

## **To Understand the Impact of Anxiety and Depression amongst Infertile Males and Females: Gender Issues**

**Dr. Ruchi Galundia**

Senior Research Fellow

AICRP (All India Coordinated Research Project), ICAR

Department of Human Development & Family Studies

College of Home science, MPUAT

Udaipur

### **Abstract**

*Reproduction is the human ability to impregnate a female and/or conceive a baby through heterosexual intercourse. The majority of adult males and females engaging in regular unprotected intercourse will achieve pregnancy if they are fertile. But due to various life style factors infertility is increasing at an alarming pace all over the world. The experience of infertility is linked with emotional responses in both men and women. Responses of males and females towards infertility vary greatly. Present study aimed to explore the impact of gender on the anxiety and depression among infertile couples. The sample of the study comprised of 60 infertile males and 60 infertile females who were registered at infertility clinics of the Udaipur city. A self - prepared Performa for collecting background information, Beck anxiety inventory, and Beck depression inventory was used for collecting the data. Statistical analysis was done by utilizing mean, Standard deviation, and t-test. Results revealed that anxiety and depression among infertile females was high whereas anxiety and depression of infertile males was low. Present study showed that the women in married couples with primary infertility experience deeper emotional distress as compared to men.*

### **Introduction**

Infertility is a worldwide problem with an estimated 8-12% of couples having difficulty conceiving a child at some point in their lives, impacting upwards of 60–80 million people (FHI, 2003, RHO, 2004, Boivin, 2007). Infertility primarily refers to the biological inability of becoming parent and to the state of a woman who is unable to carry a pregnancy to full term (Makar & Toth, 2002). There are two clinical types of infertility. Primary infertility is caused by anatomical, genetic, endocrine logical and immunological problems leading to the inability to have a child. This form of infertility has been estimated to cause childlessness in about 5% of couples worldwide. Secondary infertility is usually due to sexually transmitted infections, poor health care practices, exposure to toxic substances and socio-cultural practices such as endogamous marriages (marriage between relatives), and female genital mutilation. A critical milestone in a woman's life after marriage is motherhood. Women are expected to produce at least one son to carry on the patriline. In India, motherhood, preferably within the first year after marriage, is considered essential to prove a woman's fecundity, give the family an heir and to secure her position within the marital home and within society (Bhatti F, Jeffery R, 2012). Children are believed to cement bonds that hold a husband and wife together.

One primary socio-cultural institution that influences notions of infertility is gender (Greil A, Slauson-Blevins K, McQuillan J., 2009). Gender refers to the socially constructed roles, behaviour, activities and attributes that a particular society appropriates for men and women. Women and men "do" gender every day, acting out these prescribed gender roles and norms (West C, Zimmerman DH., 1987). Socially constructed gender ideologies shape the lives of men and women around the world (Greenhalgh S, 1995). Deeply rooted in men's and women's consciousness beginning from a birth (Rubin G, 1995), gender ideologies crucially impact sense of self and identity that cuts across social and class divisions. In most parts of the world, although not all, women's primary identity is wifehood and motherhood and they are largely held responsible for procreation while men's primary identity is that of a breadwinner and protector of their families (Mumtaz Z., 2002).

Infertility is such a situation which affects men and women. Most couples experience the struggle in much the same or the other way. The process of dealing with infertility is related to the traditional ways men and women have been trained to think, feel, and act. Parents, family tradition, social norms and religion also play an enormous role in the couple's emotional responses to infertility. Infertility is a condition that places a barrier between the couples and their ability to fit into gender roles prescribed by their culture. Braun (2006) discussed the emotional aspects of infertility. He found that the most people simply take it for granted that they will be able to have children. But, one in six couples trying to have a baby will experience problems in doing so. People were often shocked when they discovered that they were infertile and commonly go through a period of disbelief. Others rush into treatment without first coming to terms with the diagnosis. The overall impact of infertility on individuals differs greatly and is influenced by factors such as cultural background and the importance a person places on having children in their life. Infertility was often described as a life crisis, creating upheavals similar to those associated with a death in the family or divorce. Most couples who experience infertility consider it as a major crisis. Due to infertility, they have to pass through a chain of emotional changes. Many studies showed that infertility leads to many other psychological problems like depression, anxiety, social isolation, and sexual dysfunction. Being a parent is a normative assumption of adult life in any society (Burns, 1999). It is not surprising that infertile individuals may feel quite alone with their experiences. Yet many health providers and mental health clinicians underestimate the negative psychological impact of infertility. Infertility or involuntary childlessness is a significant source of emotional trauma for several couples. Couples are faced with many difficult decisions when attempting to resolve infertility.

Infertility whether primary or secondary is labeled as a "disease" of woman and most of the time men are never investigated and treated (C. Riessman, 2002). The most common psychological causes of infertility are anxiety and depression. At each step of infertility treatment, couples become anxious about the outcome of treatment. The level of anxiety and depression among infertile couples depends upon their perception towards the problem, ways of handling, outcome of the treatment etc. Not only infertile women but men also suffer because of gender norms and there is increasing recognition of this fact. Some studies have shown that men are equally responsible for failure to conceive. A WHO study of 5,800 infertile couples in 22 developed and developing countries found that men were either the sole cause or a contributing factor to infertility in more than half of the couples. The same study found that in only 12.8 percent of cases was infertility due solely to the female with no demonstrable cause in the male. Throsby et al. (2004) stated that men can experience considerable distress when faced with infertility and that this distress (with regard to self-image, social stigma, etc) is likely greater in men with male factor infertility than men with unexplained or female factor infertility. The stigma associated with childlessness leads to the other emotional difficulties experienced by infertile males and females. The situation is worse for young couples as in much of India; there is enormous pressure for young couples, particularly women, to prove their fertility within the first year of marriage. A failure to conceive within months of marriage immediately leads to concerns and anxiety about infertility. High rates of infertility are coupled with little or no attention to the issue in India's health sector. The following research study was designed to understand the impact of anxiety and depression among infertile males and females.

### ***Research Methodology***

The present study was conducted in Udaipur district of Rajasthan. Total sample consisted of 60 infertile males and 60 infertile females. Participants were selected by systematic random sampling method. Those couples, who were in the age range of 25–40 years, must have completed five years of marriage and staying together, couples having infertility duration of more than one year, diagnosed with primary infertility and confirmed of the infertility by a specialist were selected.

A Self-prepared Performa was used for obtaining background information about certain variables including age; duration of marriage, educational level, occupation, duration of infertility and type of family was collected.

### ***Beck Anxiety Inventory (1990): The Beck Anxiety Inventory***

(BAI) was developed by Dr. Aaron T. Beck and other colleagues, is a 21-question multiple-choice self-report inventory that is used for measuring the severity of an individual's anxiety. It is designed for an age range of 17–80 years old. Each question has the same set of four possible answer choices, which are arranged in columns and are answered by marking the appropriate one with a cross.

The inventory was scored using 4-point scale ranging from “Not at all” to “Severely.” The inventory was scored using 4-point scale ranging from “Not at all” to “Severely.” Higher scores on each specific statement indicated high level of anxiety.

**Beck Depression Inventory (1996):** Beck Depression Inventory was developed by Dr. [Aaron T. Beck](#) and other colleagues, is a 21-item self-report instrument intended to assess the existence and severity of symptoms of depression. Beck depression inventory is a short and easy tool to measure depression in clinical trials. Twenty one components were measured in this test, the most important components include: Sad, pessimism, feeling defeated, dissatisfaction, guilt, self-loathing, self-abuse, withdrawal, indecision, fatigue, anorexia, changes in the self-concept, etc. There is a four-point scale for each item ranging from 0 to 3. Total score of 0-13 is considered minimal range, 14-19 is mild, 20-28 is moderate, and 29-63 is severe. Higher scores on each specific statement indicated high level of depression. The objectives of the study were explained to the infertile couples and the questionnaire was completed separately and simultaneously. Beck questionnaires are a self-report questionnaire to be completed by the respondent without assistance. Mean, standard deviation, and t-test were used to analyze the data statistically. All data was collected in a secure and confidential environment.

### Results and Discussion

**Table 1: Anxiety Level of Infertile Males and Females**

Gender	N	Mean	Standard Deviation	t-value
Male	60	11.03	10.53	4.765*
Female	60	20.64	19.44	

\* Significant at 0.01 level of significance level.

**Table 2: Percentage Distribution of Anxiety Level of Infertile Males and Females N=60**

S.No.	Categories	Males	Females	Couples
1.	0-7	1(1.67%)	-	-
2.	8-15	15 (25%)	-	-
3.	16-25	27 (45%)	-	8 (13.33%)
4.	26-63	17(28.33%)	60 (100%)	52 (86.67%)

**Table 3: Depression Level of Infertile Males and Females**

Gender	N	Mean	Standard Deviation	t-value
Male	60	9.89	7.93	6.487*
Female	60	21.48	17.89	

\* Significant at 0.01 level of significance level

S.No.	Categories	Males	Females	Couples
1	1 - 10	1 (1.67%)	-	-
2	11 - 16	21 (35%)	-	-
3	17 - 20	26 (43.33%)	-	-
4	21 - 30	12 (20%)	-	46(76.67%)
5	31 - 40	-	38 (63.33%)	14(23.33%)
6	Over 40	-	22 (36.67%)	-

**Table 4: Percentage distribution of infertile couples for their level of depression**

**N=60**

The study aimed to find out the impact of gender on anxiety and depression among infertile males and females. From the table 1&3, it can be justifiably said that there is an effect of gender on anxiety and depression which are significant at 1% implying there is a significant difference in anxiety and depression between male & female of infertile groups. Above tables clearly indicates that anxiety and depression level in males is low as compared to females.

India being a pronatalist society, most of the Indian women few months into their marriage is constantly obsessed about their childbearing status so that they can face the society positively. Indian marriage is a social process and it reaches a significant stage with the arrival of a child at home.

Even today in rural India, a childless woman is stigmatized, considered unlucky and a curse to the family. In India, infertile women are called as “Baanj.” Many cultures have a derogatory and discriminating name for childless woman but the same is not there for infertile men. Men, though affected by infertility, handle the situation better as the social stigma is pointed only at the women. When a woman is diagnosed with infertility, she commonly experience a variety of stressors which include but are not limited to disruptions in a women’s personal life and relationships with others, changes in the quality of their emotional and sexual relationship and alterations in relationships with co-workers, family and friends. The motherhood role brings fulfillment. The importance of motherhood in Indian society reinforces the feeling of inadequacy of the childless women. In Indian society, infertile women were excluded from auspicious and religious functions too such as celebrations of newborn children and celebrations of first pregnancies, as their presence is considered inauspicious. Besides being inauspicious for auspicious occasions, she is insulted and is under constant pressure and faces innuendoes during quarrels and disputes. Rarely is male fertility questioned whereas female fecundity is doubted. Some females also felt that they were given unnecessary and sometimes wrong advice during these occasions. In a similar studies, during religious and social functions, couples interviewed by Mulgaonkar (2001) reported that they were the butt of rude comments, were made to feel inadequate, suffered from lack of attention and were questioned about their childlessness. Cousineau TM et al (2007) also showed that women are more affected than men and suffer from anxiety, depression, anger, disappointment and weakness.

In India, there is a joint family system. Women often complain of being ridiculed by their in-laws for not being able to conceive. The pressures to marry and raise a family can be enormous to the extent that women who are unable to do those things can feel as though something must be deeply wrong with them or sorely lacking in their lives. In our culture, men are not pressured in the same way to become fathers and many men are brought up to repress their feelings or at least keep their feelings to themselves. In addition, relatives are more sympathetic towards men than women are. A childless woman is stigmatized not just in the home but also beyond her immediate household. According to a study in Bhiwandi in Mumbai, “Infertile female is called waanj (barren). There is a superstition that if she touches a baby, the baby will die.” A study in Andhra Pradesh showed that anticipating taunts and hostile behavior from others, many women shun social functions. They feel isolated and ashamed (Unisa, 1999). Abdallah S. Daar and Zara Merali (2001) in their analysis of infertility and social suffering in developing countries have designed a framework with a continuum of the consequences of infertility for women. The levels of consequences range from guilt, marital and economic stress, depression, violence, and abuse, to social alienation, death, and lost dignity in death. Despite this suffering, women’s voices have not found a place in the discourse, even in the feminist debates surrounding reproductive technology in India. In a study by Singh .A et.al, (1997) stated that more wives than husbands reported insensitive behavior from their neighbors and friends towards their childlessness. Twenty per cent of the wives received threats of divorce and women were considered inauspicious for religious and ceremonial rites and 40% of women were socially ostracized. Women suffered this indignity more than men did.

Women in present study reported more intense feelings of anxiety and depression compared to men. Psychological distress causes by infertility at women was higher than men. Also, women experience infertility as being more stressful than men. Depression, anxiety, and health complaints are more commonly seen in infertile women than men are. However, women were found to be more likely to demonstrate anxiety and depression as compared to men when they remain childless. This finding is in line with the findings of the study by Stewart-Smythe and Van Iddekinge (2003) who reported that women who continually face the disappointment of not conceiving month after month show more frequent signs of grief, depression and anxiety. Infertility threatens the social acceptability of a woman, her legitimate role of a wife, her marital stability, security, bonding, and her role in the family and community. The childless woman is not considered feminine and suffers from low self-worth and blame. The cycle of denial treatment, frustration and resignation leads to emotional strain. Women usually externalize the problem and show emotional reactions, while men seldom express themselves which is sometimes wrongly interpreted as being indifferent. In fact, women show weaker emotional response and speak more about the problem than men speak.

In present study, most of the females were non-working and staying in joint families that mean they remain at home in the same environment with her in-laws. They don't have any place (like office) to release there pent up energy where they can share their feelings and emotions with well-wishers and true friends. This sharing of feelings and emotions might help to reduce her psychological distress.

In case of males, they are less affected by infertility as they have lots of option to release their emotions like office colleagues, their profession or career, going out with friends, office parties etc. Also, women in infertile couples often protect their husbands from their own pain and feelings of failure by taking much of the responsibility for the treatments upon themselves. Similar studies in India have shown that men tend to hold their wives responsible for infertility and many wives tend to blame themselves for childlessness irrespective of who may be responsible (Iyengar K, Iyengar S, 1999). When it is suggested that men accompany their wives for appointments, couples get concerned about issues like income loss, use of time, etc. While these concerns are usually relevant and important, they also serve the purpose of protecting husbands from their own responsibility in the conception process and from their own feelings, which could easily be intensified by so much contact with the medical process. Women are habitually more affected by the situation of infertility than men are. Women are more deeply involved in treatment procedures and it is normal for them to be more affected. The finding of the present study is supported by Mahlstedt (2007) who have reported that infertility conflicts are common and women exhibit negative emotions such as anger, hostility, isolation, feeling blamed, feeling unsupported, feeling misunderstood, feeling that one's spouse is not equally committed to having children, worrying about a possible breakup of the relationship and actions such as blaming of husband and wife. Domar (2004) also in a similar study revealed that women struggling with infertility can have much stress and anxiety as those suffering from a terminal illness.

Women especially feel anxiety and stress each month when trying to conceive. Every month upon the beginning of a new menstrual cycle, a woman is reminded of yet another failure (Haynes & Miller, 2003). Moreover, when the couple remains infertile for a long time and goes through infertility treatments, this may evoke anxiety about the outcome of the treatment. On the other hand, men do not have monthly menstrual periods like women and more often men are reviewed for infertility only after the wife is found to be fertile. Also, diagnostic procedures are complex and more invasive for women than men. Media are not vociferous or visible on fathering as they are on mothering and only a few men's magazines focus on fathering (Callister, L.N, 2006). A great deal of evidence shows that social and psychological pressures to have children are at-least as powerful, if not more so, than the biological pressure. Infertile women reported that their own internal drive to be a mother is strongly reinforced by external pressures. The pressures to have children go beyond the immediate family with commercials on television projecting images of a normal family only with a child in it. Another reason for high level of anxiety and depression among infertile females is that women typically feel responsible not only for everyone's bad feelings, but also for anything bad that happens. When women try to repress feelings, their emotions can become more ominous until they finally feel out of control. Women are typically seen by others as well as themselves as the emotional caretakers or providers of the relationship. Various studies showed that there were gender differences in the way the couples react to the distress of infertility. Females reported more feelings of nervous, guilty, depression, anxiety, and anger and consistently report higher amounts of infertility stress as compared to males. Anderson (2003) in his study reported that women had significantly greater infertility related concerns such as life satisfaction, sexuality, self-blame, lowered self-esteem, and avoidance of friends as compared to their male partners.

Males in infertile couples often feel overwhelmed by the intensity of their partner's emotions as well as an inability to access their own. They tend to focus their energy back into their work, a place where they feel they can have more success. Men are traditionally seen as the financial providers of the relationship and are responsible for protecting the family from real or imagined dangers. Men usually feel more threatened expressing themselves since they have often been conditioned to repress their emotions (Peterson et al., 2006). In addition, the cultural expectation is that it is manliness to be strong and emotionally detached than to show symptoms of sadness and desperateness. Not only infertile females faces psychological problems due to infertility, in few cases, men can experience considerable distress when faced with infertility and that this distress (with regard to self-image, social stigma, etc.) is likely greater in men with male-factor infertility than men with unexplained or female-factor infertility. Male factor infertility is proposed to have such a social stigma that it produces much negative social stress and a culture of secrecy and protectiveness. Men may feel left out of the process if the woman is undergoing fertility treatments.

If the infertility is because of his sperm function, the male can feel a blow to his masculinity. Men with male factor infertility reported higher levels of distress, increased anxiety and increased social isolation. It has also been suggested that men are so affected by male factor infertility that wives take the blame for the problem (Peronace et al., 2007). Studies also show that sperm quality diminishes when men are faced with emotional distress. Studies have shown that after a year or two of infertility, men are eight times more likely to have a low sperm count (Domar, 2004).

Some studies confirm a negative influence of increased stress on the semen volume, on the percentage of normal sperm shapes and on sperm concentration (Collodel et al., 2008). Men become stressed due to infertility which can then increase psychological issues related with infertility. Men are often over looked when it comes to discussing feelings surrounding infertility. Men become discouraged, overcompensate, or withdraw from life because they were unable to meet the standards of a real man. Many times men worry about their inability to contribute to their genetic line and by not producing; they are letting down the family. These concerns can lead to erectile dysfunction causing further complications in the quest to conceive (Clay, 2006). Men and women tend to react somewhat differently to infertility. Women often experience profound grief and sadness. They tend to cry a lot and to reduce their anxiety by talking about what they're experiencing. Dhaliwal LK, Gupta (2004) and VirutamasenP (2003) in the similar study found that anxiety is significantly greater in the partner with the fertility problem than in the other partner. Women were found to have a slightly higher anxiety when compare to men and most infertile couples wanted to have a child in order to fulfil the meaning of being a "family" and were anxious about the treatment. Men, on the other hand, express fewer anguished feelings and seem to be less affected by being childless. They generally don't feel as free to talk about their feelings and tend to have less opportunity to discuss them with friends. The occurrence of depression among infertile women is well documented. The depression may be cyclical and coincide with phases of the treatment cycle or it may be acute and precipitated by a specific event, such as a family holiday or the announcement of a family member's or friend's pregnancy.

Fortunately, for most women the depression is short-lived. Chronic depression caused by infertility may generalize to other areas of a woman's life. She may communicate less or argue more with her spouse, function poorly on the job or at school, or have severe anxiety and agitation. Sometimes, the depression is camouflaged and the couple may consciously or unconsciously sabotage their own attempts to conceive so as to diminish the chance for disappointment. For example, he or she may purposely avoid intercourse at mid cycle to avoid the postmenstrual depression that stems from repeated failure. High anxiety and depression of infertile women can be associated with lack of husband's support. Women were more likely to develop depression when their level of infertility stress and urge to become parent are different from that of their partners. In addition, women experienced a lack of empathy and support as well as insensitivity from close friends. This caused strained as well as the dissolution of many friendships. Mindes and colleagues in a similar studies found that women who reported more infertility specific unsupportive social interactions had higher rates of depressive symptoms and overall psychological stress. Men and women have different set of roles to be played so they see and evaluate relationships differently (in terms of parenting and intimacy). Responses of the male partner to sensitive issues as such are always different from their better halves. Most of the times, they keep their emotions within their self and fail to express their grief. Men find themselves in a position where regardless of how well they've been trained to solve problems, they are helpless to make this situation better for the woman and as a result, may give off messages that she is too emotional or sensitive, hoping that this will calm her down. The wife hears this as criticism of her coping and care taking skills rather than as an expression of her husband's fears.

### ***Conclusion***

It can be inferred from the above results that there were significant differences between the infertile females and males with respect to anxiety and depression. In India, infertility affects the level of anxiety and depression and women are more worried about their infertility compared to their male counterparts. The brunt of the condition is heavier in women and has more severe emotional and social repercussions than in men.

## References

- (FHI) Family Health International (2003): Network: preserving fertility. North Carolina: Family Health International.
- (RHO) Reproductive Health Outlook (2004): Infertility: Reproductive health outlook.  
<https://www.google.ca/search?q=RHO+infertility+2004&ie=utf-8&oe=utf-8&aq=t&rls=org.mozilla:en-US:official&client=firefox-a>.
- Abdallah S. Daar, Zara Merali (2001). Infertility and social suffering: the case of ART in developing countries. *Current Practices and Controversies in Assisted Reproduction*. Report of a meeting on “Medical, Ethical and Social Aspects of Assisted Reproduction” held at WHO Headquarters in Geneva, Switzerland 17–21 September 9. Tuschen-Caffier, B. et al. Cognitive-behavioral therapy for idiopathic infertile couples.
- Anderson, K. M., Sharpe, M., Rattray, A., & Irvine, D. S. (2003). Distress and concerns in couples referred to a specialist infertility clinic. *Journal of Psychosomatic Research*, 54(4), 353-355.
- Bhatti F, Jeffery R (2012): Girls’ schooling and transition to marriage and motherhood: exploring the pathways to young women’s reproductive agency in Pakistan. *Comp Edu*, 48:149–166.
- Boivin J, Bunting L, and Collins JA, Nygren KG (2007): International estimates of infertility prevalence and treatment-seeking: potential need and demand for infertility medical care. *Hum Reproduction*, 22:1506–1512.
- C. Riessman(2000). “Stigma and everyday resistance practices: childless women in South India,” *Gender and Society*, vol. 14, no. 1, pp. 111–135,
- Callister, L.N. (2006). The Pain and the Promise of Unfilled Dreams: Infertile Couples, in D.R. Crane and E.S. Marshall (Eds), *Hand book of families and Health*, Sage Publications: Thousand Oaks, 96-112.
- Clay, R. (2006). Battling the self-blame of infertility, *Monitor on Psychology*, 37(8), 44-45.
- Collodel, G. and Moretti, E. (2008). Morphology and meiotic segregation in spermatozoa from men of proven fertility, *Journal of Andrology*, 29: 106-14.
- Cousineau TM, Domar AD(2007). Psychological impact of infertility. *Best Pract Res Clin Obstet Gynaecol*; 21:293-308.
- Dhaliwal, L.K. Gupta (2004). Psychological aspects of infertility due to various causes, *Journal of Fertile Women*, 49 (1) : 44-8.
- Domar, A. D. (2004). *Conquering infertility: Dr. Alice Domar's mind/body guide to enhancing fertility and coping with infertility*. London, UK: Penguin Books.
- Greenhalgh S (1995): Anthropology theorizes reproduction: integrating practice, political, economic and feminist perspectives. In *Situating fertility*. Edited by Greenhalgh S. Cambridge: Cambridge University Press.
- Greil A, Slauson-Blevins K, McQuillan J (2009): The experience of infertility: a review of recent literature. *Sociol Health Ill*, 32:140–162.
- Haynes, J. and Miller J. (2003). *Inconceivable Conceptions, Psychological Aspects of Infertility and Reproductive Technology*, Brunner-Routledge. *Human Reproduction*, 10.1093. Infertility Related Stressors and Psychological Distress in Infertile Women?
- Iyengar, K. and Iyengar, S. (1999). Dealing with infertility: experience of a reproductive health programme in southern Rajasthan, *National Consultation on Infertility Prevention and Management*, New Delhi, UNFPA.
- Mahlstedt (2007). Does Problem-Solving Ability Moderate the Relationship Between
- Mulgaonkar, V.B. (2001). A research and an intervention programme on women’s reproductive health in slums of Mumbai. Mumbai, Sujeevan Trust.
- Mumtaz Z (2002): Gender and reproductive health: a need for reconceptualization. Unpublished Ph. D. thesis submitted to the London School of Hygiene and Tropical Medicine.
- Peronace, L.A., Boivin, J. and Schmidt, L. (2007). Patterns of suffering and social interactions in infertile men: 12 months after unsuccessful treatment, *Journal of Psychosomatic Obstetrics and Gynecology*, 28(2), 105-114.
- Peterson, B.D., Newton, C.R. and Feingold, T. (2007). Anxiety and sexual stress in men and women undergoing infertility treatment, *Fertility and Sterility*, 88: 911-914.
- Rubin G (1975): The traffic in women: notes on the “political economy” of sex. In *Toward and anthropology*. Edited by Reiter R. New York: Monthly Review Press: 157–210.
- Singh, A., Dhaliwal, L.K. and Kaur, A. (1997). Infertility in a primary health centre of northern India: a follow up study, *Journal of Family Welfare*, 42: 51-56.
- Stewart-Smythe, G.W. and Van Iddekinge, B. (2003). Lessons learned from infertility investigations in the public sector, *South Africa Medical Journal*, 3: 141-3.
- Unisa, S (1999). Childlessness in Andhra Pradesh, India: treatment-seeking and consequences. *Reproductive Health Matters* 7(13): 54-64.
- Virutamasen, P. (2003). The determinant factors and the anxiety level of infertile couples during the treatment of in vitro fertilization and embryo transfer at Chulalongkorn Hospital, Bangkok, *Journal of Medical Association*, 86(5) : 425-9.
- West C, Zimmerman DH (1987): Doing gender. *Gender Soc.*, 1:125–151.