

## Psychological State of Selected Infertile Couples of Bangladesh

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### Abstract

**Introduction:** Infertility is an increasingly prevalent condition which causes considerable psychological problems among infertile couples.

**Objective:** To assess the psychological state of infertility in terms of depression, anxiety and stress among the infertile couples of Bangladesh.

**Materials and Methods:** This cross-sectional study was conducted in the fertility centre of Combined Military Hospital, Dhaka from January to July 2018 among purposively selected 112 infertile couple. Data were collected by face to face interview through a pretested semi-structured Bangla questionnaire of Depression-Anxiety-Stress Scale and analyzed by computer software SPSS 19.0.

**Results:** Among the 112 infertile couples, depression was found among 54.5%, anxiety among 53.6% and stress in 30.4% of females. Whereas among males depression was found in 38.4%, anxiety 26.8% and stress 21.4%. This study also revealed that couples with primary infertility had more depression, anxiety and stress than others.

**Conclusion:** Females have been psychologically more affected than their husbands due to infertility. More than half of the females had depression and anxiety and about one third were affected by stress which was higher than their husbands.

**Key-words:** Infertility, Psychological state, Depression, Anxiety, Stress.

### Introduction

Reproduction is one of the vital life events of human being and as a corollary, infertility causes a wide range of emotional and mental discomforts<sup>1,2</sup>. Nowadays, emotional wellbeing of the infertile couple has been an entity of growing attention as infertility has been recognized as an intensely

distressing experience for lots of couples<sup>1,4</sup>. Inability to conceive with unprotected intercourse for at least 12 months is considered as infertility<sup>2,5</sup>. Couples those have never conceived previously are recognized as primary infertile whereas couples those have had a pregnancy previously but currently infertile are considered as secondary infertile. Any of the partners can be responsible for the situation of infertility<sup>2</sup>. Repeated evidence revealed that about 40% of infertilities are associated with male partner problems, about 40% are due female partner problems and rest 20% are associated with both partners or due to unknown aetiologies<sup>6</sup>. Estimations have been found to unveil that, infertility affects about 9% couples globally ranging from 8%-12%<sup>7</sup>. However, the rate is found to be higher reaching ~30% in few parts of the globe which is especially found in a number of regions, including South Asia, sub-Saharan Africa, Middle East and North Africa, Central and Eastern Europe and Central Asia<sup>7</sup>. It has been repeatedly demonstrated that infertility bears strong negative impact in multiple domains of life viz marital discord, sexual discontent, and psychosocial well-being<sup>1,2,8</sup>. Authors mentioned a few other issues such as poor self-esteem, feeling sad, distress due to sexual dissatisfaction, depression, guilt, anxiety and frustration<sup>3,9</sup>. These psychological problems due to infertility can affect couples between 25% and 60%<sup>10</sup>. However, one study reported about two-thirds of respondents were found to report mood changes attributed by infertility<sup>11</sup>. The psychological disturbances are multifactorial and influenced by a complex interaction of numerous factors such as gender, type and duration of infertility, the age of couples and duration of marriage which can precipitate as well as perpetuate depression, anxiety and stress reactions<sup>11,12</sup>. Enduring infertility and unproductive treatment cycles exaggerate stress and psychological reactions especially depression<sup>13,14</sup>. Bangladesh is a disaster-prone developing economy, where collaboration between mental health and sexual health services providers are yet to be formalized<sup>15,16</sup>. There is a dearth of researches studying the psychological

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impact of infertility. Service providers mostly focus on the endocrinological aspects of infertility and little or no emphasis is placed on holistic care including mental health. Despite growing research in the developed countries, the relationship between infertility, stress, anxiety and depression is yet to be explored as infertility is still neglected in Bangladesh<sup>17</sup>. The aim of this study was to assess the psychological state of infertility in terms of depression, anxiety and stress among the infertile couples of Bangladesh.

## **Materials and Methods**

This cross-sectional study was carried out among 112 infertile couple who attended at the Infertility Center of Combined Military Hospital (CMH), Dhaka from January to June 2018 to assess the psychological state of infertility in infertile couple in terms of depression, anxiety and stress. Respondents were selected through purposive convenient sampling. Both male and female partner of a couple, who were a diagnosed case of either primary or secondary infertility, were included in the study and couples having any major surgical/medical illness and gross psychiatric illness at the time of enrolment were excluded. Data were collected through face-to-face interview through a pretested semi-structured bangla questionnaire of Depression-Anxiety-Stress Scale (DASS)<sup>18</sup>. This valid set of instrument has seven questions for each subscale. A sum of the scores for the seven questions in each of the sub-scales completed by each participant was evaluated as per the severity-rating index. The calculation of DASS; for depression 0-9 is normal while 10-13, 14-20, 21-27 and 28+ indicate mild, moderate, severe and extremely severe respectively. While to measure anxiety, 0-7 counted as normal but 8-9, 10-14, 15-19 and 20+ specify mild, moderate, severe and extremely severe correspondingly. Whereas, 0-14 is normal for stress although 15-18, 19- 25, 26-33 and 34+ state mild, moderate, severe and extremely severe in that order. Data processing and analyses were done using Statistical Package for the Social Sciences (SPSS) version 19. Formal ethical clearance was taken from the Ethical Committee of the Director General of Medical Services, for conducting the study and informed written consent was taken from the couples assuring confidentiality of their information.

## **Results**

Nearly two-thirds (75.9%) of the husband were in the age group of 29-38 years which is followed by 19-28 years (14.3%) and around 68.8% of the wife was in the age group 19-28 years followed by 29-38 years (31.3%) (Table-I).

Minimum age of the husbands was 26 with an average age was 38 years. Minimum age of the wife was 19 and the maximum age was 32 yrs. Mean age gap was  $5 \pm 2.56$  years. Most of the husband's (79.5%) age at marriage was 20-26 years and 60.7% of the wife's age at marriage was 13-19 years. Mean age at marriage for the husband was  $24.74 \pm 2.7$  years and mean age at marriage for the wife was  $19.07 \pm 2.32$  years. In case of the duration of married life of 74 (66.1%) couples was in 2-8 years group which is followed by 9-15 years (28.6%). Mean duration of married life for the couples was  $7.77 \pm 3.88$  years (Table-I). Among the respondents, depression was found among 54.5%, anxiety 53.6% and stress 30.4% of females. Whereas among males, depression was found in 38.4%, anxiety 26.8% and stress 21.4% (Table-II). Mean score of depression, anxiety and stress by age groups of husband found more severe in >39 years of age groups and among the wife found more severe in 29-38 years although that was not statistically significant. The association between psychiatric outcome measures (depression, anxiety and stress) and the duration of marriage group of husband revealed that depressive disorder is more prevalent than that of anxiety and stress. Those who were between 2-8 years of duration of marriage group had the highest prevalence for depressive disorders and there was a trend towards their being less victim of anxiety and stress disorders. The association between duration of marriage group with anxiety and stress revealed statistically significant ( $p < 0.05$ ). On the other hand among the wives anxiety disorder is more prevalent than that of depression and stress. Those who were between 2-8 years of duration of marriage group had the highest prevalence of anxiety disorders. In 9-15 years of duration of marriage group, depressive disorder is more prevalent than that of the anxiety and stress. All the findings were not statistically significant (Table-III). The association between type of infertility with psychiatric morbidity (Depression/Anxiety/Stress) shows that depressive disorder is more prevalent in a husband with primary infertility which was followed by stress and anxiety respectively and the result was not statistically significant. The result also noted that depressive disorder also prevalent in husband with secondary infertility and the result were not significant statistically. In contrary depressive disorder is more prevalent in wife with primary infertility which was followed by anxiety and stress respectively. The result also noted that anxiety disorder was prevalent in wife with secondary infertility and the results were not significant statistically (Table-IV).

**Table-I:** Socio-demographic characteristics of the respondents

Characteristics		Husband (n=112)	Wife (n=112)
		Frequency (%)	Frequency (%)
Age (Years)	19 – 28	16 (14.3)	77 (68.8)
	29 – 38	85 (75.9)	35 (31.3)
	>39	11 (3.9)	0
	Mean ± SD	32.46 ± 4.16	26.78 ± 4.13
	Range	26-47	19-38
Age at Marriage (Years)	13 – 19	4 (3.6)	68 (60.7)
	20 – 26	89 (79.5)	44 (39.3)
	>27	19 (17.0)	0
	Mean ± SD	24.74 ± 2.70	19.07 ± 2.32
Duration of Marriage (Years)	2 – 8	74 (66.1)	74 (66.1)
	9 – 15	32 (28.6)	32 (28.6)
	>16	6 (5.4)	6 (5.4)
	Mean ± SD	7.77 ± 3.88	7.77 ± 3.88
	Range	2-21	2-21
Educational Qualification	SSC	38 (33.9)	54 (48.2)
	HSC	55 (49.1)	36 (32.1)
	Graduate	12 (10.7)	15 (13.4)
	Post Graduate	7 (6.3)	7 (6.3)
Occupation	JCO	3 (2.7)	-
	Sergeant	9 (8.0)	-
	Corporal	31 (27.7)	-
	Lance Corporal	7 (6.3)	-
	Sainik	53 (47.3)	-
	Civilian	9 (8.0)	-
	House Wife	-	112 (100)
	Mean ± SD	27316.96 ± 6389.74	-
Monthly Family Income (BDT)	8000 – 23000	23 (20.5)	-
	23001 – 32000	75 (67.0)	-
	>32001	14 (12.5)	-
	Mean ± SD	27316.96 ± 6389.74	-
	Range	8000-58000	-
Types of Fertility	Primary	78 (69.6)	78 (69.6)
	Secondary	34 (30.4)	34 (30.4)

**Table-II:** Distribution of respondent by Depression, Anxiety and Stress

Category	Severity	Husband (n=112)	Wife (n=112)
		Frequency (%)	Frequency (%)
Depression	Normal	69 (61.6)	51 (45.5)
	Mild	19 (17.0)	22 (19.6)
	Moderate	17 (15.2)	19 (17.0)
	Severe	04 (3.6)	08 (7.1)
	Extremely Severe	03 (2.7)	12 (10.7)
Anxiety	Normal	82 (73.2)	52 (46.4)
	Mild	09 (8.0)	16 (14.3)
	Moderate	12 (10.7)	27 (24.1)
	Severe	06 (5.4)	05 (4.5)
Stress	Normal	88 (78.6)	78 (69.6)
	Mild	14 (12.5)	10 (8.9)
	Moderate	06 (5.4)	15 (13.4)
	Severe	04 (3.6)	06 (5.4)
	Extremely Severe	0	03 (2.7)

**Table-III:** Association between Duration of Marriage with Depression, Anxiety and Stress in Husband and Wife (n =112)

Duration of marriage (years)		Depression		Anxiety		Stress	
		Yes (%)	No (%)	Yes (%)	No (%)	Yes (%)	No (%)
Husband	2-8	28 (25.0)	46 (41.2)	16 (14.3)	58 (51.8)	13 (11.5)	61 (54.5)
	9-15	11 (9.8)	21 (18.6)	10 (8.9)	22 (19.6)	7 (6.3)	25 (22.3)
	≥16	4 (3.6)	2 (1.8)	4 (3.6)	2 (1.8)	4 (3.6)	2 (1.8)
	Total	43 (38.4)	69 (61.6)	30 (26.8)	82 (73.2)	24 (21.4)	88 (78.6)
Statistics		$\chi^2 = 2.25; df = 2; p > 0.05$		$\chi^2 = 6.19; df = 2; p < 0.05$		$\chi^2 = 7.95; df = 2; p < 0.05$	
Wife	2-8	37 (33.1)	37 (33.1)	39 (34.8)	35 (31.3)	22 (19.6)	52 (46.5)
	9-15	18 (16.0)	14 (12.5)	15 (13.4)	17 (15.2)	10 (8.9)	22 (19.6)
	≥16	6 (5.3)	0	6 (5.3)	0	2 (1.8)	4 (3.6)
	Total	61 (54.5)	51 (45.5)	60 (53.6)	52 (46.4)	34 (30.4)	78 (69.6)
Statistics		$\chi^2 = 5.65; df = 2; p > 0.05$		$\chi^2 = 5.79; df = 2; p > 0.05$		$\chi^2 = 0.51; df = 2; p > 0.05$	

**Table-IV:** Association between Type of Infertility with Depression, Anxiety and Stress in husband (n =112)

Types of Infertility		Depression		Anxiety		Stress	
		Yes (%)	No (%)	Yes (%)	No (%)	Yes (%)	No (%)
Husband	Primary	28 (25.0)	50 (44.6)	18 (16.1)	60 (53.6)	19 (17.0)	59 (52.7)
	Secondary	15 (13.4)	19 (17.0)	12 (10.7)	22 (19.6)	5 (4.5)	29 (25.9)
	Statistics	$\chi^2 = 0.676; p > 0.5$		$\chi^2 = 1.80; p > 0.05$		$\chi^2 = 1.31; p > 0.05$	
Wife	Primary	40 (35.7)	38 (33.9)	37 (33.0)	41 (36.6)	24 (21.4)	54 (48.2)
	Secondary	21 (18.8)	13 (11.6)	23 (20.5)	11 (9.8)	10 (8.9)	24 (21.4)
	Statistics	$\chi^2 = 1.049; p > 0.05$		$\chi^2 = 3.88; p > 0.05$		$\chi^2 = 0.021; p > 0.05$	

**Discussion**

Infertility is a condition that causes considerable psychological distress to the couples. In this study, attempt was made to reveal the psychological aspect of infertility in the infertile couple in terms of depression, anxiety and stress. The study revealed that couples have psychological consequences especially depression followed by anxiety and stress. In this study, minimum age of marriage of the wife was 13 years which is dissimilar to the findings of the Bangladesh Demography and Health Survey Data<sup>19</sup> 2014 where 59% of the women get married at the age of 18 years. About 66% of couples had the duration of infertility for 2-8 years, this is because all the respondents were military personnel and their access to treatment is easy and early than others. This study also revealed that wife suffers more from depression, anxiety and stress than their counterpart which is similar in the findings of Peterson<sup>20</sup> in his thesis paper where he unveiled that females had the higher prevalence of depression, anxiety and stress than their male counterparts. The current study revealed the prevalence of depression among the husband was about 38%, anxiety 27% and stress 21%; whereas the prevalence of depression among wife was 54.5%, anxiety was 54% and stress 30%. Different studies revealed different prevalence of depression with variations such as Masoumi et al<sup>21</sup> (Females: 46%, Males: 47%),



Farzadi et al<sup>22</sup> (Females: 72.54%), Al-Homaidan T<sup>23</sup> (Males: 53.8%, Females: 40.8%), Alhassan et al<sup>24</sup> (Females: 62.0%) and Domar et al<sup>25</sup> (Females: 36.7%), but higher than that was reported by Drosdzol et al<sup>26</sup> (Females: 35.4%) and Abbasi et al<sup>27</sup> (Female: 31.0%). The prevalence of anxiety among wife was 54.5% in this study, which is lower than what was reported by Al-Homaidan T<sup>23</sup> (Females: 86.8%), but higher than what was reported by Aarts et al<sup>28</sup> (Total: 23.2%). In regards to the stress, Budi Wiwekoet al<sup>29</sup> revealed about 22.3% stress among the infertile couple which is lower than that of this study. In this study, it was revealed that women suffer more stress than their counterpart which is similar to the findings of Wischmann et al<sup>30</sup> revealed that infertility stress triggers are stronger for women than men.

The most common age for the depression, anxiety and stress for the husband was > 39 years whereas, for the wife was 29-38 years. The reason may be due to the fact that the more the patients become older the more the chance of them to become a sufferer of psychiatric problem in terms of depression, anxiety and stress. In the study of Ramezanzadeh et al<sup>3</sup> revealed that most common age for depression and/or anxiety was 21-25 years which was may be due to the selection of the respondents for the study.

In the present study, depression, anxiety and stress among the husband were positively associated with the duration of infertility. The association was statistically significant for anxiety and stress. This association might be explained by the fact that in the early years of infertility, women or couples may be hopeful about the success of medical intervention, whereas, with an increase in the duration of infertility, such hope may decrease, particularly with repeated failure of treatment and in absence of social support from the partner or other family members. At the same time the longer the infertility crisis continues, the more people in families and neighbours will know about it and hence the more social pressure one will feel. Another possible explanation is that longer infertility duration and repeated referrals would gradually change infertility to a chronic problem. A great deal of the previous work in this field have shown an association between infertility duration and both anxiety and depression. The findings of this study indicated that, anxiety occurs more frequently than depression among infertile women, which is consistent with previous studies conducted by Ramezanzadeh et al<sup>3</sup> and Maroufizadeh et al<sup>31</sup>. It was found that anxiety is more common in infertile women compared to infertile men; an explanation for this might be that women are often considered responsible when a couple is infertile and infertility results in social stigmatization for women; therefore, women are more vulnerable than men to the negative psychological effects of infertility. Similar findings also found in four other studies in Japan, USA, Iran and Nigeria. However, a Chinese study, using different methodology, conversely found a

negative correlation between infertility duration, psychological health status and marital quality<sup>32</sup>.

In regards to the type of infertility, it was found that both husband and wife with primary infertility suffer more depression, anxiety and stress than that of secondary infertility. Similar findings also revealed by a study conducted by Al-Asadi et al<sup>33</sup>. This study has several strengths that should be considered, including (a) the relatively large sample size, (b) evaluation of the psychological aspect of infertility (c) inclusion of both men and women experiencing fertility problem (d) conducted in one of the largest and modern fertility clinics in Bangladesh. There are also a few limitations that should be mentioned in evaluating these results. Firstly, the cross-sectional design does not allow establishing causal inferences between study variables. Secondly, the sample was only from armed forces personnel and their wives.

## Conclusion

In summary, the prevalence of depression, anxiety and stress in infertile couples are considerably higher. These data may serve as a benchmark for the prevalence of depression, anxiety and stress in Armed Forces infertile couples of Bangladesh. In addition, there may be a need for infertile couples to receive ongoing psychological interventions and support that matches their background in order to reduce the level of depression, anxiety and stress.

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