A Couple Who Considers Artificial Reproductive Techniques: Psychosocially Informed Care in Reproductive Medicine

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16.1 Introduction and Aims

16.1.1 What Is Infertility and How Common Is It?

Infertility is a heterogeneous group of conditions of the reproductive system defined by the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse. If having a child is a highly desired life goal, the experience and diagnosis of infertility can have profound adverse psychological consequences. There is debate about whether infertility-related psychological distress is more accurately conceptualized as psychopathological or as an intense psychological reaction to abnormal personal circumstances. Infertility affects about one in ten couples worldwide, although there is no evidence about population prevalence available from most low- and middle-income countries.

16.1.2 What Is Assisted Reproductive Technology and How Commonly Used Is It?

Assisted reproductive technology (ART) is defined as all treatments or procedures that include the in vitro handling of both human oocytes and sperm, or embryos, for the purpose of establishing a pregnancy [1]. This includes, but is not limited to, in vitro fertilization and embryo transfer, gamete intrafallopian transfer, zygote

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intrafallopian transfer, tubal embryo transfer, gamete and embryo cryopreservation, oocyte and embryo donation, and gestational surrogacy. ART does not include artificial insemination using sperm from either a woman's partner or a sperm donor.

In countries where ART attracts government and health insurance subsidy, up to 4 % of births are a result of ART. This proportion increases with greater subsidy and better access to services. ART it not universally available and, if available, the cost is prohibitive to most couples in resource-constrained countries. Simplified and less costly protocols are being developed to increase access to ART.

Treatments with ART are physically demanding, at least for the woman, and accompanied by successive feelings of hope and despair, which is exacerbated when several treatment cycles are undertaken. Psychological distress is compounded by uncertainty about treatment success and the low chance of a live birth. This chapter addresses how health-care professionals can give psychosocially informed care. This requires a set of acquired skills that promotes patients' wellbeing and includes empathy, honesty, respect, effective communication, nonjudgmental language, patient involvement, and emotional support.

16.2 Definition in Lay Terms

Infertility means a failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse.

Assisted reproductive technology (ART) refers to all treatments or procedures that include the handling of both human oocytes and sperm, or embryos, *outside the human body* for the purpose of establishing a pregnancy.

16.3 Didactic Goals

After reading this chapter you will:

- know that infertility and its treatment place demands on individuals' psychological and social resources.
- appreciate that all infertility and ART clinicians need to be responsive to the increased psychological and social needs of their patients.
- recognize the stages of ART that are associated with increased vulnerability to psychological distress.
- identify the features of psychosocially informed care: empathy, a sound therapeutic alliance, respect, effective communication, patient involvement, and emotional support [2].
- understand that psychosocially informed care requires a set of acquired skills that are sensitive to and respond to patients' increased psychosocial needs.

Case History

Wendy Orchid is 35 years old and John is 39. They have been trying to conceive for a year and are worried that something is wrong.

They see their primary care physician, Lester Viridian, for advice. He is sympathetic and gives them a brief overview of how they will work together to investigate what may be causing the infertility and how this will determine the treatment options. He explains that the infertility investigation and treatment can be emotionally, physically, and financially demanding. He encourages them to be open with each other about how they feel and to seek support. They hear that they are not alone—around 10 % of couples experience fertility difficulties. He explains that, whether the problem is female- or male-related, infertility is a couple's problem. Both women and men are likely to believe that the woman is responsible, even if etiology is unexplained or involves combined male and female factors. Most of the investigations and treatments involve the woman.

He explains that John will have a semen analysis and Wendy will need blood tests and a procedure, such as hysterosalpingography and/or laparoscopy, to investigate whether her fallopian tubes are open. Together, they will evaluate the implications of the results. If the test results reveal that assisted reproductive technology (ART) treatment could help, they will be referred to a fertility specialist, but meanwhile, they can make up their minds together about whether or not to proceed.

Although they may be very hard to change, individual behaviors can influence the chance of conceiving spontaneously or with ART. Lester directs them to information about preconception health and how to optimize fertility (www.yourfertility.org.au). John is smoking 15 cigarettes per day and Wendy is in the overweight range (body mass index [BMI] = 26), so Lester recommends specific evidence-informed strategies for quitting smoking and losing weight.

16.4 Facts and Figures: Psychosocial Aspects of Infertility and Assisted Reproductive Technology

16.4.1 What Are the Potential Psychological Consequences of Infertility and Assisted Reproductive Technology?

Everyone experiencing infertility and ART has heightened needs for psychological support, but few will require specialist assistance to meet these needs. Symptoms of anxiety and depression are often elevated in people experiencing infertility, but rates of psychopathology are similar to the general population. Some people may experience despair and the loss of existential meaning at the prospect of a future without biological progeny. Unlike other adverse life events, infertility is regarded as

uniquely distressing because it can last for many years, there is uncertainty about whether it will be resolved, and, for many, it will not be concluded by the birth of a baby. An “infertility strain profile” is characterized by increased anxiety, irritability, profound sadness, self-blame, lowered energy levels, social isolation, and heightened interpersonal sensitivity [3]. Almost all people presenting for treatment are having some of these experiences that might best be conceptualized as a normal emotional response to a painful predicament.

16.4.2 What Is the Nature of Psychological Distress Among Couples Seeking Assisted Reproductive Technology?

Guilt is especially prominent among women, linked in particular to fears that earlier sexual experiences, sexually transmitted infections, abortion, the use of contraceptives, or delaying conception while pursuing other goals has compromised fertility. The lack of agency and frustration associated with being unable to control conception and physiological functioning can lead to anger, which may be directed toward the infertile partner, friends and associates who have been able to conceive easily, and people who offer unsolicited advice. Reaction to infertility is also conceptualized as “disenfranchised grief.” The many intangible potential losses include sexual spontaneity; the experiences of pregnancy, childbirth, and breastfeeding; the children and grandchildren who will not exist; genetic continuity; parenthood and the activities and relationships it entails; and an element of adult and gender identity that will never be realized and can be substituted with an infertile identity.

16.4.3 What Is the Evidence for “Psychogenic Infertility”?

Infertility, particularly of unknown etiology, and among women, was once widely attributed to personality characteristics or psychiatric conditions, so-called “psychogenic infertility.” This led to misattribution of the cause of infertility and blaming of victims. A systematic review found no significant differences in rates of psychiatric illness, other psychopathology or personality factors between presumed fertile groups and those seeking infertility treatment, or between infertile groups and population norms, or between groups with infertility of different etiology and duration [4].

16.4.4 How Do Women and Men Typically Differ in Their Psychological Responses to Infertility and Assisted Reproductive Technology?

Infertility and its treatment are often socially isolating experiences. Spontaneous disclosure of emotional needs and explicit support-seeking are uncommon, particularly among men affected by infertility. They are more likely to confide in and desire information and emotional support from infertility clinicians rather than from friends or mental health professionals.

Women experience more emotional distress associated with infertility than men, except in cases of male factor infertility where the degree of distress is similar. Even when male factors are implicated, women experience more guilt and self-blame than their male partners, which may be because most of the investigations and treatments focus on the female partner.

Most men aspire to parenthood and can experience chronic grief if this goal is not realized. Infertility-specific anxiety is elevated in men at the initiation of diagnostic investigations, confirmation of diagnosis, and during treatment, but the overall prevalence of clinically significant symptoms of depression and anxiety is no higher than in the general population [5]. Some men appear able to compartmentalize their emotions and to continue to participate in their lives without being preoccupied or disabled by anxiety or to suspend their emotional needs in service of their partner's increased need for support. Both women and men can fear losing significant relationships, in particular with the partner, and some may offer to allow their spouse to partner with someone else in order to have a child.

16.4.5 What Are Some of the Consequences of Psychological Distress in Women and Men Seeking Assisted Reproductive Technology?

People respond to disturbing life events in individual ways. Studies of women show that those who participate actively in seeking information and making treatment decisions have lower levels of depression and attract more social support than those who submit passively to medical recommendations. Individuals with high self-esteem and dispositional optimism are protected against severe depression. The reciprocal is also true: better mood is associated with solution-focused problem-solving and increased emotional support [6].

People who use avoidant coping and deny the emotional impact of infertility may seek multiple medical opinions in order to find an optimistic assessment. They are at higher risk of becoming more severely depressed or anxious and may also be vulnerable to exploitation by extravagant claims for treatments, including for complementary therapies for which there is scant scientific evidence. Fertility difficulties challenge personal identity and disrupt an individual's achievement of their planned life goals. It can exert a pervasive negative effect on quality of life, compromising planning and commitment to other life activities.

16.4.6 How Can the Clinician Promote Psychological Wellbeing in Couples Seeking Assisted Reproductive Technology?

Comprehensive psychosocially informed care in couples seeking ART involves:

- Ensuring that the couple has adequate knowledge of the fertile period in the menstrual cycle and the need to have sexual intercourse then
- Assisting the couple to make a realistic appraisal of the chance of treatment success

- Not colluding with unrealistic hopes for success
- Acknowledging that it is not a straightforward decision for the clinician or the couple and assisting the couple to decide when to continue and when to cease treatment
- Being available to provide emotional support in the interval between embryo transfer and pregnancy testing and at other critical times during treatment
- Countering common concerns that infertility is related to anxiety or stress and challenging the view that if they could relax, conception would occur spontaneously
- Challenging the inaccurate belief that unsuccessful ART cycles are because of something that a person did or did not do
- Actively eliciting disclosure of psychological needs

Comprehensive psychosocially informed clinical care within infertility services is of particular importance to the promotion of emotional wellbeing. The psychological consequences of diagnosis and treatment for infertility are reduced if clinicians can build a therapeutic alliance within which a couple can be assisted to understand and respond to an unanticipated adverse life experience for which there is generally not a simple solution. This alliance will grow if the clinician is perceived as knowledgeable, technically skilled, warm, unhurried, trustworthy, and nonjudgmental.

16.4.7 How Would You Explain the Chance of Success of Assisted Reproductive Technology to an Individual Couple?

- The woman's age is the most important factor determining ART success. Women in their early thirties are about five times more likely than women in their early forties to have a baby with ART.
- Carefully selected language should be used to display empathy and understanding in order to minimize guilt.
- Couple characteristics that influence chance of ART success including age, reproductive and health history, tobacco use, and BMI should be considered [7].
- Definitions of success vary between clinics. For example, defining success as "clinical pregnancy per embryo transfer" will yield a much higher percentage than "live births per started treatment cycle."
- Multiple birth and the associated poorer perinatal outcomes are more common after ART than spontaneous conception, because of the practice in many clinics of transferring more than 1 embryo.
- The birth of a singleton is the most appropriate measure of ART success, and the best way of achieving this is by transferring only 1 embryo per cycle [8].

Case History: Continued

Three weeks later Wendy and John Orchid have an appointment with Selena Plum, a fertility specialist at an ART clinic. They discuss the test results. John has a low sperm count and Wendy has mild endometriosis. Because they are both subfertile, the chance of spontaneous conception is low and ART treatment is indicated.

Selena outlines the physical, psychological, and financial implications of ART. A multidisciplinary expert team including doctors, embryologists, counselors, and nurses cares for couples who undergo treatment. A nurse is responsible for the day-to-day care and coordination including:

- Daily hormone injections to stimulate the growth and maturation of 10–12 oocytes (eggs)
- Monitoring of ovarian stimulation with blood tests and vaginal ultrasounds to determine the optimal time to retrieve the oocytes
- Hospital admission for ultrasound-guided oocyte retrieval
- The production of a sperm sample to be added to the oocytes
- Embryo transfer
- A 2-week wait to find out whether pregnancy has occurred

Selena explains that in each step there is a risk of treatment failure: the hormone stimulation may not yield the desired number of oocytes or may produce an excessive, potentially dangerous response; the oocytes may not fertilize; and the embryo may not implant. Several attempts are often needed to give couples a reasonable chance of having a baby, and she suggests that Wendy and John think of ART as a series of treatments rather than a "one-off." She reassures them that the clinic staff are aware of and can help them manage the hopes and disappointments of treatment.

To help Wendy and John make an informed decision about whether or not to pursue ART, Selena emphasizes the importance of understanding how the statistics about treatment success apply to an individual couple's circumstances. She uses simple diagrams she has created to explain the different ways of expressing the probability of having a baby [9]. Selena also gives them information about the possible adverse health effects and the financial costs of ART.

Wendy says that she has been told by a well-meaning relative that she should give up her career and relax more so that she can improve her chances of becoming a mother. Selena reassures her that there is no scientific evidence that "stress" reduces chance of conception [10]. This is a relief to Wendy.

John and Wendy express concern about having a baby with a birth abnormality but Selena reassures them that, although birth defects are slightly more common after ART than after spontaneous conception, they are still very rare [11]. Selena also mentions that the age of the woman is the most important factor determining the chance of having a baby with ART, but having a high BMI and smoking also reduce chance of ART success. Selena uses carefully chosen nonjudgmental language to display empathy and acknowledge that making changes can be difficult to do but urges the couple to adopt healthy behaviors in preparation for treatment.

Wendy and John feel well informed and decide to give themselves some more time to try to conceive spontaneously and achieve the best possible health. John is finally able to give up smoking and Wendy sets a goal to lose 5 k in weight. Six months later, they have not conceived and decide to proceed with ART treatment. Because of John's low sperm count, the embryologist performs the intracytoplasmic sperm injection (ICSI) procedure where one sperm is manually injected into each oocyte using highly specialized equipment. After three unsuccessful ART treatment cycles and an early miscarriage, Wendy and John feel despondent and uncertain about the future.

Selena talks to them about how couples often find it difficult to stop treatment and gives Wendy and John an opportunity to reflect on whether this is so for them, and if so, why. She tells them that making this decision is complex and that reasons why couples discontinue ART include the psychological burden of continuous cycles of emotional "highs" and "lows," uncertainty about the outcome of treatment, and cost [12]. She discusses with them the importance of taking control and setting a limit to the number of treatments and how making alternative plans for the future can help the decision to end treatment. She also tells them the evidence that almost all couples who remain childless after infertility treatment go on to have fulfilling lives [13]. She encourages them to talk to each other and asks them to come and see her again.

Over the next several months Wendy and John oscillate between the wish to try ART again and the fear of more treatment failure. They see Selena who informs them that the chance of ART success diminishes with each failed treatment and this helps them decide to end treatment. The sadness of being childless stays with Wendy and John, but over time they are able to focus on other rewarding life goals. Thinking back on the experience, they have no regrets because they explored all available possibilities for having a baby. They both agree that although unsuccessful, the ART treatment and the supportive care they received helped them to make infertility a part of their life story as a couple.

16.5 Specific Therapeutic Aspects and Tips and Tricks

16.5.1 What Are Some Useful Techniques for Building a Therapeutic Alliance with Couples Experiencing Infertility?

These techniques illustrate a psychosocially well-theorized, gender-informed, eclectic approach:

- Using open-ended questions (e.g., Please tell me about…? How did you feel when…?).
- Addressing feelings and using reflection first and then deeper questions later. Avoid asking "Why…?" and ask instead "What makes…?" or "What is the greatest loss?" or "What has struck you the most?"
- Enquiring explicitly using the statement and question method, for example, "I have met many men experiencing infertility, and they often feel sad, worried, embarrassed, or lonely" followed by "Have you had any feelings of this kind?" or "How you are feeling?" Always respecting the couple's level of willingness to disclose their feelings.
- Asking each member of the couple, "Who have you talked to about the fertility difficulties?" and "What do you imagine other people's reactions to your situation might be?"
- Addressing questions to each member of the couple separately, not allowing one to answer on behalf of the other.
- Providing couples with clear and unambiguous information about the likelihood of having a baby. This should be defined as percentage of live births per started treatment cycle.
- After providing clinical information, for example, about the infertility problem, a proposed treatment, or the outcome of a cycle, checking comprehension by asking the couple to summarize their understanding of what has just been discussed.
- Using plain language and not assuming that more highly educated people already understand technical terms or discipline-specific terminology.
- Using person-first language, for example, "the woman/man/person with…" rather than "the infertile woman/man/person."
- Emphasizing "treatment failure" not personal failure in the event of an unsuccessful cycle.
- Aiming to assist the couple, if treatment is unsuccessful, to work toward adaptation to the loss of the hoped-for baby, using a structured approach combining emotional support with opportunities for the couple to confront and explore their feelings.
- Working toward the goal of the final phase of the clinical work, which is to leave the couple feeling that treatment has been a worthwhile experience for them whatever the outcome.

16.5.2 What Can Clinicians Do to Manage Their Own Personal Reactions?

Clinical practice with couples experiencing infertility and ART treatment is intrinsically challenging because:

- The likelihood of a successful outcome is low.
- The clinician is treating a couple not just an individual.
- Treatment is expensive.
- Patients may express difficult emotions, including anger and frustration directed at the clinician.
- Of the imperative to assist couples to balance their competing needs to preserve hope with a realistic appraisal of treatment success.

A high degree of self-awareness about a clinician's personal reactions to treatment failure, their motives for offering further treatment cycles, and the influence of personal reproductive experiences on clinical care is essential for preserving professional boundaries and objectivity. Managing the inevitable challenges will be facilitated by knowing when to refer and avoiding working in isolation. Multidisciplinary team care provides support and mentorship for clinicians and is associated with better decision-making and patient outcomes [14].

The multidisciplinary team:

- Includes gynecologists, psychologists, nurses, and embryologists and meets regularly at scheduled times for complex case review.
- Is chaired actively to allow all members to speak.
- Is collaborative and confirms that a single clinician need not embody all the necessary skills.

16.6 Critical Reflection and Concluding Remarks

Good clinical practice for infertility and ART clinicians involves much more than the essential biomedical and technical competence. Psychosocially informed care requires a set of acquired skills that promotes patients' wellbeing and includes empathy, honesty, respect, effective communication, nonjudgmental language, patient involvement, and emotional support. Infertility and ART clinical care necessitates a high degree of self-awareness and can be psychologically challenging work. Multidisciplinary team approaches to clinical practice promote clinicians' wellbeing.

Test Your Knowledge and Comprehension

1. Stressful environments cause difficulties with conception.
   (a) True
   (b) False
2. The clinician should maintain the couple's hope for a successful outcome regardless of how many treatment cycles have been undertaken.
   (a) True
   (b) False
3. Lifestyle factors are the most important cause of infertility and ART success.
   (a) True
   (b) False
4. Women who have an active style of managing difficulties experience lower levels of depression and engage more social support than women who accept recommendations passively.
   (a) True
   (b) False
5. Assisting couples to make an active decision about when to cease treatment is an important aspect of ART treatment.
   (a) True
   (b) False
6. Which technique is not useful for building a therapeutic alliance with a couple undergoing ART?
   (a) Using open-ended questions
   (b) Encouraging members of the couple to answer on behalf of each other
   (c) Using plain, nontechnical language
   (d) Emphasizing treatment failure not personal failure
7. What is the most appropriate way to present ART success?
   (a) % pregnancies per embryo transfers
   (b) % pregnancies per started stimulated cycles
   (c) % live births per embryo transfers
   (d) % live births per started stimulated cycles
8. What is the most important determinant of ART success?
   (a) The reputation of the clinic
   (b) The cause of infertility
   (c) The woman's age
   (d) The number of previous IVF attempts
9. What is the most stressful time in an ART treatment cycle?
   (a) Starting treatment
   (b) Having injections and blood tests
   (c) The interference of treatment with daily life activities
   (d) The 2-week wait after embryo transfer

10. Infertility is not associated with
    (a) Increased risk of psychopathology
    (b) Feelings of guilt
    (c) Fear of losing significant relationships
    (d) Social isolation

Answers

1. False
2. False
3. False
4. True
5. True
6. (b)
7. (d)
8. (c)
9. (d)
10. (a)

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