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ORIGINAL ARTICLE

The prevalence of depression and its associated factors among infertile couples.

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ABSTRACT… Objective: To determine the prevalence and significant associated factors of depression among infertile couples **Study Design:** Cross-sectional study. **Setting:** Department of Obstetrics & Gynecology, Nishtar Hospital Multan. **Period:** 5th March 2021 to 5th July 2021. **Material & Methods:** One hundred twenty eight infertile couples were enrolled. Beck Depression Inventory (BDI) was used to assess presence or absence of depression among infertile couples. **Results:** The prevalence of depression among infertile couples was 63 (31.2%). Age, duration of infertility and family system were significant associated factors of depression among infertile couples. **Conclusion:** High frequency of depression was noted among infertile couples. Clinicians treating such patients should anticipate depression among infertile couples followed by timely management to relieve them from emotional distress which will improve their personal, psychological and social functioning.

Key words: Couples, Depression, Distress, Infertility, Nishtar.

INTRODUCTION

Infertility is not a mere medical problem but an adverse psycho social dilemma affecting all aspects of the couple's well being.[1,2] An estimated 15% of couples may experience periods of infertility throughout their lives.[3] However persistent infertility tends to trigger uncontrollable crisis for infertile couples which readily reduce the their self esteem.[3,4] It often precipitates a marital conflict which can endanger the mental health of couples and lead to an increased incidence of depression and anxiety in infertile couples.[5]

On the other hand Depression is a common illness worldwide, with an estimated 3.8% of the general population affected by it.[6] A large body of evidence indicates that this disorder is related with impairment in quality of life of infertile couples.[7,8] A recent study has reported 30.5 % depression in infertile couples.[9]

The overall prevalence of infertility in Pakistan is 22%. Primary infertility is 5%, while secondary infertility is 18%.[10] There is a dearth of information about proportions of depression among infertile couples in Pakistan as most of the studies done on this topic have only included infertile women.[11] This study has been proposed to ascertain current magnitude of depression among infertile couples. The results will help for early diagnosis of depression followed by proper management which will improve quality of life of these patients.

MATERIAL & METHODS

After approval from the ethics review committee (CPSP/REU/PSY-2018-099-685), this study was conducted at the Department of Obstetrics & Gynecology, Nishtar Hospital Multan. The Duration of the Study was six months from 05-03-2021 to 04-07-2021. By taking p= 30.5 %, q= 1-p, d= 8 % and confidence level = 95%, the sample size was calculated as n= 128 infertile couples. Probability consecutive technique was used for data collection.

Patients fulfilling inclusion criteria for study

1. MBBS, FCPS, Senior Registrar Psychiatry and Behavioural Sciences, Nishtar Medical University, Multan.
2. MBBS, FCPS, Demonstrator Psychiatry and Behavioral Sciences, Multan Medical and Dental College, Multan.
3. Msc (Psychology), M.Phil Psychology Student, Psychologist, Institute of Southern Punjab, Multan.
4. MBBS, FCPS, Assistant Professor Community Medicine, Nishtar Medical College, Multan.
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who presented at Department of Obstetrics & Gynecology, Nishtar Hospital Multan were included. Informed consent and confidentiality were ensured. Baseline demographic information of patients was recorded on specified performa.

Clinical screening of the participant was conducted to assess the presence of depression. Our research used the Beck Depression Inventory (BDI) for assessment of depressive symptoms among infertile couples. The BDI scores are classified as no depression (0-13), mild (14-19), moderate (20-28), and severe (29-63).[12] The outcome variable i.e. depression (Yes, No) was noted on a Performa designed for the study along with demographic details including gender, age, residential status, literacy, family structure, occupation and duration of marriage of the patient.

Data Analysis

Data was analyzed by SPSS ver-25. Frequencies were reported for qualitative variables like gender, age groups, primary and secondary infertility, residential status, literacy, obesity, socioeconomic status, family system and depression. Mean values were presented for age and duration of infertility.

Independent factors like age, gender, family system, primary and secondary infertility, obesity, socioeconomic status, duration of infertility and residential status were controlled by stratification to see their individual significance in depression. Pearson's chi square test was applied. P value ($p \leq 0.05$) was considered statistically significant.

RESULTS

Our study comprised of 128 infertile couples meeting inclusion criteria. Mean age of study participant's was 28.73 ± 4.34 years. Majority of male partners i.e. 75 (58.6%) were aged more than 30 years while majority of female partners i.e. 97 (75.8%) were aged less than 30 years. (Table-I). Among the study participants, 23 (18.0%) male partners were diagnosed with depression while 40 (31.3%) female partners were diagnosed with depression. (Table-II).

Descriptive statistics of study participants noted that 43 (33.6 %) belonged from rural areas while 85 (66.4 %) from urban areas. Poor socioeconomic status was noted in 88 (68.4%) while 40 (31.3%) were middle income. Forty seven (36.4%) male partners were illiterate while 86 (67.2%) female partners were illiterate and 90 (70.3%) belonged to joint family system. Mean body weight (BMI) of participants was 25.32 ± 2.37 kg/m^2 and 13 (10.2 %) while 19 (14.8%) female partners were obese.

Of these 128 infertile couples, 87 (68.0%) had primary infertility while 41 (32.0%) had secondary infertility. Mean disease duration was 2.12 ± 1.13 years and 108 (84.4 %) had duration of infertility up to 2.5 years.

Association of depression among infertile couples with regard to age, residential status, socioeconomic status, literacy, obesity, family system, duration of infertility and duration of infertility was noted. (Table-III to X).

Statistical significant association of depression among infertile couples was noted with age (M: 0.01, F: 0.01), duration of infertility (M: 0.02, F: 0.01) and family system (M: 0.01, F: 0.01).

Age Groups (In Years)	Male Frequency (%)	Female Frequency (%)
Up to 30	53 (41.4%)	97 (75.8%)
More than 30	75 (58.6%)	31 (24.2%)
Total	128 (100%)	128 (100%)

Table-I. Distribution of study cases according to age (n = 128)

Depression	Male Frequency (%)	Female Frequency (%)
Yes	23 (18.0%)	40 (31.2%)
No	105 (82.0%)	88 (68.7%)
Total	128 (100%)	128 (100%)

Table-II. Prevalence of depression among study cases (n = 128)

Depression		Age		P-Value
		Upto 30	>30	
Male	Yes (n=23)	23	00	0.01
	No (n=105)	30	75	
Female	Yes (n=40)	06	34	0.01
	No (n=88)	47	41	

Table-III. Association of depression with regards to age (n = 128)

Depression		Residential status		P-Value
		Rural	Urban	
Male	Yes (n=23)	10	13	0.331
	No (n=105)	33	72	
Female	Yes (n=40)	06	34	0.003
	No (n=88)	37	51	

Table-IV. Association of depression with regards to residential status (n = 128)

Depression		Socioeconomic Status		P-Value
		Poor	Middle Income	
Male	Yes (n=23)	17	06	0.627
	No (n=105)	71	34	
Female	Yes (n=40)	33	07	0.025
	No (n=88)	55	33	

Table-V. Association of depression with regards to socioeconomic status (n = 128)

Depression		Literacy		P-Value
		Illiterate	Literate	
Male	Yes (n=23)	07	16	0.634
	No (n=105)	40	65	
Female	Yes (n=40)	34	06	0.004
	No (n=88)	52	36	

Table-VI. Association of depression with regards to literacy (n = 128)

Depression		Groups		P-Value
		Group A	Group B	
Male	Yes (n=23)	00	23	0.123
	No (n=105)	13	92	
Female	Yes (n=40)	03	37	0.179
	No (n=88)	16	72	

Table-VII. Association of depression with regards to obesity (n = 128)

Depression		Family System		P-Value
		Joint	Nuclear	
Male	Yes (n=23)	23	00	0.001
	No (n=105)	67	38	
Female	Yes (n=40)	22	18	0.013
	No (n=88)	68	20	

Table-VIII. Association of depression with regards to family system (n = 128)

Depression		Type		P-Value
		Primary	Secondary	
Male	Yes (n=23)	16	07	0.998
	No (n=105)	71	34	
Female	Yes (n=40)	25	15	0.416
	No (n=88)	62	26	

Table-IX. Association of depression with regards to type of infertility (n = 128)

Depression		Duration		P-Value
		Up to 2.5	>2.5 Years	
Male	Yes (n=23)	23	00	0.023
	No (n=105)	85	20	
Female	Yes (n=40)	24	16	0.001
	No (n=88)	84	04	

Table-X. Association of depression with regards to duration of infertility (n = 128)

DISCUSSION

This study reported that the prevalence of depression among infertile couples was 31.2%. The stated result falls within the reported prevalence of any psychiatric disorder in infertile couples which is estimated to be between 25% to 60%.[13] More infertile females as compared to infertile males had depression (31.3% vs 18.0%) which is comparable to a study conducted by Behdani et al, which noted 57.1% of infertile females had depression as compared to males.[14]

The study results revealed that age, duration of infertility and family system were significant factors associated with depression among infertile couples.

Mean age of our study participants was 28.73 ± 4.34 years. Majority male partners i.e. 75 (58.6%) were aged more than 30 years while majority female partners i.e. 97 (75.8%) were aged less than 30 years. Rizvi et al reported 30 ± 5.2 years mean age which is consistent to our study results.[15] Butt et al also reported 30 ± 4.77 years mean age which is comparable to our stated results.[16] A study conducted by Ramzan et al also reported majority of infertile couples were in the age group of 25 – 35 years which is consistent with our study results.[17] Abbasi et al reported similar results regarding age.[18] Moreover Imran et al reported 31.56 ± 8.19 years mean age of infertile subjects which is close to our study results.[19]

Of these 128 infertile couples, 87 (68.0%) had primary infertility while 41 (32.0%) had secondary infertility. Mean disease duration was 2.12 ± 1.13 years and 108 (84.4 %) had duration of infertility up to 2.5 years. A study conducted by Abbasi

et al reported 78 % primary infertility which is in corroborated with our study results.[18] Imran et al reported 76 % primary infertility which is close to our study results.[17] Another study conducted by Shabbir et al has reported 10.16 ± 5.05 years mean duration of infertility which is similar to that of our study results.[20] However they reported secondary infertility being more common than that of primary infertility which is different from that of our study results. Rizvi et al has reported 40 % primary infertility and 60 % secondary infertility with very high duration of infertility which is different from that of our study results.[16] Butt et al reported age related similar results which are comparable to our findings.[15]

Moreover the results highlighted the difference in joint and nuclear family systems among depressed infertile couples. Result supported the view that depression is more common in nuclear families than joint families. It is comparable to published literature citing similar associations of depression with nuclear families.[21]

CONCLUSION

High frequency of depression was noted among infertile couples in our study. Treating clinicians should anticipate depression among infertile couple followed by timely management to relieve them from personal, psychological and social distress.

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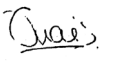
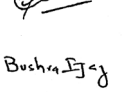
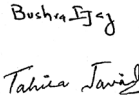
AUTHORSHIP AND CONTRIBUTION DECLARATION

No.	Author(s) Full Name	Contribution to the paper	Author(s) Signature
1	Owais Kareem	Literature search, study concept, study design, data collection, data interpretation, drafting, revision for accountability.	
2	Farah Rasheed	Study design, questionnaire design, data analysis.	
3	Maria Ghafoor	Study design, literature search, questionnaire design.	
4	Bushra Ijaz	Literature search, data collection, drafting.	
5	Tahira Javaid	Literature search, data collection, drafting.	
6	Saleha Munir	Literature search, data collection, drafting.