps causing apprehension in providers is the slightly higher expulsion rate in adolescents and nulliparous women (Hatcher et al., 2007; Hubacher, 2007; Teal & Sheeder, 2012).

Expulsion is essentially a "falling out" of the device. When an IUD expels, a woman may experience "unusual vaginal discharge, cramping or pain, inter-menstrual spotting, postcoital spotting, dyspareunia (painful intercourse) for the man or the woman, absence or lengthening of the IUD string, and the presence of the hard plastic of the IUD at the cervical os or in the vagina" (Hatcher et al., 2007, p. 124). Many women, however, do not detect the expulsion (Hatcher et al., 2007). The main concern from IUD expulsion is the resulting risk for unintended pregnancy. This risk is of particular concern for adolescent women, as unintended pregnancy can interfere with the achievement of long-term professional and personal goals (Yen et al., 2010). As long as a woman promptly seeks medical treatment following an expulsion, risk of unwanted pregnancy and overall health will not be adversely affected (Hatcher et al.: Hubacher, 2007).

The expulsion rate of current IUDs is slightly higher in nulliparous and adolescent women. Hatcher et al., (2007) reported a rate of 2 -10% in the first year of use. Teal & Sheeder (2012) observed an expulsion rate of 14.2% in their adolescent sample, compared to an average expulsion rate of 4.2% in parous women (Society of Family Planning, 2012). The majority of expulsions, however, occur within the first 3 months of use (Hatcher et al., 2007). For women who get IUDs post-partum, the risk for expulsion has been narrowed to between 10 minutes and 48 hours after delivery. Therefore, as long as a provider inserts the IUD immediately after delivery of the placenta or waits over 48 hours post-delivery, expulsion rates greatly decrease (Pathfinder International, 2008).

Provider Insertion Training is Varied

Inserter competence affects the risk for expulsion and other potential complications (Contraceptive Technology and Reproductive Health Series, n.d.; Gruber, Rabinerson, Kaplan, Pardo, & Neri, 1996). Provider insertion training is varied (Cabiya, Cowett, and Harwood, 2008; Cheng, 2000; Harper, 2008; Stanwood, Garrett, & Konrad, 2002). "A 1998 survey

of Maryland family practice (FP) and ob/gyn (OB) residents in their final 3 months of training revealed that 50% of FP residents and 20% of OB residents did no IUD insertions during their training. In addition, none of the FP residents and only 20% of OB residents did more than 10 IUD insertions during their training. This finding is similar to national results that indicate 66% of FP residents never inserted an IUD and only 6% managed ≥ 10 cases. Among OB residents, 38% never inserted an IUD while 29% managed ≥10 cases." Providers not trained in IUD insertion will be less likely to recommend IUDs to their patients. Conversely, with fewer women using the IUD, there will be less opportunity for training in IUD insertion for providers (Cheng, 2000, p. 862-863).

According to Harper et al. (2008), although the majority of Obstetrics/Gynecology (OBGYN) physicians stated they were trained to insert IUDs during residency, only 74% of OBGYNs stated they offer IUDs in their practice. The study also showed a lack of general IUD training, with 32% of general physicians (i.e. non-OBGYN specialized) stating they did not receive training on IUD insertion. Therefore, it may not come as a surprise only 43% of non-OBGYN physicians reported they provide intrauterine contraception at their practices (Harper et al., 2008).

Stanwood et al., (2002), found, "younger and more recent graduates inserted more IUDs" (p. 277). This finding alludes to the impact of the Dalkon Shield, a US brand of IUD in the 1970s that was quickly shown to cause serious health problems in women, including infertility. It was removed from the market, and the company was sued. Remaining brands were also taken off the market, and no IUDs were sold in the US for several years in the 1980s (Harper, 2008; Thompson et al., 2011). Doctors who were in practice during the Dalkon Shield controversy and litigation inserted fewer IUDs (Stanwood et al., 2002). This finding aligns with Harper et al. (2008) who states that although the Dalkon Shield event happened years ago, it "continues to influence providers' perceptions of intrauterine contraception" (p. 1360). "Respondents aged 31-45 inserted a median of 5 IUDs, those aged 46 - 55 inserted a median of 4, and those aged 56-73 inserted a median of 3" (p. 277). Harper et al., (2008) found providers with more IUD training were 1.6 times more likely to counsel patients about the device. But as the number of female patients for a provider increased, likelihood of counseling decreased. According to Harper et al., (2008) this relationship may be due to time constraints on the part of the clinician.

Cabiya, Cowett, and Harwood (2008) surveyed students of OBGYN programs regarding their knowledge and attitudes towards IUDs. This study found a majority of 87.2% of respondents felt confident in their ability to accurately insert IUDs. The study also found 95% of senior residents held positive attitudes towards providing IUDs. Over 96% of residents stated they intend to offer IUDs in their eventual practice. Therefore, this study implies the next generation of providers may be more likely to insert IUDs (Cabiya et al., 2008).

IUD Use is Influenced by Monetary Cost and Insurance Coverage

According to Garipey, Simon, Patel, Creinin, and Schwarz (2011), women with insurance are more likely to use IUDs. Specifically, if they have an out-of-pocket expense less than

\$50. This study concluded, "High out-of-pocket expense was highly associated with failure to obtain an IUD" (p. e41). Although initial cost of IUDs can be expensive, Trussell (2008) conducted a study exploring the cost-effectiveness of 17 contraceptives over a 5-year period. The three least expensive methods over this span of time were the copper-TIUD (ParaGard®), vasectomy, and LNG-20 IUS (Mirena®) respectively.

The recent Affordable Care Act includes IUDs and all other contraceptives under preventative services completely covered by the legislation (U.S. Department of Health and Human Services, n.d.) This legislation is being implemented piecemeal, with contraception to be "covered with no costsharing in plan years starting on or after August 1, 2012" (U.S. Department of Health and Human Services, n.d.,). Thus the impacts of this legislation on IUD use rates are yet to be seen.

Women May Have Varied Access to IUDs Depending on Where They Go for Services

Attitudes about IUDs vary between office-based providers and Title X providers (i.e. clinics that participate in the federal grant program for family planning services). Tyler et al., (2012) found providers at Title X clinics to hold fewer misconceptions about the safety of IUD use in nulliparous patients. Office-based providers, however, were less likely to provide ParaGard® to nulliparous women. Further, Tyler et al., (2012) found that out of their sample of office-based versus Title X clinic-based providers, approximately 30% of respondents held misconceptions about the safety of IUDs for nulliparous women. Providers who were the most likely to have misconceptions practiced in office-based settings, did not have training in interval insertion of the copper IUD, and completed their medical program at least 25 years prior to participation in the study (Tyler et al., 2012). These findings are aligned with Cabiya et al., (2008), Harper et al., (2008), and Stanwood et al., (2002) in their implications that increased awareness and training may lead to higher IUD usage rates among younger women. Therefore, based on the difference in provider attitudes alone, nulliparous women seeking the ParaGard® may have a better chance of getting one inserted at a Title X clinic (Tyler et al., 2012).

Availability varies between the two types of IUDs. *Morbidity and Mortality Weekly Report (MMWR)* compared availability of contraceptives at office-based physicians and Title X-funded clinics. This study reported Mirena® was available either on-site or via prescription at 72.6% of office-based physicians and 56.2% of Title X clinics. ParaGard® was available either on-site or via prescription at 69.3% of office-based physicians and 67.1% of Title X clinics. These percentages are compared to oral contraceptives, which were available either on-site or via prescription at 99.2% of office-based physicians and 96% of Title X clinics (CDC, 2011).

A study by Xu et al., (2012) conducted a retrospective data analysis exploring trends in IUD use rates from 2002-2008. The study found Mirena® accounted for 84% of the IUD usage increase in women with employer-supported insurance, while ParaGard® use increased more modestly in these six years. In 2001, only one year after being first offered in the US, Mirena® "accounted for 37% of all IUDs inserted among women with employer-supported insurance" (Xu et al., 2012, p. 158).

According to the authors, one reason for the disproportionate increase in Mirena® use over ParaGard® may be due to the non-contraceptive benefits of Mirena® to treat menorrhagia. This claim is somewhat misguided, however, because the FDA did not approve Mirena® for use to treat menstrual bleeding until 2009. By then, Mirena® was already well in the lead over ParaGard® (United States Food and Drug Administration, 2009). Provider recommendation could be accountable for the popularity of one type over the other, since studies have shown advice from a clinician to be influential on the contraceptive chosen (Hubacher, 2002; Stanwood et al., 2002; Xu et al., 2011).

Unique benefits of the ParaGard® should not go overlooked. According to Planned Parenthood, ParaGard® provides hormone-free, highly effective protection against unwanted pregnancy. It is also approved to be effective for 10 years, twice that of Mirena®; thus, making it more cost-effective. Women who want hormone-free contraception should be informed of the copper IUD as a viable option for highly effective birth control (Planned Parenthood, 2012).

Non-users of IUDs and Providers May Lack Awareness and Knowledge of the Device

Despite the slight recent increase in IUD use, particularly Mirena®, there is still progress to be made to increase awareness of IUD viability and overcome misconceptions that have existed since the 1970s. Based on review of studies conducted by Asker, Stoker-Lampard, Beaven, and Wilson (2006); Schwartz, Kavanaugh, and Dubowitz (2008); and Rubin and Winrob (2010) who explored knowledge and attitudes of IUD non-users, women's knowledge and attitudes of IUDs may not be changing considerably.

Asker et al., (2006) conducted a qualitative study that explored why women seem to be so hesitant to choose IUDs. Purposive sampling was used to include a total sample size of ten women of childbearing age who would be appropriate candidates for the device using WHO eligibility criteria (WHO, 2008). Several themes emerged, including perceived lack of objective information about IUDs, issues dealing with perceived side effects of the device including infection, perceived lack of control when using the IUD, and worries related to IUD insertion procedures.

Subjects felt a general lack of information available regarding IUDs. One quote emphasized a "taboo" nature of the device (p. 91). Another participant commented about the absence of its mention in school. Perceived side effects ranged from hearing "horror stories" about various consequences of the device to general fears of potential side effects, such as heavier bleeding during a woman's period (p. 92). Women perceived the insertion procedure to be "messy" (p. 92). This "messiness" was related to a common misconception among participants that IUDs had to be fitted during menstruation, something this study found to be a significant barrier to a woman's consideration of IUDs (Asker et al., 2006).

A study by Schwarz et al., (2008) also explored non-user knowledge and attitudes about IUDs. One hundred thirty eight women at four walk-in family planning clinics were surveyed to explore perceived knowledge and attitudes about IUDs. Very few women reported familiarity with IUDs (64% stated they did not know of any women who have used IUDs). Only 22%

knew IUDs were more effective at preventing pregnancy than oral contraceptives. Of all surveyed women, 41% reported wanting to learn more about IUDs, while 35% stated they may be interested in getting the device one day.

Rubin and Winrob (2010) interviewed 40 women who were clients at an urban family planning facility. While many women discussed perceived benefits of IUDs, 33% of interviewees mentioned several perceived negative aspects of the device. The most common regarded consequences of having a foreign device in the body. These concerns were compounded by the lack of knowledge regarding the female reproductive anatomy.

In addition to deficiencies in knowledge and negative attitudes held among potential users, providers still hold inaccurate beliefs and lack training. Provider limitations, such as lack of knowledge, inaccurate perceptions, and insufficient training are factors contributing to low IUD usage rates (Cope, Yano, Lee, & Washington, 2006). These findings are similar to those found in Cheng's 2000 study implying a limitation to IUD provision is lack of training among practitioners. Based on review of other studies, lack of awareness of IUDs may be a perpetual cycle between patient and provider. Cope et al., (2006) state lack of provider training and knowledge of IUDs "shift the knowledge burden onto the patient to inquire about and utilize this contraceptive" (p. S36).

Provider recommendations are an influencing factor on contraceptive choices made by women (Hubacher, 2002; Stanwood et al., 2002; Xu et al., 2012; Xu et al., 2011). Therefore, lack of knowledge and training may be barriers to IUD use. If providers are not trained in IUD insertion, they will not be able to offer the device to clients. According to Yen et al., (2010), "competence in IUD insertion depends on a number of factors: appropriate training programs, opportunities for clinicians to gain practice with plastic models and be observed by skilled preceptors, the clinician's previous experience with intrauterine procedures and comfort with performing procedures in general, and practicum experience. Organizations have generally not established a fixed number of insertions for competency" (p. 127). These studies support the need for more IUD training programs.

Recommendations for Health Education Practice

Most of the research cited in this review recommends increasing training for providers and increasing knowledge and awareness of IUDs among potential users (Thompson et al., 2011; Tyler et al., 2012; Xu et al., 2011; Yen et al., 2010). Training programs have been designed to target providers who want to competently provide IUDs. These trainings include education and procedural interventions. Pathfinder International has developed a training manual designed for use "in training physicians, nurses, and midwives. It is designed to actively involve the participants in the learning process. Sessions include simulation skills practice, discussions, case studies, role plays and clinical practice, using objective knowledge, attitude, and skills checklists" (Pathfinder International, 2008, p. 8). Health educators can get involved with pre-existing curricula, such as Pathfinder International. We can also design and implement similar programs for clinicians working with populations who have high-unintended pregnancy rates, and could benefit from long-acting reversible contraception. Providing tailored training programs aligns with our responsibility to act as a resource person.

Many of the studies recommend patient counseling on IUDs (as well as other methods) prior to choosing a contraceptive (Cope et al., 206; Rubin & Winrob, 2010; Thompson et al., 2011; Xu et al., 2012). These recommendations support the notion that the best decision can only be made if one knows all options. In our current technology-focused society, electronic devices could be used for patients to complete self-assessments in their search to find the best contraceptive for them at any specified time in their life. For example, Planned Parenthood has an online program, My Method, which provides a more objective recommendation based on a series of answers given by the prospective contraceptive user (Planned Parenthood, 2012). Health Educators can expose women and their partners to this free and accessible tool to aid in contraceptive decision-making through educational efforts.

Research also suggests that increasing women's knowledge of their bodies may ease anxieties about how certain contraceptives work, particularly IUDs due to their intrauterine placement (Rubin & Winrob, 2010). Health educators can bridge the gap between patients and providers discussed by Cope et al. (2006) through program planning and advocacy efforts, and increase women's knowledge of their bodies to lessen apprehension of potentially unfamiliar methods of contraception.

A study done by Whitaker, Johnson, Harwood, Chiappetta, Creinin, and Gold (2008) involved testing how a three minute oral educational intervention about the IUD would affect young women's (ages 14-24) attitudes towards the device. The intervention included basic information on IUDs including "IUD effectiveness, insertion and removal process, risks, benefits, costs, effect on fertility, menstrual effects, and length of use of the two types that are available in the US" (p. 212). Before the intervention, 15% had a positive attitude about the IUD. This percentage rose to 54% after the intervention. This study suggests women's attitudes towards the device may improve when given accurate information. Health educators can work in the affective domain to develop programs that promote attitudes about IUDs based on empirical as opposed to anecdotal evidence.

Research also endorses the use of public health outreach to create awareness of IUDs. Xu et al., (2012) state, "it is likely that promotion of IUD use among potential users, as well as among clinicians and other providers, will lead to continued increases in insertions and fewer unintended pregnancies..." (p. 159). The authors also suggest increasing awareness of the revised recommendations for IUD candidacy, including nulliparous and adolescents (Xu et al., 2012). Xu et al., (2011) and Rubin & Winrob (2010) explicitly state the need for public health professionals to play a role in promoting IUDs. Xu et al., (2011) state "public health efforts to reduce the burden of teen and unintended pregnancy must consider encouraging appropriate use of the IUD among these prospective users, as well as among their providers..." (p. 1143). Rubin and Winrob (2010) also state a "...need to increase IUD visibility and discussion within the medical encounter, as well as increased public health and public service messaging. This approach has shown to be effective in other countries...to reduce system barriers," (738-739). Therefore, public health educators can create more awareness of contraceptive options through social marketing initiatives, such as creating video public service announcements, and utilizing social media for their distribution. For example, adolescents could be reached through design and distribution of an educational video on basic IUD information. In particular, videos with widespread-reaching potential (also called "viral videos") could be especially effective as they reach a large number of people. Utilizing the CDC's The Gateway, a free and accessible online collection of information and tools, health educators can design effective social marketing campaigns for a variety of target audiences (CDC, 2011).

According to the Centers for Disease Control and prevention, "achieving the *HealthyPeople 2020* objective of reducing teen pregnancy by 10% will require a comprehensive approach to sexual and reproductive health that includes continued promotion of delayed sexual debut and increased use of highly effective contraception among sexually experienced teens", (CDC, 2012). IUDs are considered a highly effective and safe form of birth control for adolescents, and therefore should be available to this population. (CDC, 2012). It is our ethical responsibility to the public and in the delivery of health education to provide accurate information about all forms of contraception as well as forms of STI prevention. In doing so, we will be contributing to the *HealthyPeople 2020* objective.

Conclusion

Leading reproductive health organizations state IUDs are viable options for most women, offering safe and extremely effective protection from unwanted pregnancy. Literature has shown that although usage rates are slowly increasing, current trends indicate several factors that are still barriers to widespread acceptance and use, especially use in adolescents and nulliparous women. Health educators can bridge the gap between research and practice by increasing awareness, delivering accurate content knowledge, and improving negative attitudes in both potential users and practicing clinicians; thereby advocating for the importance of making informed decisions when choosing the right contraceptive.

References

Asker, C., Stoker-Lampard, H., Beaven, J., & Wilson, S. (2006). What is it about intrauterine devices that women find unacceptable? Factors that make women non-users: A qualitative study. *Journal of Family Planning and Reproductive Health Care*, 32, 89-94.

American Congress of Obstetrics and Gynecology (2012).

Adolescents and long-acting reversible contraception:
Implants and intrauterine devices. ACOG Committee
Opinion No. 539. Retrieved November 9, 2012, from
http://www.acog.org/Resources_And_Publications/
Committee_Opinions/Committee_on_Adolescent_
Health_Care/Adolescents_and_Long-Acting_Reversible_
Contraception

Cabiya, M., Cowett, A., & Harwood, B. (2008). Intrauterine device knowledge, attitudes, and experiences among senior obstetrics and gynecological residents. *Contraception*, 78, 179-180.

- Centers for Disease Control and Prevention (2008). Condoms and STDs: Fact sheet for public health personnel. Retrieved December 7, 2009, from http://www.cdc.gov/condomeffectiveness/latex.htm
- Centers for Disease Control and Prevention (2011).

 Contraceptive methods available to patients of office-based physicians and title x clinics United States, 2009-2010. Morbidity and Mortality Weekly Report, 60(1) 1-4.
- Centers for Disease Control and Prevention (2011). Gateway to health communication and social marketing practice. Retrieved September 14, 2012, from http://www.cdc.gov/healthcommunication/about.html
- Centers for Disease Control and Prevention (2012). Sexual experience and contraceptive use among female teens United States, 1995, 2002, and 2006–2010. *Morbidity and Mortality Weekly Report*, 61(17), 297-301. Retrieved on May 29, 2012, from http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6117a1.htm
- Cheng, D. (2000). The intrauterine device: Still misunderstood after all these years. Southern Medical Journal, 93, 859-864.
- Cleland, K., Zhu, H., Goldstuck, N., Cheng, L., & Trussell, J. (2012). The efficacy of intrauterine devices for emergency contraception: A systematic review of 35 years of experience. *Human Reproduction*, 27, 1994-2000.
- Contraceptive Technology and Reproductive Health Series, (n.d). Section 1: Intrauterine devices (IUDs): Expulsion rates for interval and postpartum insertions. Retrieved May 26, 2012 from http://www.fhi360.org/training/en/modules/iud/s1pg20.htm
- Cope, J. R., Yano, E. M, Lee, M. L, & Washington, D.L. (2006). Determinants of contraceptive availability at medical facilities in the Department of Veterans Affairs. *Journal of General Internal Medicine*, 21(3), S33-S39.
- Deans, E. I. & Grimes, D. A. (2009). Intrauterine devices for adolescents: A systematic review. *Contraception*, 79, 418-423
- Forrest, J. D. (1996). U.S. Women's perceptions of and attitudes about the IUD. *Obstetrical & Gynecological Survey*, 51(12), 30S-34S.
- Gariepy, A. M., Simon, E. J., Patel, D. A., Creinin, M. D., & Schwarz, E. B. (2011). The impact of out-of-pocket expense on IUD utilization among women with private insurance. *Contraception*, 84, e39-e42.
- Glanz, K., Rimer, B. K., & Lewis, F. M. (2002). *Health Behavior and Health Education: Theory, Research, and Practice (3rd ed.)*. San Francisco, CA: Jossey-Bass.
- Gruber, A., Rabinerson, D. Kaplan, B., Pardo, J., & Neri, A. (2006). The missing forgotten intrauterine contraceptive device. *Contraception*, 54, 117-119.
- Guttmacher Institute (2010). Facts on contraceptive use in the United States. Retrieved May 29, 2012 from http://www.guttmacher.org/pubs/fb_contr_use.html
- Harper, C. C., Blum, M., Thiel de Bocanegra, H., Darney, P. D., Speidel, J. J., Policar, M. & Drey, E. A. (2008). Challenges in translating evidence to practice: The provision of intrauterine contraception. *Obstetrics & Gynecology*, 111, 1359-1369.

- Hatcher, R. A., Trussell, J., Nelson, A. L., Cates, W., Stewart, F.
 H., & Kowal, D. (2007). Contraceptive Technology (19th ed.). New York, NY: Ardent Media, Inc.
- Hubacher, D. (2007). Copper intrauterine device use by nulliparous women: Review of side effects. *Contraception*, 75, S8-S11.
- Mosher, W. D., Martinez, G. M., Chandra, A., Abma, J. C.,
 & Wilson, S. J. (2004). Use of contraception and use of family planning services in the United States, 1982-2002.
 Advance data from Vital and Health Statistics, no 350.
 Hyattsville, MD: National Center for Health Statistics.
- Pathfinder International. (2012). Participant's Guide: Intrauterine Devices (IUDs) (2nd ed.). Retrieved May 29, 2012, from http://www.pathfind.org/site/DocServer/IUD2E Participant's Guide.pdf?docID=11281
- Planned Parenthood Federation of America (2012). The IUD at a glance. Retrieved May 26, 2012, from http://www.plannedparenthood.org/health-topics/birth-control/iud-4245.htm
- Planned Parenthood (2012). My method. Retrieved May 29, 2012 from http://www.plannedparenthood.org/all-access/my-method-26542.htm
- Rubin, S. E. & Winrob, I. (2010). Urban female family planning medicine patients' perceptions about intrauterine contraception. *Journal of Women's Health*, 19, 735-740.
- Schwarz, E. B., Kavanaugh, M. I. & Dubowitz, T. (2008). While you're here, can I interest you in an IUD? Interest in intrauterine contraception among women seeking pregnancy testing. *Contraception*, 78, 183-194.
- Society of Family Planning (2010). Use of MirenaTM LNG-IUS and ParagardTM CuT380A intrauterine devices in nulliparous women. *Contraception*, 81, 367-371.
- Stanwood, N. L., Garrett, J. M., & Konrad, T. R. (2002). Obstetrician-Gynecologists and the intrauterine device: A survey of attitudes and practices. *Obstetrics & Gynecology*, 99, 275-280.
- Teal, S. B. & Sheeder, J. (2012). IUD use in adolescent mothers: Retention, failure, and reasons for discontinuation. Contraception, 85, 270-274.
- Thompson, K. M. J., Foster, D. G., & Harper, C. C. (2011). Increased use of intrauterine contraception in California, 1997-2007. *Women's Health Issues*, 21, 425-230.
- Trussell, J., Lalla, A., Pinto, L., & Gricar, J. (2008). Costeffectiveness analysis of contraceptives available in the United States. *Contraception*, 78, 177-178.
- Tyler, C. P., Whiteman, M. K., Zapata, L. B., Curtis, K. M., Hillis, S. D., & Marchbanks, P. A. (2012). Health care provider attitudes and practices related to intrauterine devices for nulliparous women. *Obstetrics and Gynecology*, 119, 762-771.
- United States Department of Health and Human Services (n.d.). Preventative services covered under the Affordable Care Act. Retrieved May 30, 2012 from http://www.healthcare.gov/news/factsheets/2010/07/preventive-services-list.html
- United States Food and Drug Administration (2009). Mirena® label information. Retrieved April 16, 2010, from http://www.accessdata.fda.gov/scripts/cder/drugsatfda/index.cfm?fuseaction=Search.Label_ApprovalHistory

- Whitaker, A. K., Terplan, M., Gold, M. A., Johnson, L. M., & Harwood, B. (2008). Effect of a brief educational intervention on the attitudes of young women toward the intrauterine device. *Contraception*, 78, 176.
- Winner, B., Peipert, J. F., Zhao, Q., Buckel, C., Madden, T., Allsworth, J. E., & Secura, G. M. (2012). Effectiveness of long-acting reversible contraception. *New England Journal of Medicine*, 366, 1998-2007.
- World Health Organization (2008). Medical eligibility criteria for contraceptive use: 2008 update. Retrieved September 1, 2009, from http://whqlibdoc.who.int/hq/2008/WHO_RHR_08.19_eng.pdf
- Xu, X., Macaluso, M., Frost, J., Anderson, J. E., Curtis, K., & Grosse, S. D. (2011). Characteristics of users of intrauterine devices and other reversible contraceptive methods in the United States. Fertility and Sterility, 96, 1138-1144
- Xu, X., Macaluso, M., Ouyang, L., Kulczycki, A., & Grosse, S. D. (2012). Revival of the intrauterine device: Increased insertions among US women with employer-sponsored insurance. 2002-2008. Contraception, 85, 155-159.
- Yen, S., Saah, T., Adams Hillard, P. J. (2010). IUDs and adolescents – an under-utilized opportunity for pregnancy prevention. *Journal of Pediatric and Adolescent Gynecology*, 23, 123-128

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