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Reproductive Planning and Contraception for Women with Inflammatory Bowel Diseases

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Abstract

Women with chronic medical conditions, such as inflammatory bowel diseases, are at increased risk for adverse pregnancy outcomes. Pregnancy outcomes for these conditions are best during stable disease remission. Unfortunately, women with inflammatory bowel disease are equally as likely as the general population to have unintended pregnancies. Patients look to their gastroenterologist for contraceptive counseling; however, the current standards for disease management do not prioritize this topic. Guidelines based on available evidence and expert opinion, such as the Centers for Disease Control U.S. Medical Eligibility Criteria for Contraceptive Use, exist to help practitioners provide safe and effective contraception to women with chronic medical conditions. If health care providers were to educate themselves and screen women with inflammatory bowel disease for risk of unintended pregnancy, there would be a reduction in the number of unintended pregnancies and subsequent adverse neonatal and maternal outcomes.

Keywords

inflammatory bowel diseases; contraception; reproductive health; women

Pregnancy planning and preconception counseling are imperative for healthy pregnancy outcomes; however, over half of all pregnancies in the United States are unintended.¹ Approximately 3.1 million pregnancies are unwanted or mistimed annually of which 4 in 10 end in abortion.² Pregnancy intention is a marker for adverse pregnancy outcomes, and unintended pregnancy is associated with significantly increased risk for delayed prenatal care, preterm delivery, low birth weight, and adverse developmental outcomes in the child.^{3–7} These unintended pregnancies remain a persistent and costly public health burden for this country. The U.S. Department of Health and Human Services identified pregnancy

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intention as a major public health issue and set a goal within the Healthy People 2020 initiative to reduce the incidence by 10% over a decade.⁸ Women with chronic medical conditions are at increased risk for adverse pregnancy outcomes related to their disease and treatments, however, these women are no more likely than the general population to plan their pregnancies.^{9,10}

REPRODUCTIVE PLANNING AND IBD

Inflammatory bowel diseases (IBD) are commonly diagnosed during the reproductive years, with peak age of diagnosis between 15 and 29 years of age.^{11,12} Evidence-based reproductive counseling is important for women with IBD.¹³ IBD activity during pregnancy influences pregnancy outcomes, including risk for miscarriage, fetal growth restriction, and preterm delivery. Disease activity at the time of conception is the most important predictor of IBD course during pregnancy.^{14–18} In patients with IBD, pregnancy is most optimal during stable disease remission. Therefore, women with IBD may choose to delay pregnancy while awaiting changes in medical therapy or surgical intervention to optimize disease control.^{19,20}

Misconceptions regarding infertility associated with IBD may influence contraceptive choices and family size.^{21,22} Current epidemiological studies show that women with medically managed IBD do not have reduced fertility compared with the general population.²³ Decreased fecundity, or the ability to become pregnant, is observed in IBD patients who undergo ileal pouch-anal anastomosis.²⁴ For some women with ovulation dysfunction, improved disease control postoperatively may permit resumption of ovulation.²⁵ Improvements in medical management of IBD with biological therapy may alter a woman's perception of her fertility potential and family size in the future.²⁶

Women with IBD desire pregnancy and contraceptive counseling from their gastroenterologists over their primary care physicians.²⁷ Despite this desire, few gastroenterologists provide this service. An Irish study found that 42% of female respondents with an IBD diagnosis would allow having IBD to impact their family planning decisions; however, a third (32%) had never discussed family planning issues with a doctor.¹³ A retrospective review of academic gastroenterology charts found that documented reproductive counseling for women with IBD was primarily patient driven.²⁸ Counseling focused only on IBD medications and pregnancy-related questions. Documentation of contraceptive method was sparse, including for patients being prescribed teratogenic medications, such as methotrexate.²⁸ There was also a lack of discussion regarding contraception or preconception planning as part of disease management. It is estimated that a typical American woman planning for 2 children spends 5 years pregnant, trying to become pregnant, or postpartum, and 3 decades of her reproductive life trying to avoid pregnancy.²⁹ A reproductive counseling strategy targeted solely at pregnancy-related concerns fails to address key concerns in the reproductive care of women with IBD. IBD subspecialists and researchers have made efforts to engage patients and providers in education and counseling for reproductive health issues. The European Crohn's and Colitis Organization published updated clinical practice guidelines on the issues surrounding reproduction and IBD in 2015.³⁰ Although these guidelines encourage preconception

counseling and pregnancy planning during disease quiescence, the risk assessment for unintended pregnancy and contraceptive counseling were overlooked as components of disease management during reproductive years. To address patient education, an Australian group validated the CCPKnow tool (Crohn's and Colitis Pregnancy Knowledge Score), to measure reproductive knowledge deficits and develop educational interventions. The survey includes questions on pregnancy-related issues, inheritance of IBD, medications, mode of delivery, and congenital abnormalities. However, this tool and subsequent education materials do not prioritize contraception as a key aspect of reproductive planning.³¹ Women with IBD have a similar abortion rate (a measure of unintended pregnancy) to the general population, highlighting an important area for improved educational interventions.^{2,14}

CONTRACEPTION

The most effective way to avoid an unintended pregnancy is with consistent contraceptive utilization. Of U.S. women at risk for unintended pregnancy in 2008, the two-thirds who consistently used a contraceptive method accounted for only 5% of unintended pregnancies that year.³² In the United States, approximately 99% of sexually active women use at least 1 form of contraception during their reproductive lives.³³ Combination oral contraceptive pills are the most commonly used form of hormonal contraception, with 82% of women using them during their reproductive lives.³⁴

Contraceptive methods are categorized by efficacy, which is defined as the method failure rate over 1 year of typical use.³⁵ Highly effective methods, those with <1% failure rate, are composed of male and female sterilization, hormonal or nonhormonal intrauterine devices (IUDs), and subdermal contraceptive implants. The next tier of contraceptive efficacy includes methods with failure rates between 3% and 8%. These include injectable contraceptives, oral contraceptive pills, transdermal patches, and vaginal rings. The lowest tier of efficacy includes options with failure rates of 18% or greater over 1 year of typical use. These methods include barrier options, such as the male or female condom, spermicides, or the female sponge, withdrawal, and fertility awareness. Although these methods are the most accessible to individuals, they are highly user dependent, resulting in low efficacy³⁵ (Table 1).

CONTRACEPTION AND IBD

Effective contraceptive counseling and contraceptive utilization is imperative in women with IBD, particularly those with active disease and those receiving teratogenic medications. Regrettably, misconceptions and lack of evidence surrounding contraceptive side effects in IBD patients lead women to avoid contraception or use the least effective methods, such as barriers, withdrawal, or fertility awareness.^{27,28,36,37} A systematic review examining safety and effectiveness of contraceptive use among women with IBD found limited evidence, but no increased risk of IBD relapse with oral contraceptive use.³⁸ Cohort studies examining estrogen-based oral contraceptive use found no correlation with increased disease activity or risk of IBD relapse.^{39–44} Absorption of high-dose combination oral contraceptive pills in women with mild ulcerative colitis or small ileal resections is similar to controls.^{45,46} Evidence on IUD use in women with IBD is limited to case reports, but the safety and

efficacy is extrapolated from other immunosuppressed populations.^{47–49} Overall, there remains a dearth of information on the risks and benefits of the full spectrum of contraceptive methods in women with IBD.

The increased risk of venous thromboembolism (VTE) with the use of hormonal contraception has been cited as a particular concern in women with IBD, however, published evidence of such risk is lacking.³⁸ In the general population, only those methods with estrogen (combination pills, patch, or ring) have robust evidence supporting approximately a 2-fold increased risk of VTE over baseline.^{50–52} This increased risk needs to be considered in the context of baseline population risk (1 per 10,000 reproductive age women per year) and the significant 5-fold increase in risk of VTE in pregnancy.⁵³ Women with IBD have a 2-fold to 3-fold increased risk of VTE over non-IBD controls, but the heterogeneity of the disease is an important consideration in determining an individual's risk.^{54–57} In active disease, VTE risk increases to between 3-fold to 8-fold over baseline risk⁵⁴; therefore, avoidance of pregnancy during disease flares is even more imperative, and highly effective methods, including IUDs and implants, are the safest contraceptive options.

CONTRACEPTIVE PRACTICE RECOMMENDATIONS FOR IBD

In 2010, the Centers for Disease Control published the U.S. Medical Eligibility Criteria for Contraceptive Use (US MEC) to guide practitioners in provision of different contraceptive methods for women with chronic medical conditions.⁵⁸ These guidelines were modified from the World Health Organization's guidelines, and IBD was added to the document for the U.S. population needs. Contraceptive recommendations in the US MEC for women with IBD are based on available evidence and expert opinion. Levonorgestrel IUDs, copper IUDs, and contraceptive implants are "category 1" (no restrictions on use) and should be used as first line agents due to their safety and efficacy profiles. Injectable contraceptives and progestin-only pills are "category 2" (advantages generally outweigh theoretical or proven risks) due to limited published evidence on use in this disease. Combination, estrogen-based oral contraceptive pills, transdermal patch, and vaginal ring (COC/P/R) are "category 2/3" with additional guidance: "For women with mild IBD, with no other risk factors for VTE, the benefits of COC/P/R use generally outweigh the risks (category 2). However, for women with IBD with increased risk for VTE (e.g., those with active or extensive disease, surgery, immobilization, corticosteroid use, vitamin deficiencies, and fluid depletion), the risks for COC/P/R use generally outweigh the benefits (category 3)."⁵⁸

NONCONTRACEPTIVE BENEFITS OF HORMONAL CONTRACEPTIVES

Hormonal contraception is frequently used for noncontraceptive benefits. A study using data from the National Survey of Family Growth (2006–2008) found that 58% of pill users rely on the oral contraceptive pill in part for reasons other than pregnancy prevention. Approximately 14%, or 1.5 million U.S. women, rely on the oral contraceptive pill for exclusively noncontraceptive reasons.⁵⁹ The most common indications for use included management of painful periods, menstrual regulation, acne, or cyclical headaches.⁵⁹ Additionally, hormonal contraceptives decrease excessive hair growth, improve endometriosis, manage cyclical mood disorders, inhibit bone loss, prevent benign breast

disease, and reduce the risk of endometrial, ovarian, and colorectal cancer.^{60–68} For women with epilepsy, hormonal contraception may be used to manage cyclical catamenial seizures.⁶⁹ Women with sickle cell disease have fewer crises with the use of depot medroxyprogesterone acetate.⁷⁰ Hormonal contraceptives may improve rheumatoid arthritis symptoms and may delay disease onset in women with multiple sclerosis.^{71,72} Overall, much of the data examining the relationships between contraceptive methods and chronic disease are outdated and of low quality. Regardless, reproductive age females require effective contraceptive methods for healthy pregnancy outcomes. Consideration of potential noncontraceptive, disease-related benefits will influence method uptake.

Women with IBD commonly report associations between their menstrual cycle and disease-related symptoms.^{37,73–79} Disease type tends to influence symptom timing and severity. Crohn's disease patients report increased abdominal pain and extraintestinal symptoms, such as irritability or sleeplessness, in the premenstrual phase.^{74,76} Many women with Crohn's disease and ulcerative colitis experience increased diarrhea and pain during their menses.⁷⁸ Menstrual cycle irregularity may occur before IBD diagnosis and correlate with lower quality of life scores.⁷⁵ The cyclical pattern of IBD symptoms remains to be independent of disease activity; therefore, disease remission may not improve menstrual alterations or associated quality of life indices.⁷⁵ In addition to pregnancy planning, the use of hormonal contraception as a part of disease management is an important consideration for women with IBD and may improve overall satisfaction with disease control.

As in other chronic diseases, robust evidence on the effects of different hormonal contraceptive methods on IBD-related symptoms is sparse. A survey of women with IBD found 60% had cyclical, disease-related symptoms, and 88% were current or former hormonal contraceptive users. Of the contraceptive users, 20% noted an improvement in their disease-related symptoms.³⁷ A recent prospective pilot study found combination oral contraceptive users with IBD reported fewer bleeding days and lower overall IBD symptoms summary scores.²⁵ Future research is needed to identify IBD subtypes and specific contraceptive methods that are most effective for improving disease-related symptoms and quality of life while providing effective contraception.

CONCLUSIONS

Published literature and review articles on reproductive health and pregnancy often fail to address the importance of effective contraceptive counseling and contraceptive uptake in patients with IBD. These topics are critical for healthy pregnancy planning and for potential noncontraceptive benefits of hormonal contraception. Screening women with IBD for contraceptive use and risk of unintended pregnancy needs to be implemented as a routine component of IBD health maintenance and should be considered as a quality measure in IBD care. Gastroenterologists should be aware that women with IBD desire their expertise when selecting contraceptive methods. Gastroenterologists treating IBD patients should seek opportunities to educate themselves on the US MEC. Providers prescribing potentially teratogenic medications need to ensure that their patients have the education to choose and access first line, highly effective contraceptive methods, including IUDs or subdermal contraceptive implants. Additionally, providers should assess for menstrual-related IBD

symptoms that may improve with the use of hormonal contraceptives, impacting overall quality of life for women living with these chronic diseases. Development and adoption of decision support tools that provide guidance for adequate patient counseling on contraception should be a priority. Gastroenterologists should incorporate reproductive counseling into the routine care of patients with IBD. This intervention will reduce unintended pregnancies, improve neonatal and maternal outcomes, and improve the quality of life for millions of women living with IBD.

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TABLE 1.

Percentage of Women Experiencing an Unintended Pregnancy During the First Year of Typical Use and the First Year of Perfect Use Contraception and the Percentage Continuing Use at the End of the First Year, United States

Method	% of Women Experiencing an Unintended Pregnancy Within the First Year of Use		% of Women Continuing Use at 1 Year
	Typical Use	Perfect Use	
No method	85	85	
Spermicides	28	18	42
Fertility awareness	24		47
Withdrawal	22	4	46
Sponge			36
Parous women	24	20	
Nulliparous women	12	9	
Condom			
Female	21	18	41
Male	18	2	43
Diaphragm	12	6	57
Combined pill and progestin-only pill	9	0.3	67
Transdermal patch	9	0.3	67
Vaginal ring	9	0.3	67
IUDs			
Nonhormonal IUD	0.8	0.6	78
Hormonal IUD	0.2	0.2	80
Female sterilization	0.5	0.5	100
Male sterilization	0.15	0.10	

Adapted from: Trussell J. Contraceptive failure in the United States. *Contraception*. 2011;83:397–404.