Effect of an Educational Intervention on Self-Care Practices and Sexual Function among Women Utilizing Intra Uterine Device

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Abstract

Background: Intrauterine device can improve women and public health, but many women terminate this method due to dissatisfaction that caused by its effect on sexual life. Maintaining proper self-care practices while using an intrauterine device is essential for overall well-being and reproductive health to minimize potential complications. **Aim of the study:** Was to evaluate effect of an educational intervention on self-care practices and sexual function among women utilizing intra uterine device. **Study design:** A quasi-experimental study design was utilized. **Setting:** The study was conducted at Obstetrics and Gynecology Out-Patient Clinic affiliated to Benha University Hospital. **Sampling:** A purposive sample included 100 women who used intrauterine device, divided into control group comprised 50 women and study group comprised 50 women. **Tools of data collection:** Data collected through three main tools; **(1)** structured interviewing questionnaire **(2)** Self-care practices scale during using intra uterine device. **(3)** Female sexual function index. **Results:** The study illustrated that (38.0%) of study group and (40.0%) of control group had satisfactory level of self-care practices before intervention. Meanwhile, at post-intervention phase, (78.0%) and (42.0%) of both the study and control groups respectively had satisfactory level of self-care practices. Also, (40.0%) of study group and (42.0%) of control group had good sexual functions before intervention. Meanwhile, at post-intervention phase, (76.0%) and (44.0%) of both the study and control groups respectively had good sexual functions. **Conclusion:** The educational intervention had significant improvement in women's self-care practices and sexual function during using intrauterine device at post intervention. **Recommendation:** Educational materials as posters and guidelines should be accessible and understandable to women across various socioeconomic backgrounds in the outpatient clinic.

Keywords: Educational intervention, Intrauterine Device, Self-care practices, Sexual function.

Introduction

An intrauterine device (IUD) is a small contraceptive device that is place into the uterus to prevent pregnancy. In Egypt 30% of women using contraception chooses IUDs. Two types available the copper IUD and the hormonal IUDs (Mirena). The hormonal IUDs contains progestogen, which is a synthetic version of the hormone progesterone that women make in his body, the two types are among the most effective methods of contraception and can stay in the uterus for at least five years (**Perello-Capo et al., 2024).** Intrauterine device affect sperm movement and survival in the uterus, stopping these sperm from reaching and fertilizing the ovum. IUDs can also change the lining of the uterus (womb) to stop a fertilized ovum from sticking. The hormonal IUDs can make the fluid at the cervices to the uterus thicker, stopping sperm from getting inside the uterus **(Bradley et al., 2023).**

Self-care practices during using IUD include following a healthy lifestyle, that involve eating lots of fruits and vegetables, reducing fat, sugar and salt intake and exercise. Women should eat fiber and iron-rich diet also, drink aplenty of water during the menstrual period to compensate the depletion, consumption of vitamin C with iron rich foods can help body to best absorb sources of iron, avoid beverages that decrease the amount of absorption such as coffee and caffeinated teas, as green and black tea. Vitamins and minerals in the diet are vital to boost immunity and healthy development and can protect the body against certain types of diseases, in particular anemic diseases **(Henderson, 2021).**

Sexual function is an important issue of life for this reason; sexual dysfunction can have bad impact on the well-being of an individual. The diagnostic and statistical manual of mental disease (DSM) define that, sexual dysfunction is characterized by a disturbance in the processes that characterize the sexual response cycle or by pain during sexual intercourse **(Tabal et al., 2021).**

Female sexual dysfunction (FSD) is deficiency in at least one component of the sexual response cycle that involve desire, arousal, ability to reach orgasm and pain during sexual intercourse **(Bayram and Erturk, 2022).**

Several health problems, which include hormonal, biological, and psychological factors, causes sexual dysfunction among women FSD describes various sexual problems such as difficulty or inability to achieve orgasm, reduced desire, low arousal, and dyspareunia Female sexual dysfunction is a progressive, age-related, and widespread problem from which 30-50% of women suffer **(Gurbuz et al., 2020).**

The maternity nurse must able to facilitate women's knowledge and health education regarding intrauterine device, self-care practices, presence of infection, factor affecting sexual function, causes of sexual dysfunction, early detection of problem, proper diagnosis and treatment that may be appropriate at all stages of reproductive and updated information about copper and period. The nurse needs to be aware of valid hormonal intra uterine devices, caring while using it and it is effect on female sexual function **(Fetters and Dilbaz, 2023).**

Significance of the study:

In Egypt, the prevalence of intrauterine device (IUD) use among women of reproductive age has been steadily increasing, approximately 34.6% of married women of reproductive age used IUDs as form of contraception and another study found that the prevalence of IUD use among women of reproductive age in Egypt about 37.4% **(Ali and Cleland, 2024).** While in worldwide about 17.1% of women of reproductive age used IUD **(World Health Organization, 2025).**

In Egypt, women using intrauterine devices (IUDs) are higher risk to developing vaginal infection, the prevalence of vaginal infections of women using IUDs about 30.5%, the most common types of vaginal infections are bacterial vaginosis (BV) 17.1%, candidiasis 8.5% and trichomoniasis 4.9% **(Ali and Hassan, 2022).** Research suggests that women using intrauterine devices(IUDs) may experience sexual dysfunction, the study found that 34.6% of women using IUDs experienced sexual dysfunction, with the most common symptoms being decreased libido and dyspareunia **(Kumar and Sharma, 2022).**

Aim of the study: The study aimed to evaluate effect of an educational intervention on self-care practices and sexual function among women utilizing intra uterine device.

Study hypotheses:

1) Women who utilized intra uterine device and received educational intervention would exhibit better self-care practices than those who didn't receive it.

2) Women who utilized intra uterine device and received educational intervention would demonstrated an improvement in sexual function than those who didn't receive it.

Subjects and method:

Study design:

Aquasi-experimental study design (two group, pre and post-tests) was utilized to fulfill the aim of the study.

Study Setting:

The study was conducted in Obstetrics and Gynecology Outpatient Clinic at Benha University Hospital.

Sample type: A Purposive sample.

Sample size:

The sample consisted of 100 women who were chosen among those attending outpatient clinic of obstetrics and gynecology through a period of six months. The studied samples were selected according to the inclusion criteria;

-Age 20 – 40 years.

-Women who use IUD for the past 6 months.

-Still sexually active with regular marital life.

Exclusion criteria:

-Women who have medical or mental disease

-Women who had undergone pelvic floor surgery, had chronic pelvic pain syndrome, a history of any gynecological malignancy or operation.

-Obese women (BMI >30kg/m^2).

-Women who take medications that affect sexual function.

Sample technique:

The researchers 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 3times/weekly until the pre-determined period was completed.

Tools of data collection

Three main tools were utilized for data collection:

Tool (I): A Structured interviewing questionnaire: It was designed by the researchers after reviewing the related literature and research studies **(Youssef et al., 2019)** and consisted of four parts:

Part 1: General characteristics of the studied women as (women's age, husband's age, level of education, occupation and residence, family income, duration of marriage .....etc).

Part 2: Menstrual history as (age of menarche, duration, regularity, interval, any menstrual abnormalities.....etc).

Part 3: Obstetrical history as (number of pregnancy, number of delivery, type of delivery .....etc).

Part 4: Family Planning history which included (IUD usage duration, indications, any discomfort or complications as menorrhagia, spotting, infection, blood loss.....etc) .

Tool (II): Self-Care Practices Scale during Using Intra Uterine Device.

It was adapted from **Ebrahim et al., (2022)**, developed by the researchers and presented this scale in Arabic to participant based on a review of the related literature and included four parts:

Part 1: Self-care practices to avoid vaginal infection during using (IUDS) and included (wear cotton clothes, boil under wear, wear personal under wear only, sanitize under wear, perineal care during toilet use……etc).

Part 2: Self-care practices during menstruation and included (Bathing during menstruation, standing in the shower , use anti septic to care for perineal area, sanitize or clean toilet before and after use…..etc).

Part 3: Healthy nutrition during using (IUDS) and included (taking diet rich protein, fiber and vegetable, taking diet rich iron and vitamin c, avoid eating fast food, drink plenty of fluid …..etc).

Part 4: Feminine hygiene practices during using (IUDS) and included (wash vagina using warm water and antiseptic, avoid using of sprays to vaginal and perineal area, using sanitary pads …..etc).

Scoring system: Scoring system was be used for each item of the four parts of the self-care practices scale during using intra uterine device where "Done" scored (1) and "Not Done" scored (0). Practice scored was further divided in to:-

- Satisfactory Practice (≥ 60%).
- Unsatisfactory Practice (< 60%).

Tool (III):Female Sexual Function Index: Closed questions used to measure sexual function, adopted from **Rosen et al, (2000)** to evaluate female sexual function index, this scale composed of 19 items used to assess six domains of sexual function that include (Desire, Arousal, Lubrication, Orgasm, Satisfaction, Satisfaction, Pain).

Scoring system

Each item was be rated based on five point Likert scale varying between, none of the time(0), very rarely(1), some of the time (2), a good apart of the time (3), most of the time (4), all of the time (5) .

The female sexual function index (FSFI) total score is the sum of the 6 domain (subscale score) and has a minimum score (0), maximum score (95) and a domain score of zero indicates that poor sexual activity was reported during the past month, the higher score indicating better FSFI. The total female sexual function index was categorized as the following:

Good FSFI = ≥ 60% (58- 95 score).

Poor FSFI = < 60% (0- 57 score).

Tool Validity:

The tools of data collection were tested and reviewed for its content validity by panels of three experts in the field of obstetrics and gynaecological nursing at faculty of Benha University to test content validity**.**

Tool reliability

The reliability was done by Cronbach's alpha coefficient test was calculated to assess the reliability that indicated by the moderate to high reliability. The internal consistency of self-care practices was (α = 0.791) and the internal consistency of FSFI tool that was (α = 0.851).

Ethical Considerations:

Ethical aspects were considered before implementation of the study as the following:-

-Approval from The Scientific Research Ethics Committee at Faculty of Nursing Benha university was obtained for the fulfillment of the study (REC-OBSN-P 84).

- An official permission from the study setting was obtained for the fulfillment of the study.

-The aim of the study was explained to each woman before applying the tools at the beginning of interview and throughout the study to gain their confidence and trust.

-The researchers took informed consent from women to participate in the study and withdraw when women needs.

Pilot study

The pilot study has been conducted on 10% of the total period of data collection (3weeks) before starting data collection to test the clarity and applicability of study tools, assess the feasibility of the filed work and determine the time needed to fill in the questionnaire**.** Thus, women involved in the pilot study were excluded in the study.

Field work

Assessment and interviewing phase:

The study was implemented for six months from beginning of July (2024) to the end of

December (2024). The researchers began the study by visiting the of obstetrics and gynaecology outpatient clinic three days per week (Saturday, Tuesday and Thursday) from 9 a.m. to 1p.m. At beginning of the interview the researchers greeted the woman, introduced herself, explained the purpose of the study and took informed consent to participate in the study. The researchers distributed structured interviewing questionnaire (pretest), self-care practices scale during using IUD (pretest) and female sexual function index questionnaire) (pretest)

Planning Phase: Based on the results obtained from assessment phase, the researchers designed an education intervention. The education intervention will be designed specifically for women with sexual dysfunction and vaginal infection, in simple Arabic language to suit their level of understanding and satisfy the studied women's deficit knowledge about self-care practices and sexual function regarding women's utilize intra uterine devices. Different methods of teaching will be used such as lectures, group discussions, brainstorming, demonstration and redemonstration.

Implementation phase:

The researchers attended to the previous mentioned study setting after taking legal aspect from the Scientific Research Ethical Committee from faculty of nursing at Benha University (REC-OBSN-P84).The researchers was provided appropriate, separate place for the participant women during the interview to maintain privacy and confidently of the study. The researchers introduced herself to the participant women and greet with each women. The purpose of the study was explained to the participant women by the researchers and provided all information about study and the process of the study was explained to gain confidence and trust. The researchers applied educational intervention through two scheduled session immediately after completion of the assessment phase. Each session will took about 30-60 minutes according to their achievement and feedback.

Evaluation phase:

Evaluation of the effect of the educational intervention on women's self-care practices and sexual function after one month (posttest) by used the same tool at pretest to compared with pre intervention data.

Statistical analysis:

The collect data was coded, organized, categorized, tabulated and analysed by using appropriate statistical methods. Data were verified prior to computerized entry. The Statistical package for social sciences (SPSS version 25) was used followed by data tabulation and analysis. Descriptive statistics were applied (e.g., mean, standard deviations, frequencies and percentages). Independent t-test, Chi-square test, Fisher Exact Test and Pearson correlation coefficients were used.

Results

Table (1): Clarifies that (50.0%) of the study group and (40.0%) of the control group in age group from (30 - < 35 years old) with a mean age of 30.90±4.73 and 34.14±5.19 years old respectively. As well as, (58.0% and 44.0%) husband's age of both study and control groups respectively in age group from (35 - ≤ 40 years old) with a mean age of 35.66±5.00 and 34.14±5.19 years old respectively. Moreover, (54.0% and 68.0%) of both study and control groups respectively lived in rural area. Concerning level of education, it was cleared that (44.0% and 60.0%) of both study and control groups respectively had secondary education. As regards occupational status, (64.0%% and 72.0%) of both study and control groups respectively were housewives. Concerning duration at marriage,

(46.0% and 52.0%) of both study and control groups respectively married since 10< 15 years. Finally, (72.0%) and (78.0%) of both study and control groups respectively didn't have enough family monthly income. Generally, there was no statistically significant difference between study and control groups regarding personal characteristics (p>0.05). That is the two groups under study homogenous.

Table (2): Displays that (50.0%) of the study group and (62.0%) of the control group respectively had the menarche at the age group of 12-13 years. Increasingly, menstrual interval of (98.0% and 88.0%) of both study and control groups respectively was between 21-35 days. Moreover, the duration of menstruation occurred for (86.0%) and (92.0%) of women in both study and control groups respectively were 3- 7 days. In relation amount of menstruation, (62.0%) and (40.0%) of both study and control groups respectively had moderate amount of menstruation; and (94.0%) and (96.0%) of both study and control groups respectively had liquid blood. Also, (66.0% and 50.0%) of both study and control groups respectively had pain accompanied with menstruation. Generally, there was no statistically significant difference between study and control groups regarding obstetric history (p>0.05). That is the two groups under study homogenous.

Table (3): Displays that (70.0%) of the study group and (60.0%) of both study and control group respectively got pregnant for three times or more. Increasingly, (64.0% and 58.0%) of both study and control groups respectively delivered for three times or more. Moreover, only (6.0% and 12.0%) of both study and control groups respectively had complications in previous pregnancy; also, previous delivery was by caesarean section of (60.0% and 68.0%) of both study and control groups respectively. Generally, there was no statistically significant difference between study and control groups regarding obstetric history (p>0.05). That is the two groups under study homogenous.

Table (4): Displays that (54.0%) of the study group and (64.0%) of both study and control group respectively used IUD 3-6 months ago. Increasingly, (100.0%) of both study and control groups respectively used IUD for prevention of pregnancy. Moreover, only (22.0% and 16.0%) of both study and control groups respectively reported complications associated with IUD method. Generally, there was no statistically significant difference between study and control groups regarding obstetric history (p>0.05). That is the two groups under study homogenous.

Figure (1): Illustrates that, before implementation of educational intervention, 62.0**%** and 60.0% of the study and control group respectively had unsatisfactory self-care practices while after implementation of educational intervention 78.0% and 42.0% of the study and control group respectively had satisfactory self-care practices during using intra uterine device.

Figure (2): Illustrates that, before implementation of educational intervention, 60.0% and 58.0% of the
study and control group had poor sexual function while after implementation of educational intervention 76.0% and 44.0% of the study and control group had good sexual function.

Table (5): Demonstrates that; there was a highly significant statistical positive correlation between total self-care practices score and total female sexual functions score of the studied women in both groups at pre and post-intervention phases (P≤ 0.001).

Table (1): Distribution of studied sample according to the general characteristics (n=100)

General characteristics	Control group (n=50)		Study group (n=50)		X^2/FET	P- value
	No.	%	No.	%		
Age (in years)						
20 - < 25	6	12.0	8	16.0	6.27	0.099
25- < 30	15	30.0	5	10.0		
30 - < 35	20	40.0	25	50.0		
35 - ≤ 40	9	18.0	12	24.0		
Mean ±SD	29.82±4.51		30.90±4.73		Independent t=1.16	0.246
Husband's age (in years)						
20 - < 25	4	8.0	2	4.0	2.49	0.477
25- < 30	7	14.0	7	14.0		
30 - < 35	17	34.0	12	24.0		
35 - ≤ 40	22	44.0	29	58.0		
Mean ±SD	34.14±5.19		35.66±5.00		Independent t=1.49	0.140
Place of residence						
Rural	34	68.0	27	54.0	2.06	0.151
Urban	16	32.0	23	46.0		
Level of educational						
Not read and write	0	0.0	2	4.0	4.74	0.315
Read and write	5	10.0	8	16.0		
Basic education	6	12.0	5	10.0		
Secondary education	30	60.0	22	44.0		
High education	9	18.0	13	26.0		
Occupation						
Housewife	36	72.0	32	64.0	0.735	0.391
Working	14	28.0	18	36.0		
Duration at marriage (in years)						
1< 5	7	14.0	10	20.0	2.60	0.457
5< 10	11	22.0	7	14.0		
10< 15	26	52.0	23	46.0		
≥15	6	12.0	10	20.0		
Family monthly income						
Not enough	39	78.0	36	72.0	0.480	0.488
Enough	11	22.0	14	28.0		

Table (2): Distribution of studied sample according to the menstrual history (n=100)

Menstrual history	Control group (n=50)		Study group (n=50)		X^2/FET	P value
	No.	%	No.	%		
Age of menarche (years)						
<12	5	10.0	9	18.0	1.91	0.383
12-13	31	62.0	25	50.0		
>13	14	28.0	16	32.0		
Interval (days)						
<21	4	8.0	1	2.0	4.06	0.131
21-35	44	88.0	49	98.0		
>35	2	4.0	0	0.0		
Duration of menstruation (days)						
< 3	3	6.0	5	10.0	0.934	0.627
3- 7	46	92.0	43	86.0		
> 7	1	2.0	2	4.0		
Amount of menstruation						
Mild (≤ 2 pads)	10	20.0	14	28.0	2.35	0.309
Moderate (3-4 pads)	20	40.0	31	62.0		
Severe (≥ 5 pads)	10	20.0	5	10.0		
Nature of menstruation						
Liquid blood	48	96.0	47	94.0	0.211	0.646
Clotting blood	2	4.0	3	6.0		
Pain accompanied with menstruation						
Yes	25	50.0	33	66.0	2.62	0.105
No	25	50.0	17	34.0		

Table (3): Distribution of studied sample according to the obstetric history (n=100)

Obstetric history	Control group (n=50)		Study group (n=50)		X^2/FET	P value
	No.	%	No.	%		
Number of pregnancies						
Once	5	10.0	7	14.0	2.84	0.241
Twice	15	30.0	8	16.0		
Three times or more	30	60.0	35	70.0		
Number of deliveries						
Nullipara	0	0.0	0	0.0	2.31	0.315
Once	7	14.0	10	20.0		
Twice	14	28.0	8	16.0		
Three times or more	29	58.0	32	64.0		
Complications in previous pregnancy						
Yes	6	12.0	3	6.0	1.09	0.295
No	44	88.0	47	94.0		
If yes, what are the complications						
	n=(6)*		**n=(3)***		-	-
Gestational diabetes	1	16.7	0	0.0		
Bleeding	3	50.0	1	16.7		
Anemia	5	83.3	4	66.7		
Hypertension	1	16.7	0	0.0		
Type of previous delivery						
Vaginal delivery	16	32.0	20	40.0	0.694	0.405
Caesarean section	34	68.0	30	60.0		

Table (4): Distribution of studied sample according to the family planning history (n= 100)

Family planning history	Control group (n=50)		Study group (n=50)		X^2/FET	P value
	No.	%	No.	%		
Period of using IUD (months)					1.03	0.309
1 - < 3	18	36.0	23	46.0		
3 – 6	32	64.0	27	54.0		
Reasons for using this method					-	-
Prevention of pregnancy	50.0	100.0	50.0	100.0		
Complications associated with this method					0.585	0.044
Yes	8	16.0	11	22.0		
No	42	84.0	39	78.0		
If yes, what are the complications					-	-
	n=(8)*		n=(11)*			
Heavy menstrual bleeding	4	50.0	5	45.5		
Spotting between menstrual cycles	2	25.0	3	27.3		
Presence of sexual problems	4	50.0	6	54.5		
Unwanted pregnancy	0	0.0	1	9.1		
Presence of a vaginal infection	2	25.0	2	18.2		

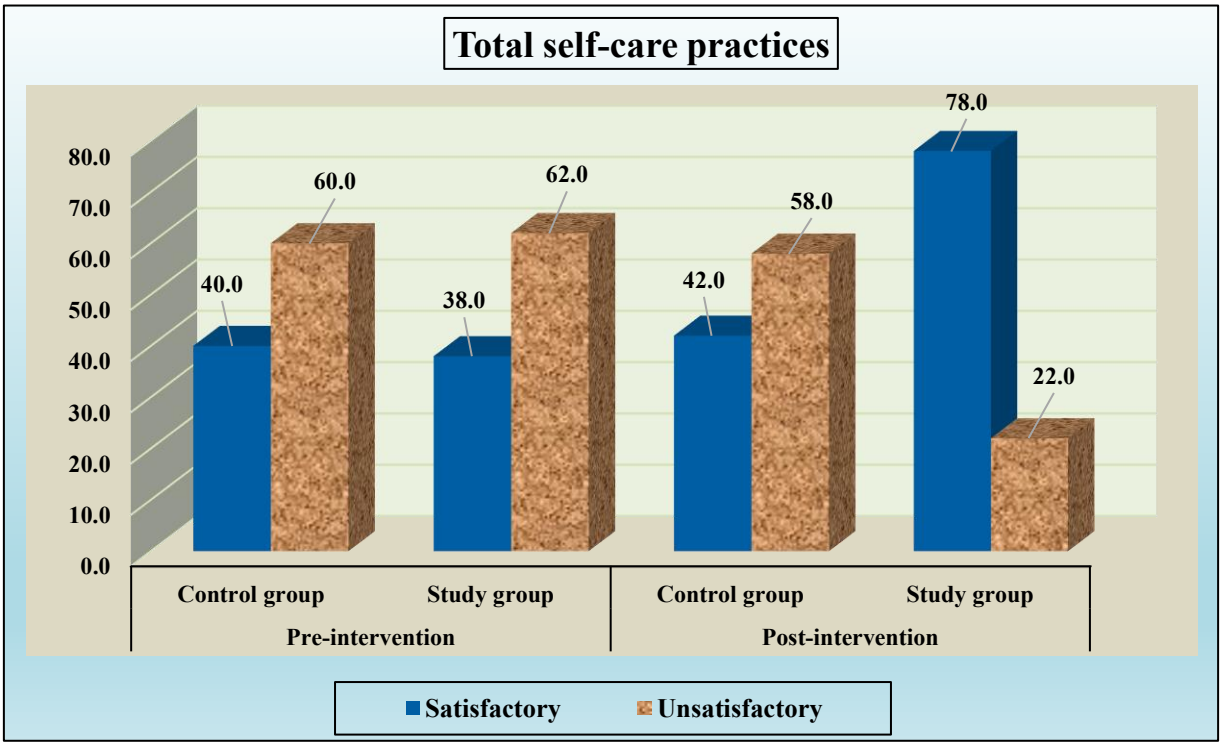

Figure (1): Distribution of the studied sample according to the total self-care practices score during using an IUD in both study and control groups at pre and post-intervention phases (n=100).

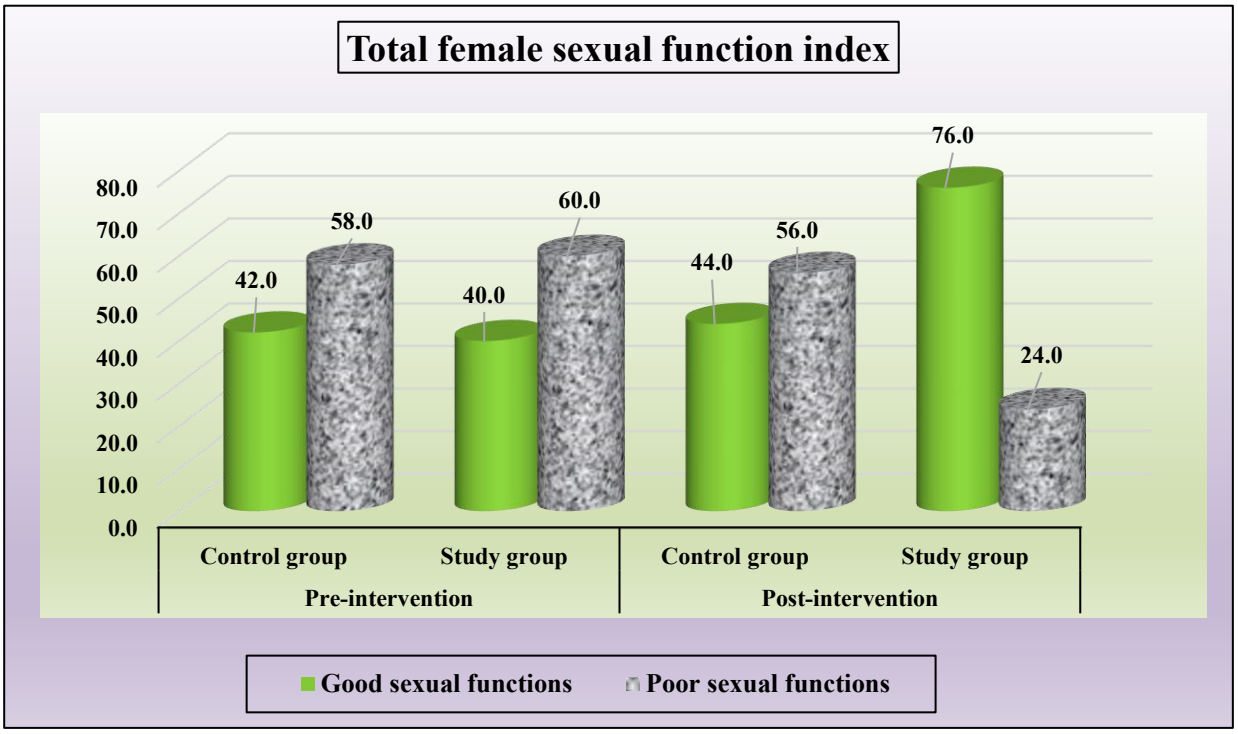

Figure (2): Distribution of the studied sample according to the total female sexual function index score in both study and control groups at pre and post-intervention phases (n=100).

Table (5): Correlation between total female sexual functions and total self-care practices scores of the studied women during using an IUD in both study and control groups pre and post-intervention phases (n=100).

Variables	Total self-care practices score							
	Control group (n=50)				Study group (n=50)			
	Pre-intervention		Post-intervention		Pre-intervention		Post-intervention	
	r	P-value	r	P-value	r	P-value	r	P-value
Total female sexual functions score	0.520	0.000**	0.608	0.000**	0.499	0.000**	0.613	0.000**

Discussion

Intrauterine devices (IUDs) are highly effective, reversible and low - maintaince contraceptives inserted into the uterus to prevent pregnancy **(Trussell, 2023).** Some women experience improved sexual function due to reduced menstrual cramps and bleeding. However, copper IUDS may cause increased menstrual bleeding and cramping, potentially affecting sexual activity **(American College of Obstetricians and Gynecologists, 2022).** Maintaining proper self-care practices while using an intrauterine device (IUD) is essential for overall well-being and reproductive health to minimize potential complications. **(Ebrahim et al., 2022).**

Regarding general characteristics of studied groups. This study showed that almost one half of women of the study group and less than half of the control group were in the age group of 30<35 years, with mean ages of 30.90±4.73 and 29.82±4.5 years, respectively. Furthermore, more than half and less than half of the husbands' ages in the study and control groups, respectively, were in the age group of 35≤40 years, with mean ages of 35.66±5.00 and 34.14±5.19 years.

This results supported by **Tabal et al., (2021)** who studied "Effect of contraceptive methods on female sexual function at Menoufia University Hospital" and revealed that mean ages women group of 30-35 years, and that many husbands were in the 35-40 age range.

As regarding place of residence (rural versus urban), the present study revealed that, more than half of study women and more than two thirds of control group lived in rural area, the present study revealed less than half of study women and less than two third of control group had secondary education.

Concerning occupation the present study revealed that less than two thirds of study women and less than three quarters of control group were house wife's and duration at marriage the present study revealed that less than half of study women and more than half of control group had respectively married since 10<15years.

This results in congruent with **Moreira et al., (2020)** who studied "Sexual function and metabolic/ hormonal changes in women using long-term hormonal and non-hormonal contraceptives: a pilot study. At the Military Police Hospital of Minas Gerais, Brazil" and revealed that the study did not specifically focus on marital duration but provides insights into the impact of contraceptive methods on sexual function.

In relation to family monthly income the results of the present study revealed that more than three quarters in the control group and less than three quarters in the study group were had not enough income.

This results supported by **Henke et al., (2022)** who studied Associations between income status and perceived barriers to using long-acting reversible contraception: An exploratory study in USA" This study examined barriers to Long acting reversible contraception (LARC) use, including IUDs, among women of varying income levels. The study found that low-income women were more likely to cite cost, lack of knowledge about access points, and transportation issues as barriers to LARC utilization.

Concerning menstrual history of the studied women the current study revealed that almost one half study group and less than two thirds of the control group experienced menarche between the ages of 12-13 years. The majority of participants in both groups reported regular cycles of 21-35 days. This is consistent with findings in prior studies, indicating that women using intrauterine devices (IUDs) typically maintain regular menstrual intervals

The present study results agree with **Da Silva Filho, (2021)** who studied " The difficult journey to treatment for women suffering from heavy menstrual bleeding: a multi-national survey" and revealed that age of menarche occurred at a mean age of 12.7years; and more than half of the studied sample had regular period between menstruation.

The current study showed that most women in both groups experienced menstruation lasting 3–7 days. This range is within the normal physiological limits and mirrors trends reported in earlier studies. A moderate menstrual flow (3–4 pads/day) was the most common finding, reported by less than two third of the study group and less than a half of the control group.

This results supported **by Gharacheh et al., (2021)** who studied "Acceptability and safety of the menstrual cups among Iranian women: a cross-sectional study" and revealed that. Although this study centered on menstrual cups, it included participants with regular menstrual cycles and provides

insights into menstrual health management among women with consistent cycle patterns.

As regarding nature of menstrual blood, the result of current study showed that liquid blood was the predominant finding, reported by most of women had pain during menstruation was more prevalent in the study group less than two thirds compared to the control group almost one half while not statistically significant.

This results supported **by Ogle and Handy., (2023)** who studied "The Effects of hormonal and non-hormonal intrauterine devices on female sexual function: A Systematic Review" and revealed that hormonal IUDs often lead to reduced menstrual bleeding and in some cases caused amenorrhea while non-hormonal (copper) IUDs may be associated with heavier menstrual bleeding, especially in the initial months post-insertion. However, the majority of women maintained regular menstrual intervals over time.

As regarding obstetrics history, the results of current study illustrated that less than two third of women in both groups reported having three or more pregnancies and less than three quarters in the study group. which highlights a higher parity rate among women in rural and low-income settings, where contraceptive use may have been inconsistent before adopting IUDs. The distribution of deliveries was similar, with more than half women reporting three or more deliveries in the control group and less than two thirds in the study group.

The results of the current study supported **by Hellwig et al., (2024)** who studied "Policies for expanding family planning coverage: lessons from five successful countries" and revealed that the strategy document highlights that low-income groups and those living in rural and remote zones often have lower rates of contraceptive use, which can contribute to higher parity rates.

The present study showed that the minority of women in both group reported complications in previous pregnancies. Anemia was the most commonly reported complication the majority of women in the control group and more than two third in the study group, which identified anemia as a prevalent issue among pregnant women in resource-limited settings. Caesarean section was the most common mode of delivery more than two third in the control group and less than two third in the study group.

The results of the present study supported **by Adhikary et al., (2024)** who studied "Modern contraception and anemia among reproductive-age women in India: results from a household survey" and revealed that a significant positive association between IUD use and anemia. While hormonal IUDs may reduce menstrual bleeding and thus lower anemia risk, copper IUDs can increase menstrual bleeding, potentially leading to anemia. The study emphasizes the complex interaction between IUDs and anemia, suggesting that the type of IUD and individual health factors play crucial roles.

As regarding family planning history the findings from this study revealed important insights into the use of intrauterine devices (IUDs) among women in the study and control groups. Almost all the women using IUDs was the prevention of pregnancy, variations were observed in the period of IUD use, complications, and associated issues.

The current study results supported by **Gebreel et al., (2023)** who studied "Comparative study between immediate versus post puerperium intrauterine contraceptive device insertion during caesarean section. At Al-Hussein University"

and revealed that the observation that nearly all women in both the study and control groups used intrauterine devices (IUDs) exclusively for pregnancy prevention aligns with the primary purpose of IUDs as long-acting reversible contraceptives. However, variations in the duration of IUD use, complications, and associated issues have been documented in recent literature.

The current study found that the majority of women in both groups used IUDs for three to six months more than half in the study group and less than two third in the control group. The present results supported **by Bayram and Erturk, (2022)** who studied "Effects of intrauterine devices on female sexual function: a cross-sectional study. At Bursa Yuksek Ihtisas Training and Education Hospital and revealed that examined the impact of intrauterine device (IUD) use on female sexual function, particularly focusing on short-term usage durations.

The present study results revealed that complications associated with IUD use, including heavy menstrual bleeding almost one half in the control group and less than half in the study group and sexual problems almost one half in the control group and more than half in the study group, which identified heavy bleeding and sexual dysfunction as common side effects of IUD use such complications are often cited as reasons for early discontinuation of this contraceptive method.

This results disagree by **Elhawat et al., (2021)** who studied "Association between using of Mirena and changes on female sexual function. At Zagazig University Hospitals" and revealed that the use of Mirena was not associated with significant changes in sexual function, quality of life, or body weight gain among participants.

While the study found a relatively low prevalence of complications about less than nearly one quarter in the study group and the minority in the control group, reported higher rates of IUD-associated complications, particularly in low-resource settings. The disparity may be due to differences in health care access, patient education, or the type of IUD used (e.g hormonal versus copper). Sexual problems and vaginal infections were reported by some participants more than half and the minority in the study group.

The current study results supported by **Peebles et al., (2021)** who studied "Elevated risk of bacterial vaginosis among users of the copper intrauterine device: A prospective longitudinal cohort study" and clarified that users of the copper IUD experienced more than one quarter increased risk of bacterial vaginosis (BV) compared to women using no contraception or alternative non hormonal methods. The elevated risk persisted through up to 18 months of IUD use.

The current study showed the minority of participant in the study group reported unwanted pregnancy. The results of the present study supported **Myo and Nguyen, (2023)** who studied "Intrauterine device complications and their management in Europe and United State of America (USA)" and revealed that Reports discussed complications related to IUD use, noting that while the overall risk of pregnancy with an IUD in situ is low reported by the minority of women, certain factors such as younger age and a history of IUD expulsion may increase this risk.

Regarding self-care practices during using an IUD in both study and control groups at pre and post-intervention. The results of current study revealed that less than

two thirds in both study and control groups had unsatisfactory self-care practices before the educational intervention. However, after the educational intervention, the proportion of women with satisfactory self-care practices significantly increased to more than three quarters in the study group compared to less than half in the control groups.

The results of the current study is supported **Burke et al., (2022)** who studied "Reproductive empowerment and contraceptive self-care: a systematic review" This study showed that effective contraceptive education is essential for reducing unintended pregnancies and increasing the uptake of modern contraceptive methods. The study advocates for educational initiatives that support self-care and reproductive autonomy, aligning with the need for structured interventions to enhance self-care practices among IUD users.

Concerning female sexual function index during using an IUD in both study and control groups at pre and post-intervention. The current study revealed that less than two thirds and more than half of the study and control group had poor sexual function before the educational intervention. Whenever, more than three quarters in the study group compared to less than half on the control group had good sexual functions during using intrauterine device after implementation the educational intervention.

The current study supported by **Abdel-Salam et al., (2020)** who studied" Impact of educational intervention on sexual function among women using intrauterine device" this study found that more than three quarters in the study group and less than half on the control group had significant improvement in female sexual function during using intrauterine device.

Concerning correlation coefficient between total self-care practices and total female sexual function, the current study illustrated that a highly significant positive statistical correlation between total self-care practice scores and total female sexual function scores among women using intrauterine devices (IUDs) in both study and control groups during the pre- and post-intervention phases ($P \leq 0.001$).

The current study is contrast by **Ahmed, (2020).** Who studied "Sexual life pattern and self-care practices among copper intra uterine device (IUD) user. At Assiut City" While this study emphasized the role of self-care in enhancing sexual health, it also noted that faulty self-care practices could increase the risk of vaginal infections, potentially negatively impacting sexual function.

Conclusion

Research hypotheses are supported and educational intervention for women using intrauterine device have positive effect on improving both self-care practices and female sexual functions. The total mean score of self-care practices during using an IUD in the study group were significantly higher than the score in the control group ($P \leq 001$) at post-intervention phase. Furthermore, the total mean score of female sexual functions in the study group were significantly higher than the score in the control group ($P \leq 001$) at post-intervention phase. Therefore, the study aim was achieved and the research hypotheses was supported.

Recommendations

-Educational materials as posters and guidelines should be accessible and understandable to women across various socioeconomic backgrounds in the outpatient clinic. This approach can help bridge the gap and promote equitable health outcomes

-Reapplication of the study on large sample size in different settings for generalization of results and explore long-term effects of such

interventions and identify which components are most effective in enhancing sexual function and self-care practices.

Recommendations for further studies:

-Further prospective research with diverse women starting various method of contraception is needed to enhance the understanding of the potential negative sexual side effects of contraception methods, the prevalence, possible mechanism and management and self-care practices during use this method.

-Healthcare providers should emphasize the role of self-care in maintaining and improving sexual health during consultations and follow-up visits.

-Healthcare Provider continuous Training: Nurses should receive specialized training on how to address women's concerns regarding IUD use, sexual well-being, and self-care. This can improve patient outcomes and encourage more women to seek necessary guidance.

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تأثير التدخل التعليمي علي ممارسات الرعاية الذاتية والوظيفة الجنسية لدي السيدات اللاتي يستخدمن اللولب الرحمي

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يمكن أن يحسن اللولب الرحمي صحة السيدات والصحة العامة، ولكن العديد من السيدات ينهين هذه الطريقة بسبب عدم الرضا الناتج عن تأثيره علي الصحة الجنسية، تعد ممارسات الرعاية الذاتية أثناء استخدام اللولب الرحمي ضرورية للحفاظ على الصحة العامة و الإنجابية لتقليل المضاعفات المحتملة. لذلك هدفت هذه الدراسة الي تقييم تأثر التدخل التعليمي على ممارسات الرعاية الذاتية والوظيفة الجنسية لدي السيدات اللاتي يستخدمن اللولب الرحمي. وتم استخدام التصميم شبه تجريبي لإجراء هذه الدراسة. وقد أجريت هذه الدراسة في العيادة الخارجية لأمراض النساء والتوليد في مستشفى بنها الجامعي. وشملت الدراسة جميع السيدات اللاتي استخدمن اللولب الرحمي وحضرن إلي مكان الدراسة المذكور سابقا لمدة ستة أشهر وشملت ١٠٠ سيدة. وقد أظهرت نتائج الدراسة الحالية أن هناك فرق ذو دلالة إحصائية عالية في متوسط إجمالي ممارسات الرعاية الذاتية ومؤشر الوظيفة الجنسية للسيدات أثناء استخدام اللولب الرحمي في كلا المجموعتين في مرحلة ما بعد التدخل. و كان هناك ارتباط إيجابي إحصائي شديد الدلالة بين إجمالي درجات ممارسات الرعاية الذاتية وإجمالي درجات الوظائف الجنسية للسيدات المشمولات بالدراسة في كلا المجموعتين في مرحلتي ما قبل التدخل وبعده. كما وجد أن التدخل التعليمي للسيدات اللاتي يستخدمن اللولب الرحمي له تأثير إيجابي في تحسين كلٍّ من الوظائف الجنسية للسيدات وممارسات الرعاية الذاتية. كما اوصت الدراسة بتوفير مواد تعليمية مثل الملصقات والارشادات، بحيث تكون سهلة الفهم ومتاحة للسيدات من مختلف الفئات الاجتماعية والاقتصادية في العيادات الخارجية، وذلك لتعزيز الوعي الصحي وتحقيق نتائج صحية متكافئة.