

Effects of infertility on the quality of life among infertile patients at Fayoum city

¹Marwa Yehia Moustafa, ²Prof.Dr. Nabila Taha Ahmad,
³Prof.Dr. Talal Ahmed Abd-Elrahim, ⁴Dr. Ghadah Abdelrahman Mahmoud

¹Assistant Lecturer at Faculty of Nursing - Fayoum University

²Professor of Obstetrics and Gynecological Nursing Faculty of Nursing - Assiut University

³Professor of Dermatology, STDs and Andrology - Faculty of Medicine - Fayoum University

⁴Assistant Professor of Obstetrics and Gynecological Nursing Faculty of Nursing - Assiut University

Corresponding Author: Marwa Yehia Moustafa mail mym11@fayoum.edu.eg

Abstract: Male and female are affected by infertility in different ways. Most couples experience the struggle in much the same way. This is related to the traditional ways male and female have been trained to think, feel and act. The study was aimed to investigate the impact of infertility on quality of life among infertile patients. This study was outpatient clinics of obstetric and andrology in fayoum university hospital, Egypt. A prospective observational Cross sectional design was used. Subjects of this study were 540 infertile patients (210 male and 330 female) either primary or secondary. Tools of data collection were interview questioner for female and male patients which include personal data, Obstetrical history if present, Gynecological history regarding infertility and (WHOQOL – BREF) scale. This study started on October 2012 and ended on September 2013. Results of this study revealed most of female and male were unsatisfactory for physiological, psychological, social, and environmental domains. Conclusion The prevalence of infertility was 93% primary infertility in male and 71% secondary infertility in female. Recommendation Increase fertility awareness of infertile patients / couples by educational programs. Also psychological training programs for nurses to deal correctly with infertile patients / couples were recommended.

Keywords: Infertility – Quality of life – Andrology.

1. INTRODUCTION

Infertility is the failure of a couple to conceive a pregnancy after trying to do so for at least one full year. In primary infertility, pregnancy has never occurred. In secondary infertility, one or both members of the couple have previously conceived, but are unable to conceive again after a full year of trying (WHO, 2012).

Worldwide infertility is a global health issue and a problem of global proportions, that affects approximately 6.1 million couples experience infertility each year, or 10% of the reproductive age population, according to the American society for reproductive medicine (2010) with incidence in Egypt about 20% to 27% of all couples (Sudha G et-al., 2013).

The causes of infertility in Egypt parallel other Middle Eastern countries and some Mediterranean countries, 64 % of infertility causes lie with the female partner, while 20.5 % are due to problems with the male partner. The remaining 12.2 % ensue from factors in both partners and 3.3 % remain unexplained. In the female partner, infertility results from tubal problems in 42% of instances, disorders of ovulation in 25.3%, pelvic endometriosis in 5.6%, a malfunctioning cervix in 4.2%, while in 23.4% of cases it is due to a combination of these factors. It is interesting to note that, contrary to sub-

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Saharan African countries, pelvic infections including HIV and AIDS are not important causes of infertility in Egypt (nor in other North African countries) (**Sallam H, 2013**).

Infertility is known to cause an impact on the mental health of the infertile couple, causing anxiety, depression, social isolation and sexual dysfunction. The triad of the condition, its investigation and treatment, the stigma associated with male and female infertility in traditional social interactions cause a high level of psychosocial distress with a direct impact on the couple's marital and sexual relations (**Valsangkar S et-al., 2011**).

Quality of life is a broad ranging concept affected in a complex way by the person's physical health, psychological state, self dependence, social relationships, and their relationship to salient features of their environment. The term quality of life is the subjective perception of well-being and wholeness (**Boivin J et-al., 2011**).

Quality of Life Domains:-**I. Physical Health:**

Good physical health is indicated by the capacity to perform vigorous as well as sustained physical activity, having good appetite, and adequate sleep. Absence of pain and disability is also regarded as an indicator of physical health (**Barcaccia B et-al., 2013**).

II. Social Relationships:

Social relationships are defined as social structures made up of contact bonds among individuals or groups of relatives, colleagues, friends and neighbors. Social networks may differ in composition, number of members, and frequency of contact, and it could be a crucial for an individual's way of life and can influence exchanges of support and knowledge (**Boivin J et-al., 2011**).

III. Environment:

Environment includes financial resources, freedom, physical safety and security, health and social care, home environment (**WHO, 2012**).

IV. Psychological Status:

Psychological status reflects self-esteem, thinking, memory and concentration, negative feelings as anxiety, sadness, or depression, positive feelings as hopelessness, and pleasure. Quality of life for patient depends on psychological status of the patient as they depend on internal variable (their emotional attitude facing the facts of life) and on external variable (environmental resources). The self-esteem and body image affect a person's competence, productivity, and affected by illness or disability (**Deka P et-al., 2010**).

Significance of the study

Infertility is a common problem. In the U.S, 10 to 15% of couples are infertile. However, infertility is not the same as sterility, where there is no possibility of conception. Up to 15% of couples are infertile, but only 1 to 2% of those are sterile and 50% of infertile couples who seek help, eventually conceive, either naturally or with medical assistance. Rate of infertility in Egypt 12 %, 64 % due to female partner, while 20.5 % are due to male partner (**Robertson S, 2015**).

Aim of study

The aim of this study was to investigate effects of infertility on quality of life among infertile patients in Fayoum city.

Tools of the study:**Tool: (Standardized tool) World Health Organization Quality of life scale (WHOQOL) – BREF Scale:**

Health related QOL was evaluated using WHOQOL-BREF. It is a generic QOL assessment instrument, developed by **WHO in (2004)**. It includes four domains and two general questions. The domains include 24 items as following; physical health domain (7 items) (pain and discomfort, sleep, and mobility), psychological health domain (6 items) (anxiety, depression and hopefulness), social relationships domain (3 items) (isolation, family support and friends

support) and environment domain (8 items) (financial status, transport and access to health and social care) and two general questions, score (1-78= poor & 79-130= good) (Zegers-Hochschild; et.al, 2009).

The 1st domain: (Physiological health)

It included (7 items) (3, 4, 10, 15, 16, 17, 18) covering physical health which includes feeling as physical pain prevents from doing what is needed to do, the need for any medical treatment to function in daily life, enough energy to do anything, ability to get around, satisfaction with sleep, satisfaction with the ability to perform daily living activities and satisfaction with capacity for work.

The 2nd domain: (Psychological health)

It included (6 items) (5, 6, 7, 11, 19, 26) reflecting psychological status which includes feeling the enjoyment of life, feeling of being meaningful, life ability to concentrate, acceptance of body appearance, satisfaction with self, negative feeling such as blue mood, despair anxiety and depression.

The 3rd domain: (Social health)

It included (3 items) (20, 21, 22) reflecting social relationships which includes satisfaction with personal relationships, satisfaction with sex life and satisfaction with support from friends.

The 4th domain: (environmental health)

It included (8 items) (8, 9, 12, 13, 14, 23, 24, 25) related to environmental features which includes feeling of safety in daily life, healthy physical environment, enough financial source, availability of the information in daily life, the opportunity for leisure activities, the conditions of living place, accessibility of health service and availability of transportation.

There are general question included (2 items) (1, 2) related to self-assessment for quality of life and satisfaction with health.

• **Pilot study:**

A pilot study was carried out including 10% of the study subjects (45 patients) to evaluate the efficiency, validity and reliability of tools, and to do any modifications if needed. To estimate the necessary time needed for each patient to collect their related data those patients were included in the study. The pilot study started on September and ended on October 2012.

• **Administrative Ethical Considerations:**

An official permission was obtained from the dean of the faculty of Nursing directed to the manager of Fayoum University Hospital, to the clinics of Gynecology and infertility and clinic of andrology to collect the necessary data. Approval of patients was obtained to be interviewed, explained the nature and purpose of the study to infertile female, as well as infertile male. Confidentiality of the patient's information was kept. The questionnaire will discard at the end of the study in the paper trash. Oral consent for participation in the study was obtained. The patients had ethical right to agree or refuse participation in the study. Ethical committee of faculty of nursing Fayoum University hospital approved this study.

Statistical design:

Statistical analysis was done using software SPSS version 16 for windows. Descriptive statistics (frequency, percentage, range, mean and standard deviation) were calculated, as well as tests of significance (chi-square test and T-test).

Figure (1): shows that highest percentages of infertile female & male have unsatisfactory level in quality of life (general question).

Figure (2): shows that highest percentages of infertile female have unsatisfactory level in relation to all quality of life domains.

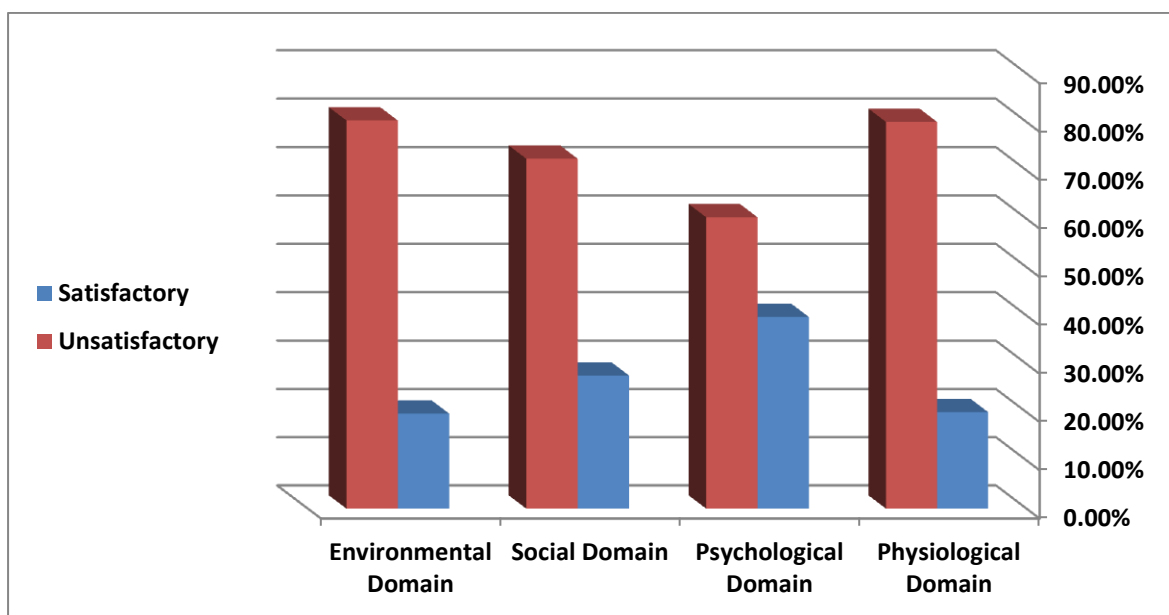
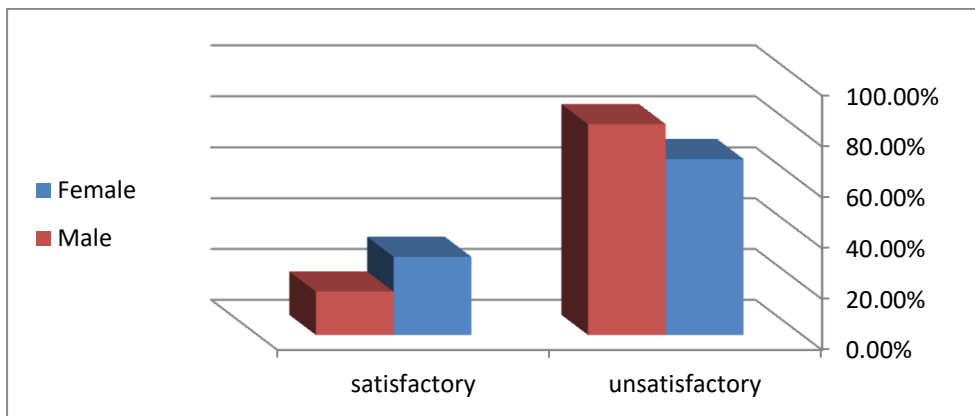
Figure (3): shows that highest percentages of infertile male have unsatisfactory level in relation to all quality of life domains.

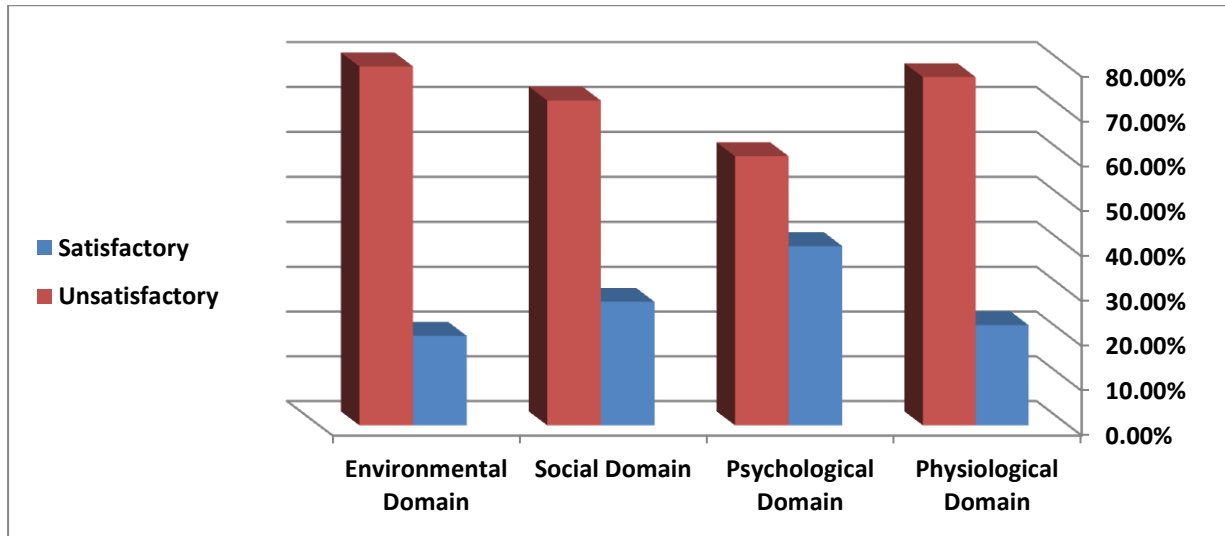
Table (1): Shows that there is a highly significant difference between level of education and psychological domain in quality of life among infertile female P = (0.001).

Table (2): Shows that there is significant difference between level of education and environmental domain in quality of life among infertile female P = (.048), at the same line there is a significant difference between residence and both environmental and social domain in quality of life among infertile female P = (.05 & .05 respectively).

Table (3): There is a significant difference between physiological domain and age, also between occupation and psychological domain P = (0.005 & 0.054 respectively), there is significant difference between residence and physiological domain, also physiological domain and marital status P = (0.000 & 0.010 respectively).

Table (4): There is significant difference between age of male and social & environment domain P = (0.002 & 0.008 respectively), also there is significant difference between level of education and social domain and between residence and environmental domain P = (0.015 & 0.018 respectively).





Personal data	Physiological domain 330				P	Psychological domain 330				P
	Satisfactory 66		Unsatisfactory 264			Satisfactory 131		Unsatisfactory 199		
	No	%	No	%		No	%	No	%	
1) Educational level										
- Illiterate	6	9.1	22	8.3		18	13.7	10	5	0.001**
- Primary	36	54.5	134	50.8		72	55	98	49.2	
- Preparatory & secondary	15	22.7	41	15.5		19	14.5	37	18.6	
- University	9	13.6	67	25.4		22	16.8	54	27.1	
2) Occupation										
- Working	13	19.7	38	14.4	0.288	23	17.6	28	14	0.393
- None	53	80.3	226	85.6		108	82.4	171	86	
3) Residence										
- Urban	15	22.7	53	20	0.635	29	22	39	19.6	0.578
- Rural	51	77.3	211	80		102	78	160	80.4	

Personal data	Social domain 330				P	Environmental domain 330				P
	Satisfactory		Unsatisfactory			Satisfactory		Unsatisfactory		
	No	%	No	%		No	%	No	%	
1) Age of female										
- 18 – 28 years	63	60	128	57	0.000	36	55.4	155	58.5	0.060
- 29 – 39 years	25	23.8	94	41.7		29	44.6	90	34	
- ≥ 40 years	17	16.2	3	1.3		0	0	20	7.5	
2) Educational level										
- Illiterate	12	13.2	16	6.7	0.163	6	9.2	22	8.3	0.048 *
- Primary	44	48.4	126	52.7		39	60	131	49.4	
- Preparatory & secondary	19	20.9	37	15.5		11	17	45	17	
- University	16	17.5	60	25.1		9	13.8	67	25.3	
3) Residence										
- Urban	25	27.5	43	18	0.05 *	19	29.2	49	18.5	0.05 *
- Rural	66	72.5	196	82		46	70.8	216	81.5	

Personal data	Physiological domain 210				P	Psychological domain 210				P
	Satisfactory 47		Unsatisfactory 163			Satisfactory 84		Unsatisfactory 126		
	No	%	No	%		No	%	No	%	
1) Age of male										
- 20 – 30 years	28	59.6	97	59.5	0.005 **	52	62	73	58	0.251
- 31 – 40 years	13	27.7	65	39.9		28	33.3	50	39.7	
- ≥ 41 years	6	12.7	1	0.6		4	4.7	3	2.3	
2) Educational level										
- Illiterate	10	21.3	29	17.8	0.837	15	17.8	24	19	0.799
- Primary	18	38.3	62	38		31	37	49	38.9	
- Preparatory & secondary	9	19.1	37	22.7		19	22.6	27	21.4	
- University	10	21.3	35	21.5		19	22.6	26	20.6	
3) Occupation										
- Working	39	83	140	85.9	0.335	74	88.1	105	83.3	0.054 *
- None	8	17	23	14.1		10	11.9	21	16.7	
4) Residence										
- Urban	17	36.2	82	50.3	0.000 *	39	46.4	60	47.6	0.731
- Rural	30	63.8	81	49.7		45	53.6	66	52.4	
5) Marital status										
- 1st Marriage	26	55.3	113	69.3	0.010 *	57	67.9	82	65	0.400
- 2nd Marriage	21	44.7	50	30.7		27	32.1	44	35	

Personal data	Social domain 210				P	Environmental domain 210				P
	Satisfactory 58		Unsatisfactory 152			Satisfactory 42		Unsatisfactory 168		
	No	%	No	%		No	%	No	%	
1) Age of male										
- 20 – 30 years	30	51.7	95	62.5	.002*	18	42.9	107	63.7	.008 *
- 31 – 40 years	23	39.7	55	36.2		18	42.9	60	35.7	
- ≥ 41 years	5	8.6	2	1.3		6	14.2	1	0.6	
2) Educational level										
- Illiterate	12	20.7	27	17.8	0.015 *	9	21.4	30	17.9	0.969
- Primary	27	46.5	53	34.8		14	33.3	66	39.3	
- Preparatory & secondary	12	20.7	34	22.4		11	26.2	35	20.8	
- University	7	12.1	38	25		8	19	37	22	
3) Occupation										
- Working	50	86.2	129	84.9	0.624	36	85.7	143	85.1	0.846
- None	8	13.8	23	15.1		6	14.3	25	14.9	
4) Residence										
- Urban	30	51.7	69	45.4	0.558	17	40.5	82	48.8	0.018 *
- Rural	28	48.3	83	54.6		25	59.5	86	51.2	
5) Marital status										
- 1st Marriage	39	67.2	100	65.8	0.687	27	64.3	112	66.7	0.580
- 2nd Marriage	19	32.8	52	34.2		15	35.7	56	33.3	

2. DISCUSSION

According to (WHO), infertility in Egypt affects 12 % of Egyptian couples, of these women, 4.3 % suffer from primary infertility (have never been pregnant), and 7.7 % suffer from secondary infertility (have been pregnant before, even if the pregnancy ended in an abortion or an ectopic pregnancy) (Sallam H., 2013).

The aim of this study is to investigate effects of infertility on the quality of life among infertile patients.

In the present study most of infertile male and female had unsatisfactory level in all quality of life domains (physiological, psychological, social, and environment) which agree with **Marci R et-al., (2012)**, who studied procreative sex in infertile couples: the decay of pleasure in Italy, who studied 60 infertile couples and 52 fertile control couples; they found that the majority of males had depression affected all QoL domains, and agree with **Ried K & Alfred A., (2013)**, who studied

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Quality of life, coping strategies and support needs of women seeking traditional Chinese medicine for infertility and viable pregnancy in Australia: a mixed methods approach, they found that three-quarters of all females reported a high level of distress related to not having been able to have a child, and half of all women felt guilty or hurt when others made remarks about their childlessness that result from negative effect of infertility on population.

In the present study psychological distress as depression, anxiety and stress; represented among more than half of infertile female and male with negative emotion and low self-satisfaction which agree with **Fisher J & Hammarberg K., (2012)**, and **Karamidehkordi A & Roudsari R., (2014)**, who found that more than one third of studied population suffered from severe depression, more than half of them had anxiety and stress.

In eastern & western countries family status especially childbearing is very important and valuable. Having a child stabilizes family and increases quality of life satisfaction.

The present study, found that psychological domain and environmental domain had significant positive correlation with educational level of females, and environmental domain had significance difference between rural and urban area these disagree with **Karamidehkordi A & Roudsari R., (2014)** who found that significant relation between level of education and physical and mental domains.

The present study, showed significant correlation between environmental domain and age of male patients and residence that agree with **Rashidi, B et-al., (2012)** they found that correlation between psychological and environmental domains and age of infertile male.

The present study showed that infertility in both infertile male and female had negative correlation in most QoL domains, with more than two third unsatisfactory levels in physiological, psychological, social and environmental domains and, which agree with **Yusuf L., (2016)**, who studied Depression, anxiety and stress among female patients of infertility; A case control study in Pakistan, who collected 100 infertile females he found that 70% of infertile females had a varying degree of anxiety.

So having social support from family, partner and friends can reduce the impact of a large number of life stressors (**Keramat A, 2013**).

Quality of life in infertile couple differs from one society/culture to another. In some societies e.g. Muslim societies, childlessness can especially be very distressing for infertile females because their religion and culture allow men to have more than one wife at the same time female's inability to conceive gives them a pretty good excuse to remarry (**Yusuf L., 2016**).

3. CONCLUSION

The results concluded that there are high unsatisfactory levels of QOL domains in both male and female infertile patients.

4. RECOMMENDATIONS

Based on the results of the present study, the following recommendations are suggested:

- Further researches about psychological aspects of infertile patients should be conducted.
- Psychological training programs for nurses to deal correctly with infertile patients / couples
- Psychological training programs for infertile patients / couples to deal positively with society and cope with infertility through group therapy and lectures about problem.

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