Assessment of Quality of Life for Women Undergoing in Vitro Fertilization (IVF)

*Amany Fikry Ali, ** Nadia Mohammed Fahmy, ***Amel Ahmed Hassan, ***Eman Mohammed Abd-Elhakam

* Maternal and Newborn Health Nursing Department – Faculty of Nursing Fayoum University, ** Maternal and Newborn Health Nursing Department Faculty of Nursing , Ain-Shams University, *** Maternal and Newborn Health Nursing Department – Faculty of Nursing Benha University

ABSTRACT

AIM: To assess the quality of life for women undergoing in vitro fertilization. **SETTING:** The study was conducted at Hawaa private center at Benha city. **DESIGN:**A descriptive design was used. A purposive **SAMPLE** of 60 women undergoing in vitro fertilization in the stage of succeeded controlled ovarian hyper-stimulation. **TOOLS** of data collection consisted of an interviewing questionnaire sheet and Hopkins symptom checklist for measuring quality of life. **RESULTS**: More than two thirds of studied women were unsatisfied regarding physical fitness in the stage of succeeded controlled ovarian hyper-stimulation. Also in this stage, there was significant difference between age groups as regards the score percent of physical, social and psychological fitness. Also two thirds of the studied women were satisfied regarding social fitness during the stage of embryo transfer. **CONCLUSION:** In vitro fertilization had a bad effect regarding all domains in stage of succeeded controlled ovarian hyper-stimulation but studied women were more satisfied regarding physical, social and psychological fitness in stage of embryo transfer than stage of succeeded controlled ovarian hyper-stimulation. **RECOMMENDATION:** Developing training programs by faculty of nursing staff regarding in vitro fertilization for nurses who are working in fertility clinics to provide proper counseling services for the infertile couples.

INTRODUCTION

IVF is a widely accepted treatment for unexplained infertility which affects up to a third of all infertile couples. With estimated live birth rates (LBRs) per cycle varying from 33.1%in women aged less than 35 years down to 12.5% in women aged between 40 and 42 years**(PandianZ.,2012).**

Certainly QOL may be negatively affected in people planning IVF because people may have more problems than reported in the general population. It might also be hypothesized that some areas of QOL are influenced by the treatment in positive way since the start of the treatment could create hope and optimism resulting a better quality of life **(Mousavi S. A., et al.,2013).**

Off sequence the nurse has a very important role in IVF. When patient arrives at a fertility clinic, the nurse comes out to introduce herself after that patient meets with the doctor. Following the consult with the doctor the nurse should sit down with patient and explain in detail what to expect. The

nurse reassures patient that nothing patient has done is the cause of infertility. The nurse explains how and why patient need certain important tests to determine how the ovaries are functioning and how to evaluate the partner's semen. There may also be tests to evaluate the fallopian tubes or uterine cavity **(Parrett R. N., 2011).**

Significance of the problem:-

Infertility is a significant social and medical problem affecting couples worldwide. In Egypt the incidence of infertility exactly can't be estimated but according to researches it is estimated that the rates of primary and secondary infertility are 70.7% and 29.3% respectively among infertile couple **(HashimS.A.,et al.,2012).** IVF is currently one of the most effective and common treatment. The probability of successful IVF treatment ranges from 37.8% to 60% **(Jin X.,et al.,2013).** IVF has a different impact on quality of life for couples planning to undergo treatment since for such couples treatment might be the last chance of having a baby. Factors that predicting QOL may vary in different infertile populations. Thus, the identification of factors associated with better or worse QOL is vital in order to propose and test scientifically based interventions for infertile populations (**Chachamovich J.R.,et al., 2007).** The concept of QOL may be a useful tool for discovering in which domains people planning IVF may have more problems than reported in the general population (**Smith N.K.,et al., 2015).**There was no study conducted regarding quality of life for women undergoing IVF at the maternal and neonatal health nursing department in faculty of nursing, Benha University. Therefore this study was conducted to assess the quality of life for women undergoing IVF at hawaa Private Center at Benha city.

Aim of the study:

The aim of this study was to assess the quality of life for women undergoing in vitro fertilization.

Research Questions:

What is the effect of in vitro fertilization on the quality of life among women?

Subjects and method:

Research design:

A descriptive study was utilized.

Research Setting:

The study was conducted at Hawaa Private Center at Benha city**.**

Sample size: The sample size was 60 women with the inclusion criteria.

Tools for Data Collection:

The following tools were designed and used by the researcher after reviewing the related literature and under supervision of the study supervisors.

I-An interviewing questionnaire sheet:

It consisted of three parts:

Part 1: Assessed women's general characteristics as age, occupation, education and residence.

Part 2: Assessed women's past and present history regarding (obstetric, gynecological, menstrual, medical and surgical history …etc.). The researcher of the present study utilized **Myles, (2013)** technique to evaluate the amount of the menstrual blood flow that was categorized as little if blood stains less than 4 inches of perineal pad, moderate if blood stains less than 6 inches of perineal pad and heavy if blood saturates the perineal pad.

Part3: Assessed women's knowledge regarding IVF.

Scoring system of women's knowledge:

Scoring system for knowledge of the studied women was calculated as the following:

- Each given answer about the factors that can effect on IVF success was correct and women were asked to select from these answers.

- Correct answer was considered for the answer that woman select and correct answer was scored as (2).

- Incorrect answer was considered for the answer that woman not select and incorrect answer was scored as (1).

Total knowledge score was categorized as the following:

- Correct ≥ 60% of total knowledge score.

- Incorrect < 60% of total knowledge score.

II- The Hopkin Symptom Checklist:

A translated modified Arabic version of the Hopkin symptom checklist by **Derogatis et al (1974)**, edited by **Fekkes S. E., et al., (2013)** and adapted by the researcher to assess the quality of life (QOL) for women undergoing IVF. It consisted of 34 items divided into two stages:

- **The stage of succeeded controlled ovarian hyperstimulation:** It was consisted of 5 parts: Part 1 had 6 items for physical fitness, part 2 had 5 items for social fitness, part 3 had 5 items for psychological fitness, part 4 had 4 items for sexual fitness and part 5 had 2 items for economical fitness.

-**The stage of embryo transfer (ET):** It was consisted of 3 parts: part 1 had 3 items for physical fitness, part 2 had 4 items for social fitness and part 3 had 5 items for psychological fitness. The scale for each question includes four categories of response ("Not at all," "A little," "Quite a bit," "Extremely," rated 0, 1, 2 &3 respectively). Two scores are calculated: The total score is the average of all 34 items, while the physical score is the average of 6 physical items in the first stage etc.

Scoring system of women's satisfaction:

Total score of each QOL aspects was categorized as the following:

- Satisfactory ≥ 60 %

- Unsatisfactory < 60 %

Pilot study:

- A pilot study was carried out for 10% of the total sample size; time 3 days/week for three weeks for woman (no.=7) who met the criteria of selection.
- The pilot study was done to test the clarity and applicability of the study tools and setting.
- No modification was done.
- The women involved in the pilot study were excluded from the study.

Administrative design:

Necessary official approval to conduct the study was obtained from both directors of Benha faculty of nursing and Hawaa private center.

Ethical consideration:

Ethical aspect was considered before starting the study that included the following:

-Approval of women was obtained orally before history and offered explanation about the purpose of the study.

-Trust and confidentiality were maintained, the data was used for the purpose of the research only and dignity of the subject was respected.

-Tools of the study didn't against the women traditions and religious.

- The women had the right and freedom to withdraw from participation at any time.
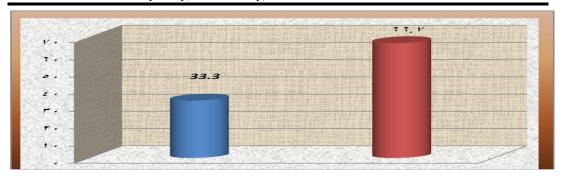
Statistical analysis

The collected data were organized, categorized, tabulated and analyzed using electronic computer. Data were presented in the table by using mean, number, percentage and other statistical tests.

Result:

Table **(1)** Distribution of studied women according to their general characteristics. (n=60)

General characteristics	No.	%
Age by years		
(25 - 30)	36	60.0
(30 - 35)	15	25.0
(35 - 40)	6	10.0
>40	3	5.0
Mean ± SD	33.75 ± 12.27	
Residence		
Rural	25	41.7
Urban	35	58.3
Level of Education		
Illiterate	13	21.7
Primary education	11	18.3
Secondary education	17	28.3
University education	19	31.7
Occupation		
Working	7	11.7
Not Working (housewives)	53	88.3

Table **(1)** shows that, the mean age of the studied women was 33.75±12.27 and more than half of studied women (58.3%) were from urban area. And about one third of them (31.7%) had university education. More than two thirds of studied women (88.3%) were housewives.

Figure(1): Level of knowledge of the studied women about IVF.

Table (2): Distribution of studied women according to the responses of total quality of life (QOL) aspects in the stage of succeeded controlled ovarian hyper stimulation (Stage I) and the stage of embryo transfer (Stage II) (n=60)

QOL's aspects	No.	%
Stage (I)		
Physical fitness		
Satisfied	12	20.0
Unsatisfied	48	80.0
Social fitness		
Satisfied	37	61.7
Unsatisfied	23	38.3
Psychological fitness		
Satisfied	23	38.3
Unsatisfied	37	61.7
Sexual fitness		
Satisfied	8	13.3
Unsatisfied	52	86.7
Economical fitness		
Satisfied	10	16.7
Unsatisfied	50	83.3
Stage (II)		
Physical fitness		
Satisfied	13	21.7
Unsatisfied	47	78.3
Social fitness		
Satisfied	40	66.7
Unsatisfied	20	33.3
Psychological fitness		
Satisfied	39	65.0
Unsatisfied	21	35.0

Table (2) shows in stage (I)that, more than half of studied women(61.7%) were satisfied regarding social fitness, while more than three quarters of studied women (86.7%) were unsatisfied regarding sexual fitness. This table also shows in stage (II) that, two thirds of studied women (66.7%) were satisfied regarding social fitness, while more than two thirds of studied women (78.3%) were unsatisfied regarding physical fitness. But sexual fitness was restricted in stage (II) and economical fitness was the same in the two stages.

Table (3): Relation between stage I and stage II (n=60)

QOL's aspects	Stage (I)		Stage (II)		Significant test	
	No.	%	No.	%	X^2	p-value
Physical fitness					0.051	0.821
Satisfied	12	20.00	13	21.70		
Unsatisfied	48	80.00	47	78.30		
Social fitness					0.326	0.568
Satisfied	37	61.70	40	66.70		
Unsatisfied	23	38.30	20	33.30		
Psychological fitness					8.543	0.003**
Satisfied	23	38.30	39	65.00		
Unsatisfied	37	61.70	21	35.00		

** Highly statistical significance at p<0.01

Table (3) shows that, there was highly significance difference regarding psychological fitness; p value=0.003.

Table (4): Relation between quality of life aspects and age (n=36)

QOL's aspects	Age group								Significance test	
	(25 - 30)		(30 - 35)		(35 - 40)		➤ 40			
	No.	%	No.	%	No.	%	No.	%	X^2	p-value
Stage (I) **Physical fitness** Satisfied Unsatisfied	12	33.3	0	0.0	0	0.0	0	0.0	10.00	0.018*
	24	66.7	15	100.0	6	100.0	3	100.0		
Social fitness Satisfied	23	63.9	8	53.3	5	83.3	1	33.3	10.012	0.018*
Unsatisfied	13	36.1	7	46.7	1	16.7	2	66.7		
Psychological fitness Satisfied	17	47.2	4	26.7	0	0.0	2	66.7	9.072	0.028*
Unsatisfied	19	52.8	11	73.3	6	100.0	1	33.3		
Sexual fitness Satisfied	3	8.3	4	26.7	0	0.0	1	33.3	5.048	0.168
Unsatisfied	33	91.7	11	73.3	6	100.0	2	66.7%		
Economical fitness Satisfied	4	11.1	3	20.0	2	33.3	1	33.3	2.720	0.436
Unsatisfied	32	88.9	12	80.0	4	66.7	2	66.7		
Stage (II) **Physical fitness** Satisfied	7	19.4	6	40.0	0	0.0	0	0.0	5.565	0.135
Unsatisfied	29	80.6	9	60.0	6	100.0	3	100.0		
Social fitness Satisfied	24	66.7	10	66.7	5	83.3	1	33.3	2.250	0.522
Unsatisfied	12	33.3	5	33.3	1	16.7	2	66.7		
Psychological fitness Satisfied	21	58.3	12	80.0	3	50.0	3	100.0	4.396	0.222
Unsatisfied	15	41.7	3	20.0	3	50.0	0	0.0		

* Statistical significant at p<0.05

Table (4) shows in stage (I) that, there was significant difference between age groups regarding the score percent of physical, social and psychological fitness. But it shows in stage (II) that, there was insignificant difference between age groups regarding the score percent of physical, social and psychological fitness. The table also shows that, the more the increase in age, the more

the decrease in quality of life regarding physical, social and psychological fitness. In addition it shows that, studied women were more satisfied in stage (II) regarding social and psychological fitness.

Table (5): Relation between quality of life aspects and parity.

QOL's aspects	Zero		One child		Two children		Significance test	
	No.	%	No.	%	No.	%	X^2	p-value
Stage (I)Physical fitness								
Satisfied	7	14.6	2	25.0	3	75.0	8.568	0.014*
Unsatisfied	41	85.4	6	75.0	1	25.0		
Social fitness								
Satisfied	25	52.1	8	100.0	4	100.0	9.342	0.009**
Unsatisfied	23	47.9	0	0.0	0	0.0		
Psychological fitness								
Satisfied	16	33.3	3	37.5	4	100.0	6.945	0.031*
Unsatisfied	32	66.7	5	62.5	0	0.0		
Sexual fitness								
Satisfied	1	2.1	4	50.0	2	50.0	21.388	<0.001**
Unsatisfied	47	97.9	4	50.0	2	50.0		
Economical fitness								
Satisfied	3	6.25	4	50.0	3	75.0	14.7	0.001**
Unsatisfied	45	93.75	4	50.0	1	25.0		
Stage (II) Physical fitness								
Satisfied	9	18.75	1	12.5	3	75.0	7.340	0.025*
Unsatisfied	39	81.25	7	87.5	1	25.0		
Social fitness								
Satisfied	28	58.3	8	100.0	4	100.0	7.5	0.023*
Unsatisfied	20	41.7	0	0.0	0	0.0		
Psychological fitness								
Satisfied	27	56.25	8	100.0	4	100.0	8.077	0.017*
Unsatisfied	21	43.75	0	0.0	0	0.0		

* Statistical significance at p<0.05   ** highly statistical significance at p<0.01

Table (5) shows in stage (I) that, there was significant difference between number of births regarding physical and psychological fitness. And there was highly significant difference regarding social, sexual and economical fitness; p-value was 0.009, <0.001, 0.001 respectively. In addition, the table shows in stage (II) that, there was significant difference regarding physical, social and psychological fitness. Furthermore, the table shows that, the more the increase in parity, the better quality of life for women regarding the five domains. The table shows that, studied women were more satisfied in stage (II) than stage (I) regarding social and psychological fitness.

Discussion:

The present study revealed that the mean age of studied women was 33.75±12.27. This finding was relatively in agreement with **Gjatal E., (2013),** Who reported that the mean age of women was 32.9±5.1. This finding wasn't in line with **Mansour F. A., (2011),** who reported that the mean age for the woman was 29.0±4.0.

Considering women occupation, more than three quarters of studied women were housewives. This finding was relatively consistent with **Mansour F. A., (2011),** who reported that two thirds of the study subjects were housewives. This was expected because housewives in developing countries generally have low status and drive their value from their reproductive abilities.

Women who delay childbearing until the completion of longer educational training may comprise a large segment of the IVF patient population and may drive the observation of an age confounded inverse relation between educational level and successful IVF outcome. Conversely, it may be women with higher educational attainment are more likely to correctly perform the stimulation protocol and thus improving their likelihood of treatment success (**Shruthi, et al., 2011).** The present study revealed that one third of studied women were a university graduated. This finding was relatively in agreement with **Jin X., et al., (2013),** who reported that half of studied women had a university education.

Considering the residence factor, the prevalence depends on the residing geographic area pointing to the role of society customs and traditions. The present study also revealed that more than half of the studied women were from urban areas.This finding wasn't in coherence with **Mohammed A. E., (2009),** who reported that more than half of the studied women are living in rural areas.

Knowledge about IVF is limited in the population and a lot of misconceptions are prevalent in the society. Alternative medicine is a popular option for seeking infertility treatment. The cultural and religious perspective about assisted reproductive technologies (ART) is unclear which has resulted in its reduced acceptability(**Ali S., et al., 2011).** The present study revealed that the level of knowledge of the studied women about IVF regarding the factors that can

effect on the process success was inadequate. The results showed that about half of them knew that number of ovum that is implanted has an effect on IVF success. These findings were consistent with **Abol fotouh M. A., et al., (2013),** who reported that both IVF patients and infertile outpatients showed a low level of knowledge regarding factors that may affect fertility with a significantly higher level found among IVF patients p=0.035. This higher level of knowledge was evident from the frequency at which they correctly reported. The same trend was reported by **Jin X., et al., (2013),** who reported that knowledge of infertility and its treatment is inadequate in many places around the world according to a global survey of 17,500 women of childbearing age from 10 countries.

Lack of knowledge may be due to that most women were un-aware by IVF, un-satisfied by care providing to them, not receiving any educational programs about IVF through nurses and nurses in return were not knowledgeable by IVF. This is lack of knowledge can be treated through developing training programs by faculty of nursing staff regarding IVF. Education, information and communication activities at the level of community is recommended to raise awareness of people about IVF method, its religious and social aspects beside participation of the public sector in the IVF to be affordable. Enlighten infertile couples about treatment options, answer their questions and apply different coping strategies with failed ART trials (**Hashim S. A., 2012).**

IVF has its own set of strict administration rules that leave the women physically exhausted. Also IVF is a very demanding physical process that affects the women in various ways as the pain of injections during the stage of controlled ovarian hyperstimulation, water retention and great swelling in the body. The most serious medical complication is Ovulation Hyperstimulation Syndrome (OHSS)

(Macrae F., et al., 2012). The current study revealed that more than three quarters of the studied women were unsatisfied regarding the physical aspect. This finding was in agreement with **Mamata D., et al., (2015),** who reported that there was statistically significant difference regarding physical aspect in women undergoing IVF.

The presence of social support had a relieving effect during IVF.The findings of the present study revealed that more than half of studied women in stage I and about two thirds of studied women in stage II were satisfied regarding the social fitness. It was observed that studied women were more satisfied in stage II than stage I. The same trend was reported by **Kaliarnta S., et al., (2011),** who reported that the majority of women had reported that many members of their family and friends had showed interest and concern. These findings were not relatively in agreement with **Moghadam M. H., (2012),** who reported that women planning IVF in particular young women experienced more social problems than women of the same age group in the general population.

IVF is psychologically and emotionally stressful. Stress before, during and after the IVF treatment is multidimensional. This is the chronic source of stress caused by the threat of permanent infertility and loss of hope. Another source of stress is the threat of the treatment itself and the possibility of failure at any of its various phases. The third source of stress is the risk of spontaneous abortion (**Ebbesen S. M., et al., 2009).** The present study revealed that about two thirds of the studied women were unsatisfied regarding psychological fitness. These findings were consistent with **Rashidi B., et al., (2008),** who reported that women planning IVF in particular young women aged between 21–30 years experienced emotional problems than women of the same age group in the general population. These findings were also incoherence with

Kaliarnta S., et al., (2011), who reported that IVF treatment can have a tremendous impact on women; it had far reaching effects on a woman's psychological well-being and her relationship with her partner. Emotions and expectations can run high and the whole process leaves the women exhausted and disheartened as well as causing rifts in the relationship with her partner as many of the women of the survey reported. Also,it was reported that for other women, the experience of IVF was more mixed since women did not gain only negative experiences, but also positive ones like adopting a healthier lifestyle and getting closer to their partner.

In addition, the present study revealed that there was highly significant difference regarding the psychological fitness between stage (I) and stage (II). It was observed that the studied women became more satisfied in stage (II) than stage (I).This finding wasn't similar to those reported by **Boivin J., et al., (2007),** who reported that distress levels did not show remarkable changes in the first segment of the treatment cycle, then increased significantly at the end of the cycle just before the pregnancy test.Also this finding wasn't in agreement with **An Y., et al., (2013),** who reported that anxiety and depression levels did not show remarkable changes during the treatment cycle. Somewhat surprisingly, a slight decrease of distress was found on the pregnancy test day.

With the rapid increase in the number of women pursuing IVF there is a need to better understand how IVF impacts a woman's sexual experiences and QOL. Women undergoing fertility treatment are likely to report negative changes in sexual function. Lower sexual behavior among infertile women with high distress as well as low self-assurance was very common during IVF (**Smith N. K., et al., 2015).** The present study revealed that more than three quarters of studied women were unsatisfied regarding sexual fitness. Also this finding was in line with **Millheiser L. S., et al., (2010),** who

reported that infertile women had lower levels of sexual satisfaction.

IVF is a very costly treatment especially in the beginning of a young couple's new life, where they have many expenses. The fact that significant economic barriers to IVF exist in many countries results in the preferential availability of these technologies to couples in a position of financial strength.So, some countries have laws requiring insurance coverage for infertility diagnosis, treatment or both **(Laurence A., 2015).** The finding of the present study revealed that more than three quarters of studied women were unsatisfied regarding the economic fitness. The finding of the present study was in coherence with **Dyer S. J., et al., (2012),** who reported that infertility treatment is associated with a significant risk of catastrophic expenditure, even for basic or ineffective interventions. Other economic disadvantages, which may be profound, are caused by loss of access to child labor and support and divorce.

The current study revealed that the more the increase in age, the more the decrease in QOL regarding physical, social and psychological fitness. There were statistically significance differences between age groups in the stage of succeeded controlled ovarian hyperstimulation but there were no statistically significant differences between age groups in the stage of embryo transfer, this may be due to women when nearing from achieving pregnancy in the stage of embryo transfer, become less worried as first. The findings of the present study were in accordance with **Baird D. T., et al., (2008),** who stated that women achieve the peak of their fertility at the age of 24 years and fertility then decreases until the age of 30 years at which time it drops abruptly. Women between the ages of 27 and 35 years have a 25% probability of experiencing physical problems and being unable to conceive after trying for one year. Also the findings of this study were consistent with **Sherbahn, (2012),** who reported that the

impact of advancing female age on IVF success represented by a curve starts dropping at about age 28; it drops faster starting at about age 31 and even more after age 37 years. This findings weren't in line with those reported by **Mohammed A. E., (2009),** who stated that there was no statistically significance difference between age and outcome of IVF,this is might be due to the following factor that those women were married at early age which almost less than one quadrant of the selected sample were married at younger age. This disagreement may be due to they were not at the same age group. The findings weren't relatively in agreement with **Rashidi B., et al., (2008),** who reported that younger age was a significant predictor for poorer mental health related quality of life but not for physical HRQOL.

Child is one of the most basic of all human motivations. The inability to conceive children is highly stressful for individuals and couples. Having one child or more reduces a lot of social and psychological stress especially during IVF and these effects on the success rates of IVF **(Sharma C. K., et al., 2014).** The present study revealed that there was statistically significant difference between number of living children and QOL aspects. Also, the present study revealed that the more increasing number of living children, the better QOL for women undergoing IVF. These findings were in line with **Hammarberg K., (2008),** who reported that woman who had a child or children appeared to positively influence the experience as may have been expected and also reported that when the scores for baby group and no baby group were compared the latter had a statistically significant lower score (p=0.008).

References:

Abol fotouh M. A., Alabdrabalnabi A. A., ALbacher R. B., Al jughaiman U. A., Hassan S.N.,(2013): Knowledge, attitude and practices of infertility

among Saudi couples .International journal of general medicine. V.6.

Ali S., Sophie R., Imam A. M., Khan I. F.,(2011): Knowledge, perceptions and myths regarding infertility among selected adult population in Pakistan: a cross-sectional study. BMC Public Health201111:760.Available at: http://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-11-760.

An Y., Sun Z., Li. L., Zhang Y., JiH.,(2013):Relationship between psychological stress and reproductive outcome in women undergoing in vitro fertilization treatment: psychological and neurohormonal assessment , National institutes of health, Journal list›J Assist ReprodGenent ›V.30(1);2013 Jan›PMC 3553357.

Baird D.T., Collins J.,EgozcueJ.,EyersL.H.,GianaroliL.,Leridon H., (2008):Fertility and aging.PMC,US national library of medicine. National institutes of health, Journal list, HumReprod up date;V.11(3),PP.261-76.

Available at: http://www.http://www.ncbi.nlm.nih.gov/pubmed/15831503.

Boivin J.,TakefmanJ. E., Tulandi T., BrenderW., (2007):Reactions to infertility based on extent of treatment failure. FertilSteril.V. 63, Pp810-822.Available at:http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3454700/

ChachamovichJ.R.,chachamovichE.,ZachiaS.,KnauthD.,PassosE.P.,(2007): What variables predict generic and health related –quality of life in a sample of Brazilian women experiencing infertility? Hum Reprod.V(22),PP.1946-1952.

Derogatis L.R., Lipman R.S., Rickels K., (1974) :The Hopkins Symptom Checklist(HSCL): A self report in ventory.Behav Sci 19:1-15

Dyer S. J., Patel M.,(2012):The economic impact of infertility on women in developing countries - a systematic review. PMC, US national library of medicine .National institutes of health, journal list V.4(2),PP.102-109.Available at:http://www.ncbi.nlm.nih.gov/pmc/articles/pmc 3987499/.

EbbesenS.M.,ZachariaeR.,MehlsenM.Y., Thomsen D.,HojgaardA.,OtlosenL., Petersen T.,IngerslevH.J.,(2009):Stressful life events are associated with a poor in vitro fertilization (IVF) outcome: A prospective study, Medscape multi-specialty. HumReprod.V.24(9),PP.2173-2182.

Available at:http://www.medscape.com/viewarticle /709518-3.

GjatalE.,(2013):Factors associated with pregnancy and live birth after in vitro fertilization techniques in Albania.Oxfordjournals.org/content/16/2/374.V.2,Pp22-30.Available at:http:// Albanian medicaljournal.com/index.php/12-albanian-medical-journal-2013-2/37.

HammarbergK.,(2008): Women's experience of IVF: a follow-up study. Oxford Journals, Medicine & Health, Human Reproduction,V. 16, Issue 2,Pp. 374-383.Available at:http://humrep.oxfordjournals.org/content/16/2/374.

HashimS.A.,SolimanS.E., Mansour S.E.,(2012):Couples adjustment to failed assisted reproductive technology

after counseling ,academic journal.V.10 issue 6.P. 61.

Jin X., Wang G., Liu S., Zhang J.,ZengF., Yun Q.,(2013):Survey of the situation of infertile women seeking IVF treatment in China. Biomed research internationalV.1023(2013),ArticleID 17 9098,7pages.Availableat:http://www.htt p://www.hindawi.com/journals/bmri/20 13/179098/

KaliarntaS.,FahlquistJ.N.,RosersS.,(2011):E motions and ethical considerations of women undergoing IVF.

Macrae F., (2012):Infertility counseling. A comprehensive hand book for clinician ,second edition. Available at: https://ar.scribd.com/doc/129450843/Inf ertility-Counseling-Libro

Mamata D., Boffey F., Jone M .,Mitchell C., (2015): Deprivation and poor psychosocial support are key determinants of late antenatal presentation and poor fetal outcomes-a combined retrospective and prospective study. BMC Pregnancy and Childbirth201515:309. Available at: http://bmcpregnancychildbirth.biomedc entral.com/articles/10.1186/s12884-015-0753-3

Mansour F. A.,(2011): The effectiveness of counseling program on the success rate of in vitro fertilization treatment in Assisted Reproductive unit, El- Azhar University, PHD, faculty of nursing ,Zagazig university.

Millheiser L.,(2010):Is infertility a risk factor for female sexual dysfunction? A case-control study. Fertility and sterility 94(6):2022-5 ·Available at: https://www.researchgate.net/publicatio n/41807564_Is_infertility_a_risk_factor _for_female_sexual_dysfunction_A_cas e-control_study753-3.

MoghadamM.H.,(2012):Communication, Evaluation between the general health and infertile women.

Available at:http://www.bioline.org.br/pdf?rm110 47

Mohammed A. E., (2009): The impact of protocol of care on the outcome of patient undergoing in vitro fertilization (IVF), M.Sc. thesis, faculty of nursing, Benha University.

MohammedE.M.,(2014):Sociodemographicc haracteristicof the studied women with infertility.Available at: http://med.minia.edu.eg/Arabic/AboutU s/scintific%20jornal/20111/1136(8).doc

MousaviS.A.,MasoumiS.Z.,KeramatA.,Poora lajalJ.,Shobeiri F.,(2013):Assessment of questionnaires measuring quality of life in infertile couples: A systematic review .US national library of medicine .Journal list ›J Reprod infertile ›V.14(3). Available at:http://www.ncbi.nlm.nih.gov.

PandianZ.,GibreelA., Bhattacharya S.,(2012): In vitro fertilization for unexplained sub fertility. US national library of medicine.National institutes of health. Available at: http://www.ncbi.nlm.nih.gov

Parrett R.N.,(2011): The role of nurse in your fertility treatment team. Resolve for the journey. The national infertility association. Available at: http://www.resolve.org.

RashidiB.,MontazeriA., RamezanzadehF.,Sh ariatM., AbediniaN., AshrafiM.,(2008): Health related quality of life in infertile couples receiving IVF or ICSI treatment .BMC Health services research 8:186.Available at: http://www.biomecentral .com/1472-6963/8/168.

SharmaR.,BiedenharnK.R.,FedorJ.,AngarwaI ., (2014):Life style factors and reproductive health :taking control of your fertility .ReprodBio/Endorrinal//:66. Available at:http//www.clevelandclinic.org/.../docs/intpubs2012.pdf.

Sherbahn,(2012): IVF and Age - impact of female aging on in vitro fertilization statistics. Available at: http://www.advancedfertility.com/ivf-age.htm.

Smith N.K., Madeira J., Millard H.R.,(2015):Sexual function and fertility quality of life in women using in vitro fertilization. PMC, US national library of medicine .National institutes of health, journal listV.12(4).

Available at:http://www.ncbi.nlm.nih.gov/pubmed/25639162.

Shruthi M., Mark D. H., Daniel W. C., Stacey A. M., (2011): Does a woman's educational attainment influence in vitro fertilization outcomes? Fertility and sterility Journal. V. 95, Issue 8, Pages 2618–2620. Available at: http://www.fertstert.org/article/S0015-0282(11)00774-6/abstract?cc=y=