

Psychological Distress, Self-Esteem, and Demographic Correlates in Women with Primary and Secondary Infertility in Pakistan

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This study aims to investigate the relationship between Self-esteem, Psychological Distress, and demographics correlated in women having primary and secondary Infertility. The sample of 120 women with primary and secondary Infertility was taken. Rosenberg Self-esteem Scale (Rosenberg, 1965) was employed to measure the level of Self-esteem and Kessler Psychological Distress Scale (Kessler et al., 1992) was used to assess Psychological Distress. The correlation was found through Split Spearman Correlation Analysis. We found Differences in demographic correlates included Age, Duration of Infertility, Body height and weight, and Number of Infertility between primary and secondary Infertility. To determine the differences in Psychological Distress and Self-esteem between both groups, a one-way analysis of variances (ANOVA) was conducted. There is not significant difference found between Psychological Distress and Self-esteem in primary and secondary Infertility. While some of the demographic correlates were found with significant differences in primary and secondary Infertility. This study can help health practitioners and psychologists to identify the differences between primary and secondary Infertility to improve clinical management accordingly.

Keywords. Self-esteem, psychological distress scale, Infertility

According to World Health Organization (2024), Infertility is the disability of the human reproductive system in which a healthy

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pregnancy cannot be conceived after one year of planned sexual contact. If women unable to ever bear a child, it would be classified as Primary Infertility (WHO, 2024) and if a woman cannot able to hold a healthy pregnancy after giving birth to one or more healthy children, she would be categorized as having secondary Infertility (Mascarenhas et al., 2012). According to World Health Organization (WHO), About 48.5 million couples have Infertility worldwide. Twenty-nine million of them are troubled by secondary Infertility, while 19.2 million are dealing with primary Infertility. The highest range of Infertility is found in South Asian regions with an approximate number of 14.4 million. The prevalence of Infertility was reported highest from 1990 to 2010 globally (Mascarenhas et al., 2012). In Pakistan, 22% of women in the total population are facing Infertility (Hakim & Sultan, 2001; Shaheen et al., 2010; Ahmad et al., 2020; Javaid et al., 2022).

In the majority of South Asian nations, women are seen as solely responsible for raising the next generation, and they are held accountable for having fewer children than expected, which harms their social standing (Monemi et al., 2003). If the causes and solutions are unknown and it persists, it becomes more distressing and chronic (Forrest & Gilbert, 1992; Yilmaz et al., 2020). In developing countries, women having Infertility, face severe psychological abuse in their relationships and in-laws' residences in the form of social stigma, emotional torture, rejection from family settings, physical and verbal abuse, and withholding of food and health care, which has a significant negative impact on their mental health and social standing (Dillon, 2013). Despite all demographic facts, the approximate ratio of mental distress experienced by women with Infertility is likely to be the same across cultural and social contexts in different regions of the world (Qadir & Khalid, 2015; Drosdzol & Skrzypulec, 2009), and it increases with the duration of Infertility (Domar et al., 1992; Hasanpoor-Azghady et al., 2019).

In Pakistan, men are expected to carry the family name and care for their parents as they age, while women are typically expected to live with their husband's families, start a family, care for the husband's family, and completely participate in the upbringing of children. Because of these diverse cultural norms, it is difficult for women to maintain a healthy mental state (Qadir et al., 2011). Long-term treatments for Infertility, periods of attempted fertility without live birth, and recurrent miscarriages are all closely related to social and cultural adversity (Shreffler, Greil & McQuillan, 2011).

Couples who struggle to bear children, begin to feel frustrated and disappointed, but as their situation worsens, they begin to feel

socially isolated by being classified as infertile, which can seriously harm their Self-esteem, perception of their bodies, and sense of gender. Psychological components like depression and physical states of Changes in heart rate and hormone imbalance caused by anxiety and stress play a particular role in achieving a normal pregnancy (Chrousos et al., 1998; Maroufizadeh et al., 2019). After the diagnosis of Infertility, women experience emotional and verbal abuse, are deprived of the necessities, are socially isolated, restricted access to financial recourses as a result, physical abuse, and divorce become threatening in the long run (Ameh et al., 2007). Contrarily, Infertility treatments such as Hormonal treatments, adequate physiological monitoring, and in vitro fertilization (IVF) have a psychological effect on emotional stability and are difficult for couples. throughout this time, especially for women, which also has a negative impact on bodily changes (Eugster & Vingerhoets, 1999). There is a reciprocal relationship between the psychological effects of Infertility and the alterations in the body's psychophysiology that affect biological functions (Cwikel, Gidron, & Sheiner, 2004). Gynecological issues are more prevalent in women who have a history of psychiatric conditions such as Major Depression, Anxiety, Alcohol Abuse, Stress, and Somatization (Griffiths et al., 1998), and prior experience with depressive symptoms are strongly linked to Infertility (Peterson et al., 2014). Couples who struggle with Infertility pay a heavy price for treatment, which is extremely distressing for them (Stern et al., 1995). Increased cardiovascular reactivity in reaction to stress is linked to poor Invitro Fertilization treatment results, and the body's stress response harms fertility (Facchinetti et al., 1997).

Lack of social support during a crisis of Infertility has many impacts on women's lives, and in the event of recurrent loss, these women frequently experienced traumatic stress (Maritz, Poggenpoel & Myburgh, 2008). Due to the decreased intimate experience of Infertility, the partner may have stress-related sexual dysfunction, and husbands who have extramarital relationships make women fear separation (Lasker & Toedter, 2000).

The more prevalent type of violence is psychological violence, which has long-term psychopathological consequences like anxiety, depression, and Psychological Distress, and 33.8% of women face it due to Infertility (Behboodi et al., 2013). According to Goldberg (2000), Psychological Distress is a state that includes symptoms like anxiety and others that resemble mental disorders but lack a medical classification. In medical practice, these states are also sometimes defined interchangeably with psychological suffering as mental distress and mental illness. Infertility has a primary side effect of

Psychological Distress with greater levels of anxiety and depression (Greil, 1997).

When one has low Self-esteem, in addition to self-satisfaction and fulfillment, they may also experience irritation, anxiety, a sense of loss, and despair. Self-esteem must be measured to diagnose psychiatric symptoms, particularly in cases when mental function has been compromised. It is also essential for maintaining both physical and mental health a positive or negative attitude toward oneself is referred to as Self-esteem (Rosenberg, 1965). A negative attitude toward oneself raises the likelihood that it will negatively impact one's mental and physical health (Andrews & Brown, 1993). Due to feelings of incompetence and despair, Infertility is strongly linked to low Self-esteem in women, which has an impact on their personal and social lives (Essays UK, 2013). Women having Infertility, are found more anxious, depressed, and with higher Psychological Distress due to lower Self-esteem related to their Infertility (Abbey et al., 1992; Trimbos-Kemper, 1993; Corning, 2002).

Risk factors and incidence of psychological illnesses are relatively high in developing nations like Pakistan, especially for anxiety and depressive disorders. In Pakistan, the prevalence of anxiety and depressive disorders in the general population is 34%, with women accounting for 29 to 66% of cases and males for 10 to 33%. Depressive and anxiety disorders affect 3 out of 11 persons, and they are strongly linked to marital concerns and problems with the in-laws (Mirza & Jenkins, 2004).

When infertile women are neglected or subjected to stereotypes regarding Infertility, society and culture as well as individual factors continuously contribute to their distress of these women (Shah et al., 2013). Ncube and Ticharwa (2017) found that the younger age of women is highly associated with depression, Psychological Distress, lower Self-esteem and recurrent miscarriages due to stress related to Infertility, and women having primary Infertility and low education have more tend to have Psychological Distress and depression. In their investigation of sociodemographic factors in mental disorders related to Infertility, Aghanwa et al., (1999) discovered that infertile women were more likely to develop psychopathology if they had a history of repeated abortions and surgeries, a long family history of Infertility, an unhappy marriage, and polygamy.

Psychological counseling is essential throughout Infertility therapy to decrease psychological discomfort associated with Infertility and preserve mental and physical health. efficacy of Infertility treatments is greatly influenced by psychological variables,

which should be managed during Infertility treatment (Berg et al., 1991), and attending psychological interventions and counseling sessions while receiving Infertility therapy lowers the miscarriage rate (Domar, 2000). The purpose of this study is to understand the relationship between Psychological Distress and Self-esteem of women who have experienced primary and secondary Infertility and correlation between demographic in both groups. This study aims to compare the Psychological Distress, Self-esteem, and demographics associated with primary and secondary Infertility.

Hypotheses

1. Self-esteem and psychological discomfort are likely to be correlated in infertile women.
2. In women with Infertility, Psychological Distress is likely to predict Self-esteem.
3. Demographic correlates (Woman's Age, Husband's Age, Duration of Infertility, Duration of Treatment, Duration of Marriage, Woman's age at the time of marriage, Husband's age at the time of marriage, Body Mass Index, Body Weight, Body's Height, Numbers of Miscarriages), Self-esteem, and Psychological Distress are likely to differ significantly between primary and secondary Infertility.

Method

Research Design

The association between Self-esteem, Psychological Distress, and demographic factors was examined in women with primary and secondary Infertility using the correlational research design

Sample

Based on earlier studies, the sample was chosen with a set of particular features. To gather information from 120 females with primary and secondary Infertility, the purposive sampling approach was adopted. The sample was taken from three Infertility clinics in Pakistan's Punjab province. The following were the inclusion criteria for participants.

- a) Participants between the age of puberty to menopause.

- b) Participants have been taken based on primary and secondary Infertility diagnostic criteria from the 10th edition of the International Classification of Diseases.
- c) Participants from hospitals and medical facilities were contacted.

The exclusion criteria for including participants included the following.

- a) Participants who have any type of uterine cancer.
- b) Participants with any physical or mental disability.
- c) Women with a marital period of less than 1 year.

Operational Definitions

Primary Infertility

A complete diminished ability of female to achieve conceive after one year of trying or keep having miscarriages, classified as primary infertility ([Hochschild et al., 2009](#)).

Secondary Infertility

Infertility is considered secondary when a woman is unable to carry a pregnancy to term after at least one successful pregnancy ([Mascarenhas et al., 2012](#)).

Psychological Distress

Psychological Distress It is the global measure of distress-based symptoms of anxiety and depression that affect the normal functioning of a person's life in the last 4 weeks (Kessler et al., 1992).

Self-esteem

A degree of perceived positive or negative characteristics and qualities of self-concept towards one's self (American Psychological Association, 2023).

Instruments

The assessment was based on a demographic questionnaire and two psychometric questionnaires.

Demographic Questionnaire

To evaluate the participants' demographic characteristics including Woman's Age, Husband's Age Duration of Infertility (Years), Duration of Treatment (Years), Duration of Marriage, Woman's age at the time of marriage, Husband's age at the time of marriage, Body Mass Index, Body Weight (KG), Body's Height, Numbers of Miscarriages, a demographic questionnaire was created. All questions were developed based on previous literature and information regarding a woman having Infertility, and its socio-economic, and personal consequences.

Kessler Psychological Distress Scale ([K10]; Kessler, 1992)

Kessler Psychological Distress Scale (K10) developed by Kessler (1992), Urdu language translated version by Gafoor and Sitwat (2015) was used to assess Psychological Distress. This scale has total 10 Item, present score 10 to 50. Highest score represents high level of Psychological Distress and vice versa. This scale has been reported as highly reliable ($r = .91$).

Rosenberg Self-esteem Scale (RSES)

Rosenberg (1965) devised a scale called the Rosenberg Self-esteem Scale (RSES), Urdu translated version by Rasool and Khan (2015) was used to measure Self-esteem. This scale has total 10 items and item 2, 5, 6, 8, 9 are reversed score. All items score from 0 to 3. This scale was highly reliable on reliability measure ($r = 0.88$).

Procedure

The permission of the original authors and secondary writers who translated the measuring psychometric instruments used in the present study was obtained after the research topic was approved by the Board of Advance Studies and Research. Permission was obtained from three medical facilities for the data collection, and the time and date were coordinated. At healthcare facilities, participants were approached. To ensure that they voluntarily agreed to engage in the research procedure, participants were given comprehensive information about the study's objectives and methodology. A consent form was also given to each participant. All study participants were made aware of all ethical concerns. All participants were women diagnosed with the Infertility by a medical officer resident in clinics. Diagnosis was made on the basis of criteria mentioned in International Classification of Diseases (ICD-10). Medical officer was also informed and taken

consent to participants for research data collection and confidentiality maintained.

In the first step of the main study, we took permission for the data collection from healthcare facilities, from where we were supposed to collect data and inform them about all procedures and the purpose of the study. 120 participants were included in the main study. Before the data collection process, consent for data collection was taken from participants. An information sheet regarding the research process and purpose was also provided for participants to read before signing a consent form. The researcher distributed each questionnaire to each participant individually.

Ethical Consideration

All psychometric instruments were used after taking permission from the first author. Data were collected after taking permission from healthcare facilities. An information sheet was provided to the participants before collecting data which includes all the information about the nature of the research, purpose, duration, role of participants, and contact information about the concerned person in case of any conflict. Participants received assurances that their information would be kept confidential and that the research process would not compromise their treatment rights. All data was protected and entered into a computer with codes and nobody has the access to this data.

Results

The statistical package for social sciences (SPSS) version 26, a computer application was used to examine the data. In the first step, psychometric measurement tools were analyzed to assess their reliability. For reliability analysis, which explains the internal consistency of measurement devices, the scales Cronbach's Alpha was acquired. Shown in Table 1 below.

Table 1: *Psychometric Properties of Questionnaires (N =120)*

Variables	k	M	SD	Potential		Actual		α
				Min	Max	Min	Max	
Kessler Psychological Distress Scale (K10)	10	31.86	9.18	10	50	14	48	.910
Rosenberg Self-esteem Scale	16	14.65	3.47	00	30	6	24	.613

Note. *K* = Number of Items in the scale and sub-scale, *M* = Mean, *SD* = Standard Deviation, *Min Score* = Minimum Score, *Max Score* = Maximum Score, *a* = Reliability Co-efficient.

According to the findings in Table 1, both the Rosenberg Self-esteem Scale and the Kessler Psychological Distress Scale have strong Cronbach alpha reliability. The descriptive characteristics of demographic variables were calculated through mean, standard deviation, frequency, and percentage. Major descriptive characteristics of demographics are reported in

Table 2: *Major Descriptive Statistics of Demographic Characteristics of Participants*

Variables	<i>M (SD)</i>	<i>f (%)</i>
Woman's Age	30.29 (5.31)	
Age of the Spouse	34.5 (7.19)	
Marriage's span in years	7.79 (4.98)	
Duration of Infertility in years	5.77 (4.42)	
Numbers of Miscarriage	0.60 (1.06)	
Duration of treatment for Infertility in years	3.87 (3.37)	
Husband's age at the time of marriage	27.06 (6.28)	
Woman's age at the time of marriage	22.82 (4.32)	
Type of Diagnosed Infertility		
Primary		73 (60.8)
Secondary		47 (39.2)
History of miscarriage		
Yes		41 (34.2)
No		79 (65.8)
Family Type		
Nuclear		39 (32.5)
Joint		81 (67.5)
Type of treatment taking for Infertility		
Not taking any treatment		9 (7.5)
Allopathic		96 (80)
Homeopathic		2 (1.7)
Herbal		1 (.8)
Mixed Treatment Approach		12 (10)
Women with the history of miscarriage		
Yes		28 (34.5)
No		72 (65.5)
Woman's Psychiatric History		
Depression		15 (12.5)
Stress		8 (6.7)
Anxiety		13 (10.8)
Mood Variation		9 (7.5)

Continued...

Variables	<i>M (SD)</i>	<i>f (%)</i>
Psychosis		7 (5.8)
OCD		1 (.8)
Not Any		67 (55.8)
Woman's history of drug use		
Yes		4 (3.3)
No		116 (96.7)
Marital Satisfaction (Self-Reported)		
Yes		85 (70.8)
No		35 (29.2)
Sexual Satisfaction (Self-Reported)		
Yes		80 (66.7)
No		40 (33.3)
Woman's Religious Tendency		
Absolute not		4 (3.3)
Medium		100 (83.3)
Very Much		16 (13.3)
Marriage choice		
Personal		44 (36.7)
Family		76 (63.3)
Type of Marriage		
Within family		53 (43.3)
Outside from family		68 (56.7)
Family relation with husband		
Not have family marriage		68 (56.7)
First relative marriage		50 (47.7)
Second Relative marriage		2 (1.7)
Woman's Health Perception		
Healthy		6 (5.0)
Unhealthy		114 (95.0)
Husband's diagnosis of Infertility		
Yes		47 (39.2)
No		73 (60.8)
Woman's Body mass index	24.46(4.65)	
Underweight		5 (4.2)
Normal		68 (56.7)
Overweight		36 (30.0)

Continued...

Variables	<i>M (SD)</i>	<i>f (%)</i>
Obesity		9 (7.5)
Extreme Obesity		2 (1.7)
Woman's Education		
Not Educated		15 (12.5)
Primary		15 (12.5)
Middle		13 (10.8)
Matric		25 (20.8)
Intermediate		21 (17.5)
14 Year Education		18 (15.0)
16 Year Education		11 (9.2)
18 Year Education		2 (1.7)
Husband's Education		
Not Educated		14 (11.7)
Primary		12 (10.0)
Middle		12 (10.0)
Matric		33 (27.5)
Intermediate		21 (17.5)
14 Year Education		16 (13.3)
16 Year Education		4 (3.3)
18 Year Education		8 (6.7)
Woman Work Status		
Housewife		102 (85.0)
Professional		18 (15.0)
Treatment Affordability		
Yes		24 (20.0)
No		96 (80.0)
Woman's feeling of confidence		
Yes		67 (55.8)
No		53 (44.2)

Note. *M* = Mean, *SD* = standard Deviation, *f* = Frequency.

Table 3: *Split Spearman Correlation Analysis Between Psychological Distress, Self-esteem and Demographic Characteristic of Women Having Primary and Secondary Infertility*

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	9	10	11	12
Primary Infertility (<i>N</i> = 73)													
PD	26.78	9.01	-										
SE	15.05	3.72	-.43**	-									
WA	29.58	4.92	.16	-.02	-								
HA	33.22	5.33	.22	-.05	.79**	-							
WE	4.23	1.98	-.32**	-.07	-.01	-.08	-						
HE	4.07	1.88	-.10	-.00	.08	.12	.62**	-					
DOI	5.89	4.30	.34**	-.08	.69**	.64**	-.32**	-.14	-				
MS	1.28	0.46	-.59**	.38**	.14	.10	-.22	-.07	.32**	-			
SS	1.26	0.44	-.34**	-.23	.23	.21	-.32**	-.34**	.33**	.45**			
HP	1.94	0.22	-.33**	-.10	.18	.09	-.30**	-.29*	.29*	.15	.16	-	
MH	1.65	0.48	.09	-.24*	.03	.07	.16	.11	-.01	.27*	.06	-.05	
Secondary Infertility (<i>N</i> = 47)													
PD	28.79	9.70	-										
SE	15.89	2.88	-.17	-									
WA	31.40	5.76	.05	-.12	-								
HA	36.49	9.09	-.04	.03	.82**	-							
WE	3.85	1.76	-.36*	-.10	.19	.29	-						
HE	4.29	1.96	-.23	.05	-.11	.12	.61**	-					
DOI	5.57	4.65	.27	.03	.52**	.42**	-.26	-.23	-				
MS	1.29	0.46	-.44**	.31*	.06	-.06	-.22	-.58**	.17	-			
SS	1.45	0.50	.28	.05	.05	.13	-.34*	-.29	.39**	.35*			
HP	1.96	0.20	-.09	.11	.02	.03	-.26	-.31*	.04	.14	-.19	-	
MH	1.66	0.47	.06	.13	.02	.12	-.29*	-.07	.17	.17	-.01	.29*	

Note. PD = Psychological Distress, SE = Self-esteem, WA = Woman age, HA = Husband Age, WE = Woman's Education, HE = Husband's Education, DOI = Duration if Infertility, MS = Marital Satisfaction, SS = Sexual Satisfaction, HP = Health Perception, MH = Miscarriage History.

Table 3 showing a split spearman correlation, revealed that Psychological Distress significantly negatively correlated with Self-esteem in women having primary Infertility ($r = -.43, p < .01$), but not significantly correlated in Secondary Infertility. Husband age was also significantly positively correlated with woman age in primary ($r = .79, p < .01$) and secondary Infertility ($r = .82, p < .01$). Women's education was significantly negatively correlated with Self-esteem in the woman having primary Infertility ($r = -.32, p < .01$) and with secondary Infertility ($r = -.36, p < .01$) and also positively correlated with women education in women having primary Infertility ($r = .61, p < 0.1$) and in women having secondary Infertility ($r = .62, p < .01$). Psychological Distress and the length of Infertility were found to be strongly associated ($r = .34, p < 0.1$), women age ($r = .69, p < 0.1$), husband age ($r = .64, p < 0.1$), marital satisfaction ($r = .32, p < 0.1$).

Sexual satisfaction ($r = .33, p < 0.1$), health perception ($r = .29, p < 0.5$) and significantly negatively correlated with women education ($r = -.34, p < 0.5$) in woman having primary Infertility. Duration of Infertility was significantly positively correlated with women's age ($r = .52, p < 0.1$), husband's age ($r = .42, p < 0.1$), and significantly negatively correlated with marital satisfaction ($r = .61, p < 0.1$), health perception ($r = .61, p < 0.1$) in women having secondary Infertility. Marital satisfaction was also significantly negatively correlated with Psychological Distress ($r = -.59, p < 0.1$), and significantly positively correlated with Self-esteem ($r = .61, p < 0.1$), sexual satisfaction ($r = .33, p < 0.1$), and health perception ($r = .29, p < 0.5$) in women having primary Infertility. Marital satisfaction also significantly negatively correlated with Psychological Distress ($r = -.44, p < 0.1$), husband education ($r = -.58, p < 0.1$), and significantly positive correlated with Self-esteem ($r = .31, p < 0.5$), and sexual satisfaction ($r = .39, p < 0.1$), in women having secondary Infertility.

Table 4: *(Independent Sample T-test) Mean Comparison of Demographic Characteristics of Woman Having Primary and Secondary Infertility*

Variables	Primary Infertility		Secondary Infertility		$t(120)$	p	Cohen's d
	M	SD	M	SD			
Woman's Age	29.58	4.92	31.40	5.76	-1.86	.06	.34
Husband's Age	33.22	5.33	36.49	9.09	-2.48	.01	.44
Duration of Infertility (Years)	5.89	4.31	5.57	4.65	.39	.69	0.07
Duration of Treatment (Years)	4.16	3.55	3.43	3.05	1.17	.24	0.22

Continued...

Variables	Primary Infertility		Secondary Infertility		<i>t</i> (120)	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Duration of Marriage	7.13	4.90	8.82	4.99	-1.84	.06	0.34
Woman's age at the time of marriage	22.75	3.60	22.93	5.29	-.22	.82	4.38
Husband's age at the time of marriage	26.49	4.35	27.95	8.25	-1.27	.20	0.22
Body Mass Index	25.21	5.31	23.29	3.12	2.24	.02	0.44
Body Weight (KG)	62.46	10.13	59.51	9.40	1.60	.11	0.30
Body's Height (Feet)	5.24	.32	5.26	.35	-.41	.69	0.08
Numbers of Miscarriages	.73	1.23	.43	.71	1.52	.13	0.30

Table 4 revealed a significant mean difference in husband's age with $t(120) = .01$, $p < .05$. Findings show that women having secondary Infertility exhibit a higher age range in their husband ($M = 36.49$, $SD = 9.09$) compared to the Primary Infertility ($M = 29.58$, $SD = 4.92$). The value of Crohn's *d* was 0.44 ($< .05$), which indicated a medium effect size. Women with primary Infertility showed higher body mass index ($M = 25.21$, $SD = 5.31$) compared to those with secondary Infertility ($M = 23.29$, $SD = 3.12$) with Crohn's *d* = 0.44 ($< .05$), which indicates a medium effect size.

Table 5: (Non-Parametric test) Frequencies and Chi-Square Results of Demographic Characteristics of Primary and Secondary Infertility

Variables	Primary Infertility		Secondary Infertility		X ² (1)
	<i>N</i>	%	<i>n</i>	%	
Source					
Woman's Birth Order					12.01**
First Born	24	32.9	3	6.4	
Second Born	36	49.3	35	74.5	
Third Born	13	17.8	9	19.1	
Husband's Birth Order					13.32***
First Born	16	21.9	23	48.9	
Second Born	40	54.8	22	46.8	
Third Born	17	23.3	2	4.3	
Woman's Education					4.83
Not Education	8	11	7	14.9	
5 Years	10	13.7	5	10.6	
8 Years	8	11	5	10.6	

Continued...

Variables	Primary Infertility	Secondary Infertility			
Source	<i>N</i>	%	<i>n</i>	%	X ² (1)
10 Years	13	17.8	12	25.5	
12 Years	12	16.4	9	19.1	
14 Years	11	15.1	7	14.9	
16 Years	9	12.3	2	4.3	
18 Years	2	2.7	0	0	
Treatment Affordability					2.53
Yes	19	24.7	6	12.8	
No	55	75.3	41	82.2	
Working Status					1.15
Housewife	60	82.2	42	89.4	
Professional	23	17.8	5	10.6	
Body Mass Index					9.57*
Underweight	3	4.1	2	4.3	
Normal	34	46.6	34	72.3	
Overweight	26	35.6	10	21.3	
Obesity	8	11	1	2.1	
Extreme Obesity	2	2.7	0	0	
Miscarriage History					.001
Yes	25	34.2	16	34	
No	48	60.8	31	66	
Marital Satisfaction					.01
Yes	52	71.2	33	70.2	
No	21	28.8	14	29.8	
Reason for Marital Satisfaction					2.48
Husband's Behavior	7	9.6	2	4.3	
In Law's Behavior	8	11	9	19.1	
Infertility	6	8.2	4	8.5	
Sexual Satisfaction					4.47*
Yes	54	74	26	55.3	
No	19	26	21	44.7	
Psychiatric History					5.98
Depression	11	15.1	4	12.5	
Stress	5	6.8	3	6.7	
Anxiety	5	6.8	8	10.8	
Mood Variation	7	9.6	2	7.5	
Psychosis	5	6.8	2	5.8	
OCD	1	4.2	0	5.8	

Continued...

Variables	Primary Infertility	Secondary Infertility			
Source	<i>N</i>	%	<i>n</i>	%	X ² (1)
No Psychiatric History	39	53.4%	28	59.6	
Husband's Substance Use History					0.18
Yes	18	24.7	10	21.3	
No	55	75.3	37	78.7	
Woman's Health Perception					0.90
Healthy	4	5.5	2	4.3	
Unhealthy	69	94.5	45	95.7	
Medical History					23.86*
Anemia	15	20.5	7	14.9	
Diabetes	2	2.7	1	2.1	
Hepatitis	1	1.4	3	6.4	
Allergy	6	8.2	3	6.4	
Asthma	0	0.0	3	6.3	
Tuberculosis	1	1.4	1	2.1	
Kidney Disease	0	0.0	2	4.3	
Piles	0	0.0	2	4.3	
Hypertension	17	23.3	3	16.7	
Paralysis	0	0.0	2	4.3	
Cardiac Problem	1	1.4	0	0.0	
Diabetes and Hypertension	1	1.4	0	0.0	
No Medical History	28	38.4	20	40	
Feeling of Distress					2.26
Physical	18	24.7	17	36.2	
Mental	5	6.8	4	8.5	
Mental and Physical	47	64.4	24	51.1	
Not feel Distressed	3	4.1	2	4.3	
History of Psychiatric Drug Use					3.89*
Yes	9	12.3	1	2.1	
No	64	87.7	46	97.9	
Husband's Diagnosis of Infertility					0.29
Yes	30	41.1	17	36.2	
No	43	58.9	30	63.8	

Continued...

Variables	Primary Infertility	Secondary Infertility			
Source	<i>N</i>	%	<i>n</i>	%	X ² (1)
Causal Diagnosis of Husband's Diagnosed Infertility					0.87
Oligospermia	27	37.0	26	34.0	
Azoospermia	1	1.4	0	0.0	
Unknown	2	2.7	1	2.1	
Woman's Religious Tendency					3.3
Absolute Not	2	2.7	2	4.3	
Medium	58	79.5	4.2	89.4	
Moderate	13	17.8	3	6.4	
Marital Choice					1.15
Personal	24	32.9	20	42.6	
Family Choice	49	67.1	27	57.4	
Marriage Type					7.73**
Family	39	53.4	13	27.7	
Outside	34	46.6	34	72.3	
Marriage Relation					10.43**
First Relative	38	52.1	12	25.5	
Second	2	2.7	0	0.0	
Family Type					0.01
Nuclear	24	32.9	15	31.9	
Joint	49	67.1	32	68.1	
Husband's Behavior with Woman					10.11*
Pleasant	56	76.7	25	53.2	
Unpleasant	2	2.7	0	0.0	
Strict	1	1.4	1	2.1	
Occasional	14	19.2	21	44.7	

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 5 revealed that Chi-square test of independence showed significant association of primary and secondary Infertility with woman's birth order $\chi^2 (2, N = 120) = 12.01, p = .002, \Phi = .31 (< .05)$, which indicating small effect size, with husband's birth order $\chi^2 (2, N = 120) = 13.32, p = .001, \Phi = .33 (< .001)$, indicating medium effect

size, with body mass index $\chi^2 (4, N = 120) = 9.57, p = .04, \Phi = .28 (< .05)$, showing small effect size, with sexual satisfaction $\chi^2 (1, N = 120) = 4.47, p = .03, \Phi = .19 (< .05)$, indicating small effect size, with medical history $\chi^2 (13, N = 120) = 23.86, p = .03, \Phi = .45 (< .05)$, showing medium effect size, with history of psychiatric drug use $\chi^2 (1, N = 120) = 3.89, p = .04, \Phi = .13 (< .05)$ having small effect size, with marriage type $\chi^2 (1, N = 120) = 7.73, p = .005, \Phi = .25 (< .01)$ having small effect side, with family marriage relation $\chi^2 (2, N = 120) = 10.43, p = .005, \Phi = .29 (< .01)$ showing small effect size, and with husband's behavior with woman $\chi^2 (3, N = 120) = 10.11, p = .01, \Phi = .29 (< .01)$ indicating small effect size.

Table 6: *Mean, Standard Deviation, and One-Way Analysis of Variance in Psychological Distress, Self-esteem, and Type of Infertility*

	Primary Infertility		Secondary Infertility		$F(1, 118)$	η^2
	M	SD	M	SD		
Psychological Distress	26.78	9.01	26.79	9.79	.00	9.82
Self-esteem	15.05	3.72	15.89	2.88	1.73	0.02

Table 6 showed the Psychological Distress and Self-esteem scores for primary and secondary Infertility are displayed together with their means, standard deviations, and F values. The results showed that there is no significant mean difference in Psychological Distress or Self-esteem between primary and secondary Infertility, with $F(1, 118) = .00 (p > .05)$ and $F(1, 118) = 1.73 (p > .05)$, respectively. Results showed that Psychological Distress and Self-esteem among kinds of Infertility did not differ significantly.

Discussion

Infertility comes with different psycho-social consequences and many of the socioeconomic factors involve in the making situation worse. The purpose of the current study was to compare Psychological Distress and Self-esteem in women with primary and secondary Infertility. Additionally, this study sought to identify the demographic factors associated with Psychological Distress, Self-esteem, and the distinctions between primary and secondary Infertility. The current study revealed that there was a significant negative predictor of Psychological Distress on Self-esteem in women having Infertility. Previous studies also found a causative relationship between

Psychological Distress and Self-esteem among women with Infertility (Cui et al., 2021) and also found Self-esteem as a moderator on the relationship between Psychological Distress and Infertility related socio-economic demographics (Hasanpoor-Azghdy et al., 2014; Fang et al., 2021). However, there was no discernible difference between primary and secondary Infertility in the current study's findings for Psychological Distress and Self-esteem. The current study's findings indicated a substantial inverse association between Psychological Distress and Self-esteem in females with primary Infertility, but no such relationship was seen in females with secondary Infertility. Previous studies also did not establish significant differences in Psychological Distress (Morrow et al., 1995) and Self-esteem (Epstein et al., 2005) on primary and secondary Infertility.

The present study shows that the rate of reported women having primary Infertility is 60.8% higher than secondary Infertility 39.2%. Similar results were previously reported in a study done by Ikechebelu et al., (2003). The average age of women was reported 30.29 years and their husbands were 34.5 years. The age range was higher in the women having secondary Infertility 31.4 years than primary Infertility 29.4 years. The accordance of their partner's ages in secondary Infertility was found greater age 36.49 with a significant difference, as resulted in previous studies (Keskin et al., 2011; Dunson et al., 2004). The current study revealed that the mean duration of marriage of women having primary Infertility was 7.13 and secondary Infertility was 8.82 years. There was no difference found in Primary and secondary Infertility respectively on the duration of Infertility (5.89, 5.57), duration of treatment, duration of the marriage, woman's age at the time of marriage, husband's age at the time of marriage, and number of miscarriages. Partner's age indicated a significant difference between women with primary and secondary Infertility as previous studies indicated (Louis et al., 2013).

Women having primary Infertility were found to have a higher body mass index of 25.21 than a woman having secondary Infertility of 23.29 with a significant difference. Previous studies also shared the same result (Dag et al., 2015; Pasquali et al., 2007). We found most of the women having Infertility were second birth order respectively 49.3% in primary and 74.5% in secondary Infertility with a significant difference. Most of their partners were also found to mostly with second birth order in the primary Infertility group 54.8% but with first birth order in the secondary Infertility group 48.9% with a significant difference mentioned in a study done by Draper et al., (2000). There was a significant difference found in sexual satisfaction between the primary and secondary Infertility groups. Women having primary

Infertility were found with greater sexual satisfaction 74% than women having secondary Infertility 55.3%. [Leiblum & R. \(1996\)](#) also concluded the same results in their study.

The current study found that women having primary Infertility were a higher rate of psychiatric drug history use 12.3% than secondary Infertility 2.1% with a significant difference and these trends were also found in previous studies ([Sbaragli et al. 2008](#); [Poddar et al., 2014](#)).

In the current study, 75.3% of women with primary Infertility and 82.2% with secondary Infertility were not able to afford treatment for Infertility. [Ombelet et al., \(2008\)](#) also claimed the same result in their study that in developing countries, Infertility treatment affordability is a huge barrier to the way of treatment. In the current study, 85.0% of women were housewives respectively 82.2% in the primary Infertility group, and 89.4% in the secondary Infertility group. [Kikendall \(1994\)](#) found in their study that women need financial independence to overcome life crises related to Infertility.

This study revealed that most of the women with primary Infertility do have not any miscarriage history (60.8%) as compared with secondary Infertility. Previous studies also found that there are more chances of miscarriage in primary Infertility due to biological tendencies in a woman's body [Seshadri, et al., \(2014\)](#). The current study found that most of the women having Infertility with psychiatric history found with a history of depression and the primary Infertility group have a higher range of 15.5% than secondary Infertility 12.5. As previous studies indicated that women having Infertility are more prone to psychiatric symptoms of depression ([Wilkins, et al., 2010](#)), and most of the women also have a psychiatric history of Infertility ([Sbaragli et al., 2008](#)). 64.4% of women from the primary Infertility group and 51.1% of a woman from the secondary Infertility group reported mental and physical distress during Infertility and many previous studies indicated that physical and mental distress have a reciprocal relationship causative relationship with Infertility ([Wright et al., 1989](#); [Anderson et al., 2003](#); [Damti et al., 2008](#)). In our study, 39.2% of partners of women having Infertility were diagnosed with Infertility and 60.8% of them were undiagnosed. Previous studies emphasize the importance of counseling for male Infertility diagnosis in Infertility clinics ([Ugwuja et al., 2008](#)) and shared the same trends ([Peterson et al., 2003](#)).

Implications

Many personal and sociodemographic factors impact mentally and physically to women having Infertility. Psychological Intervention during Infertility treatment has a crucial role in the increase of efficacy of the treatment. This study is an addition to previous studies to fill the gap of knowledge about socioeconomic and cultural aspects, and personal risk factors of Infertility. Primary and secondary Infertility demographic correlates and causative factors have not before been explored in the Pakistan scenario. To lessen the influence of psychosocial elements in the treatment of Infertility, alternative treatment procedures for primary and secondary Infertility might be created. This study recommended that to solve this issue, healthcare planners should prepare a comprehensive national survey and develop a national strategy. To prevent aggression against Infertility and improve women's mental health so they can conceive a child, the clinician and authorities can address the elements that interfere with Infertility treatment with the aid of this study. The results of this study also can be used to raise public awareness of Infertility and the issues it causes. The most significant aspect of this study is how it draws attention to disregarded yet crucial aspects of our society's relationship with infertile women. The paths for mental health and the social repercussions of women experiencing Infertility must thus be explored via future studies.

Limitations

Many limitations should be addressed in this study. The first was collected from two urban cities from participants enrolled in healthcare centers. There were no participants who weren't using medical services. Because of this, results cannot be applied to the whole population, including women who are unable to access medical care for Infertility. More research is needed to generalize implications on the whole population. Another aspect that is limiting the generalization of the results is cultural demographics. In different cultures, the results can variate from the current study. One of the major limitations was collecting data due to the social stigmatization of Infertility. Feeling hesitation due to social stigma can reduce validity.

Suggestions

More studies are required to find out extraneous variables that can affect the treatment of Infertility. The cross-cultural implication of

this study required replication of the current study in different cultures. A theoretical framework of management should be developed that can address psychological and physical symptoms at the same time during the treatment of Infertility in women.

Conclusion

The current study shows how different women having Infertility faced many psycho-social hurdles in terms of having Infertility and women having primary Infertility suffer more due to social stigma. They carry the burden of Psychological Distress and lower Self-esteem due to Infertility in developing societies which primarily affects the treatment of Infertility. On another hand, many demographic indicators also affect women's mental and physical health which are highly associated with Infertility. Most interestingly, all the factors differently effecting in respectively primary and secondary Infertility. More studies are required to carry out the causal factor of primary and secondary Infertility that can be helpful to make an authentic treatment framework for both populations accordingly and can address all psychological, social, and biological factors under one roof.

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