

# THE QUALITY OF LIFE AND ITS RELATIONSHIP TO SOME VARIABLES AMONG FERTILE AND INFERTILE WOMEN

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## Abstract

This study aims to identify the quality of life of fertile and infertile married women as well as to reveal the differences between the level of their quality of life that attributed to these variables ( family economic level, age, the educational level). The study sample consisted of (382) women who were chosen by the convenience sampling method from the married women who periodically visit obstetrics and gynaecologyclinics and specialized medical centres in Amman Governorate during the period (1/6/2020 - 10/30/2020).The researcher used the quality-of-life questionnaire prepared by (FertiQoI) Bofien et al, 2011) sponsored by the European Society for Human Reproduction and Embryology, and the American Society for Reproductive Medicine. The tool was translated into Arabic by the researcher after verifying its psychometric properties.Findings revealed a statistically significant difference between the average scores of fertile and infertile women in the areas of (satisfaction with quality of life, personal quality of life, therapeutic quality of life, and total score of quality of life) in favour of the fertile women. No statistically significant difference was seen between the average scores of fertile and infertile women in the area of (the quality of personal relationships), indicating that the fertile women have a higher quality of life than infertile ones. The results also indicated that there was no statistically significant difference in the sub-domains: (satisfaction with quality of life, quality of personal relationships, quality of therapeutic life, total degree of quality of life) among fertile and infertile women attributed to the variables (family economic level, age, or education level).

**Keywords:** Quality of life, fertile women, infertile women, economic level, age educational level.

## Introduction:

Humans have placed a high value on reproduction. Fertile women were treated with great respect and pride, making them feel psychologically secure, given that they had the most crucial components for the continuance of marital life. Whereas an infertile woman was underestimated, endangering her life and psychological stability. In fact, a critical psychological state is reflected in all the course of marital and social life (Al-Nawaisah, 2016). The problem of infertility has been recognized by the World Health Organization as a problem that affects between 15% - 20% of couples and causes infertility in women in 35%-40% of cases. However, infertility is not a disease in itself as it can be the result of many different disorders. Many women who are unable to have children suffer from psychological effects of

rejection, anger, isolation, guilt, sadness, and ignores (Cetin, 2008).

The ultimate goal of all humans is to provide a better future for their families. As a result, the mother is regarded as a loving embrace and a safe sanctuary for children and marriage. Therefore, her exposure to any form of psychological, nervous, and physical disorders shakes the family entity and its entire structure (Ataf & Nazmi, 2011).The infertile woman is defined as “a woman who finds it difficult to have children even though a regular sexual intercourse between couples exists” (Olooto et al., 2012). A fertile woman is defined as “a woman who can conceive naturally without any medical assistance during the first four years of marriage” (Gawareet al., 2009).Undoubtedly, every woman strives to improve the quality of her life based on her material and moral qualities

and capacities. Every woman aspires to achieve a certain level of quality of life which reflect effectively on her personality, self-accepting and managing the challenging circumstances (Kesson & Kathleen, 2003); thus, quality of life is the woman's ability to coexist with herself and her environment, obtaining the benefits of life, admiration, and appreciation for herself, and it is a situation in which needs are met and a sense of satisfaction is obtained (Veenhave, 2000).

Recently, positive subjective experiences, positive personality traits, and positive habits have piqued the interest of psychologists because they increase the quality of life, make life valuable, and prevent pathological symptoms that occur when life lacks purpose (Seligman & Csikszentmihalyi, 2002). Also, the concept of quality of life has received great interest, it was defined by (Taylor & Rogdan, 1990) as "the individual's satisfaction with his ability in life and a sense of psychological ease." And described by (Goode, 1990) as "the ability to attain meaningful goals." According to (Fulford, 2011), it is "that wide overall structure that is established by the individual's general satisfaction with life and the objective measurement of his life circumstances." Quality of life, according to WHO experts, is "the individual's assessment of his living condition in the context of the culture and value systems in the society in which he lives, and the relationship of this perception to his objectives, aspirations, and level of interest" (WHO QOL Group, 1999). Rubin (2000) defined quality of life as the integration of numerous attitudes in the individual in terms of physical and psychological health and social life, comprising both cognitive components (satisfaction), and emotional components (happiness). Where Peter (2007) linked it to efficiency and independence in the performance of activities, and satisfaction with social conditions. Costanza (2007) confirms the idea of integration between the individual's abilities and awareness, and the opportunities available to satisfy his needs, through a vision that aims to reconcile between the objective dimension and the subjective dimension. Therefore, the quality of life for an individual is related to the degree to which his needs are satisfied, and the actual gratifications that he obtains. He also confirms that the quality of life is not verifiable on its own, and it may not be achieved just because of

the availability of sources or opportunities for gratification, but rather denotes the ability for consensus, and to do Positively assessed activities that push the individual away from the direction of achieving the fulfilment of his needs.

Numerous studies sought to determine the indicators of quality of life and their dimensions. Felce & Perry (1995) introduced a three-dimensional model of quality. The first dimension includes life conditions, which are a set of objectively measurable life conditions by experts, including personal conditions, physical health, living conditions, material conditions, social relationships, job activities, and social and economic influences. The second dimension is personal satisfaction with life which includes the individual's feeling of satisfaction and satisfaction with his life circumstances. The third dimension is personal values and personal ambition, which means the relative importance that the individual appreciates in each of the different circumstances of his life, such as material experiences, social well-being, physical and emotional health, and life activities. Letiman (1999) distinguishes between two types of quality of life namely quality of private life and quality of public life. It focuses on the importance of measuring the quality of private life, the extent of the individual's satisfaction or dissatisfaction with the various areas of his life, and the extent of his contentment in this life. Therefore, measuring this particular aspect should cover all areas of his life, while the general aspect of quality of life focuses on the environment in which the individual lives, rather than on the individual himself. On the other hand, Goode (1994) sees that the quality of life is determined by four factors namely the individual's needs, expectations, the available resources to satisfy the needs, and the nature of the environment to satisfy these needs.

Some recent psychological studies examined the quality of life of fertile and infertile women, including the study of Sharman (2017), which indicated that the level of life satisfaction among infertile women was low level, while it was high among fertile women and that there are statistically significant differences in the level of satisfaction about life attributed to the variables: (birth status, educational level, place of residence, age). Khaskeh's (2017) study also revealed a statistically significant difference

among fertile women on the scale of quality of life attributable to (age, place of residence). The results of the study (Amiri, et al., 2016) showed that there is a significant difference between marital satisfaction, and job, spouse's job and income in fertile and infertile groups and that infertility doesn't reduce life satisfaction. Hansen et al (2013) concluded that fertile women showed a decrease in life satisfaction and self-esteem compared to mothers of both types (whose children are still living with them, and older mothers) and that no relationship was observed between childlessness, age, marital status, and education. While there was an interaction between the different situations of the parents and the marital status with life satisfaction among women only.

The findings of Naeem & Naeem (2013) demonstrated that the level of quality of life rises among infertile women, while it is average among fertile women. The infertile woman is more satisfied with the medical team and with life than the fertile woman, and therefore she enjoys life more despite her embarrassment, anxiety, and fear of the future due to the infertility problem. Kalkhoran, et. al (2011) revealed that the level of anxiety and depression is much higher in infertile women compared to fertile women, but life satisfaction was not much different in the two groups. Anxiety and depression were not related to age or infertility among both groups, but anxiety negatively affected life satisfaction in infertile women. In both groups, there was no relationship between anxiety and depression, but the duration of infertility had an effect on life satisfaction in infertile women, and depression and dissatisfaction with life in infertile women housewives more than working women. The study of (Arts, 2011) found an inverse relationship between quality of life and feelings of anxiety and depression. It reported that (23.2%) of infertile women suffer from anxiety and that (7.5%) suffer from depression. So, the women who scored higher in quality of life had lower anxiety and depression. And that age has a positive relationship with the dimensions of quality of life, except for the dimension of marital relations, where the relationship was negative. And that women with low scores should undergo psychological treatment, as the success of infertility treatment is related to the psychological state. Bahrainian, et. al (2009) confirmed that no significant difference in the

level of life satisfaction among fertile and infertile women, even though life satisfaction among infertile women was slightly higher than that of fertile women. The findings of the study of (McQuillan, et. al, 2008) also showed no differences between a woman with a history of infertility and a normal woman in the life satisfaction variable.

The researcher concludes from the preceding that the quality of life is determined by internal and external forces, that a person's sense of overall happiness is always dependent on the objective characteristics of the situation, and that the internal factors affecting the quality of life are represented by the level of ambition, experience, and personal expectations. Despite differing definitions among experts, there is agreement that the quality of life is the amount to which an individual recognizes that he leads a decent life free of behavioural disorders and negative emotions, in which he loves his human presence and feels content in life.

### **Statement of Problem**

The study's problem stems from a lack of adequate information for people interested in this area; as a result, there is a gap in the psychological and social counselling procedures for fertile and infertile women. Herein lies the study's issue in displaying and emphasizing this element to the point of attention and follow-up. In light of the study's findings, this study specifically tries to answer the following hypotheses:

- 1- There are significant differences between fertile and infertile married women in the level of quality of life.
- 2- There are statistically significant differences in the level of quality of life among fertile and infertile women attributed to the variables: "the family's economic level, age, the educational level of the wife."

### **The importance of the study**

1- The importance of the study appears in that it is the first study - within the limits of the researcher's knowledge - that deals with the quality of life of fertile and infertile women at the local level.

2- The importance of the study emerges from the importance of the variables it dealt with, which is expected to pave the way for conducting more theoretical and applied studies in this field.

3- This study can benefit several parties thepost students who are interested in this field of scientific research and specialists working in the field of women's health and the institutions working in the field of primary health care.

## Methods and Procedures

### Study Approach

The study adopted the descriptive survey method, which is the method that studies a

phenomenon, an event, or an existing issue to obtain information that answers the study's hypotheses without the researcher's intervention (Al-Aga & Al-Ostath, 1999).

### Participants

The study sample consisted of (n=382) women, of which (200) fertile and (182)infertile women selected by the convenience sampling method from the married women who periodically visit obstetrics and gynaecology clinics and specialized medical centres in Amman governorate during the period (1/6/2020 - 10/30/2020). They were distributed based on their fertility status (fertile & infertile), the family's economic level, age, and education level.

**Table (1) Description of the participants demographic status**

Variable	Categories	Participants (n=382)	
		Frequency	Ratio
Fertility status )fertile-infertile(	fertile	200	52.4
	infertile	182	47.6
Economic level	high	32	8.4
	medium	328	85.9
	low	22	5.8
Age	<25	81	21.2
	26-34	169	44.2
	35-44	78	20.4
	>45	54	14.1
Educational level	< secondary	69	18.1
	Diploma	34	8.9
	Bachelor's	221	57.9
	Postgraduate	58	15.2

### Instrument

The researcher used the quality-of-life questionnaire for the infertile individual, which was prepared by (FertiQol, JakieBofien, Janet Takef Man, IndreyaBereFrman) sponsored by the European Society of Human Reproduction and Embryology, and the American Society for

Reproductive Medicine, which is an instrument for assessing the quality of life for an infertile individual. The questionnaire consists of (32) statements distributed over the following four areas:

1. Satisfacti on with the quality of life is represented with one

statement (32) which reads (I am satisfied with the quality of my life).

2. The quality of personal life consisting of (12) statements divided into two dimensions: Emotional dimension (6) statements to measure the extent of the individual's ability to confront the syndrome of negative feelings usually associated with experiencing fertility problems, for example (jealousy, resentment, sadness, depression). The second dimension: the mind and the body, and it consists of (6) statements to measure the extent to which the individual experiences physical symptoms (for example, fatigue, pain), and cognitive and behavioural disorders (for example, poor concentration, disruption of daily activity and late-life plans as a result of infertility).

3. The quality of personal relationships consisting of (11) statements divided into two dimensions: The partnership dimension - marital relations and consists of (5) items to measure the extent to which the elements of the marital relationship or partnership are affected, for example (sexual activity, communication, commitment) due to Fertility problems. The second dimension: social relations and consists of (6) items to measure the extent to which social relations are

affected by fertility problems, for example (social integration, expectations, stigma, support).

4. Quality of therapeutic life consists of (8) items distributed over two dimensions the therapeutic environment (4) items to measure the available therapeutic environment, the quality of treatment, and interactions with the medical staff. The second dimension "treatment tolerance" consists of (4) items to measure the extent of treatment tolerance and the experience of mental and physical symptoms and disturbance in daily life due to treatment. The statements are answered by five responses: (always, often, to some extent, rarely, never) corresponding to the scores (0, 1, 2, 3, 4) respectively. in negative statements, these scores corresponding to the same five responses are reversed to become: (4, 3, 2, 1, 0). The high score on the questionnaire indicates a higher quality of life for the respondent, while a low score on the questionnaire indicates a lower quality of life. The reliability and validity of the quality-of-life questionnaire were calculated, and the results were as shown in the following tables:

**Table (2)** Reliability coefficients of a quality-of-life scale

Question	Cronbach's coefficient	Question's score with Scale total score	Question	Cronbach's coefficient	Question's score with Scale total score
1	0.93	0.59**	17	0.93	0.74**
2	0.93	0.63**	18	0.93	0.73**
3	0.93	0.70**	19	0.93	0.63**
4	0.93	0.41**	20	0.93	0.39**
5	0.93	0.44**	21	0.93	0.75**
6	0.93	0.30**	22	0.93	0.67**
7	0.93	0.49**	23	0.93	0.75**
8	0.93	0.76**	24	0.93	0.59**
9	0.93	0.73**	25	0.93	0.56**
10	0.93	0.54**	26	0.93	0.36**
11	0.93	0.47**	27	0.93	0.47**
12	0.93	0.53**	28	0.93	0.79**

Question	Cronbach's coefficient	Question's score with Scale total score	Question	Cronbach's coefficient	Question's score with Scale total score
13	0.93	0.61**	29	0.93	0.69**
14	0.93	0.46**	30	0.93	0.68**
15	0.93	0.28**	31	0.93	0.61**
16	0.93	0.78**	32	0.93	0.39**
Cronbach's reliability coefficient (for the overall scale) = 0.93					
Spearman/Brown split-half reliability coefficient (for the overall scale) = 0.95					

\* Significant at the level (0.05)

\*\* Significant at the level (0.01)

Data in Table (2) indicate that:

That all the alpha coefficients of Cronbach for the questionnaire in the absence of any of its statements are less than or equal to the alpha coefficient of the general Cronbach of the questionnaire if it is present, that is, the presence of any statement does not lead to a decrease in the overall reliability coefficient of the scale, and this indicates that each statement contributes a degree reasonable in the overall reliability of the scale, which indicates the reliability of all questionnaire statements.

All correlation coefficients between the score of each statement and the total score of the scale (if the statement's score in the total score of the scale is statistically significant at the level (0.01), which indicates the internal consistency and reliability of all statements of the quality-of-life questionnaire.

The overall reliability of the quality-of-lifescala in two adopted methods: (Cronbach's alpha coefficient, Spearman/Brown's half-segmentation method) is high, which indicates the overall reliability of the quality-of-lifescala.

**Table (3)** Validity coefficients of a quality-of-life scale

Question	The statement with the Scale total score of the scale ***	Question	The statement with the total score of the scale ***
1	0.56**	17	0.72**
2	0.60**	18	0.70**
3	0.66**	19	0.59**
4	0.36**	20	0.33**
5	0.40**	21	0.72**
6	0.24*	22	0.64**
7	0.46**	23	0.72**
8	0.74**	24	0.56**
9	0.71**	25	0.53**
10	0.51**	26	0.30**
11	0.42**	27	0.43**
12	0.50**	28	0.76**
13	0.58**	29	0.67**

Question	The statement with the Scale total score of the scale ***	Question	The statement with the total score of the scale ***
14	0.40**	30	0.65**
15	0.22*	31	0.57**
16	0.75**	32	0.34**

\*Significant at the level (0.05)

\*\* Significant at the level(0.01)

\*\*\*when deleting the statement's score from the scale score

All the correlation coefficients between the degree of each statement and the total score of the scale (in case the degree of the statement is omitted from the total score of the scale) are statistically significant at the level (0.01) or the level (0.05), which indicates the validity of all the statements of the quality-of-life scale.

## Results

### Firstly: The differences in quality of life between fertile and infertile married women.

The T-test of the two independent samples was used to study the differences in quality of life between the mean scores of fertile and infertile women (see Table 4).

**Table (4). Results of T-test for the quality of life between participants**

	Variables	Fertile (n=200)		Infertile (n=182)		T-value
		Means	SD	Means	SD	
1	Satisfaction with quality of life	3.5	0.9	3.2	1.1	2.4*
2	Quality of personal life	37.6	9.1	30.5	12.4	6.4**
3	Quality of personal relationships	27.6	6.2	27.3	6.9	0.5 N/S
4	Therapeutic quality of life	21.1	5.4	18.6	6.6	4.1**
	Overall quality of life	89.7	15.4	79.6	22.6	5.2**

\*Statistically significant at level (0.05)

\*\* Statistically significant at level(0.01)

Table (4) shows that:

- There is a statistically significant difference at the level (0.05) between the mean scores of fertile and infertile women due to (satisfaction with the quality of life) in favour of fertile women. That is, the mean scores of fertile women in the domains (satisfaction with the quality of life) are statistically significantly higher than that of infertile women.
- There is a statistically significant difference at the level (0.01) between the mean scores of fertile and infertile women in (quality of personal life) in favour of the fertile women. That is, the mean scores of fertile women in (quality of personal life) are statistically significantly higher than that of infertile women.

- There is no statistically significant difference between the mean scores of fertile and infertile women in (the quality of personal relationships); That is, there is a convergence between the mean scores of fertile and infertile women in (quality of personal life).
- There is a statistically significant difference at the level (0.01) between the mean scores of fertile and infertile women in (therapeutic quality of life) in favour of the mean scores of fertile women. That is, the mean scores of fertile women in (therapeutic quality of life) are statistically significantly higher than that of infertile women.
- There is a statistically significant difference at the level (0.01) between the mean scores of fertile and infertile women in (total

quality of life score) in favour of the fertile women. That is, the average scores of fertile women in (total quality of life score) are statistically significantly higher than that of infertile women.

We can deduce from the preceding findings that fertile women enjoy a higher quality of life than infertile women. The total results of the first hypothesis show that it has been achieved in general, as the results of this hypothesis show that there is a statistically significant difference between the mean scores of fertile and infertile women in the domains (satisfaction with quality of life, personal quality of life, therapeutic quality of life, total degree of quality of life) in favour of the fertile women in all cases.

The findings of the first hypothesis are consistent with the findings of the study of Sharman (2017), which demonstrated a low level of life satisfaction among fertile women. It also agrees with the study of (Hansen et al, 2013) which showed that fertile women exhibited a decrease in life satisfaction; It partially agrees with the study of (Kalkhoran, et. al, 2011) that the level of anxiety negatively affects life satisfaction among infertile women. While the results of the first hypothesis are not consistent with the results of the study (Amiri, et .al, 2016) which concluded that not having children does not reduce life satisfaction. It also differs from the results of the study of (Naeem& Naeem,2013) that the level of quality of life tends to rise among infertile women, while it is moderate among fertile women. However, results demonstrated that infertile woman has more satisfaction with the medical team services and with life in general than the fertile woman, and therefore she enjoys life more despite her

embarrassment, anxiety, and fear of the future due to the infertility problem. And it differs from the study of (McQuillan, et. al, 2008), which indicated that there are no differences between a woman with a history of infertility and a natural woman in the variable of life satisfaction. The researcher attributes these findings to the awareness of women, regardless of their reproductive status, regarding the importance of achieving a balance between physical, psychological and social aspects in achieving satisfaction and enjoyment of life. In fact, this expresses psychological compatibility as an outcome of women's living conditions, self-perception of life, and quality of life because this perception affects the individual's assessment of objective aspects of life such as education, work, the standard of living, and social relations on the one hand. The importance of these topics for women at a certain time and in certain circumstances on the other hand should be considered as the quality of life is a product of individual interactions between women (fertile-infertile) and special life situations, and the degree to which she enjoys her important potentials in her life.

**Secondly: The differences in the level of quality of life between fertile and infertile women according to the variables:” family’s economic level, age, education level).**

"MANOVA and LSD Least significant difference test was used to find out the direction of the statistically significant differences after using the dependent multivariate analysis of variance. The results of this hypothesis are shown in the following tables:

**Table (5).**The MANOVA for the differences in the level of quality of life due to the variable (the economic level of the family)

Fertility status	Source of variance	Dependent variables	SS	DF	MS	F-value
Fertile	Economic level	Satisfaction with quality of life	3.9	2	1.9	2.7 N/S
		Quality of personal life	49.7	2	24.8	0.3 N/S
		Quality of personal relationships	140.1	2	70.1	1.9 N/S
		The therapeutic quality of life	218.3	2	109.1	3.91*



Fertility status	Source of variance	Dependent variables	SS	DF	MS	F-value
		Overall quality of life	282.9	2	141.5	0.6 N/S
	Error	Satisfaction with quality of life	145.9	197	0.74	
		Quality of personal life	16251.5	197	82.5	
		Quality of personal relationships	7405.7	197	37.6	
		The therapeutic quality of life	5498.8	197	27.9	
		The overall quality of life	46602.2	197	236.6	
Infertility	Economic level	Satisfaction with quality of life	9.9	2	4.9	4.4*
		Quality of personal life	626.2	2	313.1	2.1 N/S
		Quality of personal relationships	393.0	2	196.5	4.3*
		The therapeutic quality of life	84.7	2	42.4	0.9 N/S
		Overall quality of life	2568.8	2	1284.4	2.6 N/S
	Error	Satisfaction with quality of life	200.41	179	1.1	
		Quality of personal life	27305.3	179	152.5	
		Quality of personal relationships	8271.7	179	46.2	
		The therapeutic quality of life	7765.9	179	43.4	
		The overall quality of life	89487.1	179	499.9	

\*Statistically significant at level (0.05)

\*\* Statistically significant at level (0.01)

Data in Table (5) indicate that:

- There is a statistically significant difference at the level (0.05) in (therapeutic quality of life) attributed to the family's economic level among fertile women.
- No statistically significant difference is observed in (satisfaction with the quality of life, the quality of personal life, the quality of personal relationships, the total degree of quality of life) attributable to the family's economic level among fertile women.

- There is a statistically significant difference at the level (0.05) in (satisfaction with the quality of life, the quality of personal relationships) attributable to the family economic level among infertile women.

- No statistically significant difference was found in: (personal quality of life, quality of therapeutic life, total degree of quality of life) due to the family economic level among infertile women.

**Table (6)** The results of the LSD test to determine the direction of the statistically significant differences in the quality of life attributable to the family's economic level

Fertility status	Dependent variable	Independent variable	Sub-domains	N	Mean	Family's economic level		
						high	Medium	Low
Fertile	The therapeutic quality of life	Economic level	high	17	17.7			
			medium	17	21.4	3.8*		
			low	8	21.1	3.5	0.28	-
Infertile	Satisfaction with quality of life	Economic level	high	15	3.7			
			medium	15	3.2	0.5		
			low	14	2.6	1.2*	0.67*	-
Infertile	Quality of personal relationships	Economic level	high	15	28.9			
			medium	15	27.6	1.4		
			low	14	22.4	6.6*	5.21*	-

\*Statistically significant at the (0.05) level.

The results show that:

- There is a statistically significant difference (at the level of 0.05) in (therapeutic quality of life) between fertile women who have a high economic level and those with a medium economic level in favour of fertile women with a medium economic level. That is, women with a medium economic level are more satisfied with the therapeutic quality of life than those with a high economic level.
- There is a statistically significant difference (at the 0.05 level) in each of: (satisfaction with the quality of life, the quality of personal relationships) between infertile women who have (low) economic level and each of those with (high, medium) economic level in favour of those with (high, medium) economic level. That is, women with low economic level feel less about (satisfaction of quality of life, quality of personal relationships) than women with high and medium economic indicating that the higher economic level, the higher the feeling of satisfaction of the quality of life and the quality of interpersonal relationships among infertile women. The overall results of the second hypothesis show that, in general, it has been partially achieved, as the results of this hypothesis indicated:
  - There is no statistically significant difference in (satisfaction with quality of life, quality of interpersonal relationships, quality of

therapeutic life, total degree of quality of life) due to age among fertile women.

- No statistically significant difference in (satisfaction with the quality of life, quality of personal life, quality of personal relationships,) attributed to age among infertile women.
- The women age (>45) are more aware of the quality of personal life than the women of other ages (<25, 26-34, 35-44) among the fertile women.
- Those of the age (<25) were more aware of (the therapeutic quality of life, the total degree of quality of life) than those of the age (26-34) among the infertile women.
- No statistically significant difference in the sub-domains (satisfaction with the quality of life, the quality of interpersonal relationships, the quality of therapeutic life) due to the level of education of infertile women.
- No statistically significant difference in all sub-domains (satisfaction with quality of life, quality of personal life, quality of interpersonal relationships, quality of therapeutic life) and the total degree of quality of life is due to the level of education of fertile women.
- Infertile women with the education level (< secondary) are less satisfied with the quality of personal life than those with the education level (Bachelor, Master and PhD).
- No statistically significant difference in (personal quality of life, quality of therapeutic

life, total degree of quality of life) due to the economic level of the family among infertile women.

- No statistically significant difference in (satisfaction with the quality of life, the quality of personal life, the quality of personal relationships, the total degree of quality of life) due to the family's economic level among fertile women.

- Fertile women with medium economic levels are more satisfied with the quality of therapeutic life than those with high economic levels.

- Those with low family economic feel less (satisfied with the quality of life, the quality of personal relationships) than those with high and medium economic levels.

**Table (7)The MANOVA for the differences in the level of quality of (age)**

Fertility	Source of variance	Dependent variable	SS	DF	MS	F-value
Fertile	Age	Satisfaction with quality of life	4.4	3	1.5	1.97
		Quality of personal life	1001.3	3	333.8	4.28**
		Quality of personal relationships	21.5	3	7.2	0.19
		The therapeutic quality of life	180.9	3	60.3	2.14
		Overall quality of life	1494.5	3	498.2	2.15
	Error	Satisfaction with quality of life	145.4	196	0.7	
		Quality of personal life	15299.9	196	78.1	
		Quality of personal relationships	7524.3	196	38.4	
		The therapeutic quality of life	5536.1	196	28.3	
		The overall quality of life	45390.7	196	231.6	
Infertile	Age	Satisfaction with quality of life	5.24	3	1.8	1.52
		Quality of personal life	928.00	3	309.3	2.04
		Quality of personal relationships	215.2	3	71.7	1.51
		The therapeutic quality of life	414.7	3	138.2	3.31*
		Overall quality of life	4142.5	3	1380.8	2.80*
	Error	Satisfaction with quality of life	205.1	178	1.2	
		Quality of personal life	27003.5	178	151.7	

Fertility	Source of variance	Dependent variable	SS	DF	MS	F-value
		Quality of personal relationships	8449.5	178	47.5	
		The therapeutic quality of life	7436.0	178	41.8	
		The overall quality of life	87913.5	178	493.9	

\*Statistically significant at level (0.05)

\*\* Statistically significant at level (0.01)

Data in this Table illustrate that:

- There is a statistically significant difference at the level (0.01) in (quality of personal life) due to age among fertile women.
- There is no statistically significant difference in (satisfaction with quality of life, quality of interpersonal relationships, quality of therapeutic life, total degree of quality of life) due to age among fertile women.
- There is a statistically significant difference at the level (0.05) in (therapeutic quality of life, the total degree of quality of life) due to the age of the infertile women.
- No statistically significant difference in (satisfaction with the quality of life, quality of personal life, quality of personal relationships,) due to age among infertile women.

**Table (8)** Results of the (LSD) test to determine the trend of statistically significant differences in quality of life due to age variable

Fertility	Dependent variable	Independent variable	Sub-dimension	N	Mean	Age			
						>25	26-34	35-44	<45
Fertile	Quality of personal life	Age	<25	30	36.03				
			26-34	75	37.00	0.97			
			35-44	56	36.04	0.00	0.96		
			>45	39	42.03	5.99*	5.03*	5.99*	-
Infertile	The therapeutic quality of life	Age	<25	51	20.98				
			26-34	94	17.56	3.42*			
			35-44	22	17.86	3.12	0.31		
			>45	15	17.67	3.31	0.10	0.21	-
	Overall quality of life	Age	<25	51	86.96				
			26-34	94	75.86	11.10*			
			35-44	22	79.86	7.10	4.00		
			>45	15	77.53	9.43	1.67	2.33	-

\*Statistically significant at the (0.05) level.

The findings show that:

- There is a statistically significant difference (at the level of 0.05) in (quality of personal life) between fertile women of age (>45) and women of other ages (<25, 26-34, 35-44) and in favour of the women with age (>45)

in the three cases. That is, women aged (45 and over) have a greater sense of personal quality of life than fertile women of other ages (<25, 26-34, 35-44) indicating that the higher the age, the higher the feeling of personal quality of life.

- There is a statistically significant difference (at the level of 0.05) in (quality of personal life) between fertile women of age (>45) and women aged (<25, 26-34, 35-44) and the difference is in favour of the women aged (>45) in the three cases. That is, women aged (>45) have a greater sense of the personal quality of life than women of (<25, 26-34, 35-44) indicating that the higher the age, the higher

the feeling of personal quality of life among fertile women.

- There is a statistically significant difference (at the 0.05 level) in each of (therapeutic quality of life, total degree of quality of life) between infertile women aged (<25) and (26-34) in favour of the fertile women aged (<25) in both cases. That is, women aged (<25) have more feelings of: (the therapeutic quality of life, the total degree of quality of life) than those aged (26-34) which means that the lower the age, the higher the feeling of therapeutic quality of life among fertile women.

**Table (9) The MANOVA for the differences in the level of quality of life due to the variable (educational level)**

Fertility status	Source of variance	Dependent variable	SS	DF	MS	F-value
Fertility	Educational level	Satisfaction with quality of life	3.45	3	1.15	1.54 N/S
		Quality of personal life	460.85	3	153.62	1.90N/S
		Quality of personal relationships	289.00	3	96.33	2.60 N/S
		The therapeutic quality of life	16.10	3	5.37	0.18 N/S
		Overall quality of life	337.12	3	112.37	0.47 N/S
	error	Satisfaction with quality of life	146.37	196	0.75	
		Quality of personal life	15840.30	196	80.82	
		Quality of personal relationships	7256.79	196	37.02	
		The therapeutic quality of life	5700.92	196	29.09	
		The overall quality of life	46548.06	196	237.49	
Infertility	Educational level	Satisfaction with quality of life	3.93	3	1.31	1.13 N/S
		Quality of personal life	1495.07	3	498.36	3.36*
		Quality of personal relationships	314.12	3	104.71	2.23 N/S
		The therapeutic quality of life	257.36	3	85.79	2.01 N/S
		The overall quality of life	4035.75	3	1345.25	2.72*
	error	Satisfaction with quality of life	206.38	178	1.16	
		Quality of personal life	26436.38	178	148.52	

		Quality of personal relationships	8350.59	178	46.91	
		The therapeutic quality of life	7593.35	178	42.66	
		The overall quality of life	88020.16	178	494.50	

\*Statistically significant at level (0.05)

\*\* Statistically significant at level (0.01)

This Table indicates that:

There is no statistically significant difference in all sub-domains: (satisfaction with quality of life, quality of personal life, quality of personal relationships, quality of therapeutic life) and the total degree of quality of life attributed to the level of education among fertile women.

There is a statistically significant difference at the level (0.05) in each of (quality of personal life, total degree of quality of life) attributed to the level of education of fertile women.

There is no statistically significant difference in the sub-domains: (satisfaction with quality of life, quality of personal relationships, quality of therapeutic life) attributed to the level of education of infertile women.

**Table (10)** The results of the (LSD) test to determine the direction of the statistically significant differences in the quality of life that are attributed to the level of education of infertile women

Category	Dependent variable	Independent variable	Sub-dimension	N	Mean	Educational level			
						<secondary	Diploma	Bachelor's	MS / Ph.D.
Infertile	quality of personal life	Education level	<secondary	38	25.16	-			
			Diploma	15	29.33	4.18			
			Bachelor's	104	32.31	7.15*	2.97		
			MS/PhD.	25	31.92	6.76*	2.59	0.39	-
	Total quality of life	Education level	<secondary	38	71.58	-			
			Diploma	15	80.60	9.02			
			Bachelor's	104	83.15	11.57*	2.55		
			MS/PhD.	25	76.36	4.78	4.24	6.79	-

\*Statistically significant at the (0.05).

There is a statistically significant difference (at the level of 0.05) in (quality of personal life) among infertile women with education level (<secondary) and (Bachelor, Master and PhD) in favour of women who hold (Bachelor, Master

and PhD). That is, women with an education level (<secondary) feel less about the quality of personal life than women with an education level (bachelor, master, and doctorate) meaning that the higher the level of education, the higher

the feeling of quality of personal life among infertile women.

The findings of the second hypothesis agree with the results of the study of Sharman (2017), which indicated statistically significant differences in the level of life satisfaction attributable to the variables of fertility status, educational level, place of residence, age). Whereas it differs from the study of (Khaskeh, 2017), which showed a statistically significant difference among fertile women on the scale of the meaning of life according to the criteria of age and place of residence. It also differs from the study of (Hansen et al, 2013), which showed that the relationship between childlessness, age, marital status, and education did not show statistically significant differences. The researcher sees that the mother's enjoyment of good health and the success of her family relationship, as well as her sense of contentment and happiness, generates psychological health and a sense of psychological well-being, which is reflected in her life and her dealings with her family. This indeed contributes to the creation of a balanced family in which calm, and stability prevail. However, Jordanian women's high educational level enables them to meet their physical, health, and recreational needs, which improves their quality of life, maternal age, and educational level. The findings of this study do not consider these variables as a hindrance to achieving her quality of life. Finally, we can say that Jordanian women (fertile - infertile), regardless of their characteristics and circumstances are better able to adapt to the situation and can set new goals to realize the appropriate way to continue life.

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### Discussion

From the foregoing, we can conclude that the mother's enjoyment of good health and the success of her family relationship with her children and husband, and her feeling of contentment and satisfaction lead to achieving good mental health and a feeling of psychological comfort, which is reflected in her life and her dealings with her family. This actually helps in creating a stable family. However, the high educational level of Jordanian women (fertile/ infertile) helps in fulfilling her physical, health and recreational needs, which leads to an increase in the quality of her life. The age of the mother or her educational level according to the results of this study are not considered an obstacle to achieving good quality of life. Finally, we can state that Jordanian women (fertile/ infertile), regardless of how diverse their features and living circumstances are, are better able to adjust to the circumstances and can set new goals to realize the proper approach to continue life.

### Recommendations:

- Giving more attention to counselling programs that help fertile and infertile women in improving their quality of life.
- Conducting a study to evaluate the quality of life of fertile and infertile women from different Arab countries.
- Conducting studies with new independent variables to compare between fertile and infertile women from different aspects and suggest ways for enhancing their quality of life.

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