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The Relation between Oral Contraceptive Pills and Quality Of Life

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Abstract

Background: Woman attention to quality of life has become an important factor in the development of the economic, social situation and improving the standard of life. It was found that the use of oral contraceptive pills has an effect on a woman's life, as it is linked to how efficient and safe this method.**Methods**:350 female using contraceptive pills were included in the studycoming to health care units in Abo hammad center.QOL of the women were assessed with standardised, validated questionnaires. The Short Form-36 (SF-36) questionnaire was used to assess QOL. **Results:**More than (50%) of studied group had good quality of life and about (41.7) had poor quality of life.Binary logistic regression analysis shows that age > 30 years, high education of wife were protecting factor from bad QOL.**Conclusion:**contraceptive pills is an independent risk factor for QOL of females

Keywords: Contraceptive, Quality of life,fetal outcome,Biomarkers

Introduction

Hormonal contraceptives reduce bleeding, anemia and dysmenorrhea symptoms which may all affect a woman's quality of life. Alternatively, breakthrough bleeding and change in sexual function that may result from the use of hormonal contraceptives may adversely affect a woman's quality of life.A study of rural Chinese women comparing baseline and follow-up measures of quality of life for women who started to use either combined oral contraceptive pills found an improvement in overall satisfaction, physical health, mood and general well-being with initiation of oral contraceptive pills[(1)].

Quality of life (QOL) is an interdisciplinary term, analyzed at the population level and common in many fields of since including medicine and health sciences. The World Health Organization (WHO) has distinguished 4 interrelated domains of QOL: physical

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health, psychological, social relationships, and environment. Health behaviors determine an individual'shealth condition, the foundation of their prop90er functioning in the physical and psychological areas, which also allows them to do everyday tasks, modify the environment around them, and perform social roles[(2)]**.** women using pills containing less than 20 µg of ethinyl estradiol reduce women's libido more than those containing greater than 20 µg of ethinyl estradiol, and thus affect women's quality of life[(3)].The present study aimed to assess the relationship between contraceptive pills usage and quality of life of target women.

SUBJECTS AND METHODS

Ethical approval was gained according to the recommendations of Ethics Unit, Faculty of Medicine, Zagazig University, Cairo, Egypt. Verbal informed consent was taken from women after explanation the aim and objectives of the study. This study is across sectional study that was done on (350) women the study was carried out in family health centers and units in Abo hammaddiscret, Sharkia Governorate.**Inclusion criteria**Married women in child bearing period (19-49) years old those use oral contraceptive pills (OCPs) during the last six months **Exclusion criteria**, females with chronic diseaseswere excluded from the study e.g(diabetes Miletus, hypertension, Cardiac diseases.) All subjects will be subjected to the following: Quality of life questionnaire: QOL of the women were assessed with standardized, validated questionnaires. The Short Form-36 (SF-36) questionnaire was used to assess QOL. The SF36 questionnaire contains 36 questions grouped into eight categories.SF-36 contains 36 items in eight areas, including "Physical functioning", "Role limitation due to physical health", "Role limitation due to emotional problems problem", "role limitations due to emotional problems", "Energy/Fatigue", "Emotional wellbeing", "Social functioning" "Bodily pain" and ''General health''

Operational Design

The process of data collection was started from August 2020 to November 2020.

Verbal informed consent was taken from women after explanation the aim and objectives ofthestudy.Firstly preparing interview with women used contraceptive pills attending health unit in abo hammadcenter.

The visits to each selected units was done at different days in order to ensure complete week coverage..Participants answered a self-administered questionnaire based on SEC-QOL sociodemographic variables and questions about the use of contraceptive pills and quality of life the questionnaire takes about 30 minutes to be completed and no administrative obstacles were found.

STATISTICAL ANALYSIS

Qualitative data were represented as frequencies and percentChi square (X^2) or Fisher's exact tests were used to detect relation between different qualitative variables.For quantitative variables mean and standard deviation (SD) were computed.Independent sample t-test (t) was used for detection of difference between different quantitative

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variables.Pearson correlation (r) was used to find the association between total score of knowledge and practice.The results were considered significant when the probability (P value) less than 0.05.

RESULTS

There were 350 female using contraceptive pills were included in the study.This table shows that the domains role limitation due to physical health and role limitation due to emotional problems the most affected domains while energy and physical function were the least affected domains. The total QOL score ranged from 20 to 80 with mean 53.39 ***Table (1)***.

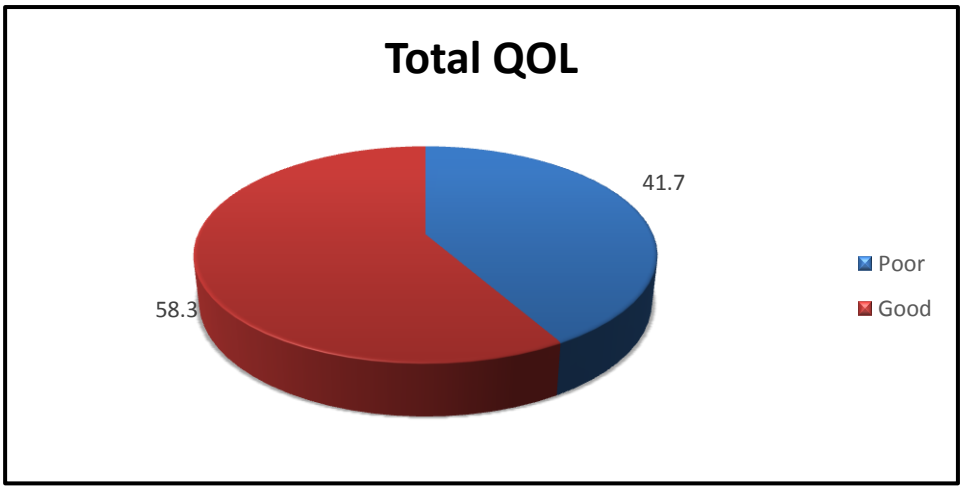
Table (1): Quality of life among the studied group:

Score		(*n*=350)
Physical functioning	**$\bar{X}$ ± SD** **Median (Range)**	66.986 ± 20.965 70 (0 – 100)
Role limitation due to physical health	**$\bar{X}$ ± SD** **Median (Range)**	40.23 ± 39.29 25 (0 – 100)
Role limitation due to emotional problems	**$\bar{X}$ ± SD** **Median (Range)**	34.57 ± 41.17 0 (0 – 100)
Energy/Fatigue	**$\bar{X}$ ± SD** **Median (Range)**	50.94 ± 10.23 50 (25 – 70)
Emotional well being	**$\bar{X}$ ± SD** **Median (Range)**	49.71 ± 11.19 48 (24 – 84)
Social functioning	**$\bar{X}$ ± SD** **Median (Range)**	53.07 ± 18.94 50 (12.5 – 100)
Pain	**$\bar{X}$ ± SD** **Median (Range)**	57.31 ± 18.19 55 (22.5– 100)
General health	**$\bar{X}$ ± SD** **Median (Range)**	51.2 ± 13.57 50 (15 – 80)
Health change	**$\bar{X}$ ± SD** **Median (Range)**	59.64 ± 18.59 50 (25 – 100)
Total SF-36	**$\bar{X}$ ± SD** **Median (Range)**	53.39 ± 13.94 52 (20 – 80)

This pie shows that more than (50%)of studied group had good quality of life and about (41.7)had poor quality of life.**Figure (1)**

ISSN:0975-3583,0976-2833 VOL12,ISSUE04,2021

Figure (1): Total QOL among the studied group**.**



This table shows that there was a statistical significance increase in frequency of good quality of life in illiterate, read & write for wife (OR=4.95) and middle and high school education level for wife (OR=2.65) and husband (2.96) compare to university and post university in both. Also there was a statistical significance increase in frequency of poor quality of life in non workingfemale(OR=2.3) compare to working. Finally there was a statistical significance increase in frequency of poor quality of life in low social class and moderate social class compared to high social class (OR=4.39 & 7.82) ***Table (2).***

Table (2): Association between Demographic data of the studied groupand QOL**:**

		Total	Poor (n=146)		Good (n=204)		χ^2 t	P	OR (95%CI)
			No	%	No	%			
Education:	*Illiterate, Read & write*	51	32	62.7	19	37.3	**21.94**	**<0.001 ****	**4.95(2.47-9.91)**
	Middle &High school	173	82	47.4	91	52.6	**14.96**	**<0.001 ****	**2.65(1.61-4.36)**
	University & Post university	126	32	25.4	94	74.6	--	---	**Ref**
Occupation:	*Not working*	244	116	47.5	128	52.5	**11.25**	**0.001***	**2.3 (1.4-3.75)**
	Working	106	30	28.3	76	71.7			
Husband education:	*Illiterate, Read & write*	33	14	42.4	19	57.6	3.52	0.06 NS	2.16(0.96-4.86)
	Middle & High school	207	104	50.2	103	49.8	**18.16**	**<0.001 ****	**2.96(1.78-4.92)**
	University & Post university	110	28	25.5	82	74.5	---	----	**Ref**
Husband occupation:	*Not working*	19	5	26.3	14	73.7	1.96	0.16 NS	0.48 (0.17-1.37)
	Working	331	141	42.6	190	57.4			

ISSN:0975-3583,0976-2833 VOL12,ISSUE04,2021

Socioeconomic class	*Low*	186	75	40.3	111	59.7	**11.95**	**<0.001****	**4.39(1.77-10.9)**
	Moderate	119	65	54.6	54	45.4	**22.76**	**<0.001****	**7.82(3.08-19.9)**
	High	45	6	13.3	39	86.7	--	---	**Ref**

χ^2**:** Chi square test and chi square for trend **OR**: Odds ratio **CI**: Confidence interval
NS: non significant (P>0.05) *: Significant (P<0.05) **: highly significant (P<0.001)

This table shows that there was a statistical significance increase in frequency of poor quality of life among women had Abnormal vaginal secretions, nausea and hypertension. (OR=1.77, 1.78 &1.8 respectively) and highly significant with Headache and back pain, Depression, Breast mass andosteoarthritis OR (3.04, 2.93, 2.5 & 3.31 respectively) there are non-statistical significance between get pregnant with use, bleeding, weight gain, diarrhea, bad mouth odor, breast pain & inflammation and quality of life of studied group. OR (1.44, 1.14, 0.88, 0.68, 0.64 & 0.99 respectively)***Table 3***.

Table (3): Association between OCP usage &side effects of the studied groupand QOL**:**

			Total	**Poor (n=146)**		**Good (n=204)**		χ^2	**P**	**OR (95% CI)**
				No	**%**	**No**	**%**			
Pills usage:	*Present*		220	84	38.2	136	61.8	3.04	0.08	0.68
	Previous		130	62	47.7	68	52.3		NS	(0.44-1.05)
Type:	*Mono*		66	24	36.4	42	63.6	0.96	0.33	0.76
	Combine		284	122	43	162	57		NS	(0.44-1.32)
Side effects:	**Depression**	**Yes**	223	113	50.7	110	49.3	**20.29**	**<0.001 ****	**2.93 (1.82-4.71)**
		No	127	33	26	94	74			
	Breast pain	**Yes**	202	84	41.6	118	58.4	0.003	0.95	0.99
		No	148	62	41.9	86	58.1		NS	(0.64-1.52)
	Weight gain	**Yes**	198	80	40.4	118	59.6	0.32	0.57	0.88
		No	152	66	43.4	86	56.6		NS	(0.58-1.36)
	Abnormal vaginal secretions	**Yes**	197	94	47.7	103	52.3	**6.68**	**0.01***	**1.77 (1.15-2.74)**
		No	153	52	34	101	66			
	Osteoarthritis	**Yes**	194	105	54.1	89	45.9	**27.57**	**<0.001 ****	**3.31 (2.1-5.22)**
		No	156	41	26.3	115	73.7			
	Headache and back pain	**Yes**	185	100	54.1	85	45.9	**24.58**	**<0.001 ****	**3.04 (1.95-4.76)**
		No	165	46	27.9	119	62.1			
	Hypertension	**Yes**	155	77	49.7	78	50.3	**7.26**	**0.007***	**1.8 (1.17-2.77)**
		No	195	69	35.4	126	64.6			
	Bleeding	**Yes**	140	61	43.6	79	56.4	0.33	0.57	1.14
		No	210	85	40.5	125	59.5		NS	(0.74-1.74)
	Nausea	**Yes**	124	63	50.8	61	49.2	**6.53**	**0.01 ***	**1.78 (1.14-2.77)**
		No	226	83	36.7	143	63.3			
	Breast mass	**Yes**	89	52	58.4	37	41.6	**13.71**	**<0.001 ****	**2.5 (1.53-4.08)**
		No	261	94	36	167	64			
	Bad mouth odor	**Yes**	46	15	32.6	31	67.4	1.81	0.18	0.64
		No	304	131	43.1	173	56.9		NS	(0.33-1.23)
	Unplanned	**Yes**	28	14	50	14	50	0.85	0.35 NS	1.44

ISSN:0975-3583,0976-2833 VOL12,ISSUE04,2021

	pregnancy	**No**	322	132	41	190	59			(0.66-3.12)
	Diarrhea	**Yes**	27	9	33.3	18	66.7	0.85	0.36	0.68
		No	323	137	42.4	186	57.6		NS	(0.30-1.56)
	Clotting formation	**Yes**	12	8	66.7	4	33.3	3.18	0.07	2.9
		No	338	138	40.8	200	59.2		NS	(0.86-9.81)

χ^2: Chi square test OR: Odds ratio CI: Confidence interval
NS: non significant (P>0.05) *: Significant (P<0.05) **: highly significant (P<0.001)

There was a strongnegative correlation between QOL score and gynecological factors &obstetrical factors among studied group.***Table (4)***

Table (4): Correlation between QOL score and gynecological factors &obstetrical factors among the studied group:

Score	QOL score (N=350)	
	r	**P**
Age (years)	**-0.43**	**<0.001****
Age of menarche (year)	-0.10	0.06 NS
Duration of menses (day)	0.07	0.22 NS
Number of pregnancy	**-0.32**	**0.03***
Number of abortion.	0.11	0.07 NS
Number of child.	**-0.39**	**<0.001****
Duration of pill use	**-0.45**	**<0.001****

r: Pearson's correlation coefficient NS: non significant (P>0.05)
*: Significant (P<0.05) **: highly significant (P<0.001

This table shows that the age > 30 years, high education of wife were protecting factor from bad QOL while not working female, low and moderate social class, sever pain, depression, abnormal vaginal secretion,nausea, breast mass, osteoarthritis, pregnancy time >2 and children number >3 were all significant predictors to bad QOL**(Table 5).**

Table 5: Binary logistic regression analysis for predictors of poor QOL among the studied group

Variable	B	S.E.	Wald	P	OR	95% C.I.	
Age > 30 y	**-0.184**	**0.041**	**20.271**	**<0.001****	**0.832**	**0.768**	**0.901**
Husband low education	0.429	0.225	3.650	0.056 NS	1.536	0.989	2.385
Wife high education	**-1.133**	**0.298**	**14.402**	**<0.001****	**0.322**	**0.179**	**0.578**
Wife not working	**0.926**	**0.202**	**21.051**	**<0.001****	**2.525**	**1.700**	**3.751**
Low & moderate Social classes	**1.262**	**0.442**	**8.147**	**0.004***	**3.533**	**1.485**	**8.405**
Dysmenorrhoea	-0.665	0.464	2.057	0.152 NS	0.514	0.207	1.276
Sever Pain	**2.122**	**0.608**	**12.188**	**<0.001****	**3.120**	**2.036**	**5.394**
Depression	**1.252**	**0.446**	**7.882**	**0.005***	**2.286**	**1.119**	**4.685**

ISSN:0975-3583,0976-2833 VOL12,ISSUE04,2021

Abnormal vaginal secretions	**2.047**	**0.478**	**18.299**	**<0.001****	**7.743**	**3.031**	**19.777**
Headache and back pain	0.502	0.459	1.198	0.274 NS	1.652	0.672	4.061
Nausea	**1.286**	**0.523**	**6.053**	**0.014***	**2.276**	**1.099**	**4.770**
Breast mass	**3.069**	**0.634**	**23.399**	**<0.001****	**21.519**	**6.206**	**74.621**
Hypertension	1.181	0.407	7.199	0.656 NS	1.834	0.376	5.852
Osteoarthritis	**1.863**	**0.498**	**13.983**	**<0.001****	**6.445**	**2.427**	**17.116**
Pregnancy Times >2	**2.769**	**0.589**	**22.126**	**<0.001****	**15.950**	**5.030**	**50.575**
Child Number >3	**4.246**	**0.671**	**40.059**	**<0.001****	**10.014**	**5.004**	**42.053**
OCP duration	0.074	0.161	0.213	0.644 NS	1.077	0.786	1.477

DISCUSSION.

Regarding quality of life the current study revealed that the most common affected domain was physical health and emotional problems while energy and physical function were the least affected domains; in the study done by **Kristjánsdóttir et al.** [(4)] the most common affected domain were Physical functioning and Emotional wellbeing and in the study done by **Grandi et al.** [(5)] the most common affected domain were Physical functioning and Role limitation,.these discrepancies in the results could depend on characteristics of enrolled participants and on the habits and traditions of them.

In the present study, more than half (50%) of studied group had good quality of life and about (41.7) had poor quality of life which similar to the results in the study done by**Williams et al.** [(6)]who found that about 55% of their studied cases had average to better QOL and 45% had poor QOL. Also in another study by**Alyahya et al.** [(7)]there were 46.5% had very good to good QOL

Regarding to Association between menstrual history of the studied group and QOL, there were no significant increase in frequency of poor quality of life among women had Spotting between periods which coincide with **Barr**[(8)] who stated that spotting had no relation to interfere the quality of life.

As regard to Menstrual pain severity, logistic regression analysis revealed that pain is a significant predictor for poor quality of life as there is increase in frequency of poor quality of life among women had dysmenorrhea, those had sever pain compare to mild & moderate which in agreement with the study done by **Grandi et al.,** [(5)] **2015)** who found that increased Menstrual pain severity and dysmenorrhea had a significant affection on the quality of life among women . That also in line with other study by **Guzick et al.** [(9)]**.**

A comparable (10 points SF-36) increase in quality of life was already observed by **Strowitzki et al.** [(10)] **; Strowitzki et al.** [(11)]with the administration of progestin dienogest alone in women with endometriosis.

Available data showed that treatment with OC was associated with a significant improvement in the QOL in a 16-week randomized controlled trial (RCT) by **Dokras et al.** [(12)]**,** a 12-month RCT by **Altinok et al.** [(13)]**,** and a 6-month observational trial by **Cinar et al.** [(14)]**.**

A recent meta-analysis by**Amiri et al.** [(15)]comparing the effects of OCs with newer progestin showed that although all OCs studies have similar effects on the hormonal

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profiles of PCOS patients, products containing CPA had more effective to control hyperandrogenism findings of PCOS, findings suggesting positive effects of these antiandrogenic products on QOL of patients

In this study, there was no significant correlation between QQL and previous pills intake which was in agreement with **Amiri et al.** [16]who found that previous pills intake had no effect on the quality of life in patients.

As regard to relation between type of oral contraceptive pills and QOL there were no statistical significance relation in between type of oral contraceptive pills and QOL which in agree with **Williams et al.** [1]who stated the same finding..

In the present study, there was a statistical significance increase in frequency of poor quality of life among women had depression with oral contraceptive pills which in line with the study done by**de Wit et al.** [17]who studied 1010 females on oral contraceptive found that and found that depression with oral contraceptive pills associated with a slightly increased rate of poor quality of life

In this study, there was a statistical significance increase in frequency of poor quality of life among women had hypertension which coincide with **Lewandowski et al.**[18]**,** who stated that hypertension which in users of oral contraceptives lead to negative mood and affect the quality of life.

In the current study, there were no significant correlation in between QOL score and duration of menses which disagree with the study done by **Kristjánsdóttir et al.** [4] in Sweden who found a significant correlation between menstrual bleeding duration and QOL score. This discrepancy may be due to the difference in the duration of menses in different countries.

In our study, there was a statistical significance negative correlation between QOL score and number of children which in line with the study done by **Rahimikian,** [19]who stated that increased number of children had a negative effect in the quality of life

Regarding to Correlation between QOL score and Duration of pill use, there was a statistical significance negative correlation between QOL score and duration of pills intake which disagree with the study done by **Amiri et al.**[16]who stated that no significant relation between duration of pill use and improving the quality of life that may be due to the study population was varied.

In our study, logistic regression analysis revealed that revealed that depression is a significant predictors to bad QOL which agree with **Lewandowski et al.** [18] who stated that depression and low psychometric indicators for mental well-being is a significant predictors to bad QOL.

Study Limitations:the sample size of the study is small in number, so it does not accurately determine the quality of life in women who use oral contraceptives in Abo Hammadwe attempted to increase sample representation by randomly selecting days to visit units based on geographic location and population density.

Conclusion:

ISSN:0975-3583,0976-2833 VOL12,ISSUE04,2021

Oral contraceptive pills(OCPs) are widely available and accepted in Egyptian societyThere was a statistical significance increase in frequency of poor quality of life among women had dysmenorrhea, those had sever pain compare to mild & moderate.More than half (58.3%) of them had good quality of life and about (41.7%) had poor quality of life-the age > 30 years, high education of wife were protecting factor from bad QOL while not working female, low and moderate social class, sever pain, depression, abnormal vaginal secretion, nausea, breast mass, osteoarthritis, pregnancy time >2 and children number >3 were all significant predictors to bad.QOLSide effects of oral contraceptive is a significant predictor of bad QOL in females with oral contraceptive.Therefore, follow up of females with oral contraceptive provide a new strategy to more aggressive treatments for high-risk groups of side effects.

Recommended:

Health education program for females in antenatal, post natal and vaccination visits to increase their awareness about contraceptive pills and their impact on QOL. Finally further research is essential in QOL assessment that must incorporate the user perspectives which are the direct perceptions and opinions of benefits that may describe the true state of QOL impact on them in a more useful way for future family planning programs

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