Effect of Ovarian Cysts on Women Health Related Quality of Life

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Abstract

Background: Ovarian cysts are a common finding in women of the reproductive age group. It is a common cause of gynecological surgery in all age groups. Adolescents have them frequently and harmlessly. Asymptomatic ovarian cysts are often identified during pelvic exams. **Aim:** To assess the effect of ovarian cysts on women quality of life. **Subjects and Methods: Study Design:** A descriptive study was used. **Setting:** Two settings; gynecology outpatient clinic and endoscopic unit at Zagazig university hospital. **Study Subjects:** A convenient sample of 200 women was included in the study. **Tools of data collection:** Two tools were used; structured interview questionnaire and questionnaire of the quality of life. **Results**: As for psychological health, the majority of women sometimes find it difficult to adapt to ovarian cyst. As for physical health, the majority of women sometimes was unable to travel and had less sexual desire. As for social health, the majority of them always reported that their relationship with family and friends were affected and they needed support from family and friends. **Conclusion:** Ovarian cyst had a negative impact on woman's health-related quality of life; as more than half of women had average quality of life and more than one third of them had good quality of life, while it was poor in 3% of studied women. **Recommendations:** Women should be aware of the adverse impact of ovarian cyst on quality of life and health professionals should capture and consider perception of symptoms, the impact on quality of life and personal priorities for care to improve patient outcomes.

Key Words: Ovarian cyst, Women, Health and quality of life.

Introduction

An ovarian cyst is a larger fluid-filled sac or follicle or corpus luteum (more than 3cmin diameter) persists and continue growing on or in an ovary. A cyst can vary in size from a few centimeters to the size of a large melon. Ovarian cysts may be thin walled and only contain fluid (known as a simple cyst) or they may be more complex, containing thick fluid, blood or solid [1].

Ovarian cysts, incidence of 20% of women developing at least one pelvic mass in their life time [2]. Age incidence in patients with ovarian cysts is commonly seen in age group between 30 and 39 years the prevalence for simple ovarian cyst is 48 percent out of 100 patients, unilocular simple ovarian cysts are functional ovarian cysts and resolve spontaneously with therapy by 3 to 6 months oral contraceptive [3]. Cystic lesions of the ovary are a common gynecological finding. They are very common and mostly benign during adolescence. Many ovarian cysts are asymptomatic and found incidentally on routine pelvic examination [4].

The exact cause of the ovarian cysts is not known, but among the reasons that help in the occurrence of ovarian cysts are genetic factors, increase the androgens, body resistance to insulin, the presence of infections and obesity [5]. In the normal case, the ovaries produce hormones that control the functions of the body which are estrogen and androgen, and in women with cystic conditions, the androgen hormone is higher than estrogen [6].

Among the complications of ovarian cysts are weight gain, type 2 diabetes, cardiovascular disease high cholesterol, uterine cancer and infertility [7].

Health- related quality of life (QoL) was defined the World Health Organization as people's perceptions of their status in life [8]. QoL comprises four dimensions: physical and motor skills, mental state, social and economic conditions, and somatic perception (e.g., symptoms, especially pain). Importantly, the concept draws attention to the need to distinguish between an objective state of health (as determined by observed symptoms) and the subjective experience of the patient (i.e., HRQoL) concerning that state using objective and subjective methods of assessment [9].

Advanced practice Nurse (APN) can also facilitate quality of care and manage treatments effectively to improve quality of life, reduce pain, and prevent further progression of the disease. Practice recommendations include timely diagnosis, pain management, infertility counseling, patient education, and support for quality of life issues [10].

Aim of the study:

The study aimed to assess the effect of ovarian cysts on women health related quality of life.

Research question:

What is the effect of ovarian cysts on women quality of life?

Subjects and Methods:

Research design:

A descriptive design was adopted to carry out this study.

Study Setting:

The study was conducted at gynecological outpatient clinic and endoscopic unit at Zagazig university hospital as it provides low cost services with high quality of care for all levels of population in Zagazig city and its villages.

Study sample:

A convenient sample of 200 women was used for this study. This sample included all women who were diagnosed by the physician with ovarian cyst at any age group during six months from beginning of March, 2021 to the beginning of September 2021.

Tools of data collection:

Tool (I): Structured interview questionnaire: developed by the researcher tocollect the following data:

Part A: Socio-demographic characteristics: the first part of the questionnaire which was concerned with personal data of the study subjects as age, residence, education level, occupation and marital status.

Part B: Medical History:

The second part was concerned with medical history of any health problems such as hypertension, diabetes, hypothyroidism, cancer, cardiovascular disease, high cholesterol level, hepatic disease and coagulation disorders.

Part C: Surgical History:

The third part was concerned with the surgical history of any previous surgery and the type of surgery.

Part D: Family History:

The fourth part was concerned with detection of the family history of ovarian cyst.

Part E: Menstrual history:

The fifth part was concerned with Menstrual characteristics of study subjects as age of menarche, regularity of the menstrual cycle, duration of menstruation, Menstrual cycle interval, Length of the cycle, Amount of menstrual cycle scant, Irregular premenopausal and Menopause bleeding.

Part F: Obstetrical history:

The Sixth part was concerned with Obstetrical history as the number of pregnancies, number of deliveries, mode of delivery, the occurrence of previous abortion, number of abortions,

the presence of post abortive complications, the type of complications, time of the last abortion, Age at birth of the first child, number of living children, Previous neonatal death, Gestational Diabetes, Twin pregnancy, Preeclampsia, Rh isoimmunization and fetal hypothyroidism.

Part G: Gynecological history:

The Seventh part was concerned with Gynecological history as previous gynecology surgery, infertility, any difficulty conceiving in past, history of pelvic inflammatory disease, dyspareunia and the use of contraceptive methods.

Part H: Present woman complaint:

The eighth part was concerned with any complaint and clinical test in women with ovarian cyst as: severity of pelvic pain, heaviness and fullness in abdomen, nausea and vomiting , breast pain and tenderness, dysmenorrhea, weakness, faintness ,burning in urination appetite decrease headache anxiety ,and laboratory test, ultrasound and magnetic resonance image.

TOOL (II): Quality of life in women with ovarian cyst: This tool as it is adopted from Marandino et al [11] to assess the quality of life for women with ovarian cyst. The questionnaire consisted of 14 items:

Psychological Health:

The patients would answer with never, Sometimes or Always on 4 questions about: Reaction when diagnosing of ovarian cyst, feeling of frustration with ovarian cyst, feeling sad andworry about disease, difficulty to adapt with ovarian cyst and feeling to isolated.

Physical Health:

The patients would answer with never, Sometimes or Always on 5 questions about: The extent of your ability to carry out daily activities during the normal day, inability to travel, feeling sickness and fatigue, effect on sexual desire and effect of pharmacotherapy on health condition.

The social Health:

The patients would answer with never, Sometimes or Always on 3 questions about: Effect of disease on family relationship, effects of disease on their relationship with others and establish a new relationship and need support from familyand friends

Quality of life scoring system:

To obtain the total quality of life score. It scored as follows: if the response was never (0), if it was sometimes (1) and if it was always (2).

Administrative design and ethical considerations:

An official permission letter was obtained from the Ethical Committee of faculty of nursing at Zagazig University to the administrator of gynecological outpatient clinic and endoscopic unit in Zagazig university hospital. The aim of the study was explained to them to obtain their cooperation.

The ethical issues were taken into consideration during all phases of the study. Firstly, the study approved by the pertinent authority of research ethics committee of the Faculty of Nursing at Zagazig University (Ethical code: M.D.ZU.NU.R/154/12/10/2021). Official permission from the study setting was obtained for the fulfillment of the study. Oral consent was taken from each woman in order to participate in the study and confidentiality was assured. The principal investigators have kept individual data as private information safely. There was no extra fee to be paid by the participants and the investigators covered all the costs.

Content Validity and Reliability:

Validity of the tools was tested for content validity by Jury of three experts' one professor and other assistant professor Obstetrics and gynecological Health Nursing. They assessed the tool for clarity, relevance, comprehensiveness, applicability, and understanding. All recommended modifications in the tools were done. The reliability was done by Cronbach's Alpha coefficient test to ensure that the tools of data collection consisted of relatively homogenous items, it was (0.810) for quality of life tool.

Field work:

Data collection took a period of six months from beginning of March, 2021 to the beginning of September 2021. The data were collected at three days of the week (Saturday, Monday, and Wednesday) from 9:30 am to 12:00 pm. The women were interviewed to fill the sheet after complete explanation of the purpose of the study and greeted her and asked for participation. Throughout the interview, relative information was recorded in the designed sheet depending upon the response of the participant. The time needed for finishing each interview ranged between 20-30 minutes according to women physical and mental readiness and desire of women to complete the sheet and after finishing the sheet, thank her about participation.

Pilot study:

The pilot sample was applied on 10% of the study sample who selected from the study setting. The purpose of the pilot study was to ascertain the feasibility of the tools, and to detect any problems peculiars to the statement as sequence and clarity. After conducting the pilot study, found that the questions of the tools were clear and relevant, but few words were modified to increase clarity. The data collection form was finalized based on the results of the pilot. The subjects of pilot sample were excluded in the main study sample.

Statistical Analysis:

Data were checked, entered and analyzed using SPSS version 23 for data processing. The following statistical methods were used for analysis of results of the present study. Data were expressed as number and percentage for qualitative variables and mean $\pm$ standard deviation (SD) for quantitative one. Mann Whitney test was used to calculate difference between quantitative variables in not normally distributed data in two groups. Chi- square test (X^2): Used to find the association between row and column variables. Odds ratio (OR): Compares the odds or the risk that a disease occur among individuals who have a particular characteristic or who have been expressed to a risk factor to the Odds that the disease occur in individuals who lack the characteristic or have not been exposed.

Results:

Table (1) shows demographic data distribution of the studied women. Age was ranged from 17-50 years with a mean value of 28.94±6.637 years. Residency show that 81.5% were from rural places. Education level shows that 49.5% bad Secondary school level. 78.5% of them were housewives.

Table (2) presents the distribution of the studied women according to their menstrual history. The majority of women experienced menarche at the age of 10-15 years (88.7%) and the mean age of menarche was 13.1±1.61 years. Most women reported having irregular menstrual cycles (73.0%), while 27.0% reported regular cycles. The duration of menstruation was mainly 4-7 days (61.5%), with a mean of 3.92±1.403 days. The majority of women had menstrual cycle intervals of 20-30 days (82.5%), with a mean interval of 23.44±5.107 days. The length of menstrual bleeding was typically 2-4 days (77.0%), with a mean of 3.93±1.409 days. Most women reported scant menstrual bleeding (66.2%), while 21.4% reported heavy bleeding and only 12.4% reported normal bleeding.

Figure (1) illustrates that more than half of women (58.5%) of women had average QoL while 38.5% of them had good QoL. QoL was poor in 3% of studied women.

Table (3) shows the distribution of the studied women according to the relationship between Psychological health characteristics and the level of quality of life (QOL). The table presents the number and percentage of women who reported poor, average, and good QOL for each Psychological health characteristic, as well as the chi-square test statistics and p-values. The results of the analysis indicate that there is a significant relationship between Difficult to adapt with ovarian cyst and QOL ($\chi2$ = 11.696, p = 0.020).

Table (4) shows the distribution of the studied women according to the relationship between Physical health items characteristics and the level of quality of life (QOL). The table presents the number and percentage of women who reported poor, average, and good QOL for each Physical health items characteristic, as well as the chi-square test statistics and p-values. The results of the analysis indicate that there is a significant relationship between inability to travel, Feeling sickness and fatigue and Effect of pharmacotherapy on health condition and QOL ($\chi2$ = 21.576, 30.400 and 27.105, p <0.001, <0.001 and <0.001) respectively.

Table (5) shows the distribution of the studied women according to the relationship between Physical health items characteristics and the level of quality of life (QOL). The table presents the number and percentage of women who reported poor, average, and good QOL for each Physical health items characteristic, as well as the chi-square test statistics and p-values. The results of the analysis indicate that there is a significant relationship between inability to travel, Feeling sickness and fatigue and Effect of pharmacotherapy on health condition and QOL ($\chi2$ = 21.576,

30.400 and 27.105, p <0.001, <0.001 and <0.001) respectively.

Table (6) shows the distribution of the studied women according to the relationship between Social health characteristics and the level of quality of life (QOL). The table presents the number and percentage of women who reported poor, average, and good QOL for each Social health characteristic, as well as the chi-square test statistics and p-values. The results of the analysis indicate that there is a significant relationship between Social health characteristic and QOL ($\chi2$ = 11.128, 14.939 and 13.702, p = 0.025, 0.005 and 0.008).

Discussion

Ovarian cysts can be caused by many reasons. Ovarian cysts arising due to endocrine disorders are mostly benign and usually do not require any surgical intervention unless they present with acute features like torsion, hemorrhage, or rupture Tresa etal [12]. Malignant transformation of an ovarian cyst is very rare Zahra et al [13] This descriptive study was conducted to assess the effect of ovarian cysts on women health related quality of life.

In the current study, the mean age was twenty eight years. This result was matched with Zahra et al [13] study in Qatar which revealed the same range and mean age. Ovarian cysts can occur at any age but are more common in reproductive years and increase in menarchal females due to endogenous hormone production Mobeen etal [14].In Almas et al [15] study in Poland, the age ranged from ten to forty years with the majority of the patients ranged from twenty one to thirty years. The same mean age was reported by Lee et al [16] in Korea. Simple cyst detection slightly more common for women ages fifty five to fifty nine than for women in older age groups in Greenlee et al [17] American study.

Regarding education level in the present study, almost half of women finished secondary school. In agreement to our result, Greenlee et al [17] study stated that higher number among ovarian cyst patients completed secondary school. In contrary to our results, majority of the patients were illiterate in Almas et al [15] study.

Regarding occupation in the current study, more than three fourth of women were housewives, less than one fourth of them were working, and very low percentage were students. Similarly, Trudel-Fitzgerald et al [18] in Poland did not observe clear associations between work characteristics and ovarian cancer incidence or mortality. However, Park et al [19] reported a case of ovarian cancer had been exposed to asbestos significantly, so they determined that ovarian cancer in the patient is highly correlated with the occupational exposure of asbestos and environmental exposure is a possible cause as well.

Regarding marital status in the present study almost one fifth of women were single, almost two thirds were married and less than one fifth were divorced. Duration of married was ranged from 1- 27 years with a mean value of 10.31±6.182 years. Our result agreed with Abduljabbar et al [20] study in Saudi Arabia which showed that almost two thirds were married patients diagnosed with ovarian cysts. Similar results reported in Almas et al [15] study where almost two thirds were married. Trudel-Fitzgerald et al [18] results suggested higher ovarian cyst risk among socially isolated and widowed women, particularly when such psychosocial stressors were experienced a decade before diagnosis or were sustained over time.

Regarding menstrual history in the current study, the mean age of menarche was thirteen years with regular of menstrual cycle in almost half of women and irregular in the majority of them. Mean duration of Menstruation was three days with mean interval twenty three days. Amount of menstrual bleeding was normal in low percentage of women, scant in almost two thirds, and heavy in less than one fourth of them.

Similarly, most of the patients in Almas et al [15] study had irregular cycle because of the ovarian cyst. Likewise, less than half of ovarian cyst cases have irregular menses and more than half of them had delayed menses and this comprises a highly significant difference in comparison to healthy control in Tabassum [21] study in India.

Psychologically, most of the included patients in the present study sometimes had feeling of frustration with ovarian cyst, feeling sad and worry about disease, difficulty to adapt with it, and feeling isolated. In agreement to our results, Sayyah-Melli et al [22] study results in USA which demonstrated that chronic anxiety, depression and anxiety disorders were the most common psychological disorders in the ovarian cyst patients. Similar results were reported by Sulaiman et al [23] study in Oman. This may be explained by illness perceptions may play an important role in psychological distress, even after adjusting for relevant demographics and clinical characteristics. Therefore, researchers and clinicians should develop targeted self-management interventions for women with ovarian cyst, focused on altering maladaptive illness perceptions to reduce psychological burden Light et al [24] in India.

The present study showed that majority had moderate physical pain during the past four weeks which had slight discrepancy with normal physical activities. Likewise, Zahra et al [13] study in Qatar reported that the most common presenting complaint was lower abdominal pain in less than two thirds of women women. Similar results reported in Abduljabbar et al [20] study where the most common clinical presentation was abdominal pain in less than two thirds of women.

Most of the included patients in the present study sometimes had inability to carry out daily activities during the normal day, were unable to travel, felt sickness and fatigue, had effect on sexual desire, had effect of pharmacotherapy on health condition. Our result agreed with Almas et al [15] which showed that moving around home became difficult while the patient is having pelvic pain. They felt difficulty in walking and doing any physical work.

Sánchez-Ferrer et al [25] study results in Southeastern Spain supported the hypothesis that health-related quality of life is significantly decreased in adult women with ovarian cyst compared to healthy controls. Women with ovarian cyst (vs. controls) scored significantly lower in physical role, general health, vitality and emotional role; however, insignificantly higher for physical functioning, social functioning and mental health.

The majority of the patients included in the current study always experienced disease-related effects on their family relationships and the development of new relationships with others, necessitating support from family and friends. Our results agreed with Rzońca et al [26] in Spain which was conducted to assess the quality of life and satisfaction with life of women with ovarian cyst in comparison with those of healthy controls, and to identify and analyze factors determining QoL and SwL in women with ovarian cyst. Patients in the study group had a highly significant lower overall QoL, worse perceived health and highly significant lower QoL in all specific domains: physical, psychological, environmental, and social relationships, compared with control. Similar results reported in Sánchez-Ferrer et al [25] study.

Conclusion

According to the finding in the current study, the research questions were answered and revealed that the main risk factors of ovarian cysts were obesity and family history. Pain experienced by women in the vast majority of them was moderate to severe. Ovarian cyst had negative impact on woman's psychological, physical and social aspects of health-related quality of life and almost half of them had average quality of life.

Recommendations:

The following recommendations are suggested based on the findings of the present study:

- Women and health professionals should be aware of the adverse impact of ovarian cyst on QoL.

- Health professionals should capture and consider perception of symptoms, the impact on QoL and personal priorities for care to improve patient outcomes.

- Ovarian Cyst Questionnaire is an important tool in assessing QoL and evaluating ovarian cyst –specific health concerns.

Table (1): Distribution of studied women according to their demographic data (n = 200)

	No	%
Age (years)		
≤20	22	11.0
21 – 30	109	**54.5**
>30	69	34.5
Range	17-50	
Mean±S.D.	28.94±6.637	
Residence		
Urban	37	18.5
Rural	163	**81.5**
Education level		
Illiterate	28	14.0
Read and write	30	15.0
Primary or preparatory school	4	2.0
Secondary school	99	**49.5**
University	39	19.5
Occupation		
Housewives	157	**78.5**
Working	40	20.0
Student	3	1.5
Marital status		
Single	38	19.0
Married	137	**68.5**
Divorced	25	12.5
Duration of married		
Range	1-27	
Mean±S.D.	10.31±6.182	

Table (2): Distribution of the studied women according to their menstrual history

| Menstrual history		No	%
Age of menarche (years)	10-15	173	**88.7**
	16-21	22	11.3
Mean±SD		13.1±1.61	
Regularity of menstrual cycle	Regular	54	27.0
	Irregular	146	**73.0**
Duration of Menstruation (days)	1-3	77	**38.5**
	4-7	123	61.5
Mean±SD		3.92±1.403	
Menstrual cycle interval (days)	10-19	35	17.5
	20-30	165	**82.5**
Mean±SD	23.44±5.107		
Length (days)	2-4	154	**77.0**
	5-7	46	23.0
Mean±SD		3.93±1.409	
Amount of Menstrual cycle	Normal	25	12.4
	Scant	133	**66.2**
	Heavy	43	21.4
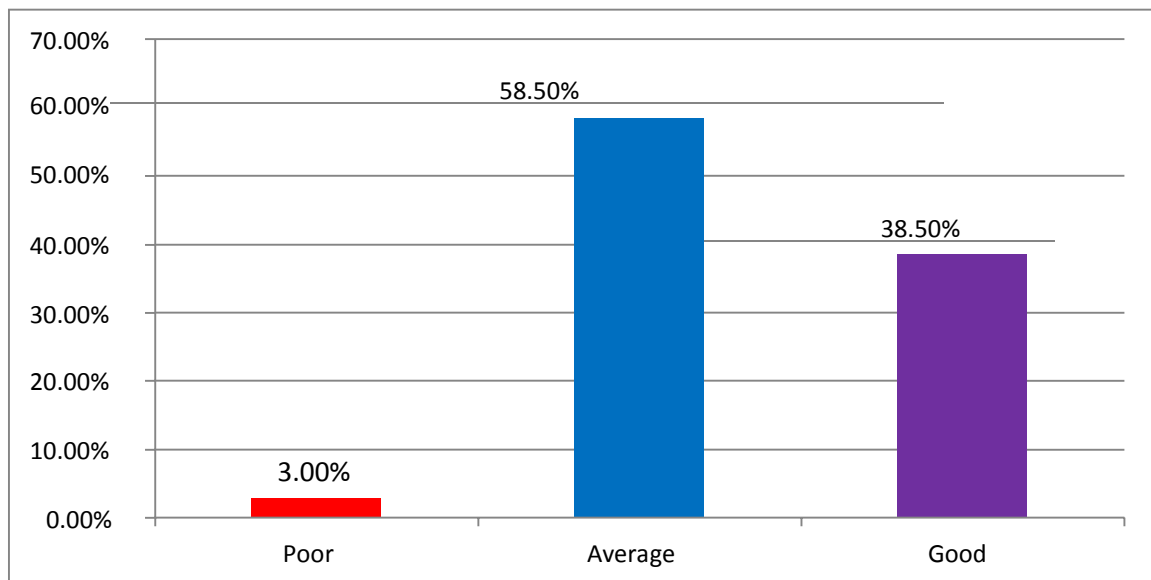
Figure 1: Distribution of the studied women according to the total level of quality of life (n=200).

Table 3. Distribution of the studied women according to the relationship between socio-demographic characteristics and level of quality of life

		Health related quality of life						X2	P value
		Poor		Average		Good			
		No	%	No	%	No	%		
Age	12-29	0	0.0	62	53.0	44	57.1	8.156	0.086
	30-47	6	100.0	53	45.3	31	40.3		
	48-65	0	0.0	2	1.7	2	2.6		
Marital Status	Single	0	0.0	27	23.1	9	11.7	1.966	0.374
	Married	4	66.7	73	62.4	64	83.1		
	Divorced	2	33.3	17	14.5	4	5.2		
Resident	Urban	2	33.3	26	22.2	12	15.6	9.724	0.285
	Rural	4	66.7	91	77.8	65	84.4		
Education Level	Illiterate	0	0.0	10	8.5	12	15.6	8.453	0.015
	Read and Write	3	50.0	17	14.5	11	14.3		
	Primary school	1	16.7	49	41.9	29	37.7		
	Secondary School	2	33.3	36	30.8	20	26.0		
	University	0	0.0	5	4.3	5	6.5		
Occupation	House	4	66.7	83	70.9	68	88.3	1.223	0.874
	Working	2	33.3	34	29.1	9	11.7		
BMI	less than 25	2	33.3	28	23.9	19	24.7	8.156	0.086
	25-30	3	50.0	61	52.1	44	57.1		
	More than 30	1	16.7	28	23.9	14	18.2		

Table 4. Distribution of the studied women according to the relationship between Psychological health characteristics and level of quality of life

Psychological health		Health related quality of life						X2	P value
		Poor (n=6)		Average (n=117)		Good (n=77)			
		No	%	No	%	No	%		
Feeling of frustration with ovarian cyst	Never	0	0	4	3.4	2	2.6	8.397	0.078
	Sometimes	4	66.7	55	47.0	52	67.5		
	Always	2	33.3	58	49.6	23	29.9		
Feeling sad and worry about disease	Never	0	0	4	3.4	3	3.9	6.865	0.143
	Sometimes	5	83.3	71	60.7	59	76.6		
	Always	1	16.7	42	35.9	15	19.5		
Difficult to adapt with ovarian cyst	Never	0	0	9	7.7	2	2.6	11.696	**0.020***
	Sometimes	5	83.3	73	62.4	65	84.4		
	Always	1	16.7	35	29.9	10	13.0		
Feeling to isolated	Never	0	0	7	6.0	3	3.9	5.955	0.203
	Sometimes	5	83.3	73	62.4	60	77.9		
	Always	1	16.7	37	31.6	14	18.2		

Table 5. Distribution of the studied women according to the relationship between Physical health items characteristics and level of quality of life

Physical health items		Health related quality of life						X2	P value
		Poor (n=6)		Average (n=117)		Good (n=77)			
		No	%	No	%	No	%		
The extent of your ability to carry out daily activities during the normal day	Never	2	33.3	19	16.2	13	16.9	4.813	0.307
	Sometimes	3	50.0	94	80.3	62	80.5		
	Always	1	16.7	4	3.4	2	2.6		
Inability to travel	Never	0	0	8	6.8	1	1.3	21.576	<0.001*
	Sometimes	6	100	85	72.6	75	97.4		
	Always	0	0	24	20.5	1	1.3		
Feeling sickness and fatigue	Never	0	0	10	8.5	25	32.5	30.400	<0.001*
	Sometimes	5	83.3	86	73.5	52	67.5		
	Always	1	16.7	21	17.9	0	0		
Effect on sexual desire	Never	0	0	16	13.7	11	14.3	1.340	0.855
	Sometimes	6	100	97	82.9	64	83.1		
	Always	0	0	4	3.4	2	2.6		
Effect of pharmacotherapy on health condition	Never	0	0	18	15.4	0	0	27.105	<0.001*
	Sometimes	6	100	65	55.6	67	87.0		
	Always	0	0	34	29.1	10	13.0		

Table 6. Distribution of the studied women according to the relationship between Social health characteristics and level of quality of life

Social health		Health related quality of life						X2	P value
		Poor (n=6)		Average (n=117)		Good (n=77)			
		No	%	No	%	No	%		
Effect of disease on family relationship	Never	0	0	10	8.5	2	2.6	11.128	0.025*
	Sometimes	4	66.7	29	24.8	14	18.2		
	Always	2	33.3	78	66.7	61	79.2		
Effects of disease on their relationship with others and establish a new relationship	Never	0	0	8	6.8	0	0	14.939	0.005*
	Sometimes	4	66.7	19	16.2	15	19.5		
	Always	2	33.3	90	76.9	62	80.5		
Need support from family and friends	Never	0	0	9	7.7	1	1.3	13.702	0.008*
	Sometimes	4	66.7	18	15.4	16	20.8		
	Always	2	33.3	90	76.9	60	77.9		

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