

Psychological aspects of infertility

Prasanta Kumar Deka, Swarnali Sarma

ABSTRACT

Infertility is the inability to naturally conceive, carry or deliver a healthy child. The World Health Organization definition based on 24 months of trying to get pregnant is recommended as the definition that is useful in clinical practice and research among different disciplines. All over the World it affects an estimated 10%-15% of couples of reproductive age. In recent years, the number of couples seeking treatment for infertility has dramatically increased. There is less information about effective psychiatric treatments for this population; however, there is some data to support the use of psychotherapeutic interventions. The stress of the non-fulfilment of a wish for a child has been associated with emotional sequel such as anger, depression, anxiety, marital problems and feelings of worthlessness among the parents. In general, among infertile couples, women show higher levels of distress than their male partners. Various research studies support the theory that distress is associated with lower pregnancy rates among women pursuing infertility treatment. Since psychological factors play an important role in the pathogenesis of infertility, exploration of this is also an important task to manage this devastating problem, which has cultural and social impact.

KEYWORDS

Infertility, Psychology, Depression

Introduction

Most experts define infertility as not being able to get pregnant after at least one year of trying. Women who are able to get pregnant but then have recurrent miscarriages are also said to be infertile. The infertility definition made a difference. The World Health Organization definition based on 24 months of trying to get pregnant is recommended as the definition that is useful in clinical practice and research among different disciplines.¹

Magnitude of the Problem

It is a growing problem and across virtually all cultures and societies almost all over the World and affects an estimated 10%-15% of couples of reproductive age. In recent years, the number of couples seeking treatment for infertility has dramatically increased due to factors such as postponement of childbearing in women, development of newer and more successful techniques for infertility treatment, and increasing awareness of available services. This increasing participation in fertility treatment has raised awareness and inspired investigation into the psychological ramifications of infertility. Consideration has been given to the association between psychiatric illness and infertility. Researchers have also looked into the psychological impact of infertility per se and of the prolonged exposure to intrusive infertility treatments on mood and well-being. There is less information about effective psychiatric treatments for this population; however, there is some data to support the use of psychotherapeutic

interventions².

Why infertility has a psychological effect on the couple?

Parenthood is one of the major transitions in adult life for both men and women. The stress of the non-fulfilment of a wish for a child has been associated with emotional sequel such as anger, depression, anxiety, marital problems and feelings of worthlessness. Partners may become more anxious to conceive, ironically increasing sexual dysfunction and social isolation. Marital discord often develops in infertile couples, especially when they are under pressure to make medical decisions. Couples experience stigma, sense of loss, and diminished self-esteem in the setting of their infertility³.

Male and female partner respond differently

In general, in infertile couples women show higher levels of distress than their male partners⁴; however, men's responses to infertility closely approximate the intensity of women's responses when infertility is attributed to a male factor³. Both men and women experience a sense of loss of identity and have pronounced feelings of defectiveness and incompetence. Women trying to conceive often have clinical depression rates similar to women who have heart disease or cancer. Even couples undertaking IVF face considerable stress. Emotional stress and marital difficulties are greater in couples where the infertility lies with the man. Therefore the psychological impact of infertility can be devastating to the infertile person and to their partner.

Factors influencing psychological stress

According to one study done in Sweden, three separate factors seem to contribute to the psychological stress men and women experience as a result of their infertility. The three factors, in order of importance for the women were,

1. "Having Children is a Major Focus of Life"
2. "The Female Role and Social Pressure"
3. "Effect on Sexual Life"

The men in the study reversed the order of importance of factors 1 and 2. The third factor was equally significant to both the men and women. It was also shown that women experienced their infertility more strongly than the men. Women also showed a more intense desire to have a baby than men.⁵

Behaviour of the couple as a result of infertility

Stress, depression and anxiety are described as common consequences of infertility. A number of studies have found that the incidence of depression in infertile couples presenting for infertility treatment is significantly higher than in fertile controls, with prevalence estimates of major depression in the range of 15%-54%^{6,7,8,9}. Anxiety has also been shown to be significantly higher in infertile couples when compared to the general population, with 8%-28% of infertile couples reporting clinically significant anxiety^{9,10}. The causal role of psychological disturbances in the development of infertility is still a matter of debate. A study of 58 women from Lapane and colleagues reported a 2-fold increase in risk of infertility among women with a history of depressive symptoms; however, they were unable to control for other factors that may also influence fertility, including cigarette smoking, alcohol use, decreased libido and body mass index¹¹.

Psychological factors may also affect the reproductive capacity

Although infertility has an effect on a couple's mental health, different psychological factors have been shown to affect the reproductive ability of both partners. Proposed mechanisms through which depression could directly affect infertility involve the physiology of the depressed state such as elevated prolactin levels, disruption of the hypothalamic-pituitary-adrenal axis, and thyroid dysfunction. One study of 10 depressed and 13 normal women suggests that depression is associated with abnormal regulation of luteinizing hormone, a hormone that regulates ovulation¹². Changes in immune function associated with stress and depression may also adversely affect reproductive function¹³. Further studies are needed to distinguish the direct effects of depression or anxiety from associated behaviours (e.g., low libido, smoking, alcohol use) that may interfere with reproductive success. Since stress is also associated with similar physiological changes, this raises the possibility that a history of high levels of cumulative stress associated with recurrent

depression or anxiety may also be a causative factor.

Result of treatment

While many couples presenting for infertility treatment have high levels of psychological distress associated with infertility, the process of assisted reproduction itself is also associated with increased levels of anxiety, depression and stress¹⁴. A growing number of research studies have examined the impact of infertility treatment at different stages, with most focusing on the impact of failed IVF trials¹⁵. Comparisons between women undergoing repeated IVF cycles and first-time participants have also suggested that ongoing treatment may lead to an increase in depressive symptoms¹⁶. The data, however, is still controversial since other studies have found minimal psychological disturbance induced by the infertility treatment process or IVF failure^{17,18}. In light of the discrepancy in results, there has been increasing interest in the factors that contribute to drop out from infertility treatment since this population is often not included or decline to participate in studies. Whereas cost or refusal of physicians to continue treatment have been cited as reasons for discontinuing treatment, recent research suggests that a significant number of drop outs are due to psychological factors^{19,20,21}. The outcome of infertility treatment may also be influenced by psychological factors. A number of studies have examined stress and mood state as predictors of outcome in assisted reproduction. The majority of these studies support the theory that distress is associated with lower pregnancy rates among women pursuing infertility treatment^{7,16,22,23,24,25}.

Conclusion

In light of all the data suggesting that psychological symptoms may interfere with fertility, success of infertility treatment and the ability to tolerate ongoing treatment; interest in addressing these issues during infertility treatment has grown. Since psychological factors play an important role in the pathogenesis of infertility, exploration of this is also an important task to manage this devastating problem, which has cultural and social impact.

Competing Interests

None Declared

Author Details

PRASANTA KUMAR DEKA MBBS MD DNB(O&G)PGDHA, Assistant Professor, Melaka Manipal Medical College, Jalan Batu Hampar, Bukit Baru, Melaka-75150 Malaysia.

SWARNALI SARMA BAMS, MS (Pharmacology), Lecturer, Melaka College of Complementary Medicine, Malaysia.

CORRESPONDENCE: PRASANTA KUMAR DEKA MBBS MD DNB(O&G)PGDHA, Assistant Professor, Melaka Manipal Medical College, Jalan Batu Hampar, Bukit Baru, Melaka-75150 Malaysia.

Email: nituldeka@gmail.com

REFERENCES

1. Larsen U, Research on infertility: Which definition should we use? *Fertility and Sterility* 2005; 83(4): 846-852

2. Coleman J, Nonacs, R MGH Center for Woman's Mental Health. Infertility, Assisted Reproduction and Mental Health.
 3. Nachtigall RD, Becker G, Wozny M. The Effects of gender-specific diagnosis on men's and women's response to infertility. *Fertil Steril* 1992; 57:113-21
 4. Wright J, Duchesne C, Sabourin S, Bissonnette F, Benoit J, Girard Y. Psychological distress and infertility, men and women respond differently. *Fertil Steril* 1991; 55:100-108.
 5. GYN [OB].com, the virtual OB.GYN office. The Psychology of Infertility.
 6. Domar AD, Zuttermeister PC, Seibel M, Benson H. Psychological improvement in infertile women after behavioral treatment: a replication. *Fertil Steril* 1992; 58(1):144-147.
 7. Demyttenaere K, Bonte L, Gheldof M, Vervaeke M, Meulman C, Vanderschuerem D, D'Hooghe T. Coping style and depression level influence outcome of in vitro fertilization. *Fertil Steril* 1998; 68(6):1026-1033.
 8. Lukse MP, Vacc NA. Grief, depression, and coping in women undergoing infertility treatment. *Obstet and Gynecol* 1999;93(2):245-251.
 9. Chen TH, Chang SP, Tsai CF, Juang KD: Prevalence of depressive and anxiety disorders in an assisted reproductive technique clinic. *Hum Reprod* 2004; 19:2313-18.
 10. Anderson KM, Sharpe M, Rattray A, Irvine DS. Distress and concerns in couples referred to a specialist infertility clinic. *Journal of Psychosomatic Research* 2003; 54(4):353-5.
 11. Lapane KL, Zierler S, Lasater TM, Stein M, Barbour M, Hume AL. Is a history of depressive symptoms associated with an increased risk of infertility in women? *Psychosom Med* (1995) 57:509-513.
 12. Meller WH, Zander KM, Crosby RD, Tagatz GE. Leuteinizing hormone pulse characteristics in depressed women. *Am J Psychiatry* 1997; 154:1454-5.
 13. Haimovici F, Hill JA, ed. Cytokines in reproduction. Austin (TX): Landes Bioscience, 1998.
 14. Leiblum SR, Kemmann E, Lane MK. The psychological concomitants of in vitro fertilization. *J Psychosom Obstet Gynaecol* 1987; 6:165-178
 15. Hynes GJ, Callan VJ, Terry DJ, Gallois C. The psychological well-being of infertile women after a failed IVF attempt: the effects of coping. *Br J Med Psychol* 1992; 65:269-278.
 16. Thiering P, Beaurepaire J, Jones M, Saunders D, Tennant C. Mood state as a predictor of treatment outcome after in vitro fertilization/embryo transfer technology (IVF/ET). *J Psychosom Res* 1993; 5:481-491.
 17. Paulson JD, Haarmann BS, Salerno RL, Asmar P. An investigation of the relationship between emotional maladjustment and infertility. *Fertil Steril* 1988; 49:258-262.
 18. Boivin J, Takefman JE. Impact of the in-vitro fertilization process on emotional, physical and relational variables. *Hum Reprod* 1996; 11:903-7.
 19. Domar AD. Impact of psychological factors on dropout rates in insured infertility patients. *Fertil Steril* 2004; 81(2):271-273.
 20. Hammarberg K, Astbury J, Baker HWG. Women's experience of IVF: a follow-up study. *Hum Reprod* 2001; 16:374-383.
 21. Olivius C, Friden B, Borg G, Bergh C. why do couples discontinue in vitro fertilization treatment: a cohort study. *Fertil Steril* 2004; 81:258-261.
 22. Boivin J, Takefman JE, Tulandi T, Brender W. Reactions to infertility based on extent of treatment failure. *Fertil Steril* 1995; 63(4):801-7.
 23. Boivin J, Takefman JE. Stress level across stages of in vitro fertilization in subsequently pregnant and nonpregnant women. *Fertil Steril* 1995; 64:802-10.
 24. Smeenk JM, Verhaak CM, Eugster A, van Minnen A, Zielhuis GA, Braat DD. The effect of anxiety and depression on the outcome of in-vitro fertilization. *Hum Reprod.* 2001; 16(7):1420-3.
 25. Sanders KA, Bruce NW. Psychosocial stress and treatment outcome following assisted reproductive technology. *Hum Reprod.* 1999; 14(6):1656-6.
-