

ISSN (P): 2790-9859 (E) 2790-9867
DOI: <https://doi.org/10.37605/ijpbr.v5i2.4>

Date of Submission:24-09-25
Date of Acceptance:26-10-25
Date of Publication: Dec,2025

Prevalence of Anxiety and Depression in Fertile and Infertile Women undergoing IVF Treatment

Soniya shams * & Dr. Um e Kalsoom **

Abstract

Infertility is a chronic stressor having adverse psychological, emotional and social and impact. Infertile women often experience anxiety, depression and other psychological challenges that negatively impact their life. The present study intended to explore the effects of IVF and conventional treatment on mental health of infertile Women. Sample (N=100) comprised of 50 (n=50) fertile women and 50 (n=50) infertile women undergoing IVF treatment. The study used cross-sectional study design. Sample was selected using purposive sampling technique with age ranging from 18-40 years. Data was obtained from different public and private sector hospitals, maternity and IVF centers. Standardized instruments were used to collect data i-e to evaluate the level of distress in fertile and infertile women Urdu version of the hospital anxiety and depression scale (Zigmond & Snaith ,1983) was used to collect data. Results indicated that those infertile women undergoing in vitro fertilization (IVF) treatment experience significantly higher levels of anxiety and depression compared to fertile women. The findings indicated that it is important for gynecologist, fertility specialist, IVF specialists and mental health professionals to screen out psychosocial issues at the outset of treatment and develop treatment plans and support systems which are necessary for the well-being of infertile women.

Key words: Infertile, anxiety, depression

*Lecturer shaheed Benazir Bhutto Women University Peshawar. Email: shamssoniya@gmail.com

**Ume Kalsoom (Post Doc), Assistant Professor, Department of Psychology, Shaheed Benazir Bhutto Women University Peshawar.

Introduction

Inability to conceive after one year of continuous sexual activity without the use of any preventative measures is termed as infertility (Zegers et al., 2017). Around 10–15% of couples worldwide struggle with infertility (Kim et al., 2013). Undoubtedly, infertility is a serious life catastrophe for many families. The World Health Organization (WHO) reports that worldwide eight to twelve percent of couples (Schmidt et al., 2005) have struggled with infertility. It is predicted by WHO that in 20th century after tumours and heart diseases, the 3rd largest ailment would be infertility (Li et al., 2016).

Infertility has a significant and detrimental effect on a person's life in a number of areas such as deteriorations in marital relationships (Coefn-Driol & Giami, 2004), sexual satisfaction, psychosocial well-being (Tan et al., 2008) and psychological correlates (Noorbala et al., 2008). Fertility plays a major role in the formation of gender identity in South Asia. As a result, the inability to achieve pregnancy causes many infertile women to feel as though they have failed to live up to the role that society expects of them. This leads to a variety of socio-cultural, economic, and health repercussions, such as prejudice from neighbours and family, detrimental effects on mental health, and even suicide and murder (Patel 2007).

Asian countries, especially Pakistan, Iran, and India, put a lot of burden on women to have children. In many cultures, children are a primary source of social acceptance. They support the growth of family bonds that bring individuals, couples, and generations together. As a result, infertility may have a significant negative impact on women's mental health. (saif et al., 2021). In Pakistani society, the family system has traditionally followed a hierarchical structure, where loyalty and regard to the elders continue to be of utmost importance; the male members are ultimately in charge of the family and are accountable for continuing the family name. That is why it is very important to have children and specifically sons who are considered heirs in the context of Pakistani family (Ullah, 2016).

According to estimates, 26 to 54 percent of infertile couples experience psychological issues overall (Sethi, 2016). Another significant contributing factor to infertility is stress. For many couples, infertility is the most stressful experience they have ever had (Domar et al., 2018). Infertility is generally psychologically intimidating, stressful, economically challenging, and painful physically for both partners. This is often the result of diagnostic and curative procedures. Women undergoing fertility treatment experience significantly higher levels of distress and emotional disintegration (Morshed-Behbahani et al., 2012). Infertility is

associated with higher rates of depression, anxiety, and emotional distress than the general population, and quality of life is frequently adversely impacted (Hudepohl & Smith, 2022). The most common psychiatric problems faced by infertile women are anxiety and depression. It has been reported that 40% infertile women suffer anxiety and depression. This percentage is twofold higher than the levels reported by fertile women (Volgsten et al., 2008).

Faal et al., (2011) compared 30 fertile and 30 infertile women in Tehran. Instruments used for assessment were zung's anxiety inventory and Beck depression inventory. Findings revealed low level of anxiety and depression in fertile group as compared to infertile group. Similarly, Peyvandi et al., (2011) conducted descriptive research on 200 diagnosed infertile females who were admitted at Imam Khomeini Hospital and Saint Mary Infertility Clinics. Results showed that 17.5% females had moderate anxiety and 62% suffered from depression. Another research used a sample of 225 women (134 with primary infertility and 91 who were fertile). Spielberger Trait Anxiety Inventory. (STAI-T), Brief Beck Depression Inventory (BDI) and Fertility Issues Inventory (FPI) were used to collect data. Results indicated that symptoms of depression and anxiety in infertile women are more pronounced than those of productive females. Moreover, Fallahzadeh et al., (2019) evaluated 42 articles assessing anxiety and depression levels in fertile and infertile women. Results revealed high prevalence of anxiety and depression in infertile women as compared to fertile women. Fassino et al., (2002) also assessed 80 fertile and 156 infertile couples. Findings revealed high prevalence of anxiety and depression in infertile one. Another study by Kaur et al., (2021) also compared anxiety and depression levels in fertile and infertile women. Results suggested significantly higher levels of anxiety and depression in infertile females than control group.

As a result, infertile couples are turning more frequently to in vitro fertilization (IVF) as a means of overcoming this life crisis. Advances in assisted reproductive technology (ART) have given infertile couples a lot of hope for a cure (Kupka et al., 2016) IVF is a relatively new technology, but ART methods involve treating human oocytes, sperm, or embryos in vitro to create a pregnancy (Stephen et al., 2016) It is one of the most effective treatments, with a success rate of between 34% and 36% every cycle, and is typically the final course of action for infertile couples. Studies show a connection between psychological aspects and the success of IVF treatment (Casu & Gremigni, 2016). Although several studies have been done to look at how psychological factors affect infertile women's pregnancy results, little is still known about the emotional shifts that these women go through before and after IVF. It is sometimes seen as the final resort for infertility treatment, but women who have this procedure, frequently

experience significant levels of stress that may even interfere with the healing process (Haimovici et al., 2018).

Objective

The major objective of the current study is to find out the prevalence of anxiety and depression levels among fertile and infertile women undergoing IVF treatment.

Hypothesis

There will be a significant difference in the level of anxiety and depression among infertile women undergoing IVF treatment and fertile women.

Methodology

Sample

Data was collected using Purposive sampling technique. Sample comprised of including 50 (n=50) married infertile women undergoing IVF treatment and 50 (n=50) married fertile women.

Instruments

Demographic Sheet

The Demographic sheet includes general information about the participant's age, education, years of marriage, duration of infertility, socioeconomic status and consent letter.

Hospital Anxiety and Depression Scale (1983): HADS is developed by Zigmond and Snaith (1983). It is 14 item self-report scale that measure anxiety and depression. Patients respond to questions on a 4-point scale ranging from 0-3 indicating how often they have had the feelings. Scores were added up for the subscales with higher scores indicating more anxiety or depression. 0–7 score indicates mild levels of anxiety and depression; 8–10 score moderate indicate cases and scores greater than 10 indicate severe cases. Cronbach's alpha .85 suggest high reliability of the scale (Farooqi & Chaudry,2012).

Procedure

For the collections of data different public and private sector hospitals, maternity and IVF centers were approached to participate in the study after receiving permissions from the Heads of concerned department. Informed consent was taken from the subjects and their attendants before asking them to respond on the scale after explaining the study purpose. they

were assured about the confidentiality of the provision of their data that the data would be used for research purpose only. The subjects were requested to answer themselves on the scales. After the administration of the questionnaire the researcher thanked all respondents for their participation and cooperation. The data was analysed using t- test. The comparison was made between anxiety and depression in fertile and infertile women undergoing IVF treatment

Results

Table 1

Descriptive statistics of study variables (N = 100)

Variables	N	M	SD	Range
HADS Anxiety	100	10.77	4.39	0-21
HADS Depression	100	7.07	3.75	0-21

Note. N=sample size; M=mean, SD=standard deviation

Table 2

Reliability coefficient for Hospital Anxiety and Depression Scale (HADS) (N = 100)

Variables	Number of Items	Cronbach's alpha
HADS Anxiety	7	.75
HADS Depression	7	.68

Table 3

Correlation of the study variables (N = 100)

	Depression	Anxiety
Depression	-	-
Anxiety	.63**	-

Note. *p < .05; **p < .01; ***p < .001.

Table 4 represent the correlation between study variables, showing that Depression and anxiety were found to be positively associated (r = .63, p < .01)

Table 5

Average score and frequencies of anxiety and depression in Infertile women (IVF) and Fertile women (N=100)

	Infertile Women (IVF)		Fertile Women	
	Frequency	Percentage	Frequency	Percentage
Anxiety				
Moderate	4	8%	11	22%
Severe	35	70%	21	42%
Depression				
Moderate	15	30%	6	12%
Severe	13	26%	7	14%

Table 5 shows that 8% of infertile women undergoing IVF treatment women were suffering from moderate anxiety and 70% were exhibiting severe anxiety. 30% infertile women displayed moderate depression and 26 % displayed severe depression symptoms. Furthermore, 22% fertile women reported moderate anxiety While 42% reported severe anxiety. Moderate Depression symptoms were found in 12 % fertile women and severe depression symptoms were found in 14% fertile women.

Table 6

Comparison of IVF women Vs. fertile women on the bases of main variables (n = 100)

Variables	IVF Group		Fertile Group		t (98)	p	Cohen's d
	M	SD	M	SD			
Depression	7.88	3.61	6.26	3.75	2.20	.03*	.44
Anxiety	11.82	4.26	9.72	4.30	2.45	.01*	.49

Note. * $p < .05$, ** $p < .01$, *** $p < .001$, M=Mean, SD=Standard deviation

The table 6 presents the comparison between IVF women and fertile women. Significant differences were found in depression and anxiety. IVF women had higher depression and anxiety levels than fertile women, $t(98) = 2.200$, $p = .030$, effect size ($d=0.440$); $t(98) = 2.45$, $p = .01$, effect size ($d=0.49$), respectively, indicating a moderate positive effect size.

Discussion

The purpose of this study was to evaluate anxiety and depression in fertile and infertile women undergoing IVF treatment. Sample consisted of 50 fertile and 50 infertile women. To

assess the level of anxiety and depression Urdu version of HADS was used. The Cronbach's alpha coefficient value ($\alpha = .78$) for HADS suggested the good reliability of the scale.

The results of this research concluded that infertile women had significantly higher level of anxiety and depression than fertile women. It was hypothesized that there will be a significant difference in the level of anxiety and depression among infertile women undergoing IVF treatment and fertile women. Table no 3 represents the results of the hypothesis. From t value (2.20/2.45) and mean score of infertile group (7.88/11.82) and fertile group (6.26/9.72) it is obvious that infertile women had higher levels of anxiety and depression as compared to fertile women, thus proving the hypothesis that there is significant difference in the level of anxiety and depression in fertile and infertile women.

Study results are in line with previous literature. The findings of this hypothesis indicated a normal level of depression, anxiety, and stress in fertile couples. The findings of this hypothesis align with previous studies, including research by Noorbala and Ramezanzadeh (2009), which compared psychiatric illness levels between fertile and infertile couples. The findings of their research indicated a normal level of distress in fertile couples. Seok et al., (2000) assessed anxiety and depression level in 138 infertile women undergoing IVF Results indicated high level of anxiety and depression in infertile women undergoing IVF as compared to fertile women. Women facing infertility and desiring to conceive often experience depression, anxiety, stress, feelings of isolation, and a lack of emotional stability (Karaca & Unsal, 2015).

The most common responses to infertility and treatments are anxiety and depression (Matthiesen et al., 2011). Cserepes and Bugan (2015) reported 27% prevalence of moderate to severe level of depression among women struggling with infertility. Similarly, Szigeti and Konkoly (2012) reported 32% incidence of depression and 39% anxiety and comorbid anxiety and depression in 37.3% infertile women. Another study by Droszol and Skrzypulec (2009) screened 206 females reporting prevalence of severe depression (35.44%) and anxiety (15.53%) among infertile women. Infertility treatment involves multiple treatments and medical appointments. Despite all the struggle involved, multiple visits and appointment, outcomes were still unpredictable, which lead to developing depression in infertile women.

Studies consistently indicate that IVF treatment can result in considerable emotional turmoil for numerous women. The anxiety arises from the intrusive aspects of the procedure, the unpredictability of results, and the financial and emotional weights linked to the treatment.

Verhaak et al., (2007) state that women undergoing IVF experience increased anxiety and depression compared to those attempting natural conception or those receiving less intrusive fertility treatments like intrauterine insemination (IUI). Research was carried out by Vikstrom et al., (2015) on 504 females who had received at least one IVF cycle. According to them the majority of the participants were over 45 (n = 289), and those who had successfully become pregnant and reported being with their same partner were also included in the demographics. Findings revealed that women undergoing IVF had higher prevalence of depression as compared to fertile group. The emotional and physical demands of IVF contribute to this increased psychological distress. Similarly, an international comparative study carried out among women anticipating IVF treatment showed that these women experienced four times the degree of depressive and anxiety symptoms compared to control group of women who do not have fertility issues (Oddens et al., 1999).

Another study conducted at a private university in the IVF department investigated anxiety and depression level and quality of life in infertile women before starting IVF and fertile women. Sample comprised of 160 diagnosed infertile females and 160 fertile females. Quality of life scale, Beck anxiety inventory and Beck depression inventory was used for collect data. Results revealed that infertile women (40%) had higher percentage of depression than fertile women (17%). Though no major difference was found in the level of anxiety between the two groups (Pinar & Zeyneloglu, 2012). Infertile women are more at risk of developing anxiety as compared to fertile women (Klemetti et al., 2010). While fertile women might feel anxiety tied to various life pressures, it is typically not as intense as that reported by infertile women undergoing IVF treatment.

Conclusion

On the basis of study results it is concluded that infertility has emotional and psychological impact on infertile women. Results revealed a significant difference in the level of anxiety and depression between infertile and fertile women. Findings showed that infertile women experience higher level of anxiety and depression as compared to fertile women.

Limitation

Small Sample size makes current study limited.

Implications

Study findings have significant suggestions for clinics, research and policy makers to progress infertility treatment experiences. In Pakistan, anxiety and depression has been given less recognition with no formal screening, therefore screening for anxiety and depression during fertility treatment is strongly recommended. Findings of the present study provide a signal for the beginning of emotional and social support programs in maternity clinics, hospitals as well as in public community centres.

References

- Casu, G., & Gremigni, P. (2016). Screening for infertility-related stress at the time of initial infertility consultation: psychometric properties of a brief measure. *Journal of Advanced Nursing*, 72(3), 693-706. <https://doi.org/10.1111/jan.12830>
- Coëffin-Driol, C., & Giami, A. (2004). The impact of infertility and its treatment on sexual life and marital relationships: review of the literature. *Gynécologie, obstétrique & fertilité*, 32(7-8), 624-637. DOI: [10.1016/j.gyobfe.2004.06.004](https://doi.org/10.1016/j.gyobfe.2004.06.004)
- Cserepes, R. E., & Bugán, A. (2015). Impact of depressive symptomatology in Hungarian infertile couples. *Psychiatria Hungarica: A Magyar Pszichiatriai Tarsasag tudomanyos folyoirata*, 30(1), 50-59. PMID: 25867888
- Domar, A. D., Rooney, K., Hacker, M. R., Sakkas, D., & Dodge, L. E. (2018). Burden of care is the primary reason why insured women terminate in vitro fertilization treatment. *Fertility and sterility*, 109(6), 1121-1126.
- Drosdzol, A., & Skrzypulec, V. (2009). Depression and anxiety among Polish infertile couples—an evaluative prevalence study. *Journal of Psychosomatic Obstetrics & Gynecology*, 30(1), 11-20. <https://doi.org/10.1080/01674820902830276>
- Faal Kalkhoran, L., Bahrami, H., Farrokhi, N. A., Zeraati, H., & Tarahomi, M. (2011). Comparing anxiety, depression and sexual life satisfaction in two groups of fertile and infertile women in Tehran. *Journal of Reproduction & Infertility*, 12(2), 157-162.
- Fallahzadeh, H., Abadi, H. Z. M., Momayyezi, M., Moghadam, H. M., & Keyghobadi, N.

- (2019). The comparison of depression and anxiety between fertile and infertile couples: A meta-analysis study. *International journal of reproductive biomedicine*, 17(3), 153. <https://doi.org/10.18502/ijrm.v17i3.4514>
- Fassino, S., Piero, A., Boggio, S., Piccioni, V., & Garzaro, L. (2002). Anxiety, depression and anger suppression in infertile couples: a controlled study. *Human Reproduction*, 17(11), 2986-2994. <https://doi.org/10.1093/humrep/17.11.2986>
- Haimovici, F., Anderson, J. L., Bates, G. W., Racowsky, C., Ginsburg, E. S., Simovici, D., & Fichorova, R. N. (2018). Stress, anxiety, and depression of both partners in infertile couples are associated with cytokine levels and adverse IVF outcome. *American journal of reproductive immunology*, 79(4), e12832.
- Hudepohl, N. S., & Smith, K. (2022). Infertility and its association with depression, anxiety, and emotional distress: a current review. *Advances in Psychiatry and Behavioral Health*, 2(1), 119-132.
- Karaca, A., & Unsal, G. (2015). Psychosocial problems and coping strategies among Turkish women with infertility. *Asian nursing research*, 9(3), 243-250. <https://doi.org/10.1016/j.anr.2015.04.007>
- Kaur, K., Bhaskar, M., & Modi, R. (2021). Identifying Depression and Anxiety in Infertile Females. *IOSR Journal of Dental and Medical Sciences*, 20(4), 7-13. DOI: 10.9790/0853-2004100713

Kim, S. J., Kim, M. R., Hwang, S. Y., Bae, W. J., Kim, S., Hong, S. H., ... & Kim, S. W.

(2013). Preliminary report on the safety of a new herbal formula and its effect on sperm quality. *The world journal of men's health*, 31(3), 254-261.

DOI: <https://doi.org/10.5534/wjmh.2013.31.3.254>

Klemetti, R., Raitanen, J., Sihvo, S., Saarni, S., & Koponen, P. (2010). Infertility, mental disorders and well-being—a nationwide survey. *Acta obstetricia et gynecologica Scandinavica*, 89(5), 677-682. <https://doi.org/10.3109/00016341003623746>

Kupka, M. S., D'Hooghe, T., Ferraretti, A. P., de Mouzon, J., ... & Goossens, V. (2016).

Assisted reproductive technology in Europe, 2011: results generated from European registers by ESHRE. *Human reproduction*, 31(2), 233-248.

Li, H., Lei, J., Xu, F., Yan, C., Guimerans, M., Xing, H., ... Zhang, D. (2016). A study of sociocultural factors on depression in Chinese infertile women from Hunan Province. *Journal of Psychosomatic Obstetrics & Gynecology*, 38(1), 12–20.

<https://doi.org/10.1080/0167482X.2016.1265500>

Matthiesen, S. M. S., Frederiksen, Y., Ingerslev, H. J., & Zachariae, R. (2011). Stress, distress and outcome of assisted reproductive technology (ART): a meta-analysis. *Human reproduction*, 26(10), 2763-2776. <https://doi.org/10.1093/humrep/der246>

Morshed-Behbahani, B., Mossalanejad, L., Shahsavari, S., & Dastpak, M. (2012). The experiences of infertile women on assisted reproductive treatments: A phenomenological study. *Iranian Red Crescent Medical Journal*, 14(6), 382–383.

Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3420031/>

- Noorbala, A. A., Ramazanzadeh, F., Malekafzali, H., Abedinia, N., Forooshani, A. R., Shariat, M., & Jafarabadi, M. (2008). Effects of a psychological intervention on depression in infertile couples. *International Journal of Gynecology & Obstetrics*, 101(3), 248-252. <https://doi.org/10.1016/j.ijgo.2007.12.010>
- Noorbala, A. A., Ramezanzadeh, F., Abedinia, N., & Naghizadeh, M. M. (2009). Psychiatric disorders among infertile and fertile women. *Social psychiatry and psychiatric epidemiology*, 44, 587-591. DOI: <https://doi.org/10.1007/s00127-008-0467-1>
- Oddens, B. J., den Tonkelaar, I., & Nieuwenhuyse, H. (1999). Psychosocial experiences in women facing fertility problems—a comparative survey. *Human reproduction*, 14(1), 255-261. <https://doi.org/10.1093/humrep/14.1.255>
- Patel, T. (2007). *The Mindset behind Eliminating the. Sex-selective abortion in India: Gender, society and new reproductive technologies*, New Delhi: Sage, pp. 135-174
- Peyvandi, S. E. P. I. D. E. H., Hosseini, S. H., Daneshpour, M. M., Mohammadpour, R. A., & Qolami, N. (2011). The prevalence of depression, anxiety and marital satisfaction and related factors in infertile women referred to infertility clinics of Sari city in 2008. *Journal of Mazandaran university of medical sciences*, 20(80), 26-32.
- Pinar, G., & Zeyneloglu, H. B. (2012). Quality of life, anxiety and depression in Turkish women prior to receiving assisted reproductive techniques. *International journal of fertility & sterility*, 6(1), 1. PMID: PMC4260637

- Saif, J., Rohail, I., & Aqeel, M. (2021). Quality of life, coping strategies, and psychological distress in women with primary and secondary infertility; a mediating model. *Nature-Nurture Journal of Psychology*, 1(1), 8-17. DOI: <https://doi.org/10.47391/NNJP.02>
- 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 and counseling*, 59(3), 244-251.
<https://doi.org/10.1016/j.pec.2005.07.015>
- Seok Kee, B., Jung, B. J., & Lee, S. H. (2000). A study on psychological strain in IVF patients. *Journal of assisted reproduction and genetics*, 17(8), 445-448.
<https://doi.org/10.1023/A:1009417302758>
- Sethi, P., Sharma, A., Goyal, L. D., & Kaur, G. (2016). Prevalence of psychiatric morbidity in females amongst infertile couples-A hospital based report. *Journal of clinical and diagnostic research: JCDR*, 10(7), VC04.
- Stephen, E. H., Chandra, A., & King, R. B. (2016). Supply of and demand for assisted reproductive technologies in the United States: clinic-and population based data, 1995–2010. *Fertility and sterility*, 105(2), 451-458.
<https://doi.org/10.1016/j.fertnstert.2015.10.007>
- Szigeti F, J., & Konkoly Thege, B. (2012). Psychological aspects of infertility: Results of a Hungarian pilot study. *Magyar Pszichológiai Szemle*, 67(4), 713-731.-validity.php
<https://doi.org/10.1556/mpszle.67.2012.4.5>

- Tan, S., Hahn, S., Benson, S., Janssen, O. E., Dietz, T., Kimmig, R., ... & Elsenbruch, S. (2008). Psychological implications of infertility in women with polycystic ovary syndrome. *Human Reproduction*, 23(9), 2064-2071.
<https://doi.org/10.1093/humrep/den227>
- Ullah, A., Ashraf, H., Tariq, M., Aziz, S. Z., Sikandar, K. U. R., Ali, N., Shakoor, A., & Nisar, M. (2021). Battling the Invisible Infertility Agony: A Case Study of Infertile Women in Khyber Pakhtunkhwa Pakistan. *Journal of Ethnic and Cultural Studies*, 8(2), 89-105.
<https://doi.org/10.29333/ejecs/679>.
- Van Der Poel, S. (2017). The international glossary on infertility and fertility care, 2017. *Human reproduction*, 32(9), 1786-1801. <https://doi.org/10.1093/humrep/dex234>
- Verhaak, C. M., Smeenk, J. M., Evers, A. W., & Kremer, J. A. (2007). Women's emotional adjustment to IVF: A systematic review of the literature. *Human Reproduction Update*, 13(6), 597-609. <https://doi.org/10.1093/humupd/dml040>
- Vikstrom, J., Josefsson, A., Bladh, M., & Sydsjo, G. (2015). Mental health in women 20–23 years after treatment: A Swedish cross-sectional study. *BMJ Open*, 5(10), 1-9. doi:10.1136/bmjopen-2015-009426
- Volgsten, H., Skoog Svanberg, A., Ekselius, L., Lundkvist, Ö., & Sundström Poromaa, I. (2008). Prevalence of psychiatric disorders in infertile women and men undergoing in vitro fertilization treatment. *Human Reproduction*, 23(9), 2056-2063.
<https://doi.org/10.1093/humrep/den154>

Zegers-Hochschild, F., Adamson, G. D., Dyer, S., Racowsky, C., De Mouzon, J., Sokol, R.,

3& Van Der Poel, S. (2017). The international glossary on infertility and fertility

care, 2017. *Human reproduction*, 32(9), 1786-1801.

<https://doi.org/10.1093/humrep/dex234>