

Impact of male infertility on men's self-esteem

Original Article

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ABSTRACT

Background: : Self-esteem is based on an individual's appraisal or estimation of his / her importance or value. Since infertility causes personal, familial, and social problems, it considered a devastating health problem. Infertile males experience considerable psychological stress, with low self esteem, isolation, loss of control, sexual inadequacy and depression.

Objective: To assess impact of male infertility on self-esteem and determine relationship between clinical, demographic characteristics and self-esteem of infertile males.

Patients and Methods: A non experimental (case-control) research design used to conduct this study. A purposive sample was used. The current study included 150 subjects, 100 was studied group & 50 was control group. Data collection tool consisted two parts:1-Demographic and clinical data sheet, 2- Modified form (Rosenberg Self-Esteem Scale (RSES).

Results: The most of fertile and infertile age groups was from 28 to <38 years old. 65% of infertile males and 58% of fertile males were from rural area. About 63% of infertile males were primary infertility. As well as 56% of infertile males were 1-3 years. 74% of infertile males were smoked. There were highly statistically significant difference between level of self-esteem among infertile and fertile males ($p=0.000^{**}$).

Conclusion: From the present study, we can conclude that infertile males were having low self-esteem than fertile males making them more liable to having personal as well as social problems.

Key Words: Demographic data, infertile couples, male infertility, RSES, self-esteem.

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INTRODUCTION

Infertility is the inability to achieve a successful pregnancy after 12 months of unprotected intercourse or therapeutic donor insemination. It is a global phenomenon affecting between 60 million and 168 million people worldwide^[1]. In Egypt, the prevalence of infertility using world health organization (WHO) definition has been estimated to be between 10% to 15% among married couples^[2]. It considered a social problem affecting the individual, family, and society, yet it not a life-threatening disease^[3].

Self-esteem is an essential element in an individual's mental and physical health. It defined as a positive or negative attitude towards oneself. Self-esteem is based on evaluation of self-characteristics, feelings of self-satisfaction and self-acceptance^[4].

Self-esteem is divided between low self-esteem (LSE) and high self-esteem (HSE). Low self-esteem individuals

are susceptible to external influences, whereas people with high self-esteem are less susceptible to external influences^[5].

Infertility has important effects on self-esteem. Infertility as an emotional crisis for most, with anger, guilt, depression and loss of self-esteem. Self-esteem is linked to productivity and that illness, pain, and infertility is associated with low level of self-esteem. Low self-esteem followed by a sense of hopelessness and despair^[6].

PATIENTS AND METHODS

We performed a non-experimental (case-control) study at outpatient clinic of andrology and STDs in Assiut University Hospital. 150 subjects were included, 100 of them was studied group and 50 of them was control group. All infertile males who attended the out-patients clinics of andrology and STDs in Assiut University Hospital during six months, from December 2015 till end of May 2016 were included in the study, we used fifty normal fertile males

who attended the clinics to other causes as control group. While, we excluded patients with systematic diseases and patients with psychological problems or mental disorders. The study was approved by the ethical committee of the Faculty of Medicine, Assiut University. All patients signed a written informed consent.

Study tools: The study tool consisted of two parts: The Demographic and Clinical data sheet and Modified form (Rosenberg Self-Esteem Scale (RSES).

The demographic data included (age, address, religious, occupation, level of education). While, the clinical data included (types and duration of infertility, previous operation for infertility, previous ICSI, semen data for azoospermic or non azoospermic and special habits).

The Modified form (Rosenberg Self-Esteem Scale (RSES) is a scale adopted from (Rosenberg 1965). This questionnaires modified by Savard *et al.*, (2000)^[7] is obviously the most widely used instrument in field of scientific research and clinical practice for the measurement of global self-esteem, understood as a person's overall evaluation of his or her worthiness as a human being (McMullen and Resnick, 2013)^[8]. It composed of 10 items, 5 positive and 5 negative and scored on a 4 likert Scale which are: Strongly agree, Agree, Disagree and Strongly disagree

Scores are calculated as follows: For items 1, 2, 4, 6 and 7: Strongly agree = 3, Agree = 2, Disagree = 1 and strongly disagree = 0. While, for items 3, 5, 8, 9 and 10 (which are reversed in valence): Strongly agree = 0, Agree = 1, Disagree = 2 and strongly disagree = 3. Scoring (add the SS below will give you an idea of the level of self-esteem :

The scale ranges from 0-30. Scores 'between' 15 to 25

are within normal range; Scores 'between' 25-30 are within high self-esteem, scores below 15 suggest low self- esteem.

The scale was reported to have high reliability as evidence by Cronbach's Alpha was $\alpha = 0.73$ for the total scale. The Arabic translation and validation were done by (Arafa *et al.*, 2015)^[9], Women College, Ain Shams University.

Statistical design:

All analyses were performed with the IBM SPSS 20.0 software. The data were tested for normality using the Anderson-Darling test and for homogeneity variances prior to further statistical analysis. Categorical variables were described by number and percent (N, %), where continuous variables described by mean and standard deviation (Mean, SD). Chi-square test and fisher exact test used to compare between categorical variables where compare between continuous variables by t-test. Pearson correlation coefficient used to assess the association between continuous variables. A two-tailed $p < 0.05$ was considered statistically significant.

RESULTS

Regarding the demographic data of the infertile and fertile males, we found that the mean age of infertile males was $35+7.6$ years compared with $33.2+7.3$ years of fertile group. The most of fertile and infertile age groups was from 28 to <38 years old. 65% of infertile males and 58% of fertile males were from rural area. More than quarters (28%) of infertile males were farmer while 24% of fertile males were employee and 24% manual work. 31% of infertile males were secondary level of education while 42% of fertile males were universal level. All demographic data were not statistically significant difference between infertile and a fertile males (Table 1).

Table 1: Demographic data of the infertile (N=100) and fertile males (N=50).

	Infertile males (Studied group) N=(100)		Fertile males (Control group) N=(50)		P value
	No.	%	No.	%	
Age, Mean \pm SD	35+7.6		33.2+7.3		0.172
Age groups					
18 - < 28 years	24	24.0	11	22.0	
28 - < 38 years	52	52.0	23	46.0	0.578
≥ 38 years	24	24.0	16	32.0	
Residence					
Urban	35	35.0	21	42.0	
Rural	65	65.0	29	58.0	0.403

Religion					
Muslim	98	98.0	50	100.0	
Christian	2	2.0	0	0.0	0.314
Occupation					
Not work	13	13.0	7	14.0	
Student	5	5.0	4	8.0	
Employee	20	20.0	12	24.0	
Manual work	26	26.0	12	24.0	0.545
Professional work	8	8.0	7	14.0	
Farmer	28	28.0	8	16.0	
Level of education					
Illiterate/read and write	23	23.0	7	14.0	
Primary	10	10.0	5	10.0	
Preparatory	12	12.0	4	8.0	
Secondary	31	31.0	13	26.0	0.220
Universal	24	24.0	21	42.0	

T – Test for mean, Chi-square test for numbers

As regards the clinical data of infertile males as shown in Table 2) which indicated that 63% of infertile males were primary infertility. Mean \pm SD according to duration of infertility were 3.95 \pm 2.8 years. Regarding duration of infertility more than half (56%) of infertile males were 1-3 years. The quarter (25%) of infertile males

were having previous operations for infertility. While 23% of them were having previous ICSI. Regarding semen analysis about 20% of infertile males were azoospermic semen analysis. Regarding special habits, 74% of infertile males were smoked.

Table 2: Clinical data of infertile males (N=100)

Variables	Infertile males (Studied group) N=(100)	
	No.	%
Type of infertility		
Primary	63	63.0
Secondary	37	37.0
Duration of infertility		
Mean \pm SD	3.95 \pm 2.80	
1-3 years	56	56.0
4-6 years	26	26.0
\geq 7 years	18	18.0
Previous operations for infertility		
Yes	25	25.0
No	75	75.0

Previous ICSI			
Yes	23		23.0
No	77		77.0
Semen analysis			
Azoospermic	20		20.0
Non Azoospermic	80		80.0
Special habits			
Not smoking or drugs	22		22.0
Smoking	74		74.0
Hashish	4		4.0

- Chi-square test

** Highly statistically significant difference ($p < 0.01$)

Regarding the levels of Rosenberg self-esteem scale among infertile and fertile males, we found that 47% of infertile males were low self-esteem while 49% of infertile males normal self-esteem. The most of fertile males were normal self-esteem (80%). There were highly statistically significant difference between level of self-esteem among infertile and fertile males ($p = 0.000^{**}$).

Regarding the relationship between demographic data and levels of Rosenberg self-esteem scale among infertile and fertile males, we found that there were

highly statistical significant differences between demographic data and levels of Rosenberg self-esteem scale among infertile males except age. There were no statistically significant differences between demographic data and levels of Rosenberg self-esteem scale among fertile males as shown in (Table 3). And as regards the relationship between clinical data and levels of Rosenberg self-esteem scale among infertile males, there was no statistical significant differences between clinical data and levels of Rosenberg self-esteem scale of infertile males except in semen analysis ($p = 0.017$) (Table 4).

Table 3: Relationship between demographic data and levels of Rosenberg self-esteem scale among infertile (N=100) and fertile males (N=50)

Variables	Infertile males (Study group n=100)						Fertile males (Control group n=50)							
	Levels self esteem						Levels self esteem							
	High self esteem		Normal self esteem		Low self esteem		<i>P</i> value	High self esteem		Normal self esteem		Low self esteem		<i>P</i> value
	No.	%	No.	%	No.	%		No.	%	No.	%	No.	%	
Total	4	4.0	49	49.0	47	47.0		6	12.0	40	80.0	4	8.0	
Age groups														
18 - < 28 years	2	50.0	10	20.4	12	25.5		2	33.3	8	20.0	1	25.0	
28 - < 38 years	1	25.0	27	55.1	24	51.1	0.716	3	50.0	18	45.0	2	50.0	0.895
38 years and more	1	25.0	12	24.5	11	23.4		1	16.7	14	35.0	1	25.0	
Residence														
Urban	3	75.0	28	57.1	4	8.5	0.000 ^{**}	4	66.7	16	40.0	1	25.0	0.361
Rural	1	25.0	21	42.9	43	91.5		2	33.3	24	60.0	3	75.0	

Religion													
Muslim	4	100.0	49	100.0	45	95.7	0.316	6	100.0	40	100.0	4	100.0
Christian	0	0.0	0	0.0	2	4.3		0	0.0	0	0.0	0	0.0
Occupation													
Not work	1	25.0	3	6.1	9	19.1		0	0.0	7	17.5	0	0.0
Student	0	0.0	5	10.2	0	0.0		0	0.0	4	10.0	0	0.0
Employee	0	0.0	14	28.6	6	12.8		1	16.7	10	25.0	1	25.0
Manual work	0	0.0	12	24.5	14	29.8	0.001**	3	50.0	6	15.0	3	75.0
Professional work	2	50.0	6	12.2	0	0.0		2	33.3	5	12.5	0	0.0
Farmer	1	25.0	9	18.4	18	38.3		0	0.0	8	20.0	0	0.0
Level of education													
Illiterate/read and write	0	0.0	2	4.1	21	44.7		0	0.0	7	17.5	0	0.0
Primary	0	0.0	4	8.2	6	12.8		1	16.7	4	10.0	0	0.0
Preparatory	1	25.0	3	6.1	8	17.0	0.000**	1	16.7	3	7.5	0	0.0
Secondary	1	25.0	22	44.9	8	17.0		0	0.0	10	25.0	3	75.0
Universal	2	50.0	18	36.7	4	8.5		4	66.7	16	40.0	1	25.0

Table 4: Relationship between clinical data and levels of Rosenberg self-esteem scale among infertile males (N=100).

Variables	Levels self esteem						P. value	
	High self esteem		Normal self esteem		Low self esteem			
	No.	%	No.	%	No.	%		
Total	4	4.0	49	49.0	47	47.0		
Type of infertility								
Primary	2	50.0	26	53.1	35	74.5	0.081	
Secondary	2	50.0	23	46.9	12	25.5		
Duration of infertility								
1-3 years	3	75.0	30	61.2	23	48.9	0.135	
4-6 years	1	25.0	15	30.6	10	21.3		
≥7 years	0	0.0	4	8.2	10	21.3		
10 years and more	0	0.0	0	0.0	4	8.5		
Previous operations for infertility								
Yes	1	25.0	13	26.5	11	23.4	0.939	
No	3	75.0	36	73.5	36	76.6		

Previous ICSI							
Yes	0	0.0	9	18.4	14	29.8	
No	4	100.0	40	81.6	33	70.2	0.222
Semen analysis							
Azoospermic	0	0.0	5	10.2	15	31.9	
Non Azoospermic	4	100.0	44	89.8	32	68.1	0.017*
Special habits							
Not smoking or drugs	2	50.0	15	30.6	5	10.6	
Smoking	2	50.0	33	67.3	39	83.0	0.083
Hashish	0	0.0	1	2.0	3	6.4	

Chi-square test

* Statistically significant difference ($p < 0.05$)

DISCUSSION

The physical, psychological, ethical, emotional, and financial effects of infertility have been studied in an abundance of studies in both males and females. Infertile couples frequently have signs of stress, anxiety, depression, guilt feeling, fear and loss of social status which may appear in their behavior^[10].

Regarding the age, the current study findings showed that mean age of infertile males were (35+7.6) years, compared with fertile males were (33.2+7.3) years. These findings are similar to previous studies reported by Gulec *et al.*^[11] who found that mean age of infertile males were 35+6.4 compared with fertile males were (34. +4.5) years. Also, Yusuf *et al.*^[12] found that mean age of infertile males were (35+6.7) years. Whereas, these findings are contradicted with other studies reported by Abolfotouh *et al.*^[13] who found that mean age of fertile males were 36+11.1 years. Also, Galhardo, *et al.* 14 found that mean age of infertile males were (34+7.6) years compared with fertile males were (35. +4.4) years.

The current study found that about two thirds of infertile males were primary infertility. These findings are similar with previous studies reported by Wischmann *et al.*, 15 found that about two thirds of infertile males were primary infertility. Also (Broeck *et al.*^[16], Katabchi^[17], Omu, *et al.*^[18], Ahmadi *et al.*^[19] and Gao *et al.*^[20] found that most of infertile males were primary infertility.

The present study revealed that about less than one quarter of infertile males was azoospermic semen analysis. In the respect with previous study reported by Abolfotouh *et al.*^[13] found that 7% of infertile males were

azoospermic semen analysis. While, Gadalla *et al.*^[21] found that about one quarter of infertile males were azoospermic semen analysis. The present study showed that about more than two thirds of infertile males were smoked. This may be related to the smoking adverse influence on semen quality specialty among heavy smokers. These findings are similar with previous studies reported by Gao *et al.*^[20] and Ahmadi *et al.*^[19] found that about more than two thirds of infertile males were smokers. Also, these findings are disagreement with other study reported by Zorn *et al.*^[22] found that about one third of infertile males were smokers.

The current study showed that less than half of the infertile were low self-esteem. While, the most of fertile males were normal self-esteem. This may be due to infertility has deeply effect on male self-esteem. This can be explained when the male are faced the inability to become father, in addition feeling associated with a positive sense of identity, self-esteem and self-image are threatened, as well as low self-esteem displayed as feeling of inadequate and inferior to the most people they know. However, there statistically significant difference between level of self-esteem among infertile and fertile males ($p = 0.000^{**}$). These findings are similar with Sultan, and Tahir, (2011)^[23] who showed that high percent of the infertile compared fertile males with low self-esteem. Furthermore, there were statistically significant difference between level of self-esteem among infertile and fertile males ($p = 0.000^{**}$). Also, Wischmann *et al.*^[15] found that half of the infertile males were low self-esteem

While, these findings are contradicted with other study reported by Keramat *et al.*^[24] who stated that the majority of the infertile males were normal self-esteem. In the

same line, Xing *et al.*^[25] found that there were statistically significant difference between level of self-esteem among infertile and fertile males.

The current study showed that, there statistical significant differences between demographic data and levels of Rosenberg self-esteem scale among infertile males except age group. Otherwise, there were no statistically significant differences between demographic data and levels of Rosenberg self-esteem scale among fertile males.

The previous results supported by Sultan, and Tahir^[23] showed that, there are no statistically significant differences between age group and self-esteem among infertile and fertile males. While, there was statistically significant differences between education level and self-esteem among infertile compared fertile males there were no statistically significant differences. On the contrary Xing *et al.*^[25] found that there are no statistically significant differences between age group and self-esteem among infertile males. While, there were statistically significant differences between education level and self-esteem among infertile males. Also, Keramat *et al.*^[24] results were disagree with our study as they found that, there was no statistically significant differences between demographic data (age group, residence, occupation and educational level) and self-esteem among infertile males.

The current study found that there were statistical significant relation between semen analysis and self-esteem. The researcher observed that infertile males with non azoospermic (present of sperm) and secondary infertility were having normal self-esteem than infertile males with Azoospermic and primary infertility because they were already get child. So they have a hope to be pregnant his wife again because they feel that are normal and have a healthy body. This finding supported by Keramat *et al.*^[24] whose found that there association between self-esteem and type of infertility.

RECOMMENDATIONS

Based on the current study findings, we do recommend that psycho-education program should be designed, constructed and administered to the infertile males to improve self-esteem, also, highly specialized infertility clinic should be established to provide psychological support and counseling to all infertile males. Lastly, the presence of psychiatrists and psychologists in the treatment of emotional and psychological problems of the males are of great importance.

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