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Depressive Morbidity Among Female Partners of Infertile Couples in Tertiary Care Setup in Bangladesh

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Abstract

Background: There are 80 million infertile couples in the world which correspond to approximately 15% of all couples in their reproductive age. Negative attitude and behavior of family and acquaintances causes severe psychological stress resulting in social discrimination and stigmatization which may lead to anxiety, depression and even suicide. The study was aimed to estimate the prevalence and predictors of depressive morbidity among Bangladeshi infertile women.

Methods: This prospective, observational study was done on a total of 215 female partners of infertile couples who attended 'Infertility Management Center'; a Dhaka based tertiary care setup for infertility management and assisted reproductive technologies from August - December 2016. Only those who were unable to conceive after one year of unprotected sexual intercourse and agreed to take part in the study were included in the study. Patients with history of mental illness prior to infertility diagnosis and on any anti-psychotic drugs were excluded from the study. Data collection was done using the validated Beck Depression Inventory (BDI) questionnaire.

Results: Among the study population 72.6% were suffering from primary infertility and 27.4% from secondary infertility. Of them, 52.6% had 5 to 10 years and 47.4% had various duration of infertility. Female cause of infertility was in 30.7% couples, male cause was in 16.3%, both were in 4.7% and finally unknown was 48.4%. Female partners of infertile couples showed different types of mode disorders such as 29.3% (n=63) having severe depression, 39.5% moderate, 20.5% mild and 10.7% having no depression. Association between educational status and depression score showed 53.02% graduates having severe depression, though statistically it was not significant. Depression was most common among patients suffering from primary infertility and among housewives as they probably had more time to think and feel the situation.

Conclusion: The high level of depression among female partners of infertile couples revealed in this study is quiet alarming and requires attention of the medical fraternity. This study proposes that clinicians should be more aware about anxiety-depression disorders among infertile groups and the necessity of identifying patients who require psychological assistance.

Keywords: Primary infertility, Secondary infertility, Depression, Beck depression inventory

Introduction

The World Health Organization (WHO) defines "infertility" as the failure of conception in spite of couples having unprotected regular sexual intercourse for at least one year.[1] There are approximately 80 million infertile couples in the world which corresponds approximately to 15% of all couples at reproductive age (18-45).[2,3] Even though both male and female partners may be responsible for infertility, it is the women who are mostly blamed for their childlessness specially in developing countries like Bangladesh. The negative attitude and behavior of family and acquaintances causes severe psychological stress resulting in social discrimination and stigmatization which may lead to anxiety, depression and even suicide.

According to a study done by Seibel in 1982, the overall incidence of psychological problem in infertile couples ranges between 25 and 60%.[4] Freeman et al in 1987 also found that half of their sample of infertile couples described infertility as the most upsetting experience of their lives, whereas Mahlstedtet et al in the same year also showed that 80% of his sample of patients described their experience of infertility to be

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either stressful or very stressful.[5] At present there is very scarce data available in the Bangladeshi setting on the spectrum of the psychiatric morbidity seen in the infertility patients.

So, the aim of the study was to estimate the prevalence and predictors of depressive morbidity among infertile women attending a tertiary care set-up in Bangladesh.

Materials and Methods

This prospective, observational study was done on a total of 215 female partners of infertile couples who attended 'Infertility Management Center'; a Dhaka based tertiary care setup for infertility management and assisted reproductive technologies from August - December 2016. Only those who were unable to conceive after one year of unprotected sexual intercourse and agreed to take part in the study were included in this study. Patients with history of mental illness prior to infertility diagnosis and on any anti-psychotic drugs were excluded from the study.

Prior approval was sought from the ethical committee of the institute and consent was obtained for the study. An effort was made to include all patients attending this clinic during the proposed time span; however, those patients who declined participation were excluded. The participants were explained the aims and utility of the study and were ensured that all information would be kept confidential. Data collection was done using the validated Beck Depression Inventory (BDI) questionnaire.

Beck Depression Inventory (BDI): Beck Depression Inventory (BDI, BDI-1A, BDI-II), created by Aaron T. Beck, is a 21-questions self-answering questionnaire, one of the most widely used psychometric tests for measuring the severity of depression. The BDI is a likert-type scale consisting of 21 items. The total scores range between 0 and 63. It is used in clinical assessment in order to determine the severity of depression. Interpretation of the depression score is as follows: 0-10 points show that there is no depression, 11-17 points indicate a mild level of depression, 18-29 points indicate a medium level depression, and 30-63 points indicate severe depression. The questionnaire used in this study was a translated and validated Bangla version of Beck's Depression Inventory.

Data concerning socio-demographic characteristics such as age, monthly income of partners, educational level, occupation, duration of infertility, number of previous conception as well as associated male factor were recorded.

Results

The mean age of study population was found 29.33±4.70 years with range from 18 to 42 years, majority 64.2% belonged to 21-30 years. Regarding educational status, 53.0% had completed graduation. Most of the patients 66.5% were found to be housewives and 32.1% service holder. Regarding monthly income, majority 56.3% earned Tk.11,000-25,000 per month. Among the study population, 72.6% were suffering from primary infertility and 27.4% from secondary (table I).

Table I: Distribution of the study patients by type of infertility (n=215)

Type of infertility	Number of patients	Percentage
Primary	156	72.6
Secondary	59	27.4

Regarding duration of infertility, 52.6% were having 5 to 10 years of infertility and 47.4% others. Female cause of infertility was found in 30.7%, male 16.3%, both 4.7% and finally unknown was 48.4% (table II).

Table II: Contribution of infertility by partners (n=215)

Causes of infertility	Number of patients	Percentage
Female	66	30.7
Male	35	16.3
Both	10	4.7
Neither partner was shown to have an obvious cause	104	48.4

Female partners of infertile couples showed different types of mode disorders such as 29.3% having severe depression, 39.5% moderate, 20.5% mild and 10.7% having no depression (table III).

Table III: Distribution of the study patients by depression score (n=215)

Depression score	Number of patients	Percentage
No	23	10.7
Mild	44	20.5
Moderate	85	39.5
Severe	63	29.3

Association between educational status and depression score showed 53.02% (n=114) graduates having severe depression, though

statistically it is not significant. Association between age and depression score showed majorities with age between 21 to 30 years were suffering from severe depression but it was not statistically significant. Association between occupational statuses with depression score showed that depression was most common among housewives 66.51% as they probably had more time to think and feel the inability to produce children and felt lonelier, though this increased rate did not reach the level of statistical significance (table IV).

Table IV: Association between occupational status with depression score (n=215)

Occupational status	Depression score				Total	*p*-value
	No	Mild	Moder-ate	Severe		
Service	3	27	15	24	69	
Business	0	1	0	0	1	
Student	0	1	0	1	2	0.653^{ns}
Housewife	17	45	26	55	143	
Total	20	74	41	80	215	

Association between monthly income with depression score showed that depression was more common among partners who came from low middle-class background which is 56.28%.Association between types of infertility with depression score showed depression was numerically more common among patients suffering from primary infertility which is 72.59 % but this reference did not reach statistical significance. Association between causes of infertility with depression score showed that depression was more common when female were mostly responsible compared to when their male partners were involved and this was statistically significant (p= 0.013).

Discussion

In present study, most of the patients (64.2%) belonged to 21-30 years age group. The mean age was 29. 33±4.7 years with range from 18 to 42 years. A similar study from Tehran, Iran also showed similar age range of 17–45 years.[4]

Majority of the women (53.0%) was graduates which is in contrast to other study findings. Data was taken from an urban population in a tertiary center in Dhaka, which might explain the high education rate among them. But in spite of high education rate, majority (66.5%) of the women was housewives.

Regarding type of infertility that 72.6% patients had primary infertility, 27.4% had secondary infertility with majority (52.6%) having infertility duration of between 5 to 10 years. A study in Iran also had shown similar distribution of infertility of 1–20 years.[4]

The study revealed that 89.3% women suffered from some level of depression. In a separate study done in Tamale, Ghana among 100 infertile patients in 2014 revealed that prevalence of depression was 62.0%.[5] Another study conducted on Chinese women in 1998 reported somewhat higher percentage of depression which was 67%.[6] A study done by Pankaj et al in India using the same standardized scale showed a total of 56.4% (79/140) infertile females were suffering from depression.[7]

The lowest prevalence was found in Poland in 2008 where the rate was only 35.44%.[10]

Present study revealed that 85women (39.5%) had moderate, 63 women (39.3%) had severe depression whereas 44 women (20.5%) suffered from mild depression. Only 10.7% women had no depression.

Findings of the study showed that there was no significant correlation between age, education, occupation and monthly income with the severity of depression. This is in contrast with a study conducted on 238 Turkish women which revealed that poor income status and low education level were associated with higher rate of depression.[9] Also, the level of depression was found to be significantly higher among subjects with low or no formal education and among the unemployed infertile women in Ghana.[5] An Iranian study also showed that there is more depression among housewives than service holders which correlates with our study.[4] The risk factors which came out of an Indian study by Verma et al showed increasing age, lack of employment, prior history of abortion, number of children, support from spouse and relatives, gynecological infections, duration of infertility and previous treatment of infertility all had influence on severity and incidence of infertility.[7]

There was also no statistically significant correlation between the type, duration and causes of infertility with severity of depression found in our study. But Alhassan et al from Ghana showed significant positive correlation with age of the women and the duration of infertility; also, women

with primary infertility presented with high depression scores as measured by BDI.[5] Findings from the Iranian study showed that depression was most common after 4–6 years of infertility and especially severe depression could be found in those who had infertility for 7–9 years. In another study, Domaret al found that depression peaked during the third year of infertility.[10]

Regarding employment status, Japanese researchers also showed that unemployed women had a greater tendency towards experiencing depression than did employed participants.[11]

Type of infertility, depression was found more common in "unexplained cause" group. This was also seen in the study conducted in Iran.[4] A similar study conducted in Japan in 2011 showed that those with male factor infertility had significantly lower depression than female factor infertility.[11] Such a trend was present this in our study but the results did not reach statistical significance.

Conclusion

The high level of depression among female partners of Bangladeshi infertile couples revealed in this study is quite alarming and requires attention of the medical fraternity. This study proposes that clinicians should be more aware about anxiety-depression disorders among infertile groups and the necessity of identifying patients who require psychological assistance. Furthermore, the study had been conducted in a single centre in Dhaka over a limited period of time. Also, only those women who could afford and chose to come to the infertility clinic were included in this study and it was not a community – based study. This may not reflect the true picture of Bangladeshi infertile women. So, a multicenter population based study should be done to find out the exact prevalence and the factors associated with depression among infertile patients in Bangladesh.

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