



Infertility and Depression: Frequency of Depression in Infertile Males

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Authors' contributions

This work was carried out in collaboration among all authors. Author AAJ designed the study and wrote the first draft of the manuscript. Authors HK and SAPT managed the analyses of the study. Authors SR and AKL managed the literature searches. Authors GMJ and BMT participated in manuscript writing and review literature. All authors read and approved the final manuscript.

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ABSTRACT

Background: There is increasing concern that the depression may be associated with infertility.
Objective: The current research was aimed to explore the frequency of depression in infertile males.
Study Design: This was a cross sectional study.
Duration: March 2016 to September 2018.
Place: Department of Medicine, PUMHS Nawabshah, Pakistan.
Materials and Methods: A total of 385 infertile male subjects who reported for the semen analysis at young age group were included in the study. Depression was assessed by using Hamilton

Depression Rating Scale. Data was collected via self-made proforma and analyzed by using SPSS version 20.

Results: A total of 385 infertile males were studied. Mean age of individuals was 30.28 ± 6.18 years. Mild depression was found in 34.8% patients, moderate depression was seen in 18.2% patients, severe depression was in 8.1% patients and very severe depression was in 9(2.3%) patients. Moderate and severe depression was higher in cases of Oligospermia and Azoospermia as compared to those having normal sperm count, while results were statistically insignificant ($p=0.747$).

Conclusions: In the observation of this study, there was a significant relationship between infertility and depression in infertile males. Depression was found in 64.6% of infertile males, ranging from mild to very severe levels.

Keywords: Depression; infertility; semen.

1. INTRODUCTION

The lack of ability of a sexually active, non-contracepting pair to attain pregnancy in a period of one year is defined as infertility [1]. The life time occurrence of infertility is estimated about 16% all over the developed nations [1]. The incident of undesired unproductiveness gaps has a serious impact on the couples, most of the couples define infertility as a very complicated issue of their life [2]. Infertility is a life disturbing issue in married couples, creating a serious conflict among both partners. Majority of families consider it as a great family issue in their social setup [2]. Modern science may help at greater levels by Psychological evaluation and supporting via in vitro fertilization and embryo transfer [3]. Infertility may lead to mental health consequences. Unproductiveness is a life tragedy, disturbing subjects from all over the globe. Subjects with the diagnosis of infertility experience a large burden of emotional confusion. The subjects with infertility are at high risk of distress, depression and anxiety. The association among unproductiveness and stress had been remained as a topic of debate for long durations [4]. Unproductiveness is often a silent struggle. Depression, anxiety, isolation and loss of control are reported in subjects who are trying to conceive. The levels of depression in subjects with infertility had been matched up with subjects of malignancy [5]. An up-to-date study showed that most of the female subjects on treatment for infertility meet the criterion of major depressive disorder [6]. Significant symptoms related to depression were observed in the male and female subjects with diagnosis of infertility in a recent study performed in infertility clinics at California (Northern) [7]. Suicidal thoughts or attempts were reported in 9.4% of the female subjects with infertility [8]. It was stated that 40% infertility associated to males and 40% linked to

females, while 20% with both gender [9,10]. As the unproductiveness is a global issue affecting a large population, disturbing the quality of life, creating lot of domestic and social issues from divorce to separation of couples. Early diagnosis and justified treatment of infertility and depression may prevent the multiple problems and may reduce the morbidity in subjects of infertility with depression. This study will help in the future plans for the management of infertility in males because our religious, social, cultural and ethical values are different from rest parts of the world.

2. MATERIALS AND METHODS

After ethical considerations this study cross sectional study was conducted at medicine department of Peoples University of Medical and health Sciences Nawabshah. This research was performed on 385 male subjects attending the clinic for evaluation of infertility, from March 2016 to September 2018. After taking demographic information and clinical examination the semen samples were obtained from all patients for the semen analysis. After taking informed consent patients were assessed for depression. The level of depression was assessed by using Hamilton Depression Rating Scale. Depression was categorized as per Hamilton Depression Rating Scale score as; no depression (score 0-7), mild (score 8-13), moderate (score 14-18), severe (score 19-22) and very severe depression (score >23) [11]. All the data was entered in study designed proforma. Data analysis was done by using SPSS version 20.

3. RESULTS

Mean age of patients was 30.28 ± 6.18 years, minimum 20 and maximum 40 years. Overall average of total sperm count was 18.19 ± 17.31

M/Ml. Average marriage duration was 7.13 ± 3.68 years (Table 1).

Majority of subjects 73.1% were reported from rural areas and 26.9% were from urban areas. According to the educational status, 51.2% patients had primary education, 22.3% had middle to matric level of education, 15.8% had education till intermediate, only 1.8% were graduated and uneducated subjects were 34(8.8%). Socioeconomically 91.2% subjects from lower, 6.8% middle and 2.1% were from upper class (Fig. 1).

There was normal sperm counts found in 14(3.5%) patients, low sperm counts (Oligospermia) was in 80.3% patients and 16.1% patients were observed with Azoospermia.

According to the depression, 36.6% patients were normally observed having HDRS score 0-7, mild depression (score 8-13) was noted in 34.8% of the cases, moderate depression (score 14-18) was seen in 18.2% of the patients, severe depression (score 19-22) was seen in 8.1% patients and very severe depression (score >23) was observed in only 2.3% of the cases (Fig. 2).

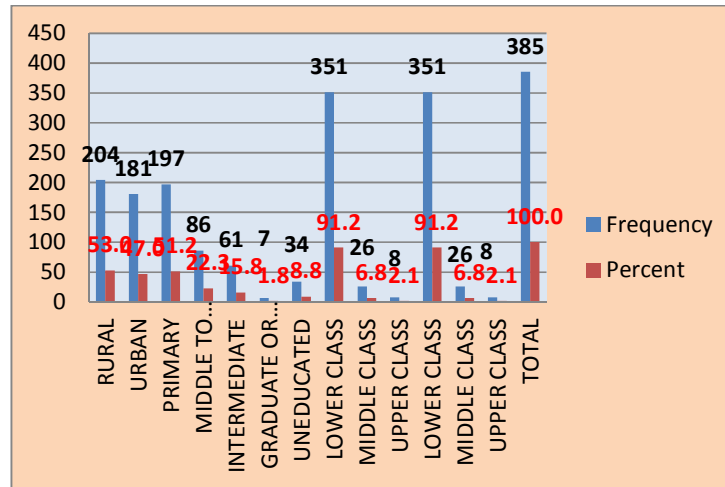


Fig. 1. Demographic variables (n=385)

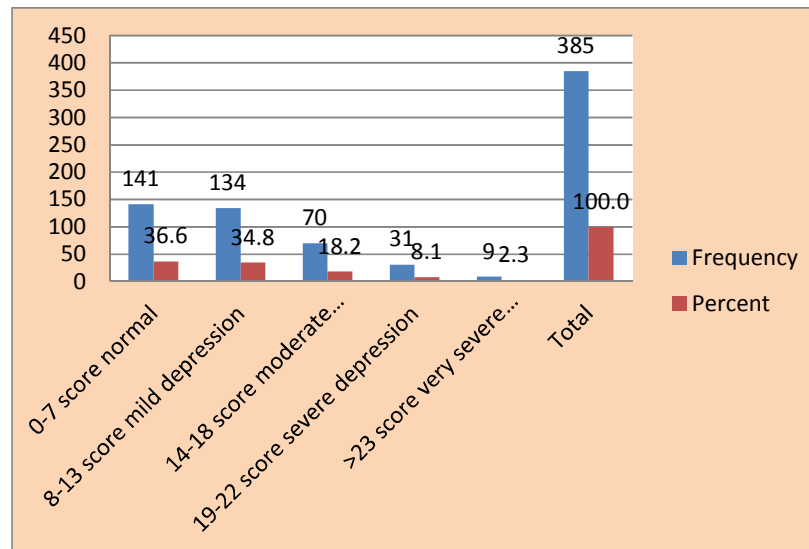


Fig. 2. Severity of depression (n=385)

Table 1. Descriptive statistics (n=385)

	N	Minimum	Maximum	Mean	Std. Deviation
Age in years	385	20.00	40.00	30.2831	6.18806
Sperm count-total count M/ML	385	.00	90.00	18.1922	17.31357
Sperm count-sperm/ejaculate Millions	385	.00	320.00	64.7519	58.76213
Marriage duration in years	385	1.00	22.00	7.1325	3.68847

Table 2. Severity of depression according to infertility (sperm count) n=385

Infertility		Depression level					p-value
		Normal score 0-7	Mild depression score 8-13	Moderate depression score 14-18	Severe depression score 19-22	>23 score very severe depression	
Oligospermia	Frequency	111	109	58	22	9	0.747
	%	28.8%	28.3%	15.1%	5.7%	2.3%	
Azospemia	Frequency	24	20	10	8	0	
	%	6.2%	5.2%	2.6%	2.1%	.0%	
Normal sperm count	Frequency	6	5	2	1	0	
	%	1.6%	1.3%	.5%	.3%	.0%	

Out of all 309(80.3%) patients who had Oligospermia, 111(28.8%) patients had no depression, 109(28.3%) patients had mild depression, 58(15.1%) patients had moderate depression, 22(5.7%) patients had severe depression and very severe depression was seen in 9(2.3%) patients. Out of 62(16.1%) patients who had Azoospermia, 24(6.2%) patients were normal without depression, mild depression was seen in 20(5.2%) patients, and moderate depression was in 10(2.6%) patients, severe Depression in 08(2.1%) patients, while no any case was found with very severe depression. However there was 2 patients seen with moderate and one case was noted with severe depression, these findings were statistically insignificant $P=0.747$ (Table 2).

4. DISCUSSION

Infertility is a general health and social issue in our setup. It affects the human psyche directly, creating a disturbed life style and multiple domestic issues. Stabilization of family and satisfaction in marital life is due to a child. Downbeat thoughts to infertility in our civilization and traditions are so excruciating. In our culture a child is vital factor for men psychologically or effectively. The absence of child may cause many problems especially divorce and second marriages in Muslim societies. In infertile male many psychological problems occur especially due to the depressing thoughts and manners by the relatives, friends and others. Unconstructive public behavior in these subjects consequences into matrimonial unsteadiness, stigmatization and cruelty. Women in our state may also have grave

effects on their social and psychological wellbeing due to infertility. Subjects in current research were enrolled from different regions of district Shaheed Benazirabad. Our study provided the knowledge about the occurrence and depth of depression in infertile male subjects. In Pakistan, childbearing is very significant and valued for family status. In our civilization downbeat feelings for infertile couple are so much aching, a family is steady and enhanced marital satisfactions are due to having a child.

Recently infertility has impacted an increasing number of the couples [11]. For the proper diagnosis and management of these subjects prompt and thorough examination by specialized doctors is mandatory. The purpose is to explore awareness and investigating manners for wellbeing of male infertility [12]. It is observed that occurrence of depression is more in male subjects searching for treatments of infertility [13]. In a study conducted on male subjects going through IVF treatment the incidence of depression was noted in 49.1% subjects [14]. Most of the researches done on depression, infertility and pregnancy were performed on the female subjects, also there are data in the literature about the effects of depression on different parameters of semen. The studies had demonstrated that there is decrease in the concentrations of sperm in subjects with depression [15,16], conversely the available data does not indicate to the poor outcome fertility treatment. In a study shown that the age of subjects ranged from 23 to 54 years with average of 23.3 years and the time period of

infertility ranged between 0 to 96 months with average of 16.3 months. The time period of infertility was related with the symptoms of depression, prolong the duration of infertility more symptoms of depression. In a study no any parallel associations among psychological ailments, symptoms of depression and parameters of sperm was observed in a study. Hence it is most probable that status of male fertility may be influenced with severe depression and distress [17]. The majority of subjects in current study were also from young age group nearly match able with above study, while mean duration of marriage was 7.13 ± 3.68 years. It is observed that depression in male Iranian infertile subjects is more in comparison to the Western nations. The higher risk of having depression could be related to the smoking and low levels of education in infertile males [18]. In the current few years the attention is increased on this issue due to effect of infertility on the psychological health of pairs. It is fact that infertility is the extremely stressful practice of most of the infertile pairs [19]. At the end of 20th century emotional issue was a recognized cause of infertility [20]. Infertility had substantial consequences on psychological aspects as described by Edelmann et al. [21]. The infertility consequences into many problems like matrimonial problems, distress (emotional and sexual), guilt, anxiety, depression and other health problems [21]. The present-day issue is the infertility in male subjects. Abnormal semen characteristics are used for discriminating the infertile male subjects. In the recent years the sperm quality had deteriorated all over the globe. Sperm motility abuse and/or DNA abnormalities are usually noted in infertile/sub fertile male patients [22]. Extreme emotional stress, severe depression and symptoms of anxiety effects on the total sperm count, motility and morphology of sperms [23]. In current available data on the incidence of the psychological symptoms related to infertility analyzed that 25% to 60% of infertile subjects had emotional symptoms. The level of symptoms like anxiety and depression were expressively more in infertile male subjects in comparison to the fertile controls [24]. Initially many studies were not conclusive to assess the depression and infertility correlations at higher levels, there was trouble in giving final conclusions [25]. Later on other studies were carried out and out of them few were favoring the relationship of infertility and depression [26]. They had concluded that those psychological interventions are associated with less psychological distress, higher pregnancy rates,

and improved marital satisfaction. In a study on female subjects undertaking treatment of infertility, criteria for major depression was noted in 39% of subjects [6]. Another study carried out at California which included male and females, out of these 56% of females and 32% of males had symptoms of depression and 76% of female and 61% of males showed anxiety symptoms [7]. In present research the depression was in 64.4% of subjects with infertility. Depression was ranging from mild to very severe levels.

5. CONCLUSION

Depression was very much common and it was present in 64.6% of infertile males, ranging from mild to very severe levels. The pain and suffering of infertility patients is a major problem. Patients must be counseled and supported as they go through treatment. So it is well noted that stress is caused by infertility. It is understandable that in male subjects with infertility, depression is probably decreased with psychological interferences, and may direct to noteworthy achievement rates in addition to the treatment of infertility.

CONSENT

As per international standard or university standard, patients' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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