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Patient Awareness and Understanding of Intrauterine Devices

Brookfield Family Medicine
Brookfield, CT

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PROJECT MENTORS: DR. CORNELIUS FERREIRA, DR. MARTHA MOULTON, DR. LAURIE SCHEDGICK-DAVIS
Intrauterine devices (IUDs) are used by 14.3% of women and are currently the leading form of reversible contraception worldwide, but their use has historically been low in the United States. In 2011, IUDs were used by 17.9% of women in Asia, 12.4% in Europe, and 5.3% in the United States.\(^1,2\)

IUDs have a tumultuous history; their decreased popularity in the United States is likely attributed to the removal of the Dalkon Shield IUD from the market in 1974 due to an association with pelvic inflammatory infections.\(^3\)

Newly introduced long-acting reversible contraception methods, including implants and safer IUDs, are some of the most effective forms of birth control, have few contraindications, and very low rates of pelvic inflammatory infections.\(^4,5,6\)

IUD use has significantly increased in the United States in the 21\(^{\text{st}}\) century; prevalence of use increased from 7.7% to 10.3% in contraception users between 2009 and 2012.\(^7\)

Studies have shown that increasing knowledge about long-acting reversible contraception methods leads to more acceptance of IUDs and decreased pregnancy rates.\(^8,9,10\)
Identifying Need for IUD Educational Resources at Brookfield Family Medicine

- Developed a 13 question survey to identify need for IUD educational resources at Brookfield Family Medicine
- Distributed survey to female patients between the ages of 18 and 50 to assess awareness and understanding of IUDs
  - Survey included demographic data on age, contraception history, and obstetrical history
  - Survey assessed knowledge of 5 aspects of IUDs:
    1. Risk of uterine perforation with placement
    2. Efficacy in preventing pregnancy
    3. Length of time of efficacy
    4. Effect on future fertility
    5. Awareness of both hormonal and non-hormonal IUD methods
- Assessed perception of IUD safety for most of the population
Public Health Cost of Unintended Pregnancy

➤ About 49% of pregnancies in the United States are unintended and teenage pregnancy rates are about 7 times higher than in other developed nations.\textsuperscript{11}

➤ 53% of unintended pregnancies are attributed to imperfect contraception use.\textsuperscript{12}

➤ Historically, the price of long-acting reversible birth control methods impeded their accessibility, but the Affordable Care Act has increased access to such highly effective contraception methods.

➤ Total cost of unintended pregnancy in the US estimated at $21 billion in 2010; total cost in Connecticut was $208.5 million.\textsuperscript{13}

➤ Total cost of unintended pregnancy is higher in Connecticut than the national average; cost was $301 per woman aged 15-44 in Connecticut compared to $201 per woman nationally.\textsuperscript{13}

➤ Trussell \textit{et. al.} estimates that if 10% of women in the United States ages 20-29 switched from short-acting reversible contraception methods to long-acting reversible methods, such as the IUD or implant, $288 million in health care costs would be reduced annually.\textsuperscript{12}
Provider Perspective on IUDs in Connecticut

Anne McDermott, CNM, MSN, Certified Nurse Midwife at Norwalk Community Health Center

- “The rate of pregnancy is so much lower than with the pill, condoms, or the depo-provera.”
- “We are trying to educate patients about it [the IUD] and encourage to use it.”
- There is a lot of misinformation about intrauterine devices. Common patient concerns about the IUD include “that they won’t be able to get pregnant after they get it taken out…feel like getting their period is a sign of good health, and that they could be pregnant and not know it.”

Dr. Mishal Mirza, MD, OBGYN at Danbury Hospital

- There is “more awareness and acceptance” of IUDs than previously.
- Common misconceptions are related to infertility; some patients have expressed concern that having an IUD will negatively impact future fertility. Other patients have voiced concern that an IUD may be painful while in place, will not be able to be removed, that their partner would be able to feel it during intercourse, or that it will have adverse hormonal effects.
- Several populations are ideal for IUDs as a contraceptive method, including young women in their late teens and twenties, women who experience menorrhagia, and women who have already had children but have not yet entered menopause.

- Both providers agreed that the public could benefit from more education on IUDs.
Survey Results: Patient Perspective at Brookfield Family Medicine

- N = 43 surveys were collected from female patients between the ages of 18 and 50 at Brookfield Family Medicine
- Calculated total score of correct knowledge questions out of 5
- 12% of patients did not know what an IUD is
- 50% of patients learned about IUDs from professionals (including physicians, nurses, and teachers)
- When given a choice between birth control pills (BCPs), condoms, IUDs, and the birth control patch, 40% of patients believed birth control pills (BCPs) to be the most efficacious in preventing pregnancy, compared to 34% IUDs and 26% condoms
- Most patients believed risk of uterine perforation with placement to be higher than actual risk (< 1%):
  - 23% believed 35/100 placements result in perforation
  - 46% believed 10/100 placements result in perforation
- Two-tailed T-Test revealed a significant difference in knowledge about IUDs and perceived safety of the devices (P = 0.04, mean score of those who perceived safe = 64%, mean score of those who perceived unsafe = 34%)
- ANOVA between age and knowledge revealed a significant negative correlation (significance F = 0.044)
Intervention and Methodology

**Intervention:**
Survey results suggested that a physician’s office may be an effective site for educational intervention as most patients learned about IUDs from professionals. Created a trifold pamphlet that includes descriptions and efficacy of birth control methods to be distributed to women interested in contraception at Brookfield Family Medicine and to be displayed around the office. Developed an algorithm included in the pamphlet to highlight some of the major distinctions between methods with the goal of helping patients chose a contraception that best fits their lifestyle and personal goals.

**Methodology:**
Interviewed local women’s health providers to understand common concerns and misconceptions about IUDs and included information to address these common concerns in the contraception pamphlet. Reviewed Planned Parenthood website for details on different contraception options and efficacy rates in preventing pregnancy. Information on all types of contraception included as IUDs may not be the best birth control method for everyone. Goal is to increase knowledge and acceptance of IUDs through inclusion in information about all types of birth control. Distribution and display at a Family Medicine office will target a large population, including adolescents, and will allow birth control information to be routinely provided to patients in a sustainable format.
Contraception Method Patient Pamphlet

Contraception Method Details

* Requires programming and is suitable for the woman of any age.
* Women only get pregnant once per year.

1. Birth Control Pills
   - Daily hormone pill to prevent pregnancy
   - Some contain both estrogen and progesterone; others contain only progesterone
   - Less than 1/250 women will be pregnant in a year

2. Birth Control Injections
   - Injectable progesterone that lasts 3 months
   - Less than 1/250 women will be pregnant in a year

3. Implant: Levonorgestrel Implant (Implanon)
   - Inserted under the skin in the upper arm
   - Provides continuous protection from pregnancy for 3 years
   - Less than 1/250 women will be pregnant in a year

4. Intrauterine Device (IUD)
   - Small plastic device inserted into uterus by health care provider
   - Less than 1/250 women will be pregnant in a year
   - Continuous protection with removal is easy
   - Progestin (levonorgestrel) or copper
   - May reduce lighter period and reduced cramps
   - Irregular bleeding

5. Contraceptive Sponges
   - Copper, no hormones
   - 1/250 women for 1 year
   - May increase period cramps and cause heavier periods
   - Can be used as an emergency contraception

   - Small rod inserted into arm by provider
   - Continuous protection for up to 4 years
   - Hormone release (progesterone)
   - May cause irregular periods for first 6-12 months
   - Less than 1/250 women will be pregnant in a year

7. Birth Control Patch
   - Small hormone patch applied 7 weeks per month to prevent pregnancy
   - Less than 1/250 women will be pregnant in a year

8. Birth Control Shot (Depo-Provera)
   - Injections of progestin every 3 months
   - Less than 1/250 women will be pregnant in a year

9. Vaginal Ring (Norplant)
   - Small flexible ring placed in vagina for 3 weeks per month. Contains hormones and progesterone
   - Less than 1/250 women will be pregnant in a year

10. Sterilization for Women
    - Surgery that blocks fallopian tubes to prevent pregnancy
    - Less than 1/250 women will be pregnant in a year

11. Male Condom
    - Reduces risk of sexually transmitted diseases (STDs)
    - Wash on penis, inside of thighs (tubular or flat)
    - Can be used for vaginal, oral, and anal intercourse
    - Less than 1/250 women will be pregnant in a year

12. Female Condom
    - Male condom
    - Female condom
    - Feels inserted into vagina before intercourse
    - Less than 1/250 women will be pregnant in a year

13. Contraceptive Diaphragm
    - Silico gel (rubber) inserted into vagina before intercourse
    - Most effective when used with spermicide
    - Less effective at preventing pregnancy in women who have previously given birth
    - Requires class B: 1/250 women pregnant in a year

14. Breastfeeding
    - Less than 1/250 women pregnant in a year

15. Sterilization for Men
    - Vaginal ring (Norplant)
    - Requires a surgical procedure

Contraception Methods

There are many ways to prevent unintended pregnancy. When selecting a contraception, it is important to determine which method is the best to fit your lifestyle. Please ask your provider if you have any questions about these contraception options.

Brookfield Family Medicine

Contraception Methods

Which contraception method is right for you?

Do you prefer a birth control method as needed or one that functions continuously?

Would you prefer a daily or long-acting form of birth control?

Would you prefer a reversible or Irreversible form of birth control?

Are you currently breastfeeding?

Would you prefer a contraceptive method that is effective for several years?

Contraceptive patch

1. Birth Control Pills
2. Birth Control Implants [LNG-IUS] (Mirena, Levonorgestrel Implant)
3. Birth Control Shot (Depo-Provera)
4. Sterilization for Women
5. Sterilization for Men
6. Male Condom
7. Female Condom
8. Vaginal Ring (Norplant)
9. Vaginal Ring (Norplant)
Response from Providers

- The project, survey results, and goal to increase knowledge of IUDs and other contraception options were presented to all of the physicians and practitioners at Brookfield Family Medicine during a provider meeting.
- Providers were given copies of the pamphlet to review and it was positively received.
- All providers believed that the pamphlet will be a helpful tool for contraception discussions with patients.
- Some providers plan to display the pamphlet in their patient rooms so contraception information is available to patients waiting to be seen; others plan to distribute it at health maintenance exams for female patients of a designated age group.
- Electronic copies of the handout were provided to staff for future use and distribution.
Evaluation of Effectiveness and Limitations

- Evaluation of Effectiveness:
  - Effectiveness of pamphlet providing information on IUDs could be assessed with distribution of a post-intervention survey at Brookfield Family Medicine that includes the 5 knowledge questions assessed in the survey of this project.
  - Effectiveness of the pamphlet communicating information about all types of birth control could be assessed if instituted in another Family Medicine office with a pre-distribution and post-distribution survey to assess if more knowledge was gained after pamphlets were distributed.

- Limitations:
  - Providing information on all methods of birth control in pamphlet for it to be a more versatile tool limited the amount of details that could be included specifically about intrauterine devices.
  - This project was restricted to the population of patients who attend a single Family Medicine office in Brookfield, CT and may not accurately reflect a larger population.
Recommendations for the Future

- Assess effectiveness of the pamphlet in increasing awareness of IUDs, specifically in women ages 30 to 50, as this age group was less knowledgeable about IUDs than younger patients based on our survey results.

- Encourage providers to discuss contraception options with women during all routine health maintenance exams.

- Standardize the pamphlet for other Family Medicine offices within the Western Connecticut Health Network to be displayed within the office or distributed at health maintenance exams.

- Integrate the pamphlet into the electronic medical record system to be automatically printed with visit summary information for female patients of a designated age group.
References


