

Psychology of Infertility: Psychological Reactions to Infertility and Assisted Reproductive Technologies

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Abstract: *Reproduction can be considered as a basic function of human individuals. Inability to procreate, thus infertility, is a widespread problem in our day societies, given that the population suffering infertility is drastically increased in the past decades. Infertility is defined as failure to conceive after one year of unprotected timed intercourse. According to demographic studies, only half of people suffering infertility, seek medical assistance for their problem. The experience of difficulties in conception, thus the diagnosis of infertility and its treatment are frequently associated with anxiety and overall distress. The rapid scientific and medical advantages in the assisted reproductive technologies and the growth of fertility treatments worldwide, has added a focus on this regard, in the last two decades. Although the treatments are relatively easily available in most Western countries today, the psychosocial consequences of these "hightech" treatments have scarcely been addressed. Infertility is considered as an individual and couple experience that affects not only the relationship between the couple but also the family social and psychological status. As the available technology has developed along with the vicissitudes of fertility treatments, patients have turned to help professions that may support in dealing with the many stresses inherent to the experience and treatment of infertility. Much of the research on infertility reinforces differing affects for women and men, with women reporting to experience greater levels of psychological distress, in response to infertility, than men. However women report to be more likely to seek information and assistance and may be better able to identify and access other areas of potential social support outside of their marriages. The purpose of this article is to explore the psychology of infertility, specifically the theoretical implication of assessment and evaluation, psychological reactions to infertility and assisted reproductive technologies, with a special emphasis on gender differences.*

Keywords: *Infertility, Assisted Reproductive Technologies, Assessment and Evaluation*

1. Introduction

The ability to conceive is often taken for granted (Lalos, 1999). When couples become suspicious about their ability to reproduce and take the step to seek medical help they have often experienced repeated ups and downs with hopes every month for a pregnancy followed by disappointment when menstruation occurs. The ability to conceive is a "universal biopsychosocial assumption that goes unchallenged until a couple faces infertility" (Meyers et. al, 1995, p 219). From 12 to 20 % of couples will face infertility at some point of their reproductive life (Abbey, Andrews, & Halman, 1991; Korpatnick, Daniluk, & Pattinson 1993). The distinction between *primary infertility*, the inability to conceive the first child, and *secondary infertility*, the inability to conceive after one live birth, provides evidence that infertility affects even more couples than originally considered. In fact, an additional 10% to 12% of women experience secondary infertility, thus doubling the number of women whom childbearing is problematic (Trantham, 1996). The fact that infertility rates increase with age is an additional consideration (Mosher & Pratt, 1990), given the trend among young couples to delay marriage and childbearing in favor of career pursuits (Eunpu, 1995; Mathews & Mathews, 1986; Stewart & Robinson, 1989). A sense of loss of control of bodily processes has been described as one of the most stressful dimensions of infertility (Mahlstedt et al., 1987). Wright et al. found that both infertile women and men upon first admission to a fertility clinic were more distressed than individuals in the general population (Wright et al., 1991).

According to Whiteford and Gonzalez, the "culturally shaped desire to have children appears to be extremely strong, transcending sex, age, race, religion, ethnicity, and social class division" (Whiteford and Gonzalez, 1995). Because childbearing is a mayor, normative role for both men and women, the experience of infertility, a nonevent transition (Korpatnick et al., 1993) has been conceptualized under the rubric of the "crisis of infertility" (Atwood & Dobkin, 1992;

Butler & Koraleski, 1990; Slade, Raval, Buck, & Lieberman, 1992). This crisis is complex and is accompanied by various physical, financial, psychological and social stressors (Domar, 1997; Shepherd, 1992). The manner in which couples cope with infertility issues varies considerably with gender differences among several studies (Connolly & Cooke, 1987; Levin, Sher and Theodos, 1997; Ulbrich, Coyle, & Liabre, 1990). In fact, many authors suggest that women experience a more difficult adjustment to infertility than their partners, due in large part to emphasis in our society on the role of women as mothers.

The process of helping infertile people has traditionally focused on the role of medical personnel whose goal is diagnosis and treatment designed to help couples conceive (Cook, 1987). The identification of psychological and social factors puts an emphasis on the importance that the "infertility crisis", has in the life of the couple and its individuals. The above, leads the need of helping professions that contribute to better understand and approach to this life crisis.

2. Psychological impact of infertility

A myriad of feelings, and beliefs that couples and individuals experience contribute to the "crisis of infertility" (Cook, 1987; Leader, Taylor, & Daniluk, 1984). This crisis involves an interaction among physical conditions related to infertility, possible medical interventions to diagnose and treat infertility, social constructions about parenthood and nonparenthood, reactions of others, and individual psychological traits (Cook, 1987). In dealing with all of these factors, the couple or individual may find that they lack resources (e.g., medical, social, psychological resources) to provide support for themselves and their partners (Leader et al., 1984). Although both individuals in a couple may experience this "crisis", research has indicated that women are more negatively affected by infertility (Abbey et al., 1991; Daniluk, 1997; Raval, Slade, Buck, & Lieberman, 1987, Ulbrich et al. 1990; Wright, Allard, Lecours, & Savourin, 1989).

Möller and Fällström investigated couples that contacted a doctor for the first time when they had suspected an infertility problem. As duration of infertility treatment increased and patients experienced repeated failures to conceive, the psychological distress was likely to grow. Depressive reactions, social isolation and feelings of emptiness were common among these couples. Many experienced a deterioration of their sexual life, often as a consequence of "scheduled sex". Many women experienced that their marital relationship had deteriorated. Among the women, feelings of failure of not being a complete woman, increased over time (Möller and Fällström, 1991a). Lalos et al studied couples where the woman underwent reconstructive tubal surgery and found that in the follow-up assessment of those who had not become pregnant, both women and men reported that their feelings toward each other had changed negatively, and that their sex life had deteriorated. Nearly all experienced feelings of grief (Lalos et al., 1985b). Infertility is described as a crisis reaction by Lalos: "The first reaction includes shock, surprise disbelief and denial, followed by feelings of frustration, anger, loss of control and anxiety. Subsequent reactions often include feelings of guilt, embarrassment, disappointment, isolation, depression, grief and mourning." However, the crisis of infertility differs from that of a general traumatic crisis as infertile subjects may remain in a state of long-term crisis if the problem is not resolved (Lalos, 1999). Demyttenaere points out the paradox, experienced by couples struggling with infertility, of grieving for a nonexistent child while at the same time maintaining hope that a child of their own will exist in the future (Demyttenaere, 1990).

Factors that provide a better understanding of infertility include emotional responses to medical diagnosis and treatment, and gender differences in emotional responses to infertility. Ethnicity may also be another factor that could provide a better understanding of the psychological impact of infertility for women. In societies like Albania, in which women's role is mainly associated with reproduction and their role as mothers, is believed that infertility diagnosis is associated with more feelings of guilt, embarrassment, disappointment, isolation, depression, grief and mourning. However, empirical research in this area lacks adequate samples to support any significant findings.

Mahlstedt et al., studied couples who entered an IVF-treatment and found that among the subjects who had experienced divorce, 63% described infertility as being as stressful as, or more stressful than, divorce; of the subjects who had experienced death of close family or friend, 58% reported infertility as stressful as, or more stressful than, death (Mahlstedt et al., 1987). Freeman found that before IVF-treatment 48% of the women and 15% of the men described infertility as the most upsetting experience of their lives (Freeman et al., 1985).

The psychological demands of going through IVF are strong for many couples (Mahlstedt et al., 1987) with the weeks prior to the pregnancy test described as the most stressful period (Boivin et al., 1998; Callan and Hennessey, 1988; Laffont and Edelmann, 1994). The pattern of distress during the IVF procedure is similar among women and men (Boivin et al., 1998). A failure to conceive after IVF is often accompanied by depression, anxiety, (Baram et al., 1988; Newton et al., 1990; Slade et al., 1997) sadness and anger (Laffont and Edelmann, 1994).

3. Gender differences in response to infertility – Men versus Women

Many factors affect the reactions and adjustment of the couple who is experiencing infertility, and it is not surprising that significant gender differences in coping have been found (Abbey et al., 1991; Brand, 1989; Bresnick & Taymor, 1979; Daniluk, 1997; Edemann & Connolly, 1996; Jones & Hunter 1996; Keystone & Kffko, 1992; Mc Ewan, Costello, & Taylor, 1987; Raval et al., 1987; Reed, 1987). Specifically, women have reported experiencing more marital difficulties, including sexual difficulties (Abbey et al., 1991; Daniluk, 1997; Raval et al., 1987; Wright et al., 1989). They also describe their emotional reactions as being more like a grief reaction (Jones & Hunter, 1996). Men report experiencing many of the feelings, thoughts and beliefs that women have reported (Daniluk, 1997); however the frequency of their reports and the intensity and duration of these feelings may be more variable for men (Berg & Willson, 1991; Daniluk, 1997; Edelman & Connolly, 1996; Jones & Hunter, 1996; Keystone & Kaffko, 1992). This may be because women have greater physical and emotional involvement with infertility than men do; women carry most of the burden, in terms of medical evaluation, and carry physical reminders (e.g., menstrual period) of infertility that men do not experience (Williams et al., 1992). In a review of empirical research on gender differences, Wright and colleagues, concluded that women tended to be more distressed by the infertility experience and its medical treatment than men, even when the infertility diagnosis was not attributable to her, or when the diagnosis was ambiguous (Wright et al. 1991).

In a similar study of Abbey et al. (1991), married women also reported that they believed they experienced more disruptions and stress in their personal, social, and sex lives compared with their husbands who reported they had experienced more home-life stress. In an attempt to gain control of their experiences, women also attributed more responsibility for infertility to themselves (Abbey et al., 1991; Daniluk, 1997). At the same time, their husbands held them responsible for the infertility (Abbey et al., 1991). Therefore women's feelings of guilt about infertility were confirmed. It is interesting that both husband and wife attribution of blame to women was unrelated to their actual source of infertility, and sometimes the diagnosis was actually related to male factor rather than female factors.

When confronted with issues of loss, women tend to share their feelings with their partner or others as a means of coping (Keystone & Kaffko, 1992). They also appear to be more likely to seek information and assistance and may be better able to identify and access other areas of potential social support outside their marriages (Abbey, and Halman, 1991). Infertility diagnosis appears to be a factor in men's psychological adjustment to infertility, in that men with male factor infertility exhibit more negative emotional response to infertility including more feelings of stigma, loss and poor self esteem (Nightingall, Quiroga, and Tschann, 1997). In addition, men tend to make more self-denigrating remarks if infertility diagnosis is male factor. In coping with emotional responses to infertility, men appear more often to use denial, distancing, avoidance and withdrawal into themselves and are less likely to seek social support, counseling or discussions with caregivers (Abbey, and Halman, 1991; Wright J, Duchesne C Sabourin S, et al. 1991), because for them it is stressful to talk about infertility with anyone. Men may listen to their partners and react internally but not share their feelings with their partners. Therefore, female partners may believe they are being pushed away, contributing to a sense of isolation. Such feelings of isolation may be more significant for women than for men, as a consequence of gender differences in relational process.

4. Psychological Responses to Assisted Reproductive Technologies

Over the past 20 years in vitro fertilization (IVF) has moved from an experimental procedure to an accepted medical treatment with over 3 million babies, born through IVF (Eshre, 2011). However, despite these advances, IVF and its variations continue to have not high success rate. Twenty years ago by the overall IVF procedures, only less than 20% resulted in pregnancy¹ (Burns, L & Convington S. et al. 2000). Depending on the type of calculation used, this outcome may represent the number of confirmed pregnancies, called the *pregnancy rate*, or number of live births, called the *live birth rate*. To advancement in reproductive technology, the IVF success rates are substantially better today than they were just a few years ago. The most current data available in the United States a 2009 summary compiled by the Society for Reproductive Medicine (SART) which reports the average national IVF success rates per age group using non-donor eggs (see table 1).

¹ IVF success rates are the percentage of all IVF procedures which result in a favorable outcome

Table 1

	<35	35-37	38-40	41-42
Pregnancy Rate	47.6	38.9	30.1	20.5
Live Birth Rate	41.4	31.7	22.3	12.6

While as recently as 20 years ago, IVF was the latest available medical treatment for infertile couples, now variation of IVF, including third party reproduction (e.g., donated gametes, gestational carrier) and assisted medical technologies (e.g., intracytoplasmic sperm injection), are increasingly available. However, these options also strain traditional meanings of parenthood. As such, an increasing number of studies have investigated psychological well-being before, during and after assisted reproduction, to assess psychological factors as mediating forces in successful outcomes and psychological response to unsuccessful outcomes.

Individuals undergoing assisted reproduction appear to be at no greater risk for psychological disturbances, although there may be greater risk of anxiety, distress and grief, especially if the procedure is unsuccessful (Downey, J. J. J. S., McKinney M. 1999) Factors contributing to grief reactions following unsuccessful IVF/ICSI, included a belief that the treatment is the couples last chance of having a biological child, preexisting psychological illness, and overestimation of personal success (Boivin, 1995). More recent research has shown that mood (anxiety, depression, or distress) probably fluctuates in both men and women over the course of an assisted reproductive treatment cycle: oocyte-retrieval day, decreasing on embryo transfer and rising again on pregnancy test day. However, severity of response appears to diminish with repeated cycles (Boivin 1995, Merari 1992).

5. Assessment of infertile patient

The role of the mental health professional in the evaluation and screening of infertility patients is relatively new, having evolved over the past 25-30 years. The use of mental health professional either as a treatment team member or as a consultant is norm in most academically based and large private practices in the developed countries. However there are still some physicians that who do not use a mental health professional to work with their patients; this is the case of Albania, where from 8 observed clinics that offer services for reproductive health, none of them has a any mental health professional such as social worker or psychologist to offer psychosocial support for infertile patients. This is supported with the fact that the first IVF clinic in Albania was established round 2004, and this is still considered a new service for the country. Even though the number of clinics and the quality of the service they offer for infertility treatment is noticeably improved, this is not always the case.

In Albania, the care of couples during IVF treatment, is primarily given by gynecologists and midwives, whose role is to inform the couples about the treatment procedure, to instruct them about how to follow the medical regiments, to inform them about the progress of the hormonal stimulation, and to assist them when the oocytes are retrieved and when embryos are transferred.

The goal of infertility treatment are to accomplish a thorough investigation to treat any abnormalities that are uncovered to educate the couple to the workings of the reproductive system, to give the couple some estimate of their fertility potential, to counsel for adoption when appropriate, and to provide emotional support (Speroff L, Glass RH, Kase NG, Clinical Gynecologic Endocrinology and Infertility, 4th edn. Baltimore; Williams & Wilkins, 1989). And while all team members contribute to patient care, it is the primary role of the mental health professional to address the psychosocial issues that emerge as couple confronts infertility. The mental health professional evaluates, diagnoses and treats psychological disorders, as well as providing patient education, an arena for facilitating decision making, a forum for discussing ethical and cultural issues related to treatment, and emotional follow-up when the treatment results in a pregnancy and especially when it does not (Burns, L & Convington S. et al. 2000).

Typically, the initial psychosocial evaluation or consultation with the infertile couple is the first contact that the mental health professional has with the couple; therefore providing knowledgeable, compassionate care is imperative.

The purpose of a psychological assessment is to gather information about an individual that describes their personal history and current level of functioning. The assessment can gather pieces of information in two ways: a clinical interview and psychological testing. The purpose of the interview is to educate and prepare couples for the treatment and to detect any presence of any psychosocial problem that would be a contraindication for infertility treatment or impact participation in treatment.

Although the majority of patients do not develop overt psychiatric disorders in response to involuntary childlessness, investigators have documented the occurrence of anxiety and depressive symptoms (Baram, 1988), marital difficulties (Mitsioni, 1987) and changes in sexual functioning (Downey, 1989). For all of the above-mentioned reasons, many

authors have recommended the routine provision of psychosocial services, both evaluation and treatment, to individuals and couples presenting for infertility treatment, especially those undergoing assisted reproductive technologies.

The service of psychosocial evaluation and testing may be offered by many different types of mental health practitioners, including psychiatrists, psychologists, social workers, psychiatric nurses and a variety of therapists who have postgraduate training in social science (Burns, L & Convington S. et al. 2000).

6. Conclusions

The ability to conceive is often taken for granted, but the inability to conceive is a “universal biopsychosocial assumption that goes unchallenged until a couple faces infertility”. The desire to have children appears to be extremely strong, transcending sex, age, race, religion, ethnicity, and social class division. The crisis of infertility is complex and is accompanied by various physical, financial, psychological and social stressors.

Infertility is related with increased anxiety, depression and isolation. Gender differences in living with this experience are notable and make the unique experience of infertility different for men and women. This because women have greater physical and emotional involvement with infertility than do men; they carry most of the burden, in terms of medical evaluation and also physical reminders.

The identification of psychological and social factors puts an emphasis on the importance that the “infertility crisis”, has in the life of the couple and its individuals. The above, leads the need of helping professions that contribute to better understand and approach to this life crisis.

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