

REVIEW

The Infertility Alarm: A Narrative Review of Addressing the Female Fertility Crisis

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ABSTRACT

Introduction: Infertility is a major health issue that is often seen as a crisis. Since it gets in the way of achieving an important life goal, having children, it strongly affects the emotional and psychological levels. This review seeks to create a holistic approach to the problem of infertility, which is often seen as a crisis and whose most common effects are mood disorders (such as anxiety, depression, and severe distress) and social problems (stigma, divorce, social isolation, financial difficulties).

Methods: A thorough review of the literature was done to find the most relevant information, Articles that were included were found by searching PubMed, Google Scholar, and other databases with similar features.

Results: The issue of infertility causes a broad range of social, behavioral, and psychological effects for both partners, especially women, and they express emotions like fear, guilt, helplessness, isolation, frustration, and anxiety which in turn affect their everyday lives.

Conclusion: The mitigation of various consequences of infertility relies on a deeper understanding of cost-effective and effective treatments, as well as improved availability of such treatments.

Keywords: Marriage, infertility, stress, counseling, anxiety.

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INTRODUCTION

Infertility is a medical condition that impacts the psychological, physical, emotional, spiritual, and medical well-being of both the patient and their partner. Understanding normal fecundability—the likelihood of conception in one menstrual cycle—is essential for healthcare providers to counsel patients effectively and offer education on infertility. This issue affects a diverse range of women and is increasingly prevalent globally [1,2]. The

perceptions of infertile women relate closely to societal norms and values regarding parenthood. While the feminist movement has expanded women's roles beyond parenting, infertility remains a significant physical, financial, and emotional challenge requiring substantial social support. It is often defined as the inability to carry a pregnancy to term and can stem from issues in either partner, classified as primary or secondary infertility [2,3]. Primary infertility refers to couples who

have never conceived, while secondary infertility involves difficulties conceiving after a previous pregnancy (whether carried to term or not). If partners change within a year, secondary infertility is not applicable, presenting its own risks. Infertility is a critical health issue often experienced as a crisis due to its disruption of the fundamental goal of having children, leading to severe psycho-emotional effects [4,5].

Motherhood is a vital aspect of life, and the inability to achieve it can be distressing for women.

Married women often feel uncertain until they have a child, with motherhood seen as a completion of their identity. Women struggling with infertility may feel inadequate, as the common belief attributes infertility to their inability to conceive. This condition, while medical, deeply affects emotional well-being, with infertility-related stress significantly impacting women more than men. For many women, infertility is tied to their self-image and identity, creating considerable stress in their lives. Responses to this stress vary based on the severity of the issue, leading to personal and societal ramifications. Infertility affects various life aspects, including social interactions and family aspirations [6-8]. When questioned about their childlessness, women often feel upset and perceive unfair treatment from family. Despite having access to life's pleasures, they experience a sense of emptiness, viewing occasions like holidays as challenging and envying those with children. Many infertile women, regardless of their

financial or educational background, face the negative consequences of being childless [5].

Infertility leads to emotional losses, such as the denial of motherhood and doubts about femininity. When faced with fertility issues, women may experience distress and respond in various ways. Socialized to view motherhood as their primary role, infertile women often feel worthless, believing they cannot fulfill this identity. Infertility negatively impacts their social, emotional, and mental well-being, posing a significant threat to their self-esteem as women [9-11]. The ability to conceive and care for a child is central to their sense of womanhood, and many feel a strong biological urge to become mothers.

Women often reflect on their past to find reasons for their infertility, leading to feelings of disturbance and diminished self-worth. While the desire for children is paramount for women, men may focus more on societal pressures to start a family and maintain a marriage. Infertility erodes women's confidence, making them insecure about their value to their partners. They fear that without children, their partners may leave or harbor resentment. Although aware of their partners' desires for children, many women hesitate to discuss these feelings, fearing it will heighten their disappointment. Most women struggle to talk about their infertility, often keeping it a secret to avoid pity or commiseration. This secrecy can foster envy towards friends and family who have children, leading some women to withdraw from meaningful relationships due to fertility issues [12,13].

Some infertile women were fortunate enough to be able to communicate their concerns with their family, while others felt that their parents were so concerned about the situation and so eager to have grandkids that talking to them simply added to their feelings of failure. Women were in severe need of help, but they didn't believe anyone could comprehend their suffering. The plight of individuals with children might elicit powerful and strong tones of fury, envy, jealousy, and rage, which occasionally elicited a response of self-disgust and a withdrawal from social contact.

Infertility is the loss of a fantasized baby and a fantasized picture of becoming a parent, both of which are filled with projections, often of an idealized character. Indeed, the stronger the sense of loss brought on by infertility, the greater the idealization, with women describing their loss of parenting as the most acute [14]. In practically every stage of infertility, women reported more emotional difficulties than men, whereas males adjust more easily to childlessness and are less upset than women. Most marriages revolve around having children. Infertile women face a psychological burden as a result of societal and parental obligations to continue the family name.

Infertility-related stress has been linked to an increase in marital conflict, as well as a drop in sexual self-esteem and frequency of sexual encounters. Infertility patients frequently expressed feelings inadequate and less of a lady. Aside from the emotional implications, Assisted Reproductive Technology's physical and financial challenges

may have an even greater influence on them [15-17]. Infertility is described as "a disorder of the reproductive system characterized by the failure to obtain a clinical pregnancy following a period of 12 months or more of frequent unprotected sexual contact." It's a torturous experience for women who live in a society where parenting is viewed as a key identity. The desire to start a family is universal, and the prospect of not being able to conceive can devastate any woman. Children are sought in modern individual communities mostly for the happiness, life fulfilment, and well-being that they bring to their parents and households. However, children are crucial in traditional and transitional civilizations for social and economic reasons, and couples cannot choose not to have children. As a result, all involuntarily childless women suffer from isolation and social exclusion. Infertility affects roughly 80-168 million people in the universe, or about one in every ten couples with main and secondary infertility. Childless women are frequently mistreated in the poorer parts of the world, particularly by in-laws. Men, too, have problems, but their troubles are more hidden [18-20].

Sexually transmitted infections, maternal health problems, lifestyle, poor health, and the availability and accessibility of reproductive health care are all variables that contribute to infertility. Though there are many causes of infertility, women are frequently blamed. Some women are willing to accept a surrogate mother and are also interested in getting sperm from asperm bank in order to conceive and become mothers [21-23].

METHODOLOGY

A thorough search of the literature was done by using multiple search terms related to "infertility and female infertility" to look through PubMed, MEDLINE, Google Scholar, and Cochrane Library databases. We looked at systematic reviews, meta-analyses, and studies based on populations. All the research articles and reviews that used the word "infertility" were included. During screening, abstracts that were written in English and were about the topic were chosen. Full-text articles were looked at critically and in-depth.

Causes of Infertility

Due to the problem of infertility, many blaming fingers are routinely pointed at women. According to the World Health Organization, more than 48.5 million couples were unable to produce children in 2010. Female infertility is 10% higher than male infertility, while infertility due to both male and female reasons is 5% [24,25]. The explanation for the rising rate of infertility in Kerala, according to Peter Robert Bridsen (Medical Director of Bourn-Hall-Clinic-The World's First IVF Clinic), is the late marriage of women and the high alcohol intake of males. Infertility in a couple can be caused by issues with either the woman or the man, but not always both. It is estimated that 1/3 of the time, males have reproductive problems, 1/3 of the time women have fertility problems, and 1/3 of the time both men and women have fertility problems [26, 27]. There are several causes of female infertility which are listed below:

▪ *Ovulation factor*

It's one of the most common and significant reasons for infertility. These variables account for about a quarter of all infertility cases. It is the production of progesterone hormone by the release of a mature egg from one ovary. These hormones prepare the uterine lining into an optimum environment for implantation and nursing of a fertilized egg 12-16 days before menstruation begins [25]. A woman's factor of ovulation is good if she has a regular cycle lasting about 24-34 days (from the start of one period to the start of the next). However, there are also circumstances where there is no ovulation or only intermittent ovulation, which is considered an issue [28, 29].

▪ *Tubal factor*

Tubal factors account for around 35% of infertility, as open and functional fallopian tubes are required for conception. Although blocked and damaged tubes can be repaired, this is not a guarantee. In vitro fertilization can be used to become pregnant if the condition is evened out through surgery [29, 30].

▪ *Polycystic ovary syndrome*

It is one of the most common reasons for female infertility. The ovary of women with PCOS does not produce all of the hormones required for an egg to completely mature. Ovulation does not occur because many follicles mature and begin to grow and store up fluid, and some follicles remain cysts that create excess androgens [31]. PCOS women are more likely to consume enriched carbohydrate diets such as soft drinks, fast food, sweets, cured and smoked meats, salted nuts, canned and processed vegetables, meats, marinades,

and sauces, and less on traditional dietary habits as a result of modernization and technological advancement. Because past generations of women eat food in their most natural shapes, there are no types of lifestyle diseases, sedentary lifestyles, and improper dietary practices have largely contributed to the prevalence of PCOS. Within the last two decades, people have begun to trust Westernized foods and lifestyles [28, 32].

▪ ***Endometriosis***

It's a syndrome in which a tissue that normally lines the uterus grows outside of it, accounting for 35% of all infertility cases. It's commonly encountered in adult females with infertility, pelvic pain, and painful intercourse [32].

▪ ***Cervical factors***

Infertility is rarely caused solely by these factors. The condition of the cervix (lower section of the uterus) is assessed, which can obstruct embryo implantation and raise the risk of miscarriage [32].

▪ ***Age factor and infertility***

Fertility varies with age, and both females and males become fertile during their adolescent years, which is followed by puberty. The commencement of ovulation and menstruation begins the reproductive years for girls and reproduction potential decreases as women grow older, with fertility ending 5-10 years before menopause. Fertility falls in the 30s, especially after 35, and a fertile 30-year-old woman has a 20% chance of getting pregnant in one cycle, with 20 fertile 30-year-olds succeeding and 80 having to try again. By the

age of 40, this will be 5% per cycle. Due to circumstances such as:

- i. Education or career position
- ii. Economic crises, women are increasingly delaying pregnancy
- iii. A sense of loss of independence, as though child-rearing is a burdensome task
- iv. Bodily damage or sickness.

Fertility drops as women get older because fewer eggs remain in their ovaries the quality of eggs in the ovary declines, and they may or may not produce eggs. Females in their forties and fifties have a decreased response to fertility medicines and are more likely to suffer spontaneous abortions [32].

▪ ***Unexplained infertility & genetic abnormalities***

It is a condition in which all of the couples' testing comes back normal and there is no obvious explanation of infertility. In such circumstances, infertility is referred to as unexplained infertility. Both men and women have genetic anomalies, making it difficult to conceive and, if conceived, resulting in termination. Thus, infertility is not solely a female issue; it can be caused by males, females, or both, and the causes of infertility are yet unknown [33].

▪ ***Psychological causes***

1. Unresolved issues with a spouse or family members
2. Unconscious guilt about a previous abortion
3. Fear of pregnancy, birth, parental role, and attachment

4. The higher the female's desire to conceive, the greater the frustration [34].

Other causes of infertility [35-37]

- Radiation, chemical agents, and cytotoxic medications
- Dietary issues such as excessive weight gain (obesity) and weight loss
- Thyroid issues
- Use of contraception
- Socio-cultural factors: Although socio-cultural factors are not measured as a cause of infertility, variables intermediating infertility will increase its causes, such as migration of men resulting in a reduction in the length of timely intercourse, marital instability, as well as sexually transmitted diseases (multiple sex partners) [24,38].

Psychological Aspects of Infertility

The psychology of infertility began to develop in 1930 with Berg and Wilson's psychogenic model, which proposed that psychological factors, such as conflicting sexual identities or mother-child relationships, could cause infertility unexplained by medical conditions. However, as research and gynecological technology advanced, this model became less relevant, revealing that unexplained infertility is often linked to biomedical issues like pelvic pathology [39, 40]. Despite its limitations, the psychogenic model significantly influenced obstetrics and gynecology, paving the way for the biopsychosocial model. This model recognizes that biological, psychological, social, and environmental factors collectively contribute to somatic diseases, indicating that multiple

elements can affect individuals differently based on their unique backgrounds [41-44].

Parenthood is a crucial transition for both men and women, and the stress of infertility can lead to negative emotions, including anger, depression, anxiety, and marital problems. Couples may experience increased pressure to conceive, which can exacerbate sexual issues and social isolation. Infertile couples often face shame and diminished self-esteem, with women typically feeling more distress than their male partners [45,46]. However, men's emotional responses can mirror women's, especially when male infertility is a factor. Both partners may struggle with feelings of inadequacy and identity loss. Women attempting to conceive exhibit clinical depression rates comparable to those with serious illnesses like heart disease or cancer.

Additionally, couples undergoing IVF often experience significant stress, particularly when the man is the source of infertility, which can lead to increased emotional strain and marital difficulties [47,48].

So, the emotional effects of infertility can be devastating for both the person who can't have children and their partner. One study done in Sweden found that the psychological stress men and women feel because they can't have children seems to be caused by three different things. In order of how important they were to the women, the three things were:

1. "Having children is the most important thing in life."
2. "Social Pressure and the Role of Women."
3. "How it affects your sexual life."

The men in the study put factors 1 and 2 in the wrong order in terms of how important they were. The third factor was important to both men and women in the same way [48,49]. It was also shown that women felt their inability to have children more than men did. Women also wanted to have children more than men did [49].

Stress, depression, and anxiety are often the results of not being able to have children. Several studies have found that the number of depressed infertile couples seeking infertility treatment is much higher than the number of depressed fertile couples. Estimates of the number of people with major depression range from 15% to 54%. It has also been shown that infertile couples have a lot more anxiety than the rest of the population. Between 8 and 28 percent of infertile couples have clinically significant anxiety [49,50].

The relationship between psychological problems and infertility remains a topic of debate. In a study of 58 women, Lapane and colleagues found that those with a history of depressive symptoms had a twofold increased risk of infertility. However, they could not account for other influencing factors, such as smoking, alcohol consumption, low libido, and high body mass index. While infertility impacts the mental health of couples, various psychological factors can affect both partners' fertility.

Some researchers suggest that depression may directly contribute to infertility by altering bodily functions, such as increasing prolactin levels, disrupting the hypothalamic-pituitary-adrenal axis, or impairing thyroid function [51, 52]. A study comparing 10 depressed women with 13 healthy women

indicated that depression is associated with issues in regulating luteinizing hormone, which is crucial for ovulation. Additionally, stress and depression may induce immune system changes that negatively affect fertility. More research is needed to differentiate between the direct impacts of depression or anxiety and related behaviors, such as low libido, smoking, or excessive drinking, which can hinder conception. Stress is also associated with bodily changes, suggesting that a history of high cumulative stress related to depression or anxiety might contribute to infertility as well [39, 53, 54].

CONCLUSION

Despite significant changes in family ideals, the importance of parenthood remains clear. Childbearing and raising children are essential aspects of human life, fulfilling the innate desire for reproduction. However, human fertility is relatively low compared to other species, making infertility a growing concern that can lead to psychological issues needing attention. While having a family is a universal aspiration, it becomes a nightmare for those facing fertility challenges, representing a life crisis characterized by intangible loss and various effects.

Infertility tends to have a more profound emotional and physical impact on women than on men. Although it is classified as a medical condition, infertility is also a personal issue requiring individual attention and treatment. It is a social challenge that cannot be resolved solely through medical means. In a world where some couples choose a child's sex, many others struggle to conceive.

The psychological effects of infertility are as significant as the medical ones, acting as a severe life stressor that adversely affects involuntarily childless women in multiple aspects of their lives.

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