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# Effectiveness of Application of PLISSIT Counseling Model on Sexuality Among Women with Dyspareunia

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**Abstract:** Background: Dyspareunia is one of the most common but neglected female health problems which has a significant negative impact on a woman's sexual function. *The aim* of the study was to evaluate the effectiveness of application of PLISSIT counseling model on sexuality among women with dyspareunia. *Design:* A quasi experimental design was used. *Setting:* This study was conducted in outpatient clinic of obstetrics & gynecological department at Benha University Hospital. *Sample:* A purposive sample of all admitted women for a period of 6 months (280) woman: 200 out of them without dyspareunia and 80 with dyspareunia completed the PLISSIT model. *Tools:* three tools were used I): A structured Interviewing Questionnaire Sheet. II): Dyspareunia assessment tool. III): Female Sexual Function Index (FSFI). *Results:* showed that the mean age of studied women were (35.21±9.03)years. More than one quarter of them complains of dyspareunia. there were statistically significant differences of the FSFI mean score between pre and post application as regard to elements of FSFI including desire, arousal, orgasm, satisfaction and pain (P<0.001). Meanwhile, there were no statistically significant differences regarding lubrication (P>0.4). *Conclusion:* PLISSIT counseling model had significant effect in improving sexuality among women with dyspareunia. The study *recommended* that the PLISSIT model should be used in a tailored and patient-centered approach in conducting sexual assessment and management of female dyspareunia.

**Keywords:** Dyspareunia, Sexuality, PLISSIT Counseling Model

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## 1. Introduction

The sexual pain disorders including dyspareunia are highly prevalent yet misunderstood women's sexual health problems. Dyspareunia is term referring to painful sex which defined as persistent and recurrent urogenital pain occurring before, during, or after sexual intercourse, which is not caused exclusively by lack of lubrication or by vaginismus. As reported in a study conducted by [1] dyspareunia affects 8–22% of women at some point during their lives, making it one of the most common pain problems in gynecologic practice. Moreover, It's one of the most frequently reported co-morbidities in women with chronic pelvic pain with rates ranging from 15% to 88% [2]. A worldwide prevalence of dyspareunia in systematic review is reported that, the rate of dyspareunia range between 8 and 21.8% [3].

Dyspareunia may have a variety of causes. In order to determine the cause, the location of the pain must first be identified. Often, women will describe pain with intercourse as deep and/or superficial. Deep dyspareunia as the pain is felt deep inside the pelvis during penile thrusting and superficial dyspareunia as pain experienced at the area of the vulva and introitus on penetration. The vast majority of women experienced superficial dyspareunia [4].

The causes of dyspareunia may be mixed between psychological, physiological, socio-cultural and interpersonal causes. Psychological causes could result from fear of pain, sexual abuse, interpersonal disturbance, stress or anxiety from work or family responsibilities, concern about sexual performance, conflicts in the relationship with partner, depression/anxiety, unresolved sexual orientation issues, previous traumatic sexual or physical experience, body image and self-esteem problems. While, the common physical

causes of dyspareunia include pelvic inflammatory disease, chronic pelvic pain, endometriosis, interstitial cystitis and irritable bowel syndrome. Also, diseases as thyroid disease, diabetes, heart, liver, and /or kidney disease, pelvic injury or trauma, pelvic surgery, neurological disorders, alcohol or drug abuse and fatigue [5]. Any condition that results in poor vaginal lubrication can cause discomfort during intercourse. The most common causes are drugs that have a drying effect such as antihistamines, certain tranquilizers, and marijuana, and disorders such as vaginal infections, and estrogen deficiencies [6].

Dyspareunia has a significant negative impact on a woman's health, self-esteem, sexual relationships, quality of life, and work productivity [7]. Moreover, dyspareunia may lead to failure to reach orgasm, avoidance of sexual activity, relationship problems and place a woman at risk for the development of vaginismus. Therefore, careful measurement and description of pain is necessary [8]. [5] explored why women with early genital pain delay treatment seeking. They found women cited a belief that the pain was normal, doubt that medical assistance would help and fear of the stigma of having a sexual problem. Therefore, [9] said that talking with women about sexual pain disorders requires special attention to the sensitivity of the issue and an empathic attitude to the biological "truth" of pain this is the basis of a very rewarding clinician-patient relationship and is the basis of an effective therapeutic alliance.

Today, clinical research indicates that combinations of different treatments are much more useful than single therapies. As non-medication therapy is very important in dyspareunia, the use of counseling methods can also be beneficial as women are advised to understand their problems and analyze them after identifying unknown issues. Numerous frameworks are available for sexual advice that can help health care providers to implement appropriate and effective support strategies for intervention in the cases of sexual concerns and problems [1].

In addition, sexual counseling is an interaction with women that includes information on sexual concerns and safe return to sexual activity, as well as assessment, support, and specific advice related to psychological and sexual problems, also referred to as psychosexual counseling. Sexual counseling take place during a one-to-one exchange with a trained person, with the aim of solving problem and offering advice [10].

The PLISSIT model was developed in 1976 by Jack Annon, is a counseling model for sex therapy that can help practitioners of all stripes address sexual health in their women encounters. It has four steps, which start with very broad information-seeking and narrow to specific referrals and interventions for woman's issue [11]. The letters of the name refer to the four different levels of intervention (permission P, limited information LI, specific suggestions SS and intensive therapy IT) [12].

The four level of PLISSIT model are: *Permission (P)*"giving permission" to women to discuss issues of concern and encouraging to discuss problems which affect their sexual function negatively. *Limited Information (LI)* offering

"limited information" about anatomical and physiological aspects of the sexual function and providing correct information about expected treatment effects on sexual and reproductive function, without going into complete detail. *Specific Suggestions(SS)* giving specific suggestions for managing common problems that occur during treatment. *Intensive Therapy (IT)* in a few cases who there are complex underlying causes for their sexual problems intensive therapy will be needed when their problems could not be resolved in the first 3 steps (such as intrapersonal conflicts or psychological problems [13].

Nurse is an important member of the health care team to counsel the women in the sensitive and highly charged area of human sexuality. Sexuality and sexual health problems are challenging areas for nurses, so should be approached in a way that respects women confidentiality and sensitively explores women needs [14]. Nursing interventions (Education and counseling on sexuality) are used to assist women to resolve their sexual problems [15].

### 1.1. Significance of the Study

Dyspareunia (Painful sex) is a common but neglected female health problems with a prevalence of up to 39.5%, imposing a significant burden on women's sexual health and relationship [1]. In Egypt 31.5% of women were suffered from dyspareunia as reported by [16].

Because women with dyspareunia may experience a variety of sexual health difficulties and their most significant barriers to seeking help often result from embarrassment, stigma and beliefs about both the cause of the sexual pain and the efficacy of treatment. The nurse is an ideal member of the health team to counsel women in the sensitive and highly charged area of human sexuality. Therefore, sexual-counseling strategies can be used by the nurses during the assessment and treatment processes [17]. Therefore, this study was aimed to evaluate the effectiveness of application of PLISSIT counseling model on sexuality among women with dyspareunia.

### 1.2. Aim of the Study

The aim of this study was to evaluate the effectiveness of application of PLISSIT counseling model on sexuality among women with dyspareunia

### 1.3. Research Hypothesis

PLISSIT counseling model will be effective for improving sexuality among women with dyspareunia

## 2. Subjects and Method

### 2.1. Research Design

A quasi-experimental (A pre-post- test) Design Was Used.

### 2.2. Setting

This study was conducted in outpatient clinic of obstetrics & gynecological department at Benha University Hospital,

affiliated to Benha city. This particular setting was chosen because it is the main governmental hospital. This department is specialized in providing maternity care for women with different social backgrounds.

### 2.3. Subject

#### 2.3.1. Sample Type

A Purposive Sample Was Used.

#### 2.3.2. Sample Size

All women attended to the previously mentioned setting for six months were included in the study. The sample was consisted of 280 women 200 women without dyspareunia and 80 women diagnosed with dyspareunia and selected according to inclusion criteria and exclusion criteria.

#### 2.3.3. Inclusion Criteria

1. All recruited women were at reproductive age (15- 45) yrs, complained of dyspareunia.
2. Free from any gynecological disorders that may initiate dyspareunia or sexual dysfunction
3. Married and sexually active.
4. Willing to participate in the study
5. Had a telephone.

#### 2.3.4. Exclusion Criteria

Pregnant women, women with major medical and/or psychiatric illness, Antidepressants, high blood pressure, medications including sedatives and anti-histamines.

### 2.4. Tools of Data Collection

Three tools were used for collecting data.

#### 2.4.1. First Tool

A structured Interviewing Questionnaire Sheet: It was designed by the researchers after reviewing related literature, it was written in an Arabic language and encompassed three major parts:

*Part I:* Socio-demographic data of studied sample such as (age, level of education, occupation, and residence).

*Part II:* Menstrual /obstetric/and contraceptive history such as regularity of menstruation, menstrual pain, current usage of family planning, parity status, history of previous episiotomy, previous perineal laceration and history of breast feeding.

*Part III:* It was concerned with effect of dyspareunia on frequency of sexual relation.

#### 2.4.2. Second Tool: Dyspareunia Assessment Tool

Is was designed by the researcher after reviewing related literature to assess characteristics of dyspareunia such as the first time which women complained dyspareunia, timing of pain relative to intercourse, location of pain, frequency of pain, intercourse position which pain occurs and severity of pain. The degree of severity of pain is determined according to Numeric Pain Intensity Scale developed by [18]. This 0 to 10 pain scale is commonly and successfully used to assess the degree and severity of pain. The values on the pain scale correspond to pain levels as follows: 1-3 = mild pain, 4-6 = moderate pain, 7-10 = severe pain.

#### 2.4.3. Third Tool: Female Sexual Function Index (FSFI)

This scale was adopted from [19] it was designed as a multidimensional self-report questionnaire measure with subscales to assess the major components of sexual function in women during the four weeks prior to the interview day. It consisted of 19-item self-report measure that assess six domains including sexual desire, arousal, lubrication, orgasm, satisfaction and sexual pain. Each item yields a score ranging from 0 to 5. Scores obtained for each item are then summed up within each domain and then multiplied by a constant factor to yield woman domain scores. The overall sexual functioning score is calculated by summing the domain scores. Lower domain and overall sexual functioning scores indicate more sexual dysfunction and higher score indicating greater level of sexual functioning.

**Table 1.** Distribution of the 6 domains of FSFI, the corresponding items, and their score range.

Domain	Item /Number	Score/ range	Minimum score	Maximum Score
Desire	1, 2	1–5	2	10
Arousal	3, 4, 5, 6	0–5	0	20
Lubrication	7, 8, 9, 10	0–5	0	20
Orgasm	11, 12, 13	0–5	0	15
Satisfaction	14, 15, 16	0 (or 1)–5*	2	15
Pain	17, 18, 19	0–5	0	15

\*- Range for item 14 = 0–5; range for items 15 and 16 = 1–5

### 2.5. Methods

The study was executed according to the following steps:

#### 2.5.1. Approvals

A written official approval to conduct this research was obtained from the director of Benha University Hospital that was taken and delivered to the director of the outpatient clinics, in order to obtain their agreement to conduct the study after explaining its purpose.

#### 2.5.2. Tools Validity

The validity of questionnaires were reviewed for content validity by a jury of five experts in the field of obstetrics & woman health nursing at Ain shams university and El-Menoufia university to ascertain relevance and completeness of tools. Moreover, the validity of FSFI was confirmed by Rosen et al. and Anis et al. [19, 20]

### 2.5.3. Tools Reliability

Reliability was done by using Cronbach's Alpha coefficient test which revealed that each of the two tools consisted of relatively homogenous items as indicated by the high reliability. Internal consistency of FSFI=0.89 and dyspareunia assessment tool = 0.83. According to [21] values equal or greater than 0.70 considered satisfactory.

### 2.5.4. Ethical Considerations

Ethical approval was obtained from the Scientific Ethical Committee of Benha University. The purpose of the study was explained to each woman and informed consent was obtained from them to participate in this study. Confidentiality of obtained personal data, as well as respect of women's privacy was totally ensured. A summary of the intervention was explained to each woman before volunteering to participate in the study and women were informed that they can withdraw from the study at any time. No invasive procedure was required. The protocol of this study has been approved by the Hospital.

### 2.5.5. The Pilot Study

The pilot study was carried out before starting data collection. It was done to estimate the time required for filling out the sheets and also to check the simplicity, clarity, applicability and feasibility of the developed tools. The pilot study was conducted on 10% of total sample (8) women. Based on the results of the pilot study, the necessary modification were done, sample involved in the pilot study was excluded from the main study sample.

### 2.5.6. Procedures

Official approvals and letters to conduct this study were obtained from dean of researchers' faculty to directors of the previous mentioned settings. Informed consents were obtained from selected women and the aim of the study was explained to them. The study was carried out from beginning of June 2017 to the end of December 2017 covering a period of six months.

- Preparatory Phase:

The research design and tools of data collection was prepared based on reviewing current & past, local and international related literature by using magazines, books, periodicals journal and computer search to construct the tool of the study. Also prepared the counseling program for women with dyspareunia, the content of this program was prepared based on [11] PLISSIT Model of Intervention related to dyspareunia was developed and converted into a beneficial booklet

This study conducted through four sequential phases:

1. Assessment Phase:

This phase encompassed interviewing the women to collect baseline data, at the beginning of interview the researchers greeted each women, introduce themselves, explained the aim of the study, scheduled times and frequency of counseling sessions to all selected women to assure adherence to selected interventions. After taken oral consent each woman was interviewed individually using a

face-to-face interview technique, facilitated filling a structured interviewing questionnaires, dyspareunia assessment tool and apply pre test to those women by using Female Sexual Function Index(FSFI) to assess their sexual functions. The number of interviewed women per week was 10-11 women. The average time taken for filling each sheet was around 15-20 minutes depending on the response of the women. Each woman was reassured that information obtained would be confidential and used only for the purpose of the study.

2. Planning Phase:

Based on pre-test assessment the content and framework of the counseling sessions were prepared by the researchers based on women's needs after reviewing related literature using the general principles of the PLISSIT Counseling model through application of four levels permission(P), limited information(LI), specific suggestions(SS), and intensive therapy(IT).

3. Implementation Phase:

The researchers conducted the counseling sessions in outpatient clinic affiliated at obstetrics and gynecological department at Benha University Hospital. The researchers visited the above mentioned setting three days/week from 9.00 am to 12.00 pm. Four week one hour individual (one-to-one) sex counseling sessions were carried out by the researchers. The researchers established the session's environment to be comfortable and quiet. They used a well prepared intervention materials and contents in the form of comprehensive illustrated booklet and educational videos related to the sexuality by using PLISSIT Model.

1- *Permission* is the first level of the model which the researchers gave the women permission to initiate sexual discussion, feel comfortable about a topic or empower the women to make choices and changes, performing the assessment, create a comfortable and open-minded climate, demonstrate active listening, freely interact with the women and her partner, simply ask questions about all aspects of sexual health to give the women the opportunity (permission) to share her sexuality and what it means to them, and identify any concerns. However, the woman may hesitate or feel embarrassed to describe her sexual problems; therefore, the researchers explain that sexuality is an essential quality-of-life issue, and advice the women to be open to discuss it. This helps to normalize the discussion and may help the women feel less embarrassed or alone.

2- The second level is *Limited Information*, refers to factual information given to the women in response to a question or observation. Where in the researcher supplied the women with limited and specific information on the topics of discussion, addressed prevalent sexual concerns, norms of behavior and attempt to correct myths and misinformation about dyspareunia and its treatment. The researcher teach the women about the basic anatomy of the genital organ and physiological response of sexual function, and explain how diseases or treatment may affect sexual functioning and what changes in anatomy occur after surgery or birth delivery. Moreover, the researcher emphasize on the importance of

communication and trust within a partner relationship; dispel misconceptions and lead to the sharing of accurate information; and review the needs for sexual health, comfort, belief, and emotional safety.

3 -*Specific Suggestions* is the third level of PLISSIT model. After explaining the sexual concerns and how a woman has evolved over time, the researchers explained the causes of the problems and assist the woman with very specific directions on how to address the problems. This can include suggestions on how to deal with sex related diseases or information on how to better achieve sexual satisfaction by the women's changing their sexual behavior. The suggestions may alternative methods of sexual expression such as Crosswise sexual position and Kegel exercise may be suggested to help the woman relax the pelvic floor muscles or can involve specific regimens of activity or medication.

4 -The fourth and final level is *Intensive Therapy*, which has the researchers provide the women guidance for the treatment for severe or more longstanding problem of dyspareunia. If necessary, the researchers can be made a referral to a sexual health specialist, such as a sex therapist, pelvic floor specialist, or sex educator to provide more comprehensive support and guidance.

#### 4. Evaluation Phase:

The post test was done after application of PLISSIT counseling model. The researchers were used the same previous tools such as Female Sexual Function Index(FSFI) to evaluate the effectiveness of application of PLISSIT counseling model on sexuality among women with dyspareunia

#### 2.5.7. Statistical Analysis

Data entry and statistical analysis was done using Statistical Packages for Social Science (SPSS) version 20. Quality control was done at the stages of coding and data entry. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, and means and standard deviations for quantitative variables. Qualitative variables were compared using chi-square test. Statistical significance was considered at p-value <0.05, highly significant difference obtained at P<0.001 and non significant difference obtained at P > 0.05

### 3. Results

*Table 2* Describes socio-demographic data of the studied sample with and without dyspareunia. As inferred from the table, the age of studied women was ranged between 20-45 years, with a mean age of (34.68±8.98) years for women with dyspareunia and (35.42±9.07)years for women without dyspareunia. Secondary school education represented the higher percent by (55.7%) followed by those who had university education (17.5%), nearly two third of studied women were house wife (66.4%), less than two third (63.6%) of them are live in rural areas. There was no statistically significant differences with various socio-demographic data.

*Figure 1* Shows percentage distribution of women with &

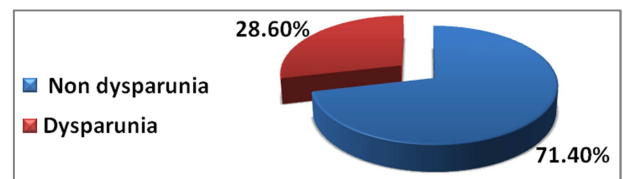
without dyspareunia, it was observed that more than one quarter (28.60%) of the studied sample complains of dyspareunia.

*Table 3* Describes menstrual, obstetric and contraceptive history of the studied sample. As shown, more than half (56.2% 54.0%) of women with and without dyspareunia had irregular menstruation respectively, also more than half (58.6%) of them complain pain during menstruation, the majority of them (85.0%, 89.0%) were use contraceptive methods respectively, more than half (58.8%, 53.4%) of these women using IUD respectively. And less than two third (60.3%) of women with dyspareunia had vaginal delivery with statistically significant differences among women with and without dyspareunia regarding parity status, history of previous episiotomy, history of previous perineal laceration and type of family planning method used (P<0.05).

*Table 4* Shows that, less than half (45.0%) of women with dyspareunia had sexual relation 1-2 times per/week compared with more than half (51.0%) of women without dyspareunia had 3-4 times/week with highly statistical significance differences among the studied sample in relation to effect of dyspareunia on frequency of sexual relation(P<0.001)..

*Table 5* Clarifies the characteristics of dyspareunia among the studied sample, it shows that, less than two third (61.3%) of women complain of dyspareunia from beginning of marriage, while more than one quarter (28.8%) of them complain dyspareunia after delivery, less than half (45.0%) of them had dyspareunia at the mid-time of vaginal introitus, more than one third (36.3%) of them had persistent dyspareunia with each sexual relation, less than half (47.0 %) of them complain dyspareunia when use man on above position. In addition, more than three quarter (76.3%) of women had moderate degree of pain. And (72.5%) of them had pain during intercourse

*Table 6* represents Female Sexual Function Index (FSFI) mean score among the studied sample with dyspareunia pre and post implementing PILLIST model. As shown, there was statistically significant differences of the FSFI mean score pre and post intervention (P<0.001\*\*) as regard to elements of FSFI including desire, arousal, orgasm, satisfaction and pain. Meanwhile, there were no statistically significant differences regarding lubrication (P>0.4). Moreover, total sexual function score pre and post were (53.20± 2.92) and (73.66±2.94) respectively this indicated highly significant differences (P> 0.001\*\*).



*Figure 1.* Percentage distribution of studied women with and without dysparunia.

**Table 2.** Distribution of the studied sample according to socio-demographic data (N=280).

Variable	Dyspareunia (80)		No dyspareunia (200)		Total (280)		Test of significance	
	No	%	No	%	No	%	t-test or $\chi^2$	P Value
Age (years): Mean $\pm$ SD	34.68 $\pm$ 8.98		35.42 $\pm$ 9.07		35.21 $\pm$ 9.03		65.21	0.32
Educational level								
Illiterate	5	6.3	10	5.0	15	5.4	234.89	0.16
Read and write	7	8.8	17	8.5	24	8.6		
Preparatory	20	25.0	16	8.0	36	12.9		
Secondary	30	37.5	126	63.0	156	55.7		
University	18	22.5	31	15.5	49	17.5		
Occupation:								
Working	35	43.8	59	29.5	94	33.6	30.22	0.40
Housewife	45	56.3	141	70.5	186	66.4		
Residence:								
Rural	44	55.0	134	67.0	178	63.6	20.6	0.16
Urban	36	45.0	66	33.0	102	36.4		

$\chi^2$ : Chi-Square test, t: Independent t test.

**Table 3.** Distribution of the studied sample according to menstrual, obstetric and contraceptive history N=280.

Variable	Dyspareunia (80)		No dyspareunia (200)		Test of significance	
	No	%	No	%	$\chi^2$	P Value
Regulatory of menstruation						
Regular	35	43.8	92	46.0	2.414	0.12
Irregular	45	56.2	108	54.0		
Pain during menstruation:						
Yes	47	58.8	117	58.5	8.22	0.06
No	33	41.3	83	41.5		
Current usage of contraceptive methods						
Yes	68	85.0	178	89.0	160.5	0.23
No	12	15.0	22	11.0		
If yes, type of contraceptive methods						
Progestin only pills	15	18.8	42	21.0	316.14	0.05*
Combined pills	7	8.8	31	15.5		
IUD	52	65.0	117	58.5		
Norplant	3	3.8	6	3.0		
Injectable contraceptive	3	3.8	4	2.0		
Parity status						
No	7	8.8	15	7.5	81.80	0.05*
Vaginal	44	55.0	86	43.0		
Cesarean section	29	36.3	99	49.5		
History of previous episiotomy						
Yes	36	45.0	69	34.5	17.50	0.04*
No	44	55.0	131	65.5		
History of previous perineal laceration						
Yes	32	40.0	46	23.0	54.91	0.03*
No	48	60.0	154	77.0		
History of breast feeding:						
Yes	70	87.5	171	85.5	145.7	0.06
No	10	12.5	29	14.5		

$\chi^2$ : Chi-Square test, \*Statistical significant difference (P $\leq$ 0.05\*)

**Table 4.** Distribution of the studied sample according to effect of dyspareunia on frequency of sexual relation N=280.

Frequency of sexual relation	Total (280)				Test of significance	
	Dyspareunia (80)		No dyspareunia (200)		$\chi^2$	P Value
	No	%	No	%		
Once per month	8	10.0	12	6.0	119.67	<0.001**
2 per month	13	16.3	17	8.5		
1-2 per week	36	45.0	39	19.5		
3-4 per week	17	21.3	102	51.0		
More than 4 per week	6	7.5	30	15.0		

$\chi^2$ : Chi-Square test, \*\*A highly statistical significant difference (p $\leq$ 0.001)

**Table 5.** Distribution of the studied sample according to characteristics of dyspareunia (N=80).

Characteristics of dyspareunia	Dyspareunia (80)	
	No	%
First time which complained dyspareunia		
From beginning of marriage	49	61.3
After delivery	23	28.8
After menstruation	8	10.0
Timing of pain relative to intercourse		
Before	12	15.0
During	58	72.5
After	10	12.5
Location of pain		
Superficial pain felt at or near vaginal introitus on penetration	25	31.3
At the middle of vagina	42	45.0
Deep pain felt inside the pelvis during penile thrusting	13	16.3
All of the above	6	7.5
Frequency of dyspareunia		
Continuous	29	36.3
Intermittent	51	63.8
Intercourse position which pain occurs		
When man above	38	47.5
When women above	10	12.5
Side-lying position	18	22.5
Cross-wise position	14	17.5
Severity of pain		
Mild	10	12.5
Moderate	61	76.3
Severe	9	11.3

**Table 6.** The mean score of Female Sexual Function Index (FSFI) among the studied women with dyspareunia Pre & Post intervention (N=80).

Female Sexual Function Index	Pre- intervention N=80	Post -intervention N= 80	T test	P Value
	Mean ± SD	Mean ± SD		
Desire (2 items)	4.13 ± 0.66	8.30 ± 0.72	13.62	< 0.001**
Arousal (4 items)	12.28 ± 1.61	16.73±0.77	7.76	< 0.001**
Lubrication (4 items)	12.90 ± 1.68	13.25 ± 1.61	3.64	0.47
Orgasm (3 items)	8.68 ± 1.13	9.90 ± 1.31	7.27	0.04*
Satisfaction (3 items)	8.45± 0.926	12.10± 0.58	28.15	< 0.001**
Pain (3 items)	6.75 ± 0.77	13.37± 0.64	54.68	< 0.001**
Total score	53.20± 2.92	73.66±2.94	32.65	< 0.001**

T: paired T test, no statistical significant difference (P> 0.05). Statistical significant difference (P<0.05\*) \*\*A highly statistical significant difference (P≤0.001)

## 4. Discussion

The sexual pain disorders including dyspareunia are highly prevalent yet misunderstood women's sexual health problems due to cultural and traditional believes and embarrassment in discussing the issues of sexuality or the women may perceive it as a private topic and must not be discussed with foreigner health care provider [22]. The PLISSIT model for assessment and treatment of sexual health is useful tool that gives basic structure to sexual inquiry and treatment [12]. So that the study aimed to evaluate the effectiveness of (PLISSIT) counseling model on sexuality among women with dyspareunia.

The results of this study will be discussed in frame of previously mentioned research hypothesis. To determine the associated factors related to dyspareunia, a comparison between women with dyspareunia and women without dyspareunia was done. These factors included socio-demographic data and obstetric features as regularity of menstruation, partial status, history of previous episiotomy, history of previous perineal laceration, breastfeeding, and the

use of a family planning method.

As regards socio-demographic data of studied sample the findings of present study revealed that the mean age of women with dyspareunia were (34.68± 8.98) and (35.42± 9.07) years in women without dyspareunia with no statistical significant differences. This indicated that women with and without dyspareunia were homogenous before conduction of the study. This findings was congruent with Mansour et al. [23] who study the effect of sexual counseling program on pain level and sexual function among women with dyspareunia and found that dyspareunia is common at reproductive age between 20-40 years. Also approved with KR Mitchell et al. [24] who studied Painful sex (dyspareunia) in women, prevalence and associated factors in a British population probability survey and found that proportion reporting painful sex is highest in young women (16-40 years). In addition, this findings are in the same line with Liu et al. [25] who study dyspareunia and its comorbidities among Taiwanese women and found that the incidence of dyspareunia was higher among women aged 30-34 years. On the other hand, this findings is contradicted with Saboula and Shahin [26] who studied the

effect of cognitive behavioral therapy on women with dyspareunia and revealed that there were statistical significant differences between the studied groups regarding age. Also, disagree with Hendrickx et al. [27] In their study about Age-related prevalence rates of sexual difficulties, sexual dysfunctions, and sexual distress in heterosexual women which found most sexual difficulties and sexual dysfunctions increase with age. Furthermore, it was found that-except for lubrication difficulties-sexual distress was also significantly associated with age.

The findings of present study revealed no statistically significant differences between women with and without dyspareunia regarding educational level, occupation and residence. This findings were approved by Mansour et al. [24] who found no differences with various socio-demographic data between studied sample. Also, in the same line with Sobhgol et al. [28] who did not find any relation between employment status and dyspareunia. On other hand, this findings are disagreement with Dean et al. [29] who studied dyspareunia in women and found that significant risk factors and predictors for dyspareunia include education level below a college degree.

The current study results confirmed that minority of the studied sample complain of dyspareunia. This percent may not reflect the actual percentage of cases due to cultural and traditional believes and embarrassment in discussing the issues of sexuality. This findings in the same line with KR Mitchell et al. [23] who revealed that painful sex was reported by 7.5% of sexually active women of whom one quarter experienced symptoms very often or always, for  $\geq 6$  months, and causing distress.

Concerning type of contraceptive methods, the results of the present study revealed that more than half women with and without dyspareunia use IUD method. This result disagree with Steege and Zolnoun [30] who found that Perhaps in keeping with the evidence for higher prevalence of vulvar vestibular syndrome in women using very-low-dose estrogen pills for long periods of time, some clinicians have observed that very light menses can be associated with diminished vaginal lubrication, leading to dyspareunia. Also contradicted with [31] who studied contraception and sexuality and stated that progesterone only method can in small numbers decrease libido and cause vaginal dryness consequently dyspareunia.

As regards partial status, the present study findings revealed that, more than half of women with dyspareunia had vaginal delivery and the majority of them had previous episiotomy. This may interpreted as low estrogen levels after delivery and local injury to the genital area at delivery may result in pain with sexual activity. This finding was matching with previous study done by Abd Alkareem et al. [32] who studied the prevalence and risk factors of postpartum dyspareunia at three months post- delivery in Sudanese women and reported that an increase rate of postpartum dyspareunia among women who had a vaginal delivery underwent a mediolateral episiotomy than others bearing by cesarean section. The relation between mode of delivery and postpartum

dyspareunia, according to their study is significant ( $p < 0.001$ ). Also consistent with Boran et al. [33] who studied the episiotomy and the development of postpartum dyspareunia and anal incontinence in nulliparous females and found that episiotomy is associated with dyspareunia. On the other hand, this result is contradicted with Dabiri et al. [34] who studied the effect of mode of delivery on postpartum sexual functioning in primiparous women and found no significant association between mode of delivery and postpartum dyspareunia.

Regarding previous perineal laceration, the present study findings revealed that women with dyspareunia had perineal laceration more than women without dyspareunia, this result was similar to findings of study done by Meir Medical Center [35] who found that postpartum dyspareunia resulting from vaginal atrophy that evaluated the prevalence and the causes for postpartum dyspareunia referred primarily to obstetric trauma, such as vaginal tears. Regarding breast feeding, the present study findings revealed that the majority of women with dyspareunia had breast feeding. This result in the same line with Khajehei [36] in their study about the comparison of sexual outcomes in primiparous women experiencing vaginal and caesarean births and found that women who breastfed their infants were less interested in starting intercourse.

The present study illustrated that less than half of women with dyspareunia decrease frequency of sexual relation than woman without dyspareunia. This result in the same line with Thomas et al. [37] in their study on dyspareunia is associated with decreased frequency of intercourse in the menopausal transition and reported that women who report dyspareunia, but not vaginal dryness report less frequent intercourse. Relief of dyspareunia should be addressed to maintain sexual functioning during mid-life.

The results of the current study showed that, less than half of women with dyspareunia complains onset of pain at the mid-time of vagina introitus, one third at the beginning and few at the end of vaginal introitus. This results supported by Orawan and Taneapanichskul [38] who reported that, among women with dyspareunia (47 in 108 women) found 51% had pain during the course of lovemaking, 34 % after and 15% at the beginning of lovemaking.

Regarding position of intercourse which cause dyspareunia the results of the present study illustrated that less than half of women complains from dyspareunia when the man above but few percent complain from dyspareunia when position of woman above during sexual relation. This result in the same line with Saboula and Shahin [26] who reported that 32% of women complained of dyspareunia were used man on the top position. On the other hand, this result was disagree with John et al. [39] who found that the cross-wise position was perhaps the best position for decreasing dyspareunia than other positions as when employed properly, neither partner is supporting their weight, the external genitalia are available for additional stimulation, and both direction and depth of vaginal penetration can be easily adjusted.

The results of the present study revealed that two third of women complains dyspareunia from beginning of marriage



during initiation of sexual intercourse and about one quarter complains dyspareunia after delivery. This result disagree with Alexander et al. [40] who reported that dyspareunia in 41 % to 67% of women within 2 to 3 months after birth and is associated with perineal trauma during delivery, episiotomy discomfort, decreased lubrication and vaginal dryness resulting from decreased estrogen levels, breast feeding, and pelvic floor dysfunction all have been linked to dyspareunia after birth.

As regards Female Sexual Function Index the results of the current study revealed that there were statistically significant differences between pre and post application of PILLIST model ( $P < 0.001$ ) as regard to elements of Female Sexual Function Index (FSFI) including desire, arousal, orgasm, satisfaction and pain. Meanwhile, there were no statistically significant differences regarding lubrication ( $P > 0.4$ ). This finding can be explained by how this model incorporates four levels; for problems of the first level, the participants are allowed to talk about their sexual problems. This result in the same line with Mansour et al. [23] who reported that statistical significant differences between pre and post scores in favor of post. All women post intervention mean scores were higher than pre intervention mean scores. As showed that after counseling sessions women's scores were significantly higher than before with regard to desire, arousal, satisfaction, orgasm and pain. Also the study revealed that there were no statistically significant difference regarding lubrication.

Also, this result congruent with Torkzahrani et al. [41] who reported that mean scores of sexual function four weeks after consultation were higher in experimental groups than in control group with high significant difference ( $P < 0.001$ ). Based on the result of this study, sexual problems decreased by using the PLISSIT model and consistent with Rostamkhani et al. [42] who reported that significant improvement was found in FSFI sub-domain scores, including sexual desire, arousal, orgasm, satisfaction and pain. Also in FSFI total score in the intervention group compared to the control group. Moreover, this result in the same line with Chun [43] who reported that PLISSIT model sexual program is effective in increasing sexual function for women with gynecologic cancer. Nurses may contribute to improving women's sexual function by utilizing the program. Strategies to relieve sexual pain need to be considered for greater effectiveness of the program.

## 5. Conclusion

Based on the overall findings of the present study, the study concluded that research hypothesis is supported and the PLISSIT counseling model had significant effect in improving sexuality among women with dyspareunia. There were statistically significant differences in the elements of Female Sexual Function Index (FSFI) including desire, arousal, orgasm, satisfaction and pain pre and post application of PILLIST model ( $P < 0.001$ ). Meanwhile, no statistically significant differences regarding lubrication

( $P > 0.4$ ).

## Recommendations

In the light of the findings of current study the following recommendations were suggested:

1. The PLISSIT counseling model should be used in a tailored and patient-centered approach in conducting sexual assessment and management of female dyspareunia.
2. In service education program for nurses about how to deal and manage various sexual problems by using PLISSIT counseling model.
3. Replication of PLISSIT counseling model on wide range of women complaining dyspareunia in outpatient clinics.
4. Sexual problems should be included in the Ministry of Health and Population plan to care for women with dyspareunia.

## Limitations of the Study

Some participated women withdrawn from the study after filling the interview questionnaire, because they cited a belief that the pain was normal, fear of the stigma of having a sexual problem and considered the sexual issues are prevented to be discussed openly (culture issue).

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