

## Effect of Hormonal Contraceptive Methods on Women's Sexual Function

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### Abstract

**Background:** Sexuality is fundamental for the maintenance of health and wellbeing; Various hormonal contraceptive methods have been associated with changes in sexual function. **Aim** of the current study was to assess the effect of hormonal contraceptive methods on women sexual function. **Design:** A descriptive research design was utilized **Setting:** The present study was conducted in outpatient clinic of obstetric and gynecological department at Banha university hospital. **Sample:** a purposive sample consisted of 250 women using hormonal contraceptive methods **Tools:** Two tools were used; **Tool(I):** A structured interviewing questionnaire, **Tool (II):** The female sexual function Index. **Result:** 54% of the women have an average, (10.8 %) of them have poor level of knowledge regarding sexual health and hormonal contraception, (54%) of the women have a moderate level of sexual function, (14 %) of women have high level of sexual function. **Conclusion:** women using hormonal contraceptive methods were reported a strong negative correlation on sexual function, there was a highly statistically significant positive strong correlation between women's knowledge regarding sexual health, hormonal contraception, and their sexual function **Recommendations,** provide awareness for all women about sexual acceptability of hormonal contraceptive methods as a part of family planning counseling.

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**Key words:** *hormonal contraceptive methods, sexual function.*

### Introduction

Sexual dysfunction is a serious public health issue that is endangering women's well-being. Woman Sexual dysfunction (WFS) is defined as difficulty experienced by the woman during any stage of a normal sexual activity, including female sexual interest/arousal disorder, female orgasmic disorder, and genito-pelvic pain/penetration disorder (Mishra et al.,2020).

The use of hormonal contraceptives is widespread, with a significant percentage of healthy population among its users. Some of its side effects are well known, such as the increased prothrombotic and cardiovascular risk (estrogen-dependent), on the other hand, non-contraceptive benefits of hormonal contraceptives, such as cycle regulation with predictable withdrawal bleeds, decreased menstrual flow, and decreased anemia, have been widely documented, however, the influence of these drugs on female sexual function is not as clear, although it is

mentioned in the technical prospects of the contraceptive pills. Additionally, there are very few controlled studies in this field (*Casado-Espada et al., 2019*).

The effects of female hormonal contraceptive methods on female sexuality are still a matter of debate, especially for the hormonal methods. Previous studies, performed on women taking hormonal contraception have yielded conflicting results, whereas some studies reported impairment of sexual function in contrast to other studies that reported unaffected or improved sexual experiences (*Casey et al., 2021*).

Nurses play important role which include practical information on how to use contraceptive methods and provide anticipatory guidance regarding advantages, disadvantages, contraindications, side effects, and the sexual acceptability of contraceptive methods. Nurses should be equipped with the knowledge and practice skills to provide SRH care in all settings and develop trusting relationships with women to communicate thoughtfully and skillfully (*Bishop, et al., 2020*).

### Significance of the study:

Female sexual dysfunction affects 41% of reproductive-age women worldwide, making it a highly prevalent medical issue. Predictors of female sexual dysfunction are multifaceted and vary from country to country. A synthesis of potential risk factors and protective factors may aid healthcare practitioners in identifying populations at risk, in addition to revealing modifiable factors to prevent sexual dysfunction among reproductive-age women (*Sharifipour et al., 2024*).

The exact prevalence of female sexual dysfunction in the (GOSS-AR-F) is a community-based study of female sexuality in the Middle East through an online survey is exceptionally difficult to be determined in light of its sensitive nature and the conservative tinge of the population., it was found that out of 2,920 participants, 344 participants completed all survey questions. Average total FSFI score was  $23 \pm 6.5$ , with 59.1% of participants (*Abdel Hady et al., 2024*).

Female sexual dysfunction is a significant health problem in Upper Egypt. Pain and orgasmic disorders were the most predominantly affected domains. ,The prevalence of female sexual dysfunction was reported in 252 /500 [50.4%] cases, with Pain disorder being the predominant sexual domain disorder in 39.6% of the cases, then orgasmic disorder, satisfaction disorder, arousal disorder, lubrication disorder, and desire disorder in 32%, 26%, 19.2%, 15.6%, and 11.6% respectively.

### Aim of the Study

#### This study aimed to

This study aims to assess the effect of hormonal contraceptive methods on female sexual function.

#### Research question

What is the effect of hormonal contraceptive methods on women's sexual function?

#### Research design:

A Descriptive research design was utilized to conduct this study. A Descriptive design aims to accurately and systematically describe a population, situation or phenomenon. (*Sudirjo et al., 2023*).

#### Setting:

The study was conducted at outpatient clinic of the obstetric and gynecological department in Benha university hospital, this clinic includes 5 rooms and is located at the outpatient clinics building in the ground floor Outpatient clinic of obstetrics and gynaecological department in Benha university hospital is located at 1st flow an important or of hospital at Benha city, Consists of waiting area and one room contains of (doctor table, 2 chairs ,one obstetric examination bed, one bed, one monitor with sphygmomanometer and pulse oximeter, one height and weight scale ,one emergency carts, one Cardiotocography ( CTG), one ultrasound scan, tray for intrauterine device (IUD) insertion and removal (for insertion tray contains :flashlight-tenaculum-sound-scissors-forceps-narrow forceps-Bowl with cotton balls), Tray for IUD removal contains(surgical hooker” IUD extraction”- IUD hooker-

cytobrush-alligator forceps), Fetal aspiration device,. Women attend for family planning counseling, insertion or removal of IUD and transdermal contraceptive capsules, and taking contraceptive injection and COCPs. It starts from 9 Am to 12 Pm all days of the week except Friday and official holidays.

### Sample size:

The sample consisted of 250 women using hormonal contraception who were chosen among those attending outpatient clinic through a period of six months and the studied samples were selected according to the inclusion criteria;

### Inclusion Criteria:

- women with age between 20<45 years' old.
- Sexually active in the previous 4 weeks.
- Use hormonal contraceptive methods for at least 4 weeks.
- Free from any sexual problems before starting a hormonal contraception.
- Free from Medical, psychological, gynecological or birth defects.

### Exclusion criteria:

- Women have abstinence of sexual intercourse due to vaginal bleeding, pelvic pain, painful genital lesion.
- Disease like diabetes, heart, neurological disorders, kidney or liver failures and psychotic disorders.
- women suffering from sexual problems before starting hormonal contraceptive methods. Women who have previous intra uterine device insertion.

### Sampling Technique:

The researcher visited the study setting, introduced herself and explained the purpose of the study briefly to women with the previous mentioned criteria and this was repeated 2times/weekly (Saturday and Thursday) until the predetermined period was completed.

### Tools for data collection:

Two tools were used for data collection (**Appendix I**):

**Tool I:** A structured Interviewing Questionnaire: It was be designed by researcher after reviewing related literature (**Emam et al .,2023**) and under guidance of supervisor .It was written in a simple Arabic language in the form of close and open ended question and consisted of **three parts**:

#### Part 1:

• General characteristics: such as (age, level of education, residence, occupation, age a marriage, duration of marriage) Questions from (1-6) .

#### Part 2:

• Menstrual and obstetrics history such as (regularity of menstrual cycle, interval, duration..... etc.) Questions from (7-19).

• Sexual history such as (circumcision, previous sexual disorders, current sexual problems. .... etc.) Questions from (20-23).

**Part 3:** women's knowledge regarding sexual health and hormonal contraception,

This tool will be designed by researcher after reviewing related literatures (**Elsaid,2018**) and translated into to Arabic language in the form of open or closed ended questions.

- Section one :Information about types of contraceptive methods such as (know hormonal contraceptives, the definition, mechanism of action, advantage side effects) Questions from (24-28) .
- Section two: Information about sexual health such as (the concept of sexual health, stages of sexual response in the marital relationship, know the sexual dysfunction, the symptoms associated with the problem of sexual, causes that can lead to the problem of sexual dysfunction) Questions from (29-33)

**Knowledge's scoring system:** All knowledge variables were weighted according to items included in each question. Each item was given a score (3) when the answer was complete correct answer, a score (2) when the answer was incomplete correct answer and a score (1) when the answer was don't know. The total score of each category was calculated by summation of the scores of its items. The total score for the knowledge of a participant was calculated by the addition of the total score of all parts. The score of total knowledge was classified as the following:

- Good: ( $\geq 75\%$  correct answers).
- Average: ( $50 - < 75\%$  correct answers).
- Poor: ( $< 50\%$  correct answers).

**Tool II- The Female Sexual Function Index (FSFI) (Appendix II):** a brief questionnaire measure of sexual functioning designed by (Rosen et al., 2000) which was used to evaluate sexual function domains, composed of 19 items and divided into six domains:

- (1) **Desire domain** consisted of two questions in relation to items of (frequency of feeling sexual desire and level of sexual desire) Questions from (34-35) .
- (2) **Arousal domain** consisted of four questions in relation to items of (frequency of feeling sexually aroused during sexual activity, level of sexual arousal, confidence of becoming sexually aroused during sexual activity, and satisfaction with arousal during sexual intercourse) Questions from (36-39) .
- (3) **Lubrication domain** consisted of four questions in relation to items of (frequency of becoming lubricated and difficulty of becoming lubricated during sexual activity or intercourse, frequency of maintaining lubrication until completion of sexual activity, and difficulty of maintaining lubrication until completion of sexual activity or intercourse) Questions from (40-43).
- (4) **Orgasm domain** consisted of three questions in relation to items of (frequency of reaching orgasm, difficulty of reaching orgasm and satisfaction with the ability to reach orgasm during sexual activity) Questions from (44-46).
- (5) **Satisfaction domain** consisted of three questions in relation to items of (satisfaction with the amount of emotional closeness with partner. satisfaction with sexual relationship with partner, and satisfaction with overall sexual life among) Questions from (47-49).
- (6) **Pain domain** consisted of three questions in relation to items of (frequency of discomfort or pain during vaginal penetration, frequency of discomfort or pain following vaginal penetration, and level of pain during or following vaginal penetration) Questions from (50-52).

### Scoring system

Maximum total score of all domains is 36 points the lower FSFI score, higher sexual dysfunction.

### **Validity:**

**Content validity** was conducted to determine whether the content of the tools cover the aim of study, it was measured by jury of 3 experts, professor of maternity and new-born health nursing The expertise reviewed the tool for clarity of sentences, relevance, accuracy, comprehensiveness, simplicity and applicability and modification were done such as (clarity of sentences of the tool). Finally, the final forms were developed.

### **Reliability:**

is the consistency of measuring instrument. Moreover, it is a degree to which the used tools measure what was supposed to be measured with the same way each time & under the same condition with the same subjects (Cheung et al., 2023).

### **Ethical considerations:**

An official permission to conduct the proposed study was obtained from the scientific research ethics committee at faculty of nursing Helwan University. Participation in the study was voluntary and subjects were given complete full information about the study and their role before signing the informed consent The ethical considerations included explaining the purpose and nature of the study, stating the possibility to withdraw at any time, confidentiality of the information, where they weren't be accessed by any other party. Ethics, values, culture and beliefs were respected.

### **Pilot study:**

A pilot study was conducted to test the feasibility and applicability of the study tools. It was carried out on 10% of total study subjects (25). There were no modifications of tools and the women's included in the pilot study were included in the main study group.

### **Fieldwork:**

The study was implemented for six months, from the beginning of June 2023 to the end of November 2023. The researcher began the study by visiting the family planning clinic two days per week from 9 am to 12 p.m. At the beginning of the interview the researcher greeted the woman, introduced herself, explained the purpose of the study and took an informed consent to participate in the study The structured interviewing questionnaire was given to each woman to collect personal characteristics, menstrual, obstetrics and sexual history and collect baseline data about women's knowledge regarding types of hormonal contraceptive methods, and sexual health through asking simple Arabic questions The time needed to complete the structured interviewing questionnaire ranged from 30-35 minutes. Then, the researcher used FSFI tool to evaluate sexual function domains for about 20-30 minutes. The researcher assured that all answers are very secret. Average number collected was (5-6) women per day. All these steps were repeated until the needed sample was reached.

### **Administrative item**

An official approved was obtained from the dean of the faculty of Nursing Helwan University and directors of Benha university hospital to carry out this study, explaining the purpose of the study and requesting the permission for data collection.

### **Statistical item:**

The data were collected and coded, then the collected data were organized, analyzed using appropriate statistical significance tests using the computer Statistical Package for Social Science (SPSS), version 24. Data were presented using descriptive statistics in the form of frequencies and percentages.

Degrees of significance of results were considered as follow: P value > 0.05 was considered non-significant (NS), P value ≤ 0.05 was considered significant (S) (Siregar, 2021).

- Standard deviation (SD) & arithmetic mean ( ) for quantitative data: age.
- Frequency and percentage for qualitative data: gender
- Chi-square test used to compare between two or more groups.
- Mann Whitney Test(U) for behavioural pain rating scale.
- Spearman Correlation Coefficient= R.

**Results:**

**Table (1)** demonstrates that more than two-thirds (75.5%, 63.8%, 76.9%, 77.1% %62%) of the studied women have a response of incomplete answer regarding types of hormonal contraception pills, mechanism of action of hormonal contraception patches, types of injectable hormonal contraception, mechanism of action of vaginal ring hormonal contraception and mechanism of action of hormonal contraception capsule respectively.

**Table (2):** represents that the total mean score of knowledge regarding sexual health and hormonal contraception among the studied women is  $\bar{x} \pm SD = 21.25 \pm 4.9$  (Total score is 30). In addition to the presence of a highly statistically significant difference, at  $P = 0.000$ .

**Figure (1)** illustrates that more than half (54%) of the studied women have an average level of knowledge regarding sexual health and hormonal contraception. While the minority (10.8 %) of them have poor level. In addition to, presence of a highly statistically significant difference between levels of knowledge regarding sexual health and hormonal contraception, at  $P = 0.000$ .

**Table (3):** represents that the total mean score of studied women's sexual function is  $\bar{x} \pm SD = 53.50 \pm 15.39$  (Total score is 95). In addition to the presence of a highly statistically significant difference, at  $P = 0.000$

**Table (4):** represents that, there was a highly statistically significant relation between menstrual history (Regularity of menstruation, interval of menstruation, duration of menstrual cycle, amount of menstruation daily, nature of menstruation and pain with menstruation) and studied women's sexual function, at  $P = \leq 0.00$ .

**Table (5):** represents that, there was a highly statistically significant relation between obstetric history (number of pregnancies, number of deliveries, number of abortions, type of previous delivery, previous contraceptive method and period of using this method) and studied women's sexual function, at  $P = \leq 0.00$ .

**Figure (2):** represents that there was a highly statistically significant positive strong correlation between studied women's knowledge regarding sexual health, hormonal contraception, and their sexual function at  $r = 0.939$  &  $p = 0.000$ .

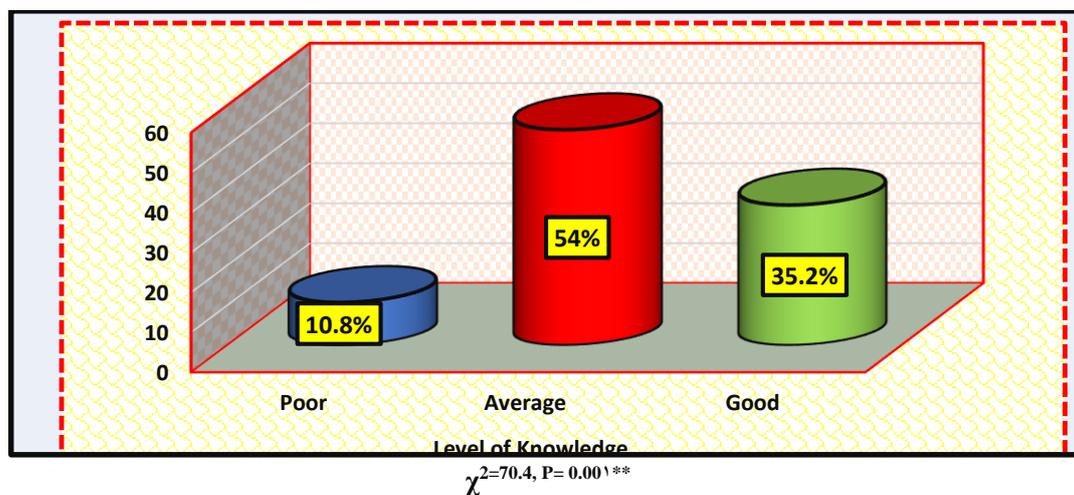
**Table (1):** Frequency distribution of the women's knowledge regarding type of hormonal contraception (n= 250)

Hormonal contraception type:	Wrong answer		Incomplete answer		Complete answer	
	No	%	No	%	No	%
<b>Hormonal contraception pills: (n= 53)</b>						
▪ Definition	4	7.5	19	35.8	30	56.6
▪ Mechanism of action	8	15.1	27	50.9	18	34.0
▪ Types	4	7.5	40	<b>75.5</b>	9	17.0
▪ Advantages	6	11.3	26	49.1	21	39.6
▪ Side effects	5	9.4	20	37.7	28	52.8
<b>Hormonal contraception patches: (n= 47)</b>						
▪ Definition	1	2.1	28	59.6	18	38.3
▪ Mechanism of action	10	21.3	30	<b>63.8</b>	7	14.9
▪ Types	2	4.3	14	29.8	31	66.0
▪ Advantages	3	6.4	28	59.6	16	34.0
▪ Side effects	4	8.5	26	55.3	17	36.2
<b>Injectable hormonal contraception: (n= 52)</b>						
▪ Definition	5	9.6	33	63.5	14	26.9
▪ Mechanism of action	5	9.6	37	71.2	10	19.2
▪ Types	1	1.9	40	<b>76.9</b>	11	21.2

▪ Advantages	3	5.8	26	50.0	23	44.2
▪ Side effects	3	5.8	27	51.9	22	42.3
<b>Vaginal ring hormonal contraception: (n= 48)</b>						
▪ Definition	5	10.4	32	66.7	11	22.9
▪ Mechanism of action	5	10.4	37	<b>77.1</b>	6	12.5
▪ Types	2	4.2	22	45.8	24	50.0
▪ Advantages	3	6.3	25	52.1	20	41.7
▪ Side effects	1	2.1	29	60.4	18	37.5
<b>Hormonal contraception capsule: (n= 50)</b>						
▪ Definition	2	4.0	29	58.0	19	38.0
▪ Mechanism of action	11	22.0	31	<b>62.0</b>	8	16.0
▪ Types	3	6.0	15	30.0	32	64.0
▪ Advantages	4	8.0	29	58.0	17	34.0
▪ Side effects	5	10.0	27	54.0	18	36.0

**Table (2):** Total mean score of the women’s knowledge regarding sexual health and hormonal contraception (n= 250)

Hormonal contraception:	Wrong answer		Incomplete answer		Complete answer	
	No	%	No	%	No	%
▪ Definition of hormonal contraceptive	17	6.8	141	<b>56.4</b>	92	36.8
▪ Mechanism of action of hormonal contraceptive	39	15.6	162	<b>64.8</b>	49	19.6
▪ Types of hormonal contraceptives	12	4.8	131	52.4	107	42.8
▪ Advantages of hormonal contraceptive	19	7.6	134	<b>53.6</b>	97	38.8
▪ Side effects associated with the use of combined oral contraceptive	18	7.2	129	51.6	103	41.2



**Figure (1):** Percentage distribution of the women’s knowledge regarding sexual health and hormonal contraception (n= 250)

**Table (3):** Total mean score of the women’s sexual function (n= 250)

Sexual function:		Z	%	Min	Max	Mean	SD	F	P Value
▪ Desire	Low	30	12.0	2	4	3.17	0.91	301	0.000**
	Moderate	190	76.0	5	7	5.97	0.91		
	High	30	12.0	8	9	8.67	0.48		
	<b>Total</b>	<b>250</b>	<b>100.0</b>	<b>2</b>	<b>9</b>	<b>5.96</b>	<b>1.60</b>		
▪ Arousal	Low	50	20.0	4	9	6.60	2.03	306	0.000**
	Moderate	195	78.0	10	14	11.85	1.28		
	High	5	2.0	17	17	17.00	0.00		
	<b>Total</b>	<b>250</b>	<b>100.0</b>	<b>4</b>	<b>17</b>	<b>10.90</b>	<b>2.69</b>		
▪ Lubrication	Low	60	24.0	4	9	7.25	2.06	526	0.000**
	Moderate	155	62.0	10	14	12.55	1.01		
	High	35	14.0	15	17	15.57	0.74		
	<b>Total</b>	<b>250</b>	<b>100.0</b>	<b>4</b>	<b>17</b>	<b>11.70</b>	<b>3.01</b>		
▪ Orgasm	Low	115	46.0	3	7	5.57	1.22	1189	0.000**
	Moderate	70	28.0	9	11	9.14	0.52		
	High	65	26.0	12	12	12.00	0.00		
	<b>Total</b>	<b>250</b>	<b>100.0</b>	<b>3</b>	<b>12</b>	<b>8.24</b>	<b>2.82</b>		
▪ Satisfaction	Low	85	34.0	3	7	4.47	1.55	1071	0.000**
	Moderate	120	48.0	9	11	9.29	0.61		
	High	45	18.0	12	15	13.67	1.17		
	<b>Total</b>	<b>250</b>	<b>100.0</b>	<b>3</b>	<b>15</b>	<b>8.44</b>	<b>3.45</b>		
▪ Pain	Low	80	32.0	4	7	5.56	1.07	402	0.000**
	Moderate	150	60.0	8	11	9.17	1.22		
	High	20	8.0	12	13	12.25	0.44		
	<b>Total</b>	<b>250</b>	<b>100.0</b>	<b>4</b>	<b>13</b>	<b>8.26</b>	<b>2.32</b>		
Total	Low	80	32.0	20	47	35.50	9.03	493	0.000**
	Moderate	135	54.0	49	69	58.26	6.07		
	High	35	14.0	72	83	76.29	3.54		
	<b>Total</b>	<b>250</b>	<b>100.0</b>	<b>20</b>	<b>83</b>	<b>53.50</b>	<b>15.39</b>		

**Table (4): Relation between the women’s sexual function and menstrual history (n= 250)**

Menstrual history		No.	Low		Moderate		High		$\chi^2$	P-Value
			80	32.0	135	54.0	35	14.0		
			N	%	N	%	N	%		
Regularity of menstruation:	▪ Yes	200	40	16.0	130	52.0	30	12.0	68	0.000**
	▪ No	50	40	16.0	5	2.0	5	2.0		
Interval of menstruation:	▪ < 21 days	40	0	0.0	35	14.0	5	2.0	86.9	0.000**
	▪ 21 < 36 days	180	50	20.0	100	40.0	30	12.0		
	▪ >36 days	30	30	12.0	0	0.0	0	0.0		
Duration of menstrual cycle:	▪ < 3 days	30	0	0.0	5	2.0	25	10.0	199	0.000**
	▪ 3- <5 days	70	5	2.0	55	22.0	10	4.0		
	▪ 5-7 days	120	50	20.0	70	28.0	0	0.0		
	▪ >7 days	30	25	10.0	5	2.0	0	0.0		
Amount of menstruation daily:	▪ Mild amount	80	0	0.0	50	20.0	30	12.0	104	0.000**
	▪ Moderate	130	50	20.0	75	30.0	5	2.0		
	▪ Severe amount	40	30	12.0	10	4.0	0	0.0		
Nature of menstruation:	▪ Liquid blood	115	25	10.0	55	22.0	35	14.0	49.8	0.000**
	▪ Clotting blood	135	55	22.0	80	32.0	0	0.0		
Pain with menstruation	▪ Yes	215	75	30.0	130	52.0	10	4.0	111	0.000**
	▪ No	35	5	2.0	5	2.0	25	10.0		

\*Significant  $p \leq 0.05$

\*\*Highly significant  $p \leq 0.01$

**Table (4): Relational association between the women’s sexual function and obstetric history (n= 250)**

Obstetric history		No.	Low		Moderate		High		$\chi^2$	P-Value
			80	32.0	135	54.0	35	14.0		
			N	%	N	%	N	%		
Number of pregnancies	One	55	0	0.0	25	10.0	30	12.0	167	0.000**
	Two	140	35	14.0	100	40.0	5	2.0		
	More than three	55	45	18.0	10	4.0	0	0.0		
Number of delivery	One	70	5	2.0	30	12.0	35	14.0	161	0.000**
	Two	130	35	14.0	95	38.0	0	0.0		
	More than three	50	40	16.0	10	4.0	0	0.0		
Number of abortion	Nothing	235	70	28.0	130	52.0	35	14.0	9.5	0.009**
	One	15	10	4.0	5	2.0	0	0.0		
Type of previous delivery:	Normal	140	60	24.0	60	24.0	20	8.0	19.1	0.000**
	Caesarean	110	20	8.0	75	30.0	15	6.0		

Previous Contraceptive method	Yes	235	80	32.0	135	54.0	20	8.0	98.0	0.000**
	No	15	0	0.0	0	0.0	15	6.0		
Contraceptive method	Pills	53	18	7.2	25	10.0	10	4.0	41.3	0.000**
	Patches	47	15	6.0	21	8.4	11	4.4		
	Injection	52	22	8.8	27	10.8	3	1.2		
	Vaginal ring	48	0	0.0	41	16.4	7	2.8		
	Capsule	50	25	10.0	21	8.4	4	1.6		
Period of using this method	6 <12months	35	0	0.0	0	0.0	35	14.0	383	0.000**
	12<18months	40	0	0.0	40	16.0	0	0.0		
	18 <24months	75	5	2.0	70	28.0	0	0.0		
	>24 months	100	75	30.0	25	10.0	0	0.0		

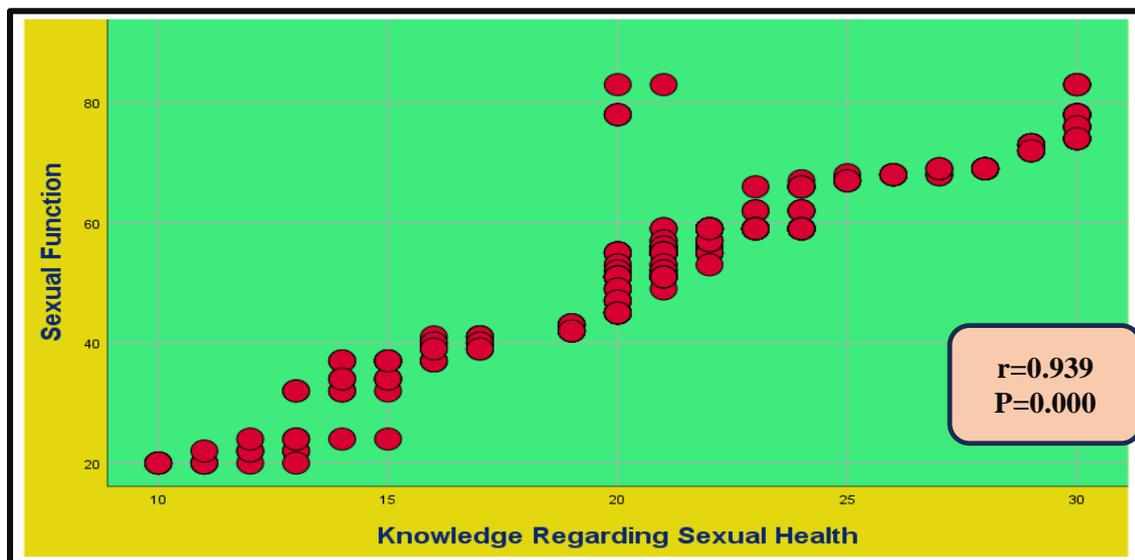


Figure (2): Scatter do Relation between the studied women’s knowledge regarding sexual health, hormonal contraception, and their sexual function (n= 250)

## Discussion

The current results were corroborated with **Henricks et al., (2024)** in their study entitled “Knowledge and Attitudes on Contraception and Reproductive Health in Women With HIV” and demonstrated that more than two-thirds of the studied women have a response of incomplete answer regarding types of hormonal contraception pills and types of injectable hormonal contraception.

From the researcher point of view, many women may have insufficient access to comprehensive education on hormonal contraceptives. Information on types, mechanisms, and usage specifics of hormonal methods like pills, patches, and injectables may not be effectively conveyed during consultations or through accessible educational materials of Contraceptive Options: The variety in hormonal contraception options—each with unique mechanisms and application methods—can be overwhelming.

The current results were supported by with the study performed by **Al-Gburi et al., (2023)** who studied “Assessing knowledge, attitudes, and practices toward sexually transmitted infections among Baghdad undergraduate students for research-guided sexual health education” and revealed that more than half of the

participants had incorrect answer of sexual health concept, meaning of sexual dysfunction. From the researcher point of view, many women may not have received thorough education on sexual health, leading to gaps in their knowledge about critical aspects like sexual dysfunction and the stages of sexual response.

From the researcher point of view, the moderate mean score suggests that while some women may have a good understanding of sexual health and hormonal contraception, others may lack comprehensive knowledge. This discrepancy could be due to variations in educational background, access to information, and cultural factors that influence how and where women learn about these topics.

The current results were consistent with **Kamal et al. (2021)** in their study titled “Impact of Protocol of Nursing Intervention on Sexual Dysfunction among Women with Cervical Cancer” reported that women had higher score in the total scores of sexual function index at post intervention compared to pre intervention with statistically significant difference.

From the researcher point of view, there may be widespread misinformation or confusion about hormonal contraceptives, which can lead to misunderstandings or incomplete knowledge among women. This can be exacerbated by conflicting information from various sources. Also, the medical and scientific details surrounding hormonal contraceptives, including their mechanism of action and side effects, can be complex and difficult for those without a strong background in health or science to fully grasp.

The current results were consistent with **Mohammed et al., (2020)** in their study entitled “The effect of progestogen-only contraceptive methods on female sexual function in first-time users: A cross-sectional study” who demonstrated that more than half of the women had knowledge regarding sexual health and hormonal contraception.

From the researcher point of view, the average level of knowledge suggests that many women have received some education or information on these topics but may not have comprehensive or detailed knowledge. This could be due to differences in the quality and depth of education, as well as varying access to reliable information sources.

The current results were strongly agreed with **Ahmed et al., (2024)** who mentioned that there was a highly statistically significant difference, On the other hand, this result was inconsistent with **Abdel Hafez et al., (2024)** who clarified that the total mean score of sexual function among the studied women is  $x \pm SD = 28.36 \pm 3.69$ .

From the investigator point of view, sexual function is influenced by a combination of physical, psychological, relational, and social factors. The moderate mean score likely reflects the variability in these influences among the studied women. While some women may experience high sexual function due to positive physical health and strong relationships, others may face challenges such as stress, hormonal changes, or relational issues that lower their overall sexual function.

This result was congruent with **Kvalem et al., (2024)** in their study titled “Menstrual attitudes in adult women: A cross-sectional study on the association with menstruation factors, contraceptive use, genital self-image, and sexual openness” who illustrated that there was a statistically significant relation between menstruation history and women’s sexual function.

In researcher opinion, may be related to irregular menstrual cycles and varying intervals can lead to hormonal imbalances, which may directly impact sexual desire, arousal, and overall sexual satisfaction. Also, Heavy or irregular bleeding might cause physical discomfort, fatigue, and stress, all of which can negatively influence sexual function and the ability to engage in sexual activities.

The current results were congruent with **Elsaid et al., (2022)** in their study titled “The effects of COVID-19 pandemic and its related lockdown on female sexual function and reproductive health: An observational study in Egypt” mentioned that there was a highly statistically significant relation between obstetric history (Number of pregnancies, number of deliveries, previous contraceptive method and Age of menarche) and studied women’s sexual function.

From the investigator point of view, multiple pregnancies and deliveries can lead to physical changes such as pelvic floor weakness or hormonal fluctuations, which may impact sexual function. These physical changes can affect sexual desire, arousal, and overall sexual satisfaction, leading to variations in sexual function among women.

The current results were consistent with **Mohamed, (2024)** who conducted study at Helwan general hospital in gynecological clinic about “The effect of instructional guidelines on sexual function among women with vaginal yeast infection” showed that there was a positive correlation between women’s knowledge, women’s practice, and sexual function with statistically significant difference (P- value= 0.002, and 0.000). In my opinion, women with higher knowledge about sexual health and contraception are more likely to make informed decisions regarding their sexual health practices, leading to better management of their sexual function.

In my opinion, women with higher knowledge about sexual health and contraception are more likely to make informed decisions regarding their sexual health practices, leading to better management of their sexual function.

## Conclusion

women using hormonal contraceptive methods were reported a strong negative correlation on sexual function, there was a highly statistically significant positive strong correlation between women’s knowledge regarding sexual health, hormonal contraception, and their sexual function.

## Recommendations

In the light of the findings of the current study, the following recommendations are suggested:

- 1) Develop Educational programs regarding contraception and sexual problems are recommended for women visiting family planning clinics.
- 2) provides Provision of - instructional booklets for women is recommended to increase awareness and improve the level of knowledge in different settings about contraception and sexual health.

## Further studies:

1. Further prospective research with diverse women starting various methods of contraception is needed to enhance the understanding of the potential negative sexual side effects of contraceptive methods, the prevalence, and possible mechanisms and management.
2. Further prospective studies investigating copper hormonal contraceptive method usage on female sexual function are still needed by using validated methods.
3. Provide continuous training courses for nurses to enhance level of knowledge regarding negative effects on female sexuality in order to counselling skills should be provide care for women appropriately.
4. Develop training in communication and provided for maternity nurses who promote women's sexual health.

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