

Infertility-related Stress and Marital Satisfaction among Pakistani Infertile Individuals


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Keywords: Infertility, Infertility-related stress, Marital Satisfaction, Primary Infertility, and Secondary Infertility.	ABSTRACT <i>Infertility is a reproductive health problem that is widely researched with reference to numerous psychological concerns faced by infertile individuals. Childless couples face numerous personal and social consequences with every passing day. Among them, immediate family members' expectations to carry on the family's name significantly weigh down marital union in the form of marital dissatisfaction among infertile individuals. Therefore, the relationship between stress related to infertility and its impact on the marital union, individuals (N = 150) of 18-40 years (M = 29.19, SD = 5.59) were taken from Rawalpindi, Islamabad, and Attock. The sample was approached at infertility centers, hospitals, offices, and their homes using snowball and purposive sampling techniques. Fertility Problem Inventory (FPI) and ENRICH Marital Satisfaction (EMS) Scale was administered on the sample. The results established satisfactory Cronbach alpha reliabilities ($\alpha = .63$ to $\alpha = .93$) for all scales. Hypotheses testing revealed that stress due to infertility negatively affects the marital satisfaction of infertile individuals and accounted for a 7% variance. Lastly, non-significant gender differences were observed across the variables of the study. These findings would be helpful in understanding the dynamics of stress, faced by childless individuals and would be beneficial in the investigation of cultural buffering factors. Non-significant gender differences across infertility-related stress further highlight the significance of devising and providing intervention-based programs and therapies for both men and women to cope with the stress and strengthen the marital union of infertile individuals.</i>
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1 Introduction

World Health Organization defined infertility as a reproductive health problem characterized by failure to achieve pregnancy or bring it to a term through regular sexual intercourse (WHO, 2022). According to estimates, 60 to 80 million couples are facing this problem worldwide (Bhamani et al., 2020; Tabong & Adongo, 2013) with 1-8% primary and 35% secondary infertility (Saif et al., 2021). Similarly, 22% infertility prevails in Pakistani couples with 4% primary and 18% secondary infertility (Ahmed et al., 2020). Primary infertility refers to the failure to achieve first pregnancy whereas secondary infertility involves the inability to conceive after first or second time (Zegers-Hochschild, 2009). Various factors contribute to the etiology of infertility including male factors, female factors, mixed factors, and idiopathic or functional infertility (Infertility, 2023). Male factor infertility has been reported around 35% to 50% in South Asian middle and low economic countries (Zahid et al., 2015). As procreation is promoted as a significant milestone in an individual's married life globally and failure to accomplish this goal is accompanied by both physical and emotional repercussions (Gana & Jakubowska, 2016). Thereby, highlighting the fact that infertility-related stress is a consequence rather a cause of infertility (American Society for Reproductive Medicine [ASRM], 2020).

Seemingly, emotional and psychological reactions to infertility encompass depression, sense of worthlessness, anger, stress, resentment, anxiety, low self-esteem, and negative identity at individual level (Hadley & Hanley, 2011). Elevated number of symptoms of stress and depression were reported among infertile women (35.44 %) as compared to the fertile ones (19.47 %) (Drosdzol & Skrzypulec, 2009). Infertile women experience increased levels of emotional response and experience far greater consequences than men (Miles et al., 2009). A review of 33 studies found that women reported more negative experiences including low self-esteem, negative identity, and lower physical health whereas higher levels of stress, depression, shame, and stigma as compared to infertile men (Ying et al., 2015).

In patriarchal and patrilineal Pakistani society, women unfortunately bear the sole burden of infertility (Ullah et al., 2021) and are subjected to undue and adverse societal and familial pressure and prejudice (Batool & de Visser, 2014). They face exclusion from traditional as well as social gatherings, regarded as symbol of bad luck, threatened with divorce, and face humiliating treatment particularly by in-laws (Ali et al., 2011; Kazmi et al., 2016). These anticipated pressures of the society and family causes significant psychological stress, anxiety, feelings of worthlessness, sexual dysfunction, frustration, depression, low self-esteem, and social isolation (Begum & Hasan, 2014) among women. Moreover, women are blamed for childlessness, although infertility might lie in husband, as childbearing is seemed solely women's domain (Mumtaz et al., 2013). However, infertile men also encounter repercussions of infertility as their manhood; generally attributed to fatherhood is questioned by the society (Ali et al., 2011; Naz & Batool, 2017). Male factor infertility is believed to be more stigmatized; it is pertinently observed that such trends are prevalent in developing and especially Asian countries (Wischmann & Thorn, 2013).

Evidently, studies from India and Bangladesh have revealed that infertile men suffer from stigmatization and social disgrace as well as their manhood is threatened in case of male factor infertility resulting in reluctance to seek treatment (Bhamani et al., 2020; Pujari & Unisa, 2014). For men, fatherhood is a way to prove their masculinity or else their sexual competence and self-esteem get a tremendous blow (Chowdhry, 2005). Similarly, in Pakistan, men with fertility problem preferred not to disclose their infertility to the family and society in fear of humiliation, insults, and threat to their social status (Baranwal & Chattopadhyay, 2020; Naz & Batool, 2017).

In addition to the issues related to infertility at personal level, it holds the potential to effect individual's interpersonal relationship for instance, tearing one's marriage apart (Husain & Imran, 2021). In Pakistan, the goal of marriage is to bear the children and carry the lineage, protect family honour, and old age security (Sami et al., 2012). Failure to accomplish this goal leads to personal grief and social disruptions as it threatens the familial and societal expectations. The stated factors hamper the nourishment and strength of the spousal unit (Ismail & Moussa, 2017). Thus, infertility is viewed as devastating experience which jeopardizes the marital union of infertile individuals (Begum & Hasan, 2014; Jisha & Thomas, 2016).

Marital satisfaction refers to the stability in spousal relationship in which they provide emotional, psychological, financial, and spiritual support to each other (Gana & Jakubowska, 2016). Various factors contribute to the marital dissatisfaction among infertile individuals particularly if infertility lies in either spouse. The infertile spouse is blamed for the failure of the relationship and may feel threatened because of his/ her infertility. Similarly, the fertile partner express disappointment towards the infertile partner and make them feel responsible for ruining their life. In such cases, conflict regarding the decision of seeking treatment arises which further worsen the situation. In male dominant Pakistani culture, male hostility towards infertile wife plays a prominent role in marital discord. Additionally, threats of divorce and polygamy by husband to infertile wife in Pakistani culture weakens the marital relationship. Absence of spousal and familial support to either partner contribute to the agony which takes a toll on marital relationship. The invisible battle with stress due to fertility problems among infertile individuals significantly torment the marital satisfaction and lead to marital discord.

Infertility-related stress and its relation to marital satisfaction among women has widely been researched however, limited empirical evidence reported this association among men. Given the fact that infertility-related stress has repercussions on men as well, the present research investigates this phenomenon in both men and women. The participants were approached with the objective to explore the consequences of infertility in the form of stress and marital dissatisfaction at individual levels rather than on dyads. The study was focused on getting a clearer picture of individual experiences of both the genders following infertility regardless of their partners.

The psychological and psychosocial consequences of infertility in men are overlooked in indigenous literature as most of the studies have focused the medical perspective such as causes and other etiological factors of male infertility. Therefore, the present study investigates the psychological aspect of infertility i.e., infertility-related stress and its association with marital satisfaction in infertile men and women with primary or secondary infertility. For this purpose, it was hypothesized that infertility-related stress will have negative association with marital satisfaction of both infertile men and women. Furthermore, non-significant gender differences in terms of infertility-related stress and marital satisfaction were also hypothesized.

2 Methods

The participants ($N = 150$) for present correlational study were approached from infertility centres, hospitals, offices, and at their homes in Islamabad, Rawalpindi, and Attock cities using purposive and snowball sampling techniques. Male ($n = 55$) and female ($n = 95$) participants with an age range of 18-40 years ($M = 29.19$, $SD = 5.59$) with primary or secondary infertility were recruited for the present research. Total sample size calculated for the present study at effect size $p = .30$, α probability = .05, and power at 95 % CI was 134.

Ethical approval was taken from review board and permission was granted by the respective authorities as well prior to data collection. The informed consent was taken from the participants and anonymity as well as confidentiality of the participants was ensured.

2.1 Instruments

2.1.1 Demographic Sheet

The sample was provided a self-constructed demographic sheet to obtain detailed information about their socio-demographic factors. Along with general information, it also included specific infertility-related questions for instance, causes and duration of infertility and infertility treatment.

2.1.2 Fertility Problem Inventory

Fertility Problem Inventory (FPI) developed by Newton and colleagues (1999) was administered on the participants was used to examine stress related to infertility. This 6-point Likert scale (1 = Strongly Agree to 6 = Strongly Disagree) contains 46-items and five domains namely Social Concern (SocC) ($\alpha = .88$, 10 items), Sexual Concern (SexC) ($\alpha = .77$, 8-items), Relationship Concern (RelC) ($\alpha = .84$, 10-items), Rejection of Childfree Lifestyle (Rej.CFL) ($\alpha = .80$, 8-items), and Need for Parenthood (PN) ($\alpha = .84$, 10-items). The score range of FPI for composite score i.e., Global Stress (GS) is 46 – 276. Higher scores on the scale indicate presence of high level of infertility-related stress.

2.1.3 ENRICH Marital Satisfaction Scale Fowers& Olson, 1993)

This scale by Fowers and Olson (1993) yields the responses on 5-point Likert scale against 15-items related to marital satisfaction (MS). The raw scores require to be converted into percentile scores as per formula i.e. (EMS scores = PCT- [($.40 \times$ PCT) (ID \times $.01$)] given in the scoring manual to obtain the total score of EMS scale. The concurrent validity of EMS with other marital satisfaction scale is $.73$. EMS has Cronbach's $\alpha = .86$ with test re-test $\alpha = .86$.

3 Statistical Analysis

The data was analysed on SPSS 26 for hypotheses testing. Frequency and percentages were calculated for the demographics of the sample. Associations between study variables were assessed using bivariate correlation method. Predictions were analysed using linear regression method whereas gender differences were calculated through T-test analysis.

4 Results

The female respondents were higher in number ($n = 95$) and the mean age of the sample was 29 years ($M = 29.9$, $SD = 5.95$). Most of the respondents were from urban areas (67.3%), belonging to joint family system (66.7%), and were married for five years (58%). Moreover, primary infertility was more prevalent (77.3%) among female (77.9%) respondents due to female factor (45.3%). Additionally, higher number of participants were graduates (36.0%) and were currently trying to conceive (72.7%). Furthermore, the data was normally distributed with good to satisfactory reliabilities ($\alpha = .63 - .93$).

Results further indicated significant and negative association between infertility-related stress (global stress) and marital satisfaction. Similarly, three subscales i.e. SocC, RelC, and PN had also significantly negative associations with MS in infertile individuals.

Table 1
Correlation Analysis of the Study (N = 150)

Variables	1	2	3	4	5	6	7
1 GS	-	-	-	-	-	-	-
2 SocC	.72**	-	-	-	-	-	-
3 SexC	.75**	.42**	-	-	-	-	-
4 RelC	.88**	.47**	.62**	-	-	-	-
5 Rej. CFL	.17	-.08	-.17*	-.25**	-	-	-
6 PN	.50**	.26	.48**	.38**	-.52**	-	-
7 MS	-.37**	-.26**	-.26	-.23**	.13	-.24**	-
α	.74	.69	.67	.63	.85	.74	.67
<i>M</i>	156.29	35.86	27.37	33.03	31.98	28.15	-86.86
<i>SD</i>	24.37	8.70	7.06	9.21	10.39	9.96	94.46

* $p < .05$. ** $p < .01$.

Based on the associations, prediction analysis was carried out using linear regression method. GS negatively predicted marital satisfaction with 7% variance in infertile married individuals. Similarly, subscales of GS i.e., SocC, RelC, and PN significantly and negatively predicted MS with 17%, 3%, 15%, and 16% variance respectively.

Table 2
Linear Regression Analysis of Fertility Problem and its Subscales to Predict Marital Satisfaction among Infertile Individuals (N = 150)

Models	IV	MS						
		β	<i>B</i>	<i>SE</i>	R^2	<i>F</i>	<i>CI 95%</i>	
							<i>LL</i>	<i>UL</i>
1	Constant		73.73	48.58			-22.27	169.73
	GS	-.37	-1.03*	.31	.07	11.19**	-1.63	-.42
2	Constant		14.53	31.77			-48.23	77.3
	SocC	-.26	-2.83*	.86	.17	10.89**	-4.53	-1.12
3	Constant		-29.57	30.67			-89.87	30.94
	SexC	-.26	-2.11*	1.19	.03	3.76*	-4.25	.04
4	Constant		-8.51	28.11			-64.06	47.03
	RelC	-.23	-2.37*	.82	.15	8.37**	-3.99	-.75
5	Constant		-22.68	22.68			-67.29	21.93
	PN	-.24	-2.28*	.86	.16	9.10**	-3.77	-.89

* $p < .05$. ** $p < .01$.

Mean comparison for gender differences were also calculated. Results demonstrated non-significant gender differences across the study variables.

Table 3**Gender Differences across Infertility-related Stress and Marital Satisfaction (N = 150)**

Scale	M (n = 55)	F (n = 95)	$t_{(148)}$	p	CI 95%	
	M(SD)	M(SD)			LL	UL
GS	154.07 (27.29)	157.68 (22.64)	.84	.40	-11.67	4.66
SocC	35.29 (8.81)	36.29 (8.78)	.61	.54	-3.82	2.02
SexC	26.00 (7.40)	28.00 (6.80)	1.68	.10	-4.35	.35
RelC	32.15 (9.33)	33.55 (9.15)	.90	.37	-4.59	1.79
Rej. CFL	33.03 (10.22)	31.47 (10.53)	.94	.35	-1.81	5.15
PN	27.60 (9.66)	28.47 (10.28)	.52	.61	-4.21	2.47
MS	-79.46 (96.21)	-91.15 (93.79)	.73	.47	-19.98	43.36

Note. M = Male; F = Female.

4.1 Discussions

Procreation is considered as an essential milestone of mankind for their survival in the society and failure to accomplish it results in various physical as well as psychological dilemmas (Chehreh et al., 2019). The findings of previous studies are inconsistent about infertility-related stress and marital satisfaction of infertile individuals (Cserepes et al., 2013; Greil et al., 2011; Verhaak et al., 2007). Infertility as a shared experience can strengthen the marital union, but it can also yield distrust, dissatisfaction, and communication gap between the spouses (Cserepes et al., 2013). The main purpose of the present study was to further investigate the predictive association between infertility-related stress and marital satisfaction in infertile individuals with primary or secondary infertility in Pakistani society. Furthermore, the present study also hypothesized that there will be no gender differences among childless individuals across both study variables.

The findings of the present research revealed significant negative association between global stress (the composite score of FPI), SocC, RelC, PN and MS. These findings were in line with previous studies (Ehsan et al., 2018; Galundia & Sharma, 2018; Valsangkar et al., 2011) highlighting that infertile individuals face psychological repercussions when they fail to accomplish the expected role after marriage i.e., to reproduce and carry forward the name of the family. Inability to produce offspring is a stressful condition shared by both spouses in a concerned couple. Therefore, it is believed that the difficulty accompanying struggle with childbearing precipitate emotional stress and affects marital satisfaction (Gana & Jakubowska, 2016). Moreover, impact of life domain areas also yield stress and deteriorate marital satisfaction. These life domains include social and interpersonal/ marital relationship of the infertile individual and similar trends can be seen in the present study. A Pakistani study (Naz & Batool, 2017) reported that infertility had various social ramifications for most of the infertile men and women. It further reported the unpleasant and unsettling experiences within the social circles of infertile individuals. The authors provided the reasons that Pakistani society; like other Asian countries including India, Bangladesh (Pujari & Unisa, 2014), China, and Veitnam etc.; view children as a source of survival and social prestige. Additionally, in Pakistani collectivistic

culture, living in joint family system exerts greater social and familial pressure following the curious and cynical investigations about their fertility issues.

Moreover, findings demonstrated the negative significant association between need for parenthood and marital satisfaction. Literature (Kiesswetter et al., 2020; Naz & Batool, 2017; Yao et al., 2018) has also established that intense desire to have children generates stress among infertile individuals. Both men and women expressed strong personal desire for children and their marital relationship suffers in case of failure to achieve this goal. Their marital satisfaction declines due to disappointment towards each other which sometimes generates the disagreements about decision with treatment procedures (Yazar & Tolan, 2021; Yazdani et al., 2017). Along with conflict between a couple, family and society play important part in creating pressure and affecting the marital relationship of the couple/ individual. These findings are better understood in cultural context of Pakistan in which joint family system is more prevalent. An earlier study (Batool & de Visser, 2014) revealed that joint family system is significantly associated with marital discord in infertile married individuals. Family put pressure on husband and forces him to divorce his wife or to remarry which weakens their marital union and deter marital satisfaction.

Furthermore, the GS, SocC and RelC, and PN also significantly and negatively predicted marital satisfaction in the sample. These findings reaffirmed associations proposed by correlation and were in line with the previous studies (Greil et al., 2011; Lansakara et al., 2011; Li et al., 2020) suggesting that being unable to achieve parenthood can trigger negative emotions and thoughts which may induce stress. This intensity is further heightened in an environment that greatly favours parenthood just like in Pakistan. As the patriarchal society highly values procreation and honour those couples who achieve parenthood early on. On the contrary, those individuals who fail to conform to these societal expectations are subjected to various challenging circumstances including social stigma, exclusion from family (Ali et al., 2011) and constant bombardment of investigative questions about their infertility, treatment of infertility, and its effectiveness. These indigenous stressors invade the privacy of the individual and cause mental distress (Saif et al., 2021; Sami et al., 2012) among infertile married individuals. Therefore, it would be logical to conclude that these individuals will have less marital satisfaction due to social concerns, their relationship concerns, higher need for parenthood.

Lastly, no gender differences were observed in the present research. These findings are inconsistent with the literature focusing on gender differences in terms of infertility-related stress as they reported higher stress among women than men (Chachamovich et al., 2010; Ehsan et al., 2018; El Kissi et al., 2013; Javaid et al., 2022; Wischmann & Thorn, 2013). However, an indigenous study (Naz & Batool, 2017) confirmed the findings of the present study presenting the fact that men and women with fertility problems equally suffer from stress which negatively impact their marital satisfaction. Same study reported that both men and women face gender specific infertility-related issues for instance, women reported agony due to diagnosis, threats to marriage, stress due to monthly cycle, and most pronounced, the family and social pressure whereas men revealed masculinity ego, disorientation, and unacceptance their fertility issues, hiding their infertility and hence, resistance to treatment. To avoid embarrassment and derogatory comments women with fertility problems isolate themselves. Dolan et al. (2017) indicated that these societal pressure impact mental health and marital satisfaction of women.

Contrary to the common belief that men are blame free and hence exempted of any pressure; infertility is considered as a question mark on their masculinity in a patriarchal society such as in Pakistan. Previous research (Chowdhry, 2005; Peronace, 2007; Pujari & Unisa, 2014)

has established that men with fertility problem are stigmatized due to which they do not disclose their issues and it further elevate the stress level and decreases their marital satisfaction.

5 Conclusion and Recommendations

Infertility is a reproductive health issue. However, individuals struggling with infertility face multiple psychological and social issues. The findings of the present research have exhibited the adverse outcomes of infertility-related stress on marital satisfaction of the infertile individuals in Pakistan. The findings of the study are aligned with the previous studies. No gender differences were observed regarding both variables in the present study.

The findings of the present study will contribute to the existing indigenous literature as well as provide a baseline for future research. These results will also shed light and validate the experiences of men related to infertility which are deeply neglected and overlooked particularly in indigenous course of work. Additionally, these results will help society to understand the physical and psychological battles of infertile individuals and be more empathic towards them. Similarly, the study will also be utilitarian in extending the understanding of struggles and conflicts that emerge in marital relationships due to infertility and hence, call for the importance of couple as well family therapy. Similarly, the study will be valuable in making people realize that their repeated and insensitive inquiries are damaging to the individuals as well as couple dealing with their fertility issues. For future studies, protective factors against infertility-related stress and fatalistic beliefs should be further explored as per the findings of present research.

References

- Ahmed, H. M., Khan, M., Yasmin, F., Jawaid, H., Khalid, H., Shigri, A., Nawaz, F., Hasan, C. A., Khan, M. O., & Hasan, C. A. (2020). Awareness regarding causes of infertility among out-patients at a tertiary care hospital in Karachi, Pakistan. *Cureus, 12*(4).
- Ali, S., Sophie, R., Imam, A. M., Khan, F. I., Ali, S. F., Shaikh, A., & Farid-ul-Hasnain, S. (2011). Knowledge, perceptions and myths regarding infertility among selected adult population in Pakistan: a cross-sectional study. *BMC public health, 11*, 1-7.
- Baranwal, A., & Chattopadhyay, A. (2020). Proposition of belief and practice theory for men undergoing infertility treatment: a hospital based study in Mumbai, India. *Frontiers in Sociology, 5*, 43.
- Batool, S. S., & de Visser, R. O. (2014). Psychosocial and contextual determinants of health among infertile women: A cross-cultural study. *Psychology, health & medicine, 19*(6), 673-679.
- Begum, B. N., & Hasan, S. (2014). Psychological problems among women with infertility problem: a comparative study. *J Pak Med Assoc, 64*(11), 1287-1291.
- Bhamani, S. S., Zahid, N., Zahid, W., Farooq, S., Sachwani, S., Chapman, M., & Asad, N. (2020). Association of depression and resilience with fertility quality of life among patients presenting to the infertility centre for treatment in Karachi, Pakistan. *BMC public health, 20*, 1-11.
- Chachamovich, J. R., Chachamovich, E., Ezer, H., Fleck, M. P., Knauth, D., & Passos, E. P. (2010). Investigating quality of life and health-related quality of life in infertility: a systematic review. *Journal of Psychosomatic Obstetrics & Gynecology, 31*(2), 101-110.
- Chehreh, R., Ozgoli, G., Abolmaali, K., Nasiri, M., & Mazaheri, E. (2019). Comparison of the infertility-related stress among couples and its relationship with infertility factors. *International Journal of Women's Health and Reproduction Sciences, 7*(3), 313-318.

- Chowdhry, P. (2005). Crisis of masculinity in Haryana: The unmarried, the unemployed and the aged. *Economic and Political Weekly*, 5189-5198.
- Cserepes, R. E., Kollár, J., Sápy, T., Wischmann, T., & Bugán, A. (2013). Effects of gender roles, child wish motives, subjective well-being, and marital adjustment on infertility-related stress: a preliminary study with a Hungarian sample of involuntary childless men and women. *Archives of gynecology and obstetrics*, 288, 925-932.
- Dolan, A., Lomas, T., Ghobara, T., & Hartshorne, G. (2017). 'It's like taking a bit of masculinity away from you': Towards a Theoretical Understanding of Men's Experiences of Infertility. *Sociology of Health & Illness*, 39(6), 878-892.
- 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.
- Ehsan, N., Khurshid, M., Abbasi, N. H., Fazaldad, G., Gul, S., & Mushtaq, R. (2018). Interfamilial Problems and Marital Dissatisfaction Among Fertile and Infertile Couples. *Pakistan Journal of Physiology*, 14(4), 44-46.
- El Kissi, Y., Romdhane, A. B., Hidar, S., Bannour, S., Idrissi, K. A., Khairi, H., & Ali, B. B. H. (2013). General psychopathology, anxiety, depression and self-esteem in couples undergoing infertility treatment: a comparative study between men and women. *European Journal of Obstetrics & Gynecology and Reproductive Biology*, 167(2), 185-189.
- Galundia, R., & Sharma, V. (2018). A Comparative Study on the Marital Satisfaction among Fertile and Infertile Couples. *International Journal of Educational Science and Research*, 8(6), 23-28.
- Gana, K., & Jakubowska, S. (2016). Relationship between infertility-related stress and emotional distress and marital satisfaction. *Journal of health psychology*, 21(6), 1043-1054.
- Greil, A. L., Shreffler, K. M., Schmidt, L., & McQuillan, J. (2011). Variation in distress among women with infertility: evidence from a population-based sample. *Human Reproduction*, 26(8), 2101-2112.
- Hadley, R., & Hanley, T. (2011). Involuntarily childless men and the desire for fatherhood. *Journal of Reproductive and Infant Psychology*, 29(1), 56-68. <https://doi.org/10.1080/02646838.2010.544294>
- Husain, W., & Imran, M. (2021). Infertility as seen by the infertile couples from a collectivistic culture. *Journal of Community Psychology*, 49(2), 354-360.
- Infertility. (2023). *Cleveland Clinic*. Retrieved 23 June from <https://my.clevelandclinic.org/health/diseases/16083-infertility>
- Ismail, N., & Moussa, A. (2017). Coping strategies and quality of life among infertile women in Damanhour City. *Journal of Nursing and Health Science*, 6(2), 31-45.
- Javaid, B., Ajmal, R., Ahmad, U., Rashed, A. A., Khan, A. B., Batool, H., Zainab, F., & Safdar, A. (2022). Marital Dissatisfaction and Depression: A Comparative study among Infertile Couples of Punjab. *Pakistan Journal of Medical & Health Sciences*, 16(07), 243-243.
- Jisha, P., & Thomas, I. (2016). Quality of life and infertility: influence of gender, years of marital life, resilience, and anxiety. *Psychological Studies*, 61, 159-169.
- Kazmi, S. F., Jadoon, A., & Rehman, A. (2016). Impact of infertility duration on mental health of infertile women. *Journal of the Society of Obstetricians and Gynaecologists of Pakistan*, 6(2), 83-88.
- Kiesswetter, M., Marsoner, H., Luehwink, A., Fistarol, M., Mahlkecht, A., & Duschek, S. (2020). Impairments in life satisfaction in infertility: Associations with perceived stress,

- affectivity, partnership quality, social support and the desire to have a child. *Behavioral Medicine*, 46(2), 130-141.
- Lansakara, N., Wickramasinghe, A. R., & Seneviratne, H. R. (2011). Feeling the blues of infertility in a South Asian context: psychological well-being and associated factors among Sri Lankan women with primary infertility. *Women & health*, 51(4), 383-399.
- Li, X., Ye, L., Tian, L., Huo, Y., & Zhou, M. (2020). Infertility-Related stress and life satisfaction among Chinese infertile women: a moderated mediation model of marital satisfaction and resilience. *Sex Roles*, 82, 44-52.
- Miles, L. M., Keitel, M., Jackson, M., Harris, A., & Licciardi, F. (2009). Predictors of distress in women being treated for infertility. *Journal of Reproductive and Infant Psychology*, 27(3), 238-257.
- Mumtaz, Z., Shahid, U., & Levay, A. (2013). Understanding the impact of gendered roles on the experiences of infertility amongst men and women in Punjab. *Reproductive health*, 10, 1-10.
- Naz, B., & Batool, S. S. (2017). Infertility related issues and challenges: perspectives of patients, spouses, and infertility experts. *Pakistan Journal of Social and Clinical Psychology*, 15(2), 3-11.
- Peronace, L. A. (2007). *Two-part investigation of the biopsychosocial model in male reproductive health: A cross-sectional investigation of the association between infertility diagnosis and emotional distress in men (part i); and, a prospective controlled investigation of the [Text not available]*. Cardiff University (United Kingdom).
- Pujari, S., & Unisa, S. (2014). Failing fatherhood: a study of childless men in rural Andhra Pradesh. *Sociological Bulletin*, 63(1), 21-40.
- 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. <https://doi.org/10.47391/NNJP.02>
- Sami, N., Ali, T. S., Wasim, S., & Saleem, S. (2012). Risk factors for secondary infertility among women in Karachi, Pakistan. *PloS one*, 7(4), e35828.
- Tabong, P. T.-N., & Adongo, P. B. (2013). Understanding the Social Meaning of Infertility and Childbearing: A Qualitative Study of the Perception of Childbearing and Childlessness in Northern Ghana. *PloS one*, 8(1), e54429. <https://doi.org/10.1371/journal.pone.0054429>
- Ullah, A., Ashraf, H., Tariq, M., Aziz, S. Z., Zubair, S., Sikandar, K. U. R., Ali, N., Shakoor, A., & Nisar, M. (2021). Battling the Invisible Infertility Agony. *Journal of Ethnic and Cultural Studies*, 8(2), 89-105.
- Valsangkar, S., Bodhare, T., Bele, S., & Sai, S. (2011). An evaluation of the effect of infertility on marital, sexual satisfaction indices and health-related quality of life in women. *Journal of human reproductive sciences*, 4(2), 80.
- Verhaak, C. M., Smeenk, J. M., Evers, A. W., Kremer, J. A., Kraaijmaat, F. W., & Braat, D. D. (2007). Women's emotional adjustment to IVF: a systematic review of 25 years of research. *Human reproduction update*, 13(1), 27-36.
- WHO. (2022). *Infertility*. Retrieved June 20 from <https://www.who.int/news-room/fact-sheets/detail/infertility#:~:text=Key%20facts>
- Wischmann, T., & Thorn, P. (2013). (Male) infertility: what does it mean to men? New evidence from quantitative and qualitative studies. *Reproductive biomedicine online*, 27(3), 236-243.
- Yao, H., Chan, C. H. Y., & Chan, C. L. W. (2018). Childbearing importance: A qualitative study of women with infertility in China. *Research in nursing & health*, 41(1), 69-77.

- Yazar, R., & Tolan, Ö. (2021). Cognitive-behavioral approach in marital therapy. *Psikiyatride Guncel Yaklasimlar*, 13(1), 1-22.
- Yazdani, F., Elyasi, F., Peyvandi, S., Moosazadeh, M., Galekolaee, K. S., Kalantari, F., Rahmani, Z., & Hamzehgardeshi, Z. (2017). Counseling-supportive interventions to decrease infertile women's perceived stress: A systematic review. *Electronic physician*, 9(6), 4694.
- Ying, L. Y., Wu, L. H., & Loke, A. Y. (2015). Gender differences in experiences with and adjustments to infertility: A literature review. *International Journal of Nursing Studies*, 52(10), 1640-1652. <https://doi.org/https://doi.org/10.1016/j.ijnurstu.2015.05.004>
- Zahid, N., Saleem, S., Azam, I., & Moatter, T. (2015). Association of obesity with infertility among Pakistani men: a case control study. *Open Journal of Epidemiology*, 5(03), 204-215.
- Zegers-Hochschild, F. (2009). International Committee for monitoring assisted reproductive technology; world health organization. International committee for monitoring assisted reproductive technology (ICMART) and the world health organization (WHO) revised glossary of ART terminology, 2009. *Fertil Steril*, 92(5), 1520.