



DEPRESSION; PREVALENCE AND PREDICATORS AMONG PAKISTANI INFERTILE WOMEN

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INTRODUCTION

Infertility is a prevalent condition and it is a significant medical, social and public health problem that affects 10-15% of couples during their life time. It is stress full event can give rise to a variety of psychological difficulties and also impact on person's quality of life.^{1,2} According to one estimation almost 86.8 %of infertile women suffered from anxiety and 40.8% from depression.³

Fertility in our setup has a premium position. It is highly valued due to social, cultural and economic reasons. Having children is the only way women could enhance their status and even though 40% of infertility is said to be male related women are mostly blamed in most cases.

Infertility in Pakistan is also confronted with societal discrimination and stigmatization as in some other Asian and African countries leading to various psychological upsets and disorders. Among these depression is most common. Depression is the reaction of the sorrow that infertility causes.

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ABSTRACT... Infertility is very stressful event and is proven to associate with depression, anxiety, sexual dysfunction loneliness, sadness and impaired couple's relationship. **Objectives:** To determine the frequency of depression in infertile females and to determine the various risk factors associated with infertility and depression. **Study Design:** Prospective cross sectional study. **Setting:** Department of Obstetrics and Gynecology of Ziauddin University Karachi. **Period:** January to June 2014. **Methodology:** Infertile women were interviewed and the diagnosis and severity of depression was assessed together with the effects of different predictors such as age, duration of infertility, employment educational and socioeconomic status using PHQ-9 scale scoring. **Results:** This study showed that 199 (58%) of the infertile women suffered from depression. There was a statistically significant association with socio economical status while no significant association was detected with age of women, duration of infertility and educational status. **Conclusion:** We found a high prevalence of depression among infertile women. Depression was more among women belonging to higher socioeconomic class.

Key words: Depression, infertile female, literacy, socioeconomic status, Pakistan

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According to Yonkers KA⁴ "the lifetime prevalence of major depression in women is estimated to be as high as 21%".and depression is more common in women than men.⁵

Patients with depression presents with various symptoms such as sadness, helplessness, lack of motivation and sexual desire, sleeping and eating problems and thoughts of self harm and suicide etc.

They also present with symptoms such as over-eating or under eating that may aggravate their fertility problem. Depression may affect compliance with treatment and follow-up, it may also affect couples mutual relationship⁶.Sexualdysfunction is also common in women with depression and infertility and Kucor ⁷ founded that infertile women with sexual dysfunction were more likely to have depressive symptoms. Similarly Kahyaoglu ⁸ concluded in a study done in 89 women that infertility significantly reduces quality of life in women by increasing anxiety and depression.

Hormonal imbalances that cause infertility may also contribute to mood symptoms and vulnerability to depression. It is not definitively known whether depression itself can cause infertility, though some studies have found a correlation between depression and increased rates of infertility.

Those women who suffer from depression during infertility experiences more depression during pregnancy and also in the postpartum period. Also some studies have shown that those men and women who have history of depression prior to infertility treatment are more likely to be depressed and considered as high risk group.⁹

The aim of the present study was to see the prevalence and severity of depression in relation to age, duration of infertility and economical, employment and educational status of women.

METHODS AND MATERIAL

This cross sectional study was carried out at the gynecological outpatient's clinics of Ziauddin University Hospital North Nazimabad and Kemari Campus Karachi over six month's period from January 2014 to June 2014. All Females of 18-40 years of age coming to infertility clinic with duration of marriage more than one year were included in this research. Those women with definitive diagnosis of mood disorder or psychiatric disorder or on its treatment were excluded from the study; also women who were already under treatment were excluded from the study.

All eligible females fulfilling inclusion criteria were interviewed after getting informed consent. The severity of depression was measured by PHQ - 9. (Patient Health Questionnaire) scale.

PHQ-9 scale is among one of the several self-reported depression screening instruments. It has nine items each item score from 1-3 depending on the severity of depression. The total score is 27. A score of 1-4 is considered as no depression, 5-9 as mild, 10-14 as moderate depression and a score of 15-27 as severe depression.

Analysis of numerical and categorical variables was performed, data on numerical variables (age, duration of marriage) presented as median, and data on categorical variables (socioeconomic status, education, and severity of depression) was presented as percentage. Stratification with respect to age, duration of marriage, socioeconomic status and education was done. P-value < 0.05 was taken as significant.

DATA ANALYSIS

Data was analyzed using SPSS current version, analysis of numerical and categorical variables was performed, data on numerical variables (age, duration of marriage) was presented as median (because most of cases do not remember their exact age), data on categorical variables (socioeconomic status, education, and severity of depression) was presented as percentage. Stratification with respect to age, duration of marriage, socioeconomic status and education were done. Post stratification Chi-Square Test was applied. In all statistical tests a p-value < 0.05 was taken as significant.

RESULTS

Looking at the data of 342 women interviewed the mean age of the subjects was 28 years. Most of the women i.e. 51% fall between 20 to 30 years, duration of infertility in most of our studied women were 1-3 years. There were equal numbers of women belonging to low, middle and upper socioeconomic class. Significant number of these women were unemployed mostly were housewives. Around 33% of women were educated up to secondary level while 31% received no formal education (Table I).

PHQ-9 Score	Depression Severity
1- 4	None
5 – 9	Mild
10 – 14	Moderate
15-27	Severe

The prevalence of depression was 58% among the infertile women. 21% had minor depression, 9% had moderate depression while 28% had major depression.

No statistically significant p value was founded among depression and age of women, the level of education and employment status among the infertile women.

Older women and women with good socioeconomic status were founded to more depressed and especially from severe depression as compared to their counterpart.

DISCUSSION

Depression is considered as one of the most common psychological disorder affecting infertile couples. There are number of risk factors and predictors associated with depression in infertility such as female gender, repeated failed treatment cycles, low socioeconomic status, and long history of infertility and so on.

In the present study we aim to determine the prevalence of different degrees of depression that is minor, moderate and severe depression in infertile females in our hospital set up and also to establish the association of different socio demographic characteristics such as age of women, duration of infertility, socioeconomic status and education on the presence and degree of depression.^{9,10,11}

NO	CHARACTERISTIC	FREQUENCY	%age
1	AGE		
	1-3years	131	38.3
	3-5 years	177	51.8
	5-10years	30	8.8
	10years +	4	1.2
2	DURATION		
	1-3years	187	54.7
	3-5 years	14	4.1
	5-10years	124	36.3
	10years +	17	5.0
3	SOCIOECONOMIC STATUS		
	low Class < 20,000	123	36.0
	middle class 20-40,000	105	30.7
	High class,40,000	114	33.3
4	EMPLOYMENT STATUS		
	unemployed	248	72.5
	Employed	94	27.5
5	EDUCATION STATUS		
	Uneducated	106	31.0
	Primary	46	13.5
	Secondary	113	33.0
	Higher secondary school	48	14.0
	Graduate	29	8.5

Table-I. Basic statistics

S.NO	CHARACTERISTIC	NO DEPRESSION	MILD DEPRESSION	MODERATE DEPRESSION	SEVERE DEPRESSION	P-VALUE
1	AGE					.055
	<20years	64	22	8	37	
	20-30yrs	60	43	19	55	
	30-40years	15	7	4	4	
	40years+	4	0	0	0	
2	DURATION					.579
	1-3years	74	44	17	52	
	3-5 years	8	3	2	1	
	5-10years	53	20	11	40	
	10years +	8	5	1	3	
3	SOCIOECONOMIC					.000
	low Class < 20,000	79	18	7	19	
	midle class 20-40,000	34	28	14	29	
	High class,40,000	30	26	10	48	
4	EDUCATION					.097
	Uneducated	37	24	10	35	
	Primary	13	9	4	20	
	Secondary	62	18	9	24	
	Higher secondary school	16	12	7	13	
	Graduate	15	9	1	4	

Table-II. Severity of depression

Our study shows a depression rate of almost 62%. Out of them 53% are affected by major depression. High prevalence of depression in our set-up is consistent with work of Guerra et al¹² which founded 67% depression rate among infertile women in China and that of a study done in Ghana¹³ where 62% of infertile women were found to suffer from one type of depression. A study done in Saudi Arabia with a Culture and religion similar to ours also showed a similar pattern with the depression rate as high as 53.8%.⁶

Results of an Iranian study in 2006¹⁴ showed that depression is more common among infertile couples than fertile couples ($p < 0.015$). The only other study done in Pakistan on infertile couples to determine the prevalence of depression founded 56% of female suffered from major and 40% suffered from minor depression.¹⁵

We selected females for the study the reason being overall females suffers from depression more than males¹⁶ Age is also an important determinant of depression women feel more psychological pressure and strain with increasing years as they are aware that fertility decreases with increasing age. Duration of infertility also have a positive correlation with infertility as mention by various authors.^{3,10,13} Unlike other studies our study fails to illustrate this association as frequency and severity of depression among our studied women does not increase with duration of infertility.

Similarly unlike others our analysis showed a negative correlation with education and we found no statistical difference in the level of depression on the basis of education. However studies^{13, 14} have shown that education does have a positive effect on the level of stress and women who have at least some form of education has decreased level of stress and depression.

Level of depression also depends on whether the woman is employed or not. Compared to other studies^{10,13,14} we could not found a positive correlation. Ramezanzadeh et al¹⁴ founded that housewives experiences more depression than those who go for work outside.

We used PHQ-9 scale to assess depression in our study which is considered as a reliable and valid instrument to identify depression and assessing the severity.¹⁷ To the best of our knowledge this the first study done in Pakistan to assess depression during infertility using this scale.

CONCLUSION

Depression is common in infertile females, but there is diversity seen in its results by different authors therefore further longitudinal studies are required to describe natural history and to identify potential points of therapy.

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