NATIONAL CURRICULUM IN REPRODUCTIVE PSYCHIATRY

Infertility and Perinatal Loss

Psychosocial Aspects of Infertility

Integrative Case Conference

Facilitator Guide

Contributors

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Structure of the session

Sessions are typically designed to last 75 minutes. Before the session, the trainees should read the articles in this module's pre-reading section. During the session, the cases will be distributed to trainees and read along by a resident volunteer. The group will then discuss the case and formulate the diagnosis and treatment approach based on facilitator-guided questions. This session can be run by a single facilitator who oversees the entire group.

Goals and Objectives

At the completion of this session, participants will be able to:

- Define infertility, its workup, and current treatment options
- Understand a range of psychological experiences related to infertility, including the impact of disenfranchised grief
- Have knowledge of common psychiatric disorders related to infertility
- Discuss the effects of infertility on interpersonal and family dynamics
- Understand cultural humility and its importance when working with issues related to infertility
- Learn about treatments and interventions to address psychiatric aspects of infertility

Resources Required

1) A faculty facilitator
2) A whiteboard can be helpful for writing notes during large group discussions
3) Facilitator and student guides

Pre-session Learning

Before attending the classroom didactics on this module, please review some basic concepts regarding the psychological aspects of perinatal loss by reviewing the following resources:

- Complete infertility and loss self-study guide

- Bhat A, Byatt N: Infertility and perinatal loss: When the bough breaks. Curr Psychiatry Rep. 18(31):1-11, 2016
- *Psychiatric Aspects of Infertility and Infertility Treatments*: Burns LH. Psychiatric aspects of infertility and infertility treatments. The Psychiatric clinics of North America. 2007;30(4):689-716
- *Psychological Impact of Infertility*: Cousineau TM, Domar AD. Psychological impact of infertility. Best Practice & Research Clinical Obstetrics & Gynaecology. 2007;21(2):293-308
- *The Psychology of Reproductive Traumas: Infertility and Pregnancy Loss:* Diamond DJ, Diamond M. The psychology of reproductive traumas: Infertility and pregnancy loss. Fertility and Sterility. 2005;83(5):S14

Breakdown of Session:

1) Review overview (10 minutes)
2) Case Study Part 1, including the reading of the case and discussion questions (20 minutes)
3) Case Study Part 2, including the reading of the case and discussion questions (20 minutes)
4) Case Study Part 3, including the reading of the case and discussion questions (20 minutes)

Overview

The American Society for Reproductive Medicine defines infertility as "no evidence of conception after one year of trying in a couple where the female partner is less than age 35, and after six months of trying when the female partner is age 35 and older." It is estimated that 9-15% of couples experience infertility, but only about half seek treatment. Approximately 40% of infertility cases are due to female factors, 40% are due to male factors, and 20% are a combination and/or unexplained (ASRM 2015).

Although acute alterations in cortisol concentrations may not immediately cause disease, long-term alterations of the HPA axis are associated with adverse health outcomes. For example, high cortisol concentrations have been associated with psychiatric disorders, including post-traumatic stress disorder (Wosu 2013). Psychiatric disorders can contribute to infertility through disruptions in the HPA axis, HPG axis (including GnRH and LH pulse inhibition), changes in immune function associated with depression and chronic stress, and autonomic nervous system activation. Proposed mechanisms through which depression could directly affect fertility involve physiologic changes in the depressed state, such as thyroid dysfunction and the disruptions mentioned above in the HPA and HPG axes. However, the evidence for a relationship between psychiatric symptoms and success in infertility treatment is still inconclusive. A 2016 study of

135 IVF patients provided preliminary evidence that long-term systemic cortisol (exposure) may influence reproductive outcomes and, in turn, suggests that interventions to reduce cortisol prior to commencing IVF could improve treatment outcomes (Massey 2016).

Women have a range of psychological reactions and experiences to infertility. These reactions and experiences are influenced by their psychiatric, reproductive, cultural, and family backgrounds, as well as their personalities. For some, the experience of infertility is associated with significant personal distress (Rooney and Domar 2018). Infertility can have deleterious social and psychological consequences on the individual, from overt ostracism or divorce to more subtle forms of social stigma leading to isolation and mental distress. A study of 488 American women who filled out a standard psychological questionnaire before undergoing a stress reduction program concluded that women with infertility felt as anxious or depressed as those diagnosed with cancer, hypertension, or recovering from a heart attack (Harvard Mental Health Newsletter 2009). As many as 13% of women experience passive suicidal ideation after an unsuccessful IVF attempt (Baram 1988, Cousineau 2007). In some cultures, motherhood is the only way for women to enhance their status in the family and community. A report by the World Health Organization on the social consequences of infertility in developing countries notes that some childless women "choose suicide over the torturous life and mental anguish caused by infertility." In the United States, experts who study infertility have noted that infertile couples are one of the "most neglected and silent minorities" (Cousineau 2007).

Case Study Part 1

Facilitator*: *Ask one of the trainees to read the case out loud

Becca, a 34-year-old nulliparous woman with a past medical history of Hashimoto's thyroiditis, polycystic ovarian syndrome (PCOS), obesity, obstructive sleep apnea, major depressive disorder, and a suicide attempt at age 18 is referred by her gynecologist with her fiancé Rob for an evaluation of worsening depression and anxiety. The couple has been unsuccessful in becoming pregnant after 12 months of regular unprotected intercourse. Her gynecologist has recommended a workup for infertility. Becca has been treated with several antidepressants (sertraline, paroxetine, fluoxetine, duloxetine) since age 18 but has felt psychiatrically stable without medication for the last five years with weekly psychotherapy. However, she reports having "a breakdown" after concerns about infertility were raised. Her current symptoms include severe anxiety, panic attacks at least twice a week, frequent ruminations, feelings of shame, guilt, worthlessness, and being "broken and defective." Although the workup is pending, Becca is convinced that "it is all [her] fault." Becca and Rob report having more arguments and a reduced sexual relationship. Becca feels Rob has been more withdrawn and has not wanted to talk about what is going on for them, and as a result, she feels more alone and isolated.

Case Questions/Discussion
Facilitator*: *Pause for discussion

1) What are some of the common psychological experiences for many women experiencing infertility?

   Elicit the following:
   - Threat to a central life goal for many
   - Infertility-specific stress
   - Increased preoccupations and intrusive thoughts and worries
   - Decreased self-esteem or reduced sense of self-efficacy
   - Loss of hope and sense of security
   - Feelings of shame, guilt, and failure
   - Helplessness
   - Negative views about one's body, including reduced trust in one's body
   - Frustration with uncertainty and/or low-control situation
   - Frustration with rigidities and restrictions treatment can impose on sexual activity, diet and physical activity
   - Stigma and cultural influences, especially when viewed as an invisible loss

2) What psychiatric disorders can be seen in many women with infertility (and their partners)?

   Elicit the following:
   - Increased rates of anxiety (23%), major depression (17%), and in some cases PTSD (25-46%).
   - Women with a history of depression are twice as likely to develop a recurrence of depression during infertility, reproductive treatment, pregnancy, and postpartum.
   - Women with a history of depression are more likely to identify infertility treatment as the most distressing event in their lives (even more upsetting than the loss of a loved one or divorce).
   - Depression among women with infertility was found to be comparable to levels of depression in patients who had other chronic medical conditions (e.g. hypertension and cancer) (Burns 2007).
   - Male partners may be as vulnerable as women in their response to infertility (even when unrelated to male factor infertility).
   - Social isolation and lack of support or cultural influences might make some male partners vulnerable to developing psychiatric disorders due to infertility, with some studies showing the impact of male infertility on male partners comparable to their female counterparts. (Fisher 2011)

- Infertility treatments can cause an even higher rate of distress than infertility itself. They are in many ways intrusive, very costly, and can also biologically affect couples.

3) What are some of the common psychological experiences within the couple?

Elicit the following:

- Infertility can be a source of tension and can cause distance for some couples.
- Each individual within the couple may have different coping styles, grief responses, and personalities
- The effects it can have on their sense of self and control over their bodies, sexual activity, or, at times, feelings of guilt and blame can be different.
- The effects on the relationship can vary based on the stage of infertility and infertility treatment.
- Couples can experience temporary sexual dysfunction.
- Follow-up studies show childless couples are as healthy and satisfied as those who have conceived; for many, their relationship might become stronger (Thorn 2009).
- Factors indicating a satisfactory marital relationship after infertility: congruence in their perspectives, ways in which they manage crises, and developing an alternate life aim. (Thorn 2009)

4) What challenges can LGBTQ+ couples or individuals face in terms of fertility and assisted reproduction?

Elicit the following:

- The older definition of infertility did not include non-clinical or non-medical pathways to trying to conceive and therefore has caused limitations to access to reproductive care for individuals within the LGTBQ+ community, including insurance companies not covering the costs of infertility treatments and services for LGTBQ+ individuals in some states. The most recent definition of infertility outlined by ASRM (American Society of Reproductive Medicine) is: "Infertility is the result of a disease (an interruption, cessation, or disorder of body functions, systems, or organs) of the male or female reproductive tract which prevents the conception of a child or the ability to carry a pregnancy to delivery. The duration of unprotected intercourse with failure to conceive should be about 12 months before an infertility evaluation is undertaken, unless medical history, age, or physical findings dictate earlier evaluation and treatment."
- There is some discrepancy in providing information about infertility treatments between heterosexual and homosexual couples, which could lead to a discrepancy

in the quality of care and access to care. (Jin H, Dasgupta S. Disparities between online assisted reproduction patient education for same-sex and heterosexual couples. Human reproduction (Oxford, England). 2016;31(10):2280-2284.)

- A study on reproductive literacy showed: that "LGBT individuals, who identified as having a biologically female gender, had significant knowledge gaps of risk factors associated with reproductive outcomes when compared to heterosexual female peers." (Thomas S et al. Barriers to conception: LGBT individuals have worse fertility health literacy than their heterosexual female peers. Fertility and Sterility, Volume 109, Issue 3, e53 - e54)

Suggested reading:

- NCRP Statement and annotated bibliography:
- Jin H, Dasgupta S. Disparities between online assisted reproduction patient education for same-sex and heterosexual couples. Human reproduction (Oxford, England). 2016;31(10):2280-2284.
- Wu HY, Yin O, Monseur B, et al. Lesbian, gay, bisexual, transgender content on reproductive endocrinology and infertility clinic websites. Fertility and sterility. 2017;108(1):183-191.

Case Study Part 2

Facilitator*: *Ask one of the trainees to read the case out loud

Becca remains hesitant to restart any psychotropic medications but has increased the frequency of her psychotherapy sessions to twice a week. She loves cycling and is also going to a meditation group on the weekends. She practices breathing techniques at home, which have helped reduce her stress level. Her REI specialist has advised to avoid smoking, alcohol, and other substances and to maintain a healthy diet and regular exercise. The doctor has met with the couple and provided education about the anticipated workup. Becca is informed that the potential treatment may include the use of medications such as clomiphene citrate, oral contraceptives, medroxyprogesterone, Gonadotropin-releasing hormone agonists (GnRH), purified FSH and LH, and HCG. She is informed that, depending on the testing results, she may or may not need in vitro fertilization (IVF), which may cost $10,000 - $20,000 per cycle. Her insurance company has informed her that her plan does not cover assisted reproductive treatments.

The couple recently visited Becca's family in California, where her sister announced that she is pregnant with her second child. Becca felt guilty that, despite feeling happy for her sister, she also had feelings of anger and envy. She has noticed that Rob has not been his usual self, has been more withdrawn, and often excuses himself from social activities. He has admitted feeling sad about being around other couples with children and about their infertility. Becca returns to

your office, deeply distressed. The session focuses on feelings of anger, envy, and a sense of worthlessness she felt during the California visit.

Case Questions/Discussion
Facilitator*: *Pause for discussion

1) What are the common psychiatric side effects of various infertility treatment agents?

Elicit the following:

- Clomiphene
    - Marked anxiety, sleep disturbance, headaches, visual disturbances, vertigo, hot flashes, mood swings, irritability, emotionality, and symptoms similar to premenstrual syndrome
    - Mood changes in women with a history of premenstrual dysphoric disorder and postpartum depression
    - Psychosis may develop, especially in women with bipolar disorder. This is reversible but may require hospitalization (Burns 2007)
- Oral contraceptives
    - Depression (Grant 2017)
    - Mood swings
- Gonadotropins (FSH, LH)
    - Mood swings, fatigue, irritability, depression, restlessness
- GnRH antagonists
    - Mood swings, depression, insomnia
- GnRH analogs such as leuprolide
    - Case reports of acute psychosis, anxiety and mood changes

2) What are some cultural issues faced by couples experiencing infertility?

Elicit the following:

- In most cultures, infertility is associated with social stigma, taboo, and ostracism
    - WHO article: Mother or nothing: the agony of infertility
- Greater social stigmatization in pro-natalistic societies where larger families are the norm (Thorn 2009).
- The stigmatization can be extreme in some countries, where infertile people are viewed as a burden on the socio-economic well-being of a community. This stigma can extend to the wider family, including siblings, parents, and in-laws, who are deeply disappointed by the loss of continuity of their family. (WHO article: Mother or nothing: the agony of infertility)

- In some cultures, infertility results in divorce or separation.
- Although male factors contribute up to 40% of infertility cases, the sociocultural burden of infertility falls disproportionately on women.
- Infertility prevention and care often remain neglected public health issues or otherwise rank low on the priority list, especially in low-income countries already under population pressure.

3) How can one be mindful and incorporate the cultural aspects specific to each individual when assessing and treating patients with infertility?

Elicit the following:

- With increasing racial and ethnic diversity in the United States, there is also a growing multicultural population.
- **Cultural humility** is the "ability to maintain an interpersonal stance that is other-oriented (or open to the other) in relation to aspects of cultural identity that are most important to the person." (Hook 2013)
- It has three aspects:
    - Continually self-evaluating and critiquing
    - Collaboration with patients in understanding that they are the experts of their experience and clinicians hold the knowledge of a body of work and that working together brings forth the best outcomes
    - Partnership and advocacy across disciplines to promote cultural humility to increase positive outcomes for those we serve
- It is essential for clinicians to practice cultural humility. Clinicians should work with the patient to gain a deeper understanding of the cultural factors relevant to the patient that may help to provide the best care for them.

4) Do most American health insurance providers cover assisted reproductive treatments (ARTs)? On average, how much money will the average infertile couple pay for a successful delivery using ARTs?

Elicit the following:

- About 15% cover any ART at all (Dupree 2016)
- Close to $60,000 for a successful outcome is well out of reach for many (Katz 2011)
- Disparities in access to these treatments
- Minority patients face substantial barriers in seeking infertility treatment. Black and Latinx women are notably underrepresented in the infertility clinic population (Insogna 2018).

- When cost barriers are reduced, and access is equalized, there is a 4-fold increase in the utilization of assisted reproduction services among Black individuals relative to the general US ART population (Insogna 2018).
- As previously discussed, depression among women with infertility was found to be comparable to levels of depression in patients who had other chronic medical conditions (e.g. hypertension and cancer) (Burns 2007). The psychological impact is likely magnified for women unable to access infertility treatment.

Case Study Part 3
Facilitator*: *Ask one of the trainees to read the case out loud

Becca and Rob undergo infertility workup, and it is determined that their infertility is due partly to unpredictable anovulatory cycles for Becca. Additionally, to the couple's surprise and dismay, Rob's sperm analysis reveals that he has a low sperm count and abnormal sperm morphology. The fertility doctor recommends three cycles of intrauterine insemination, but these are unsuccessful. When taking clomiphene, Becca notices increased anxiety and feelings of paranoia. She has insight into these feelings, which causes a further increase in anxiety.

Becca and Rob accept their doctor's recommendation to start in vitro fertilization (IVF). They start the IVF process, including Becca taking oral hormones and going for frequent ultrasounds and an egg retrieval session. Having to go through various procedures and the intrusions into her body increases her anxiety and irritability. Moreover, Becca is advised not to engage in any strenuous physical activity by her REI doctor. Cycling is one of her main coping mechanisms to de-stress, and being unable to do that further adds to her mood and anxiety issues.

You see her right before her first IVF treatment. After thoroughly discussing the risks and benefits and her current symptoms, Becca agrees to start an antidepressant. After two unsuccessful IVF cycles, the couple faces deep disappointment, grief, and hopelessness. They eventually do achieve a viable pregnancy in the third IVF cycle. In one of the sessions during this time period, Becca brings up their worries about their finances. Becca does not have paid maternity leave from her current job, and they need to save money for her to be able to take off a few months to be with the baby, but the cost of ART has made it impossible to do so, and they have had to use a significant amount of their current savings. This has increased their stress levels, and Rob is considering alternative ways to add to his income. You continue to see her regularly during this period and titrate the dosage of sertraline, to which she is showing at least partial response, with improvement in her anxiety and mood. She continues her psychotherapy and meditation as well.

You, Becca, and Rob have a detailed conversation and decide to continue Becca's antidepressant during her pregnancy. Becca and Rob are feeling cautiously optimistic about pregnancy, though they continue to experience significant anxiety. In your sessions, Becca is intermittently tearful when talking about their long, painful, and expensive journey to a viable

pregnancy. She is aware of the increased risk of complications in IVF pregnancies, which adds to her anxiety and does not let her fully enjoy her pregnancy, even though it is going smoothly.

Case Questions/Discussion
Facilitator: Pause for discussion

1) What are some of the psychological experiences that can occur during infertility treatment?

Elicit the following:

- Feelings of lack of control
- Frustration with all the steps of treatment and intrusions into one's body
- Anxiety about the outcomes and success of various steps
- Frustration with the limitations imposed on one's lifestyle

2) What psychological experiences can happen during and after a successful pregnancy after a period of infertility or infertility treatment?

Elicit the following:

- Higher level of pregnancy-related anxiety (Bhat 2016)
- Lower postnatal self-confidence and early parenting difficulties (Bhat 2016)
- Increased rates of psychiatric disorders postpartum period based on some studies but not others (Bhat 2016, Lynch 2014)

3) What are some treatments for these psychiatric/psychological symptoms and issues?

Elicit the following:

- Continuous acknowledgment and validation of thoughts and feelings about disenfranchised grief and psychoeducation about the reproductive story
- Assessment of patient for the severity of depression (if present) and suicidal ideation.
- Individual Psychotherapy: Most evidence for CBT and MBI (Mindfulness-based interventions) (Frederiksen 2015). Other therapies include problem-focused therapy, psychoeducation, expressive writing intervention, art therapy, web-based coping, hypnosis, relaxation training
- Medications to treat severe anxiety, depression, PTSD, or other psychiatric symptoms
- Couples counseling
- Group therapy: In a 2015 systematic review and meta-analysis of psychosocial interventions for psychological and pregnancy outcomes in infertile patients, interventions, Frederiksen et al. found that interventions delivered in groups may be more effective in reducing infertility-related distress than other interventions.

References & Further Reading

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Zhou X, McQueen DB, Schufreider A, et al.: Black recipients of oocyte donation experience lower live birth rates compared with White recipients. Reprod Biomed Online 40(5):668-673, 2020

Webpage Links

1) Harvard Mental Health Letter: The psychological impact of infertility and its treatment

https://www.health.harvard.edu/press_releases/psychological-impact-of-infertility

2) American Society of Reproductive Medicine
https://www.asrm.org/topics/topics-index/infertility

3) Bulletin of the World Health Organization Volume 88: 2010 Volume 88, Number 12, December 2010, 877-953
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2995184/

4) Understanding Infertility: Psychological and Social Considerations from a Counselling Perspective: https://www.ijfs.ir/article_45746_14f7d872dd3445ca1fce15152245be30.pdf