FSRH CEU Statement: Contraception for Women with Eating Disorders

15th June 2018 (updated 10th May 2021)

Key Points

- Sexually active women of reproductive age with eating disorders require effective contraception despite the fact that amenorrhoea and anovulation are common in this population.
- Women with an eating disorder who are underweight should be advised of the increased risk of adverse pregnancy outcomes when underweight and should be advised to delay conception until the condition is in remission.
- Long-acting reversible contraception (LARC) methods remain the most effective methods of contraception in this population.
- Although combined hormonal contraceptives are commonly used to provide bone protection, they have not been shown to protect bone mineral density in women with anorexia.

Introduction

Eating disorders are serious psychiatric conditions with physical, psychological and social consequences. Anorexia nervosa (anorexia) and bulimia nervosa (bulimia) are the most well known types, while binge eating disorder and other specified feeding or eating disorder (OSFED) are the most common.[1] All are characterised by distorted self body image and abnormal attitudes and behaviour toward eating. Anorexia involves deliberate dietary restriction leading to significantly low body weight and an intense fear of weight gain.[2] Women with bulimia are often of normal or above normal weight and experience recurrent episodes of binge eating and compensatory behaviour in order to prevent weight gain, such as self-induced vomiting or misuse of laxatives.

Women with eating disorders may present to sexual and reproductive health care services with amenorrhoea, or in the context of sexual risk taking or sexual abuse. Women with eating disorders may also present with fertility concerns or with an unplanned pregnancy. For those who conceive when they are underweight there is an increased risk during pregnancy of hyperemesis, anaemia, intrauterine growth restriction and preterm birth.[3,4] Postponement of conception until the eating disorder is in remission is therefore recommended.

The true prevalence of eating disorders is not known as available statistics relate to those receiving care and so do not reflect the unmet need in the community. Annual UK incidence rates have been estimated at around 63 per 100 000 women of all ages and are highest among 15–19 year olds.[5] Clinicians in sexual and reproductive healthcare should be aware of the effect of eating disorders on a woman's menstrual cycle, fertility and the safety and efficacy of different contraceptive methods.

The purpose of this statement is to inform clinicians about issues relating to contraception for women who have eating disorders. This statement is based on a comprehensive review led by the FSRH CEU. Appendix 1 provides a table briefly outlining the advantages and disadvantages of contraceptive methods.

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Amenorrhea and Fertility

Women with eating disorders commonly have irregular menstrual cycles or amenorrhoea. However, they still require contraception and good preconception care as it is not possible to predict when ovulation and an unintended pregnancy may occur.

A 1998 case control study of 66 women in New Zealand who had been assessed or treated for anorexia a decade earlier found no significant difference in overall number of pregnancies per woman, rate of pregnancy, or age at first pregnancy compared with the 98 women without a history of anorexia.[6] There were no differences between women with active anorexia versus anorexia in remission with respect to any of these measures. A 2010 large prospective cohort study in Norway (62,060 pregnant women, of which 62 met criteria for anorexia and 61,998 did not meet criteria for an eating disorder) found that women with anorexia were more likely to report that their pregnancy was unplanned (relative risk 2.11, 95% CI 1.64-2.72) compared to women with no eating disorder and were more likely to have had an abortion (24.2% of women with anorexia versus 14.6% of women without an eating disorder).[7] Two further prospective longitudinal cohort studies also found higher rates of unplanned pregnancy in women with a history of anorexia.[8,9] However, these two studies were limited by small numbers in the eating disorder subgroups and selection bias. Further research is needed to establish the extent of disruption to fertility in women with various eating disorders.

For most women, losing 10-15% of normal body weight leads to amenorrhoea.[10] Therefore, resumption of bleeding patterns is sometimes used as a marker of recovery from eating disorders. Combined hormonal contraceptives (CHC) can cause regular, hormone-induced withdrawal bleeding and could give false reassurance of menstrual cycle resumption.[11] Conversely, progestogen-only contraception can cause or sustain amenorrhoea, potentially masking a return to regular menstrual function. In contrast, the copper intrauterine device (Cu-IUD) is devoid of hormones and so does not mask the return of menstrual bleeding as a marker of ovarian activity. Nevertheless, the utility of amenorrhoea as a marker of recovery from an eating disorder remains controversial.

Women's views on hormonal contraception

There is very limited evidence as to whether women with eating disorders have specific views on hormonal contraception. One American study of 50 women with an eating disorder (type not specified) and 57 women without, all aged 13-26, reported that knowledge of contraceptive methods was poorer amongst women with eating disorders though there were no significant differences in sexual history between the groups.[12] Delayed detection of pregnancy in women with anorexia has been reported and may be related to menstrual irregularity.[13] Clinicians should therefore ensure that women with eating disorders are aware of the risk of pregnancy (even when they have menstrual irregularities and/or amenorrhoea) and should discuss the use of effective contraception with them.

Women with eating disorders should be advised that there is currently no conclusive evidence demonstrating that hormonal contraception *causes* weight gain. There is, however, some evidence that in women without eating disorders the progestogen-only injectable (DMPA) is associated with weight gain.[14] Additionally, hormonal contraception can be associated with body changes (e.g. breast enlargement/tenderness, acne, bloating) which women with eating disorders who experience body dissatisfaction problems could find particularly troubling. Non-hormonal methods might possibly be a more acceptable method to this group of women.

Bone Mineral Density

It is estimated that over 90% of women with anorexia demonstrate osteopenia and almost 40% demonstrate osteoporosis at one or more skeletal sites.[15] A recent meta-analysis[16] found that women of normal weight with bulimia have spinal bone mineral density (BMD) significantly lower than healthy controls (standardised mean difference -0.472; 95% CI, -0.688 to -0.255; $p < 0.0001$), suggesting that weight loss alone may not account for the adverse impact of eating disorders on BMD. The adolescent years are a critical period for peak bone mass acquisition, with about 90% of total bone mineral content accrued by age 17.[17-19] The mechanism for bone loss in women with anorexia is multifactorial and incompletely understood. In addition to estrogen deficiency, nutritional factors such as low intake of calcium and vitamin D and low levels of growth factors such as insulin-like growth factor 1 and dehydroepiandrosterone are also involved in loss of BMD in this population.[20,21]

CHC is frequently prescribed for young women with anorexia as prevention against and treatment for low BMD. However, systematic reviews[22,23] of pharmacological treatment options for low BMD and secondary osteoporosis in anorexia have concluded that administration of combined oral contraception (COC) was not effective in increasing BMD in women with anorexia. It is possible that estrogen treatment alone cannot correct the multiple factors (nutritional, other hormonal) contributing to loss of BMD.[24] There is no evidence relating to the use of estradiol COC preparations in women with anorexia and limited, inconclusive evidence on the use of hormone replacement therapy for BMD maintenance in adolescents with anorexia.[23] It is important that women with anorexia are not falsely reassured that use of CHC protects against osteoporosis in the absence of weight gain.[25]

A systematic review undertaken by the National Institute for Health and Care Excellence (NICE) concluded that there is conflicting evidence that DMPA lowers BMD in the general population. NICE recommends that women be informed that there is an association between DMPA and a small reduction in BMD which is largely recovered when DMPA is discontinued.[26] There has been concern about use of DMPA in women aged <18 years (who have not yet attained their peak bone mass); this age group is UKMEC category 2 for use of DMPA (advantages outweigh theoretical or proven risks).[27] The FSRH CEU were unable to find any evidence for the effect on BMD of use of DMPA by women with anorexia. However, since anorexia is a significant risk factor for osteoporosis, the use of DMPA by women with anorexia requires careful informed discussion and consideration by the woman.[28,29]

Vomiting and Laxative Misuse

Oral contraception (OC) is absorbed from the small intestine and the FSRH guidance *Drug Interactions with Hormonal Contraception* states that absorption may be affected indirectly by drugs that cause vomiting or severe diarrhoea, or by drugs that alter gut transit.[30] The prevalence of laxative misuse has been reported to range from approximately 10% to 60% of individuals with eating disorders.[31] However, there is very limited direct evidence regarding laxative misuse and impact on oral contraceptive efficacy.

It is therefore important to try to establish directly with women with eating disorders whether they have ever practised self-inducing vomiting or use laxatives. Clinicians should then advise non-oral methods of contraception including LARC methods. If a woman still wishes to use OC, she must be advised regarding the need for a repeat dose if she vomits within around 3 hours of pill taking (please check manufacturer instructions for each individual product) and extra precautions if she has severe diarrhoea for >24 hours.[30]

Long Acting Reversible Contraception (LARC) methods

The most effective methods of contraception are the implant and intrauterine methods.[32] These LARC methods have a significantly lower failure rate with typical use than other methods, and therefore should be considered as first line in women with an eating disorder for whom avoiding pregnancy until the condition is in remission is a priority.

There are a few factors that LARC providers need to be aware of in relation to women with eating disorders. Clinicians should be aware that patients with a history of an eating disorder may have little subcutaneous tissue which could theoretically increase the risk of deep implant insertion.[33] Extra care should be taken to ensure subdermal placement. The FSRH CEU recommends that subdermal implant insertion is carried out by an experienced, qualified clinician.[34] Women can be advised that implants may be slightly more visible if they have very thin arms.

It is possible that a woman with an eating disorder and amenorrhoea could have an atrophic uterus with short uterine cavity. In such circumstances, the clinician inserting IUC should have one of the smaller intrauterine devices available.[35,36] Women with anorexia are at increased risk of developing cardiac abnormalities, including bradycardia, low blood pressure and prolonged QT interval.[37,38] Although a pre-existing slow pulse or low blood pressure could increase the chance of a patient having a vasovagal episode during or after IUC fitting, this is not a contraindication to the initiation of IUC. Clinicians should be aware that long QT syndrome is UKMEC 3 for initiation of IUC and may wish to liaise with a cardiologist regarding best practice.[27] As always, clinicians should be alert to the risk of vasovagal reaction at insertion for women who have not eaten that day.

Sexually transmitted infections (STIs) and vaginal health

Studies relating to sexual risk taking by women with eating disorders have mixed findings.[39-43] Women with eating disorders should be given the same advice regarding STIs, condoms and sexual health as all women and offered appropriate STI testing as clinically indicated. Women who have anorexia may also experience hypoestrogenic changes to the vagina which could manifest as dryness and soreness during sexual intercourse. Use of a lubricant during sexual intercourse may help to alleviate these symptoms. Consideration could also be given to use of local vaginal estradiol therapy to improve the vaginal condition.

Conclusion

Clinicians working in sexual and reproductive health need to be alert to the possibility of eating disorders in women, particularly those who are underweight and have oligo- or amenorrhoea. Women with eating disorders who are sexually active should be advised of the risk of unplanned pregnancy and the need for effective contraception even if they are amenorrhoeic. LARC methods (implant and IUC) remain the most effective contraceptive methods for this group of women.

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Appendix I: Considerations for contraceptive methods

Contraceptive Method	Advantages	Disadvantages
Progestogen-only Implant	▶ High effectiveness ▶ Unaffected by vomiting or laxatives	▶ May be associated with body changes (e.g. breast tenderness/pain, weight gain) ▶ Infrequent bleeding or amenorrhoea may mask eating disorder recovery
Levonorgestrel Intrauterine System (LNG-IUS)	▶ High effectiveness ▶ Unaffected by vomiting or laxatives	▶ May be associated with body changes ▶ Infrequent bleeding or amenorrhoea may mask eating disorder recovery ▶ Short uterine cavity may necessitate small device
Copper Intrauterine Device (Cu-IUD)	▶ High effectiveness ▶ Unaffected by vomiting or laxatives ▶ Does not cause amenorrhoea and therefore will not mask eating disorder recovery	▶ Short uterine cavity may necessitate small device
Progestogen-only Injectable (DMPA)	▶ High effectiveness ▶ Unaffected by vomiting or laxatives	▶ Associated with weight gain ▶ Associated with reduced bone mineral density (BMD) ▶ Infrequent bleeding or amenorrhoea may mask eating disorder recovery
Progestogen-only Pills (POP)	▶ Medium effectiveness	▶ Can be affected by vomiting or laxatives ▶ May be associated with body changes ▶ Infrequent bleeding or amenorrhoea may mask eating disorder recovery
Combined Hormonal Contraception (CHC), includes pills (COC), patch and ring	▶ Medium effectiveness ▶ Patch and ring are unaffected by vomiting or laxatives	▶ COC can be affected by vomiting or laxatives ▶ May be associated with body changes ▶ Cyclic bleeding may mask eating disorder recovery

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Details of changes to guidance

Since this set of guidance was first published, the following changes have been made:

10th May 2021 – Page 3: **Vomiting and Laxative Misuse**

The text in the second paragraph has been updated with the following additions highlighted in yellow:

"If a woman still wishes to use OC, she must be advised regarding the need for a repeat dose if she vomits within around 3 hours of pill taking (please check manufacturer instructions for each individual product) and extra precautions if she has severe diarrhoea for >24 hours."

The Clinical Effectiveness Unit (CEU) was formed to support the Clinical Effectiveness Committee of the Faculty of Sexual and Reproductive Healthcare (FSRH), the largest UK professional membership organisation working at the heart of sexual and reproductive healthcare. The CEU promotes evidence based clinical practice and it is fully funded by the FSRH through membership fees. It is based in Edinburgh and it provides a member's enquiry service, evidence based guidance, new SRH product reviews and clinical audit/research. Find out more here.