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The psychological impact of infertility and its treatment

Medical interventions may exacerbate anxiety, depression, and stress.

The case of the California woman who gave birth to octuplets generated enormous media coverage and public discussion about infertility treatments. But in many ways the case is what researchers might call an "outlier"—one that is not typical—and as such it has done little to illuminate the far more common, but usually private, psychological challenges faced by the roughly 1.3 million patients who receive infertility advice or treatment each year in the United States.

- The relatively recent focus on physical causes of infertility means that its psychological impact may be overlooked.
- Medication side effects, money worries, and uncertain outcomes all contribute to infertility-related stress.
- For additional information and resources about dealing with the stress of infertility, visit www.health.harvard.edu/mentalextra.

About 5% of couples living in the developed world experience primary infertility (inability to have any children) or secondary infertility (inability to conceive or carry a pregnancy to term following the birth of one or more children). Experts once thought that only about half of all infertility cases had a physical origin, and that the rest were unexplained or the result of psychosomatic problems in women. But research now indicates that most cases of infertility can be attributed to a physiological cause in the man or woman. About one-third of the time a physiological problem is identified in the woman, one-third of the time in the man, and about one-tenth of the time in both partners. In another 10% to 20% of cases (estimates vary), the basis of infertility cannot be determined.

But while the causes of infertility are overwhelmingly physiological, the resulting heartache—often exacerbated by the physical and emotional rigors of infertility treatment—may exact a huge psychological toll. One study of 200 couples seen consecutively at a fertility clinic, for example, found that half of the women and 15% of the men said that infertility was the most upsetting experience of their lives. Another 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.

Less research has been done on men's reactions to infertility, but they tend to report experiencing less distress than women. However, one study found that men's reactions may depend on whether they or their partners are diagnosed with infertility. When the problem is diagnosed in their wives or partners, men do not report being as distressed as the women do. But when men learn that they are the ones who are infertile, they experience the same levels of low self esteem, stigma, and depression as infertile women do.

Stress of infertility and interventions

Individuals who learn they are infertile often experience the normal but nevertheless distressing emotions common to those

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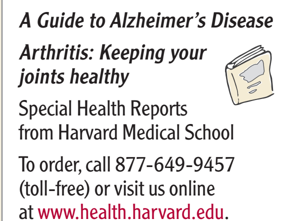

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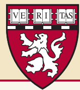

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who are grieving any significant loss—in this case the ability to procreate. Typical reactions include shock, grief, depression, anger, and frustration, as well as loss of self-esteem, self-confidence, and a sense of control over one's destiny.

Relationships may suffer—not only the primary relationship with a spouse or partner, but also those with friends and family members who may inadvertently cause pain by offering well-meaning but misguided opinions and advice. Couples dealing with infertility may avoid social interaction with friends who are pregnant and families who have children. They may struggle with anxiety-related sexual dysfunction and other marital conflicts.

There are about 40 ways to treat infertility. About 85% to 90% of patients are treated with conventional methods, including advice about timing of intercourse, drug therapy to promote ovulation or prevent miscarriages, and surgery to repair reproductive organs. Only about 3% of patients make use of more advanced assisted reproductive technology such as in vitro fertilization (IVF). While medical interventions offer much-needed help and hope, studies suggest that they may also add to the stress, anxiety, and grief that patients are already experiencing from infertility itself.

Medication side effects. Drugs and hormones used to treat infertility may cause a variety of psychological side effects. For example, the synthetic estrogen clomiphene citrate (Clomid, Serophene), frequently prescribed because it improves ovulation and increases sperm production, may cause anxiety, sleep interruptions, mood swings, and irritability in women. (These side effects have not been documented in men.) Other infertility medications may cause depression, mania, irritability, and thinking problems. Patients and clinicians may find it hard to figure out which reactions are psychological and which are caused by medications—yet identifying causes is essential for determining next steps.

Money worries. Only 15 states mandate insurance coverage for infertility treatment, and the extent of coverage varies. Costs of infertility treatments are significant. The average cost for an IVF cycle using fresh embryos, for example, is $8,158, with an additional $3,000 to $5,000 per cycle for fertility drugs. For patients who do not have insurance coverage or the means to pay for treatment, not being able to obtain treatment may contribute to feeling helpless and hopeless. Even patients with insurance coverage may find that copayments or limitations on coverage mean they must pay significant amounts out of pocket.

Choices and outcomes. Over all, infertility interventions help about half of patients become parents, with the likelihood of success decreasing with age. Patients who learn they are to become parents may be overjoyed, but also must learn to adjust to new roles and pressures—both during pregnancy and after childbirth. Women who have suffered multiple miscarriages, for example, are likely to feel anxious about whether they will be able to carry to term. Older couples may debate whether to undergo prenatal testing such as amniocentesis.

Treatment failure, on the other hand, may trigger a renewed cycle of grieving and distress. The distress may be especially severe for patients living in Western developed nations such as the United States, where the cultural assumption is that anyone who works hard and is persistent will succeed in achieving a goal.

It's also difficult to know when to stop seeking treatment. Frequently one partner wants to end treatment before another, which can strain the relationship. Most patients need to gradually, and with great difficulty, make the transition from wanting biological children to accepting that they will have to pursue adoption or come to terms with being childless.

Additional mental health challenges

Case reports and studies using self-report measures indicate that infertile patients

For more information

American Society for Reproductive Medicine (ASRM)
Call 205-978-5000
or visit www.asrm.org

This professional organization for infertility specialists publishes guidelines and hosts meetings about the medical management of infertility. Its Mental Health Professional Group focuses on the psychological and emotional aspects of infertility treatments.

RESOLVE: The National Infertility Association
Call 703-556-7172
or visit www.resolve.org

This organization provides education, support, publications, and advocacy for women and men facing infertility.

feel more distressed than other people. More rigorous research, however, has concluded that—for the most part—rates of anxiety, depression, and other mental health disorders are not greater than in the general population. Patients may experience serious mental health problems on a transient basis, as they deal with the emotional and physical roller coaster typical of infertility treatment.

For example, one study in Taiwan used a rigorous research instrument—a structured diagnostic interview with a psychiatrist—to examine 112 women seeking assisted reproductive treatment. The women also completed a self-report scale. Levels of anxiety and depression were higher than those found in other populations. Investigators diagnosed anxiety in 23% of the study population, compared with 11% noted in a separate study of outpatients seeking general medical care. They also diagnosed major depression in 17% of the women seeking infertility treatment, compared with 6% in the other patients.

Infertility treatment can also exacerbate existing psychiatric conditions. Infertile women with a history of depression, for example, are more likely than other infertile women to become depressed during treatment.

Therapies that may help

Many patients find a way to cope on their own, or they seek support from friends, family, or one of the many infertility support groups now available in person and online. But others need additional help.

Counseling. Referrals for short-term counseling are common—especially to increase coping strategies, or to provide help with making decisions (as patients face many choices during treatment). Patients who experience prolonged changes in mood or sleep patterns or who have relationship problems should seek a more comprehensive evaluation, as these may be signs of anxiety or depression.

Ideally, counseling should begin before patients start infertility treatment, as some studies—though not all—suggest that addressing psychological factors such as depression, anxiety, and stress may help increase the chances of giving birth to a child. Clinicians working with infertile patients can provide information on how to manage fatigue, reduce stress and anxiety, and improve communication with others.

Psychotherapy. Specific types of therapy may also be useful. For example, studies have concluded that interpersonal therapy (which focuses on improving relationships or resolving conflicts with others) and cognitive behavioral therapy (which identifies and tries to change unhealthy patterns of thought or behavior) can give relief to infertile patients suffering from mild to moderate depression. Researchers have shown that psychotherapy can be helpful for anxiety or depression whether delivered individually, to couples, or in a group.

Relaxation techniques. Given that infertility and its treatment often cause considerable stress, experts recommend various relaxation techniques. For example, mindfulness meditation, deep breathing, guided imagery, and yoga promote stress management. (See our online stress resource center for additional information and tools: www.health.harvard.edu/stress.)

Medications. Antidepressants and anti-anxiety medications are useful when symptoms are moderate to severe. However, it's wise for women taking psychiatric medication to consider the risks to the developing fetus (see *Harvard Mental Health Letter*, December 2008). Further complicating treatment, some infertility medications can interact with psychiatric drugs. For example, birth control pills prescribed to regulate ovulation may decrease blood levels of certain benzodiazepines, including lorazepam (Ativan), while increasing blood levels of other medications, such as alprazolam (Xanax) and imipramine (Tofranil). It is important for patients and clinicians to weigh all these factors when making medication decisions.

Hard-won resolution

Although the psychological challenges of infertility can be overwhelming, most patients ultimately reach some type of resolution—whether becoming parents to biological children, adopting children, or deciding to build a life without children. But this resolution is usually hard won, and patients may feel forever changed by the experience of infertility.

Burns LH. "Psychiatric Aspects of Infertility and Infertility Treatments," *Psychiatric Clinics of North America* (Dec. 2007): Vol. 30, No. 4, pp. 689–716.

Cousineau TM, et al. "Psychological Impact of Infertility," *Best Practice & Research: Clinical Obstetrics and Gynaecology* (April 2007): Vol. 21, No. 2, pp. 293–308.

The Practice Committee of the American Society for Reproductive Medicine. "Child-Rearing Ability and the Provision of Fertility Services," *Fertility and Sterility* (Sept. 2004): Vol. 82, Suppl. 1, pp. S208–11.

For more references, please see www.health.harvard.edu/mentalextra.