P: ISSN NO.: 2394-0344 E: ISSN NO.: 2455-0817

Psychological Distress and Quality of Life of Women Seeking Treatment for Infertility in Patiala (Punjab)



Naina Sharma
Assistant Professor,
Deptt. of Distance Education,
Punjabi University,
Patiala, Punjab,India



Mandeep Kaur Research Scholar, Deptt. of Distance Education, Punjabi University, Patiala, Punjab,India

Abstract

The expectation of getting married and having children is for many individuals a natural part of adult life. When this desire is threatened, the experience of infertility is linked with emotional responses such as depression, anxiety, guilt, social isolation and decreased selfesteem thus affecting quality of life. The paper aims to understand the prevalence of psychological distress and its relationship with quality of life. Furthermore it aims to identify the psycho-social stressors in women seeking treatment for infertility in various government hospitals of Patiala. A sample size of 50 women in the age range of 25 to 40 years were assessed for distress by using DASS (Depression, anxiety and stress) and QOL(FertiQol Scale) followed by focus group discussions to understand the psychosocial stressors of these women. Findings revealed that 70% women were highly anxious while 40% were suffering from depression and these were found to be significant with respect to the monthly treatment cycle and failure in conception. Depression, anxiety and stress have been found to be negatively correlated with QOL. Focus group discussions revealed family/social pressure and self worthlessness for not conceiving leading to marital conflicts and psychological distress. The study brought forward the need for counseling centers in all hospitals giving treatment for infertility to reduce the treatment drop-out rate and also to enhance their overall quality of

Keywords: Infertility, Psychological Distress and Quality of Life. **Introduction**

Infertility is a global concern as approximately 48.5 million couples worldwide and 30 million couples in India are unable to have a child, among them 40% cases are of female, 40% of cases are of male infertility and 20% cases are due to combined or unexplained causes (Scarneciu et al., 2014). Having a child and the desire to set up a family is one of the basic needs of mankind and it is also an important pillar of social life. This desire is threatened, when an individual is diagnosed with infertility.

Infertility is the inability of a couple to achieve pregnancy within 12 months of unprotected intercourse (Deka et al.,(2010)). Researches (Gurunath et al., 2017) have specified two types of infertility: Primary infertility can be defined as the inability to conceive within a year of exposure to pregnancy and Secondary infertility is defined when a couple fails to conceive following a previous pregnancy. Numerous medical conditions can contribute to infertility. In fact, most cases of infertility are due to other medical conditions. These disorders can damage the fallopian tubes, interfere with ovulation, or cause hormonal complications. Some of the main medical conditions associated with infertility are polycystic ovaries syndrome (PCOS). This is usually a hereditary problem and accounts for up to 90% of cases of an ovulation (Broekmans&Fauser., 20016). PCOS is associated with insulin resistance and it is directly correlated with obesity (Rebar &Catherino., 2016). Hormonal anomalies that affect ovulation include hypothyroidism, and hyperprolactinemia (Legro et al., 2007). Endometriosis is a very common debilitating disease that occurs in 6 to 10% of the general female population in women with pain, infertility, or both, the frequency is 50% (Sabarre et al., 2010). Infertility can also be explained to various environmental and life style factors in both males and females such as excessive heat at workplace, modernized lifestyle, use of technology like laptop and cell phone, obesity, usage of drugs, alcohol consumption and smoking, marijuana or taking certain medications, such

VOL-3* ISSUE-10* January 2019 Remarking An Analisation

P: ISSN NO.: 2394-0344 E: ISSN NO.: 2455-0817

as antibiotics, antihypertensive, anabolic steroids or others, can also affect fertility. (Sami et al., 2012).

Apart from the above mentioned factors aging and any chronic disease also reduces the chance of successful pregnancy. Fertility declines with age. Female fertility is at its peak between the ages of 18 and 24 years (Agboola, 2004), while, it begins to decline after age 27 and drops at a somewhat greater rate after age 35. There are different treatment options available for females. Female infertility can be treated with the help of various techniques like assisted reproductive technology (Desai & Patel, 2011) including in vitro fertilization, intra cytoplasmic sperm injection and intrauterine insemination.

Infertility is not merely a health problem; it is also a matter of social injustice and inequality (Kumar, 2007).Infertility is the medical problem, childlessness is the couple's problem. Recent studies have also documented (Maroufizadeh et al., 2017) that both actor and partner effects of depression on QoL are present in infertile couples, supporting the idea that a person's depression can impact not only their own QoL but also his/her partner's QoL. However, it appears that the woman is consistently held responsible for a couple's infertility, and she is often punished psychologically and socially as a consequence (Dyer et al., 2005). Researchers Donkoret al., (2007) endorsed that infertility has a negative influence on the psychological well-being of women. Infertile women experienced psychological problems such as loneliness anxiety, depression, lack of concentration, worrying, and reduced sexual satisfaction. In any society where child bearing defines a woman's identity and motherhood of great social significance, infertility leaves unhealed scars traumatizing the women socially and emotionally. The expense of treatment, time duration, physical discomfort and pain involved leads to psychosocial challenges like adjustment issues, social isolation, low self-esteem, emotional turmoil, anxiety depression.

There are a number of theories studying the pain, discomfort and psychosocial challenges one

faces during the course of infertility. The foundation for psychogenic infertility theories was established by psychoanalytic approach psychological disorders were thought to be due to an individual's unresolved conflicts or unconscious defense mechanisms that resulted in sterility. This theoretical framework posits that infertility changes an individual's sense of self by developing or aggravating feeling of deficiency, hopelessness and shame. Both infertile men and women experience an altered self concept and self image due to infertility, though they experience it differently. This theory postulated that individual with infertility must integrate it into their individual identity, sense of self and self definition by doing so, an individual is able to move beyond personal identity of oneself as infertile (Olshansky, 1987). Another perspective, the Self discrepancy theory by Kikendall (1994) suggests that selfdiscrepancy is an important factor in addressing individual's emotional reactions to infertility. This theoretical approach states that it involves personal identity crisis in which a woman experiences conflict between her ideal sense of self as mother and her real sense of self as infertile.

Thereby above discussion indicates that the couple seeking treatment goes through various biopsychosocial challenges as given in Higgins Model.

Biopsychosocial model (Higgins 1990)

A biopsychosocial model provides a useful framework for examining infertility issues due to the importance of biological, psychological, and social factors. This framework based on the close-relationship model for conceptualizing infertility issues. In the biopsychosocial model, each individual is composed of both biological and psychological subsystems. The biological subsystem refers to an individual's physiological processes, while the psychological subsystem refers to an individual's cognitions, knowledge, belief and emotions. The model reflects the interplay of both biological and psychological sub-systems influencing the treatment outcomes.

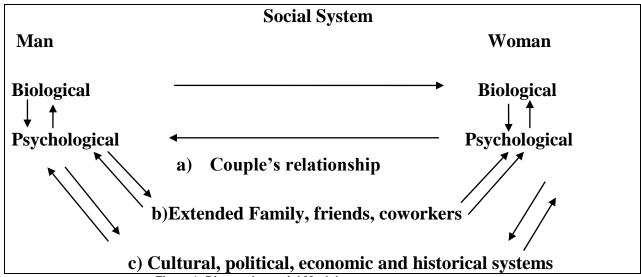


Figure 1. Biopsychosocial Model

VOL-3* ISSUE-10* January 2019
Remarking An Analisation

P: ISSN NO.: 2394-0344 E: ISSN NO.: 2455-0817

Thus, the above model suggests that infertility effects overall QoL of both men and women seeking treatment for infertility. Plethora of research has documented a significant impact of infertility and its treatment on one's quality of life (Chachamovich et al., 2010a, Verhaak et al., 2007; Schmidt 2005;Fekkes et al., 2003). Researchers postulated that there is a negative relationship between anxiety/depression and Quality of life of couples seeking infertility treatment (Bonicatto et al., 2001; Wells et al., 1989)

The magnitude of the problem calls for urgent need to explore quality of life and its underlying factors. In India, there is a dearth of research exploring psychological and social issues related to infertility. In Indian society, there is a myth that women are the only cause of infertility. The woman who is infertile is considered as a curse to the society as well as the family. The condition of the infertile women is the issue of great concern. The review of literature focuses on the physiological distress of infertility but there is a gap in understanding and explaining the psychological, social and interpersonal effects of infertility. An understanding developed from this study will add to the information base on infertility, and will contribute to recommendations for improving the way health care providers' guide, counsel, and support and improve the quality of life of infertile women by enhancing coping skills and reducing mental distress. Overall it will have a positive contribution in the treatment.

Objectives of the Study

- The Level of psychological distress in women seeking treatment for infertility.
- Relationship between psychological distress and quality of life of women seeking treatment for infertility.
- Psychosocial reasons of distress in women seeking treatment for infertility.

Hypotheses

- Most of the women would be high on level of psychological distress.
- Depression, anxiety and stress would be negatively correlated with quality of life of women seeking treatment for infertility.

Methodology Sample

The sample for the present study comprised of 50 womenseeking treatment for infertility from

various government hospitals of Patiala in the age range of 25 to 40 years. Only those women were selected randomly who were seeking treatment of infertility from at least one year past.

Measures

Depression, Anxiety And Stress Scale (DASS)

(Lovibond, S.H.; Lovibond, P.F. (1995)

This scale is 42- item self report instrument designed to measure the three related negative emotional states i.e. depression, anxiety and stress.

FertiQol Scale

WHOQOL Group (1998)

FertiQol is first internationally validated self-report questionnaire to measure the quality of life of an individual experiencing infertility. The questionnaire includes 36 items and is divided into 4 domains (overall, personal, interpersonal and healthcare) and 9 domains (emotional, psychological, physical, values of partner relationship, social network, occupational/work and medical).

Procedure

This study was conducted into 2 phases. In the first phase 50 women with infertility were administered two questionnaires (DASS and FetiQol) and were assessed for psychological distress and Qol. In the second phase two focus group discussions were carried to understand the psychosocial challenges of women seeking treatment for infertility. For the focus group discussion only those women were selected as participants who were high on psychological distress and were willing to talk about their problems. During discussion the moderator probed the group with key questions and asked for clarification or in-depth understanding of the experiences of the group. Each discussion lasted for about (60 mins with a 10 mins break in between).

The guide consisted of a series of key questions given below:-

Their experience with infertility, time of the month when they feel most distressed, reason that are associated with stress related to infertility, with whom they can talk or share their problems, situations that makes them anxious or distressed. Are they getting any professional help for improving their psychologicalhealth?

The results were calculated on the basis of questionnaire used and FGD'S findings.

Results

Table 1
Demographic Profile of Women Seeking Treatment for Infertility (n=50).

Demographics			
Age	65% (25-30yrs)	25% (30-35yrs)	10% (35 and above)
Qualification	70% (below 12 th)	20% (graduates)	10% (above graduation)
Working/home maker	78% (home maker)	22% (working)	
Duration of Marriage	70% (2-5yrs)	25% (5-7yrs)	5% (above 7yrs)
Duration of treatment	77% (2-4yrs)	18% (4-6yrs)	5% (above 6yrs)
Primary and secondary	85% (primary infertility)	15% (secondary infertility)	
infertility			
Urban/rural	87% (rural)	13% (urban)	

VOL-3* ISSUE-10* January 2019

Remarking An Analisation

Table 2
Percentage Distribution Of Women Seeking Treatment For Infertility On Different Levels Of Depression

Depression						
		Frequency	Percent	Valid Percent	Cumulative Percent	
Vali	Low (Less than 14 score)	4	8.0	8.0	8.0	
d	Medium (14-20)	6	12.0	12.0	20.0	
	High (More than 20 Score)	40	80.0	80.0	100.0	
	Total	50	100.0	100.0		

This table explains the levels of depression among women seeking treatment for infertility. It is clear from the table that 80% (N=50) of women scored high on

P: ISSN NO.: 2394-0344

E: ISSN NO.: 2455-0817

depression whereas 12% reported of medium and 8% of women reported low on depression.

Table 3
Percentage Distribution of Women Seeking Treatment for Infertility on Different Levels Of Anxiety

Anxiety						
		Frequency	Percent	Valid	Cumulative	
				Percent	Percent	
Vali	Low (Less than 10 Score)	3	6.0	6.0	6.0	
d	Medium (10-14 Score)	1	2.0	2.0	8.0	
	High (More than 14 Score)	46	92.0	92.0	100.0	
	Total	50	100.0	100.0		

This table explains the distribution of anxiety among women seeking treatment for infertility. It is clear from the table that 92 %(N=50) of women

scored high on anxiety whereas 2% reported of medium and 6% of women reported low on anxiety

Table 4
Percentage Distribution of Womenseeking Treatment for Infertility on Different Levels of Stress

Stress						
		Frequency	Percen	Valid Percent	Cumulative Percent	
Vali d	Low (0-18 Score)	4	8.0	8.0	8.0	
	Medium (19-25 Score)	11	22.0	22.0	30.0	
	High (More than 25 Score)	35	70.0	70.0	100.0	
	Total	50	100.0	100.0		

This table explains the distribution of levels of stress among women seeking infertility treatment. It is clear from the table 70% (N=50) of women scored

high on stress whereas 22% reported of medium and 8% of women reported low on stress.

Table 5
Correlation Betweendass (Depression, Anxiety and Stress) And The Various Dimensions Of Fertiqol

	Emotional	Mind/Body	Relational	Social	Total FertiQoL Score	
Depression	38**	24	12	38 ^{**}	37 ^{**}	
Anxiety	50**	39 ^{**}	62**	49 ^{**}	74**	
Stress	36**	03	20	21	29 [*]	
	**. Correlation is significant at the 0.01 level (2-tailed).					
	*. Correlation is significant at the 0.05 level (2-tailed).					

It is evident from the table that the correlation between FertiQol and DASS is negatively correlated. Depression was found to be negatively correlated with emotional (-.38**), social domain (-.36**) and overall QoL (-.36**). Anxiety was negatively correlated with all the dimensions of FertiQoL; emotional (-.50**): mind/body (-.39**); relational (-.62**); social (-.49) and overall QOL (-.74**). Stress is negatively correlated with emotional domain (-.36**) and overall QOL (-.29*).

Observations from Focus Group Discussion

 In both the groups (n=20), 70% of participants reported that the stress of being diagnosed as infertile has been associated with certain psychological stress or social problemslike social isolation, family pressure to have a baby, social expectations from a women and questioning on

- all occasions and labeling only a woman for not bearing a child.
- 60% of the participants reported to be suffering from social stigma, sense of loss, and diminished sense of self-esteem.
- 40% of the participants responded that they start avoiding social functions because people keep probing about their pregnancy and treatment status
- 4. 70% of the participants answered that infertility also affects their quality of marital relationship.
- 80% participants in the group discussion reported of high anxiety at the end of month or while waiting for the result of pregnancy test but the failed attempt leads to depression.
- No one in the group was receiving any professional help/guidance to combat with the psychological distress.

VOL-3* ISSUE-10* January 2019

Remarking An Analisation

P: ISSN NO.: 2394-0344 E: ISSN NO.: 2455-0817

Discussion

Overall view of the obtained results indicated high level of depression, anxiety and stress in women seeking treatment for infertility. It is in sequence with previous studies which has been confirmed that infertility treatment is associated with emotional responses such as anxiety, depression, stress, guiltand social isolation. Researchers likeMaroufizadehet al., 2017: Alhassan al.,(2014); Verhaak et al., (2007); have also highlighted the presence of high psychological distress in women with infertility. Anxiety is common response associated with infertility (Ombelet, 2009; Crick et al., 2006)and also increases the risk of suicide (Kjaeretal., 2011). Anxiety and depression are regarded as common consequences of infertility and they have a significant relationship with infertility. Hormonal changes during treatment also affect the emotions of couple with infertility. As the treatment is prolonged due to unsuccessful pregnancies or miscarriages patients have the feeling of failure, disappointment and betrayal resulting into depression and anxiety. Sherina et al., (2004) found a significant link between getting depressed symptoms and having a miscarriage within the last 6 months and difficulty to get pregnant. Thereby, each unsuccessful treatment cycles increase the symptoms of anxiety and depression. In the present study as well women seeking treatment for infertility have reported high level of depression, anxiety and stress. In a patriarchal society like Punjab women are blamed and labeled for not bearing a child, this acts as a cumulative effect along with the burden of treatment. Similar results were found byKorean researchers stating women seeking treatment for infertility were high on depression, anxiety and stress as compared to fertile women (Chi, Park, Lee et al., 2016).

A negative correlation of depression, anxiety and stress with various dimensions of QoL(Emotional, Mind/Body, Relational, and Social) reflect that women seeking the treatment for infertility go through a lot of psychological distress which appears to affect their overall QOL. A study given by (Aarts, 2011) also endorsed that women with infertility negative correlationbetween psychological distress and FertiQoL. All three dimensions of DASS scale (depression, anxiety and stress) showed a highly negative correlation with emotional subscale as in a similar study done by Aziken (2005) reported that mood disturbance was the most frequent symptom expressed by the infertile women. While at the same time, social subscale showed a highly negative correlation with depression. This result is in line with other findings that symptoms of depression were correlated with social and emotional scales. The study conducted by Chachamovichetal., (2010) reflects that infertile women had significant lower scores on mental health, social functioning and emotional behavior. Notably, the relational subscale was significantly correlated with stress alone, but not with the depression and anxiety scales. In a similar study a negative correlation of psychological distress with QOL was found amongst Korean women seeking treatment for infertility (Chi, Park, Lee et al., 2016).

Through focus group discussion it was found that women screened with high psychological distress reported of social isolation, low self-esteem, sexual dissatisfaction and depression. Furthermore participants responded that the anxiety increases at the end of the every month due to anticipation of results related to failure or success in conception. A study done by (Ombelet, 2009; Crick et al., 2006) posited that every month upon the beginning of new menstrual cycle, a woman is reminded of yet another failure (Haynes & Miller, 2003). The participants narrated their embarrassment in social gatherings as people probe about their fertility status, resulting into withdrawal and isolation.

Conclusion

In conclusion, results of this study provide a baseline for psychological distress and FertiQoL in women with infertility, and could be used as a basis of information for psychological intervention and further studies. The study highlights the need of psychological counseling or intervention to reduce psychological distress and facilitate efficacious coping for infertile women as it is important not only to reduce emotional suffering and drop out from the treatment but also to help them reach their ultimate goal of pregnancy.

Thereby it is suggested to incorporate counseling centers in all the clinics dealing with the treatment for infertility. So that couple seeking the treatment canenhance their psychological health which ultimately helps them to cope with psychosocial problems which are associated with infertility and they have better quality of life as well as the chances for conception is increased.

References

- Aarts JW, van Empel IW, Boivin J, Nelen WL, Kremer JA, Verhaak CM. Relationship between quality of life and distress in infertility: a validation study of the Dutch FertiQoL. Hum Reprod 2011; 26:1112-8.
- Agboola, A. (2004). Textbook of Obstetrics and Gynaecology. Heinman Educational Books, Ibadan, 1, 174-176.
- Alhassan A, Ziblim A, Muntaka S. A survey on depression among infertile(2014).
- Aziken, M. E., Orhue, A. A., Okonkwo, A. C., & Osazuwa, H. O. (2005). Maternal and fetal outcome after a prolonged latent phase of labour. Tropical Journal of Obstetrics and Gynaecology, 22(2), 171-176.
- Bonicatto, S. C., Dew, M. A., Zaratiegui, R., Lorenzo, L., &Pecina, P. (2001). Adult outpatients with depression: worse quality of life than in other chronic medical diseases in Argentina. Social science & medicine, 52(6), 911-919.
- Broekmans FJ, Fauser BCJM. Female infertility: evaluation and management. In: Jameson JL, De Groot LJ, de Kretser DM, et al, eds. Endocrinology: Adult and Pediatric. 7th ed. Philadelphia, PA: Elsevier Saunders; 2016:chap 132.
- Chachamovich, J. R., Chachamovich, E., Ezer, H., Fleck, M. P., Knauth, D. R., &Passos, E. P. (2010). Agreement on perceptions of quality

RNI No.UPBIL/2016/67980

P: ISSN NO.: 2394-0344 E: ISSN NO.: 2455-0817

- of life in couples dealing with infertility. Journal of Obstetric, Gynecologic, & Neonatal Nursing, 39(5), 557-565.
- Crick, N. R., Ostrov, J. M., & Werner, N. E. (2006). A longitudinal study of relational aggression, physical aggression, and children's socialpsychological adjustment. Journal Abnormal Child Psychology, 34, 131–142.
- Deka, P. K., &Sarma, S. (2010). Psychological aspects of infertility. BJMP, 3(3), 336.
- Desai, P., & Patel, P. (2011). Fibroids, infertility and laparoscopic myomectomy. Journal of gynecological endoscopy and surgery, 2(1), 36.
- Donkor ES, Sandall J. The impact of perceived stigma and mediating social factors on infertilityrelated stress among women seeking infertility treatment in Southern Ghana. Soc Sci Med. 2007; 65(8):1683-94.
- Dyer, S. J., Abrahams, N., Mokoena, N. E., Lombard, C. J., & van der Spuy, Z. M. (2005). Psychological distress among women suffering from couple infertility in South Africa: a quantitative assessment. Human
- Reproduction, 20(7), 1938-1943. Fekkes, M., Buitendijk, S. E., Verrips, G. H. W., Braat, D. D. M., Brewaeys, A. M. A., Dolfing, J. G., &Macklon, N. S. (2003). Health-related quality of life in relation to gender and age in couples planning IVF treatment. Human Reproduction, 18(7), 1536-1543
- Gurunath S, Pandian Z, Anderson RA, Bhattacharya S. Defining infertility: a systematic review of prevalence studies. Hum Reprod Update. 2011;17(5):575-588. doi:10.1093/humupd/dmr015.
- Haynes, J., & Miller, J. (2003). Inconceivable conceptions. Psychological Aspects of Infertility and Reproductive Technology.
- Hove, UK: Brunner-Routledge. Hee-Jun Chi, 1-2 II-Hae Park, 2 Hong-Gil Sun, 2 Jae-Won Kim,² and Kyeong-Ho Lee² Clin Exp Reprod Med. 2016 Sep; 43(3): 174-180.
- Higgins, B. S. (1990). Couple infertility: From the perspective of the Close-Relationship model. Family Relations, 39, 81–86.
- Kikendall, K. A. (1994). Self-discrepancy as an important factor in addressing women's emotional reactions to infertility. Professional Psychology: Research and Practice, 25(3), 214.
- Kjaer, T. K., Jensen, A., Dalton, S. O., Johansen, C., Schmiedel, S., &Kjaer, S. K. (2011). Suicide in Danish women evaluated for fertility problems. Human reproduction, 26(9), 2401-2407.
- Kumar, D. (2007). Prevalence of female infertility and socio-economic factors in communities of Central India. Rural Remote Health, 7(2), 456.
- Legro, R. S. (2007). Phenotype and genotype in polycystic ovary syndrome. Polycystic ovary syndrome, 25, 41.

VOL-3* ISSUE-10* January 2019 Remarking An Analisation

- Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Anxiety Depression and Inventories. Behaviour research therapy, 33(3), 335-343.
- Maroufizadeh S, Ghaheri A, Omani Samani R. Factors associated with poor quality of life among Iranian infertile women undergoing IVF. PsycholHealth Med 2017;22(2):145-51.
- Olshansky, E. F. (1987). Infertility and its influence on women's career identities. Health care for women international, 8(2-3), 185-196.
- W. (2009). Reproductive healthcare Ombelet, systems should include accessible infertility diagnosis and treatment: An important challenge for resource-poor countries. International Journal Gynecology & Obstetrics, 106(2), 168-171.
- Rebar Catherino WH. Reproductive endocrinology and infertility. In: Goldman L, Schafer AI, eds. Goldman-Cecil Medicine. 25th ed. Philadelphia, PA: Elsevier Saunders; 2016:chap 236
- Sabarre KA, Khan Z, Whitten AN, Remes O, Phillips KP. A qualitative study of Ottawa university students' awareness, knowledge and perceptions of infertility, infertility risk factors and assisted reproductive technologies (ART). Reprod Health J. 2013;10(41):1-10. doi:10.1186/1742-4755- 10-41
- Sami N, Saeed AT, Wasim S, Saleem S. Risk factors for secondary infertility among women in Karachi, Pakistan. **PLoS** One. 2012;7(4):e35828. doi:10.1371/journal. pone.0035828
- Scarneciu I, Lupu S, Scarneciu C. Smoking as a risk factor for the development of erectile dysfunction and infertility in men; evaluation depending on the anxiety levels of these patients. Soc Behav Sci. 2014; 127(1):437-442. Doi: 10.1016/j. sbspro.2014.03.286.
- Schmidt, L., Holstein, B., Christensen, U., & Boivin, J. (2005). Does infertility cause marital benefit? An epidemiological study of 2250 women and men in fertility treatment. Patient Education Counseling, 59, 224-226.
- Sherina, M. S., Rampal, L., &Kaneson, N. (2004). Psychological stress among undergraduate students. Medical medical Journal Malaysia, 59(2), 207-211.
- Verhaak, C. M., Smeenk, J., Evers, A., Kremer, J., Kraaimaat, F., &Braat, D. (2007). Women's emotional adjustment to IVF: a systematic review of 25 years of research. Human update, reproduction 27-36. 13(1), http://dx.doi.org/10.1093/humupd/dml040
- Wells, K. B., Stewart, A., Hays, R. D., Burnam, M. A., Rogers, W., Daniels, M., & Ware, J. (1989). The functioning and well-being of depressed patients: results from the Medical Outcomes Study. Jama, 262(7), 914-919.

RNI No.UPBIL/2016/67980

VOL-3* ISSUE-10* January 2019
Remarking An Analisation

P: ISSN NO.: 2394-0344 E: ISSN NO.: 2455-0817

World Health Organization (2001). WHO laboratory manual for the examination of human sperm and semen-cervical mucus interaction, (4th ed.). New York, NY: Cambridge University Press.