Nursing Guidelines for Reducing Marital Problems among Women Sufferingfrom Urinary Incontinence

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Abstract

Background: Urinary incontinence is a common condition, which reported prevalence ranging from 28 to 47% in women during midlife. Although urinary incontinence is not a life-threatening disease, but can also affect social, psychological, familial, occupational, physical and sexual aspects of women's lives. **Aim:** To evaluate the effect of nursing guidelines for reducing marital problems among women suffering from urinary incontinence. **Methods:** Quasi experimental design was used. **Setting:** At uro-gynecology unit at Ain Shams Maternity University Hospital. **Sample type:** A purposive sample of 76 women attending the previously mentioned and was used, sample criteria composed of women age ranged from 20-45 years, married, diagnosed with UI, and free from chronic disease that attended uro-gynecology unit. **Tools:** Interview questionnaire sheet, kings health questionnaire, voiding diary, observational checklist, follow up card and women's opinionnaire were used to collect data. **Results:** Findings of the present study showed that when woman done kegel exercise and pelvic floor muscle training before intercourse that decreased urinary incontinence during intercourse and decreased sexual problems. **Conclusion:** The result of the study was supported the study hypothesis in which nursing guidelines reduced marital problems among women suffering from urinary incontinence, knowledge and practice of the study group improved significantly in the study group. **Recommendations:** Performing training programmes for improving women awareness about urinary incontinence and sexual life.

Keywords: Marital Problems, Nursing Guidelines, Urinary Incontinence.

Introduction

Urinary incontinence (UI) "Involuntary loss of urine" is a common condition, which reported prevalence ranging from 28 to 47% in women during midlife and 52-65% in women aged 30 to 60 years **(Dooley et al., 2016).** The risk of urinary incontinence increases incrementally from the age of 40 to 60, with prevalence nearly doubled by age 55 **(Moller, Lose and Jorgenson, 2017).** Common types of urinary incontinence include stress incontinence (Urinary leakage with activity that increase intra-abdominal pressure), urgency urinary incontinence (Leak age related to urgency and irritative bladder symptoms associated with over active bladder), and mixed incontinence (a combination of stress and urgency urinary in continence) **(Hannestad, Lie, Rortveit, Hunskaar 2017).**

Although urinary incontinence is not a life-threatening disease, but can affect social, psychological, familial occupational, physical and sexual aspects on women's lives **(Riss & Kargl, 2015).** Therefore, this disease, as a social problem, prevents employment and education leads to shame and causes rejection from society **(Basak, Uzun & Arslan, 2015).**

Urinary incontinence is one of the greatest problems that affect women's marital, since it affects about third of adult women **(Smith, 2016; Resnick et al., 2018).**

Not only does it cause anxiety and embarrassment, but it also affects the sufferer's confidence and self respect urinary incontinence is associated with shame, anxiety, embarrassment and silence. It also affects the sufferer's confidence and self respect, since they often prefer to conceal the problem for as long possible **(Contillo, 2017; Flowers & Smith, 2018).**

UI can have multiple effects on daily activities, social interactions and the perception of health. The major problems are relate to social and mental well being, including sexual problems, social isolation, and low self-esteem and depression which affected quality of life, with psychological, professional, sexual and social ramifications **(Oh & Ku, 2016).**

From these marital problems, urinary incontinence has been found to be significantly has a great impact on sexual health associated with decreased libido, vaginal dryness, decreased interest, and decreased satisfaction with sexual intercourse, including organismic dysfunction, decreased desire in these women may be related to unsatisfying partner relationship, worries about coital incontinence and unsatisfying somatic health **(Nilsson, Lalos & Lalos, 2016).**

Significance of the study:

Urinary incontinence increases the risk of institutionalization, has a negative impact on marital life, and is also one of the most costly health conditions **(Robinson, et al., 2018).** Despite the high prevalence of urinary incontinence 200 million people world wide, 25 million adult Americans; 75-80 % of those are women **(National Association for Incontinence (NAI), 2019)** and in Egypt (sexual problems about 86% from urinary incontinence, 15% sleep disturbance, 43% depression from urinary incontinence, 25% social isolation), Many women's' do not seek medical attention.

Aim of the Study

The aim of the current study is to evaluate the effect of nursing guidelines for reducing marital problems among women suffering from urinary incontinence.

Research hypothesis:

Implementation of Nursing Guidelines will be expected to reduce marital problems among women suffering from urinary incontinence.

Subjects and Methods
Research design:

A quasi experimental study design was used to evaluate the effect of nursing guidelines for reducing marital problems among women suffering from urinary incontinence.

Setting:

The study was conducted at Ain Shams Maternity University hospital in uro-gynecology Unit which consists of three rooms: Room for the director, clinical room and radio urodynamic room.

Sample type:

A purposive sample was used to recruit all women suffering from marital problems from urinary incontinence who fulfilled study inclusion criteria.

Sample size:

The total number of sample was 76 women were recruited in this study; randomly allocated to study group (38) and control group (38). The study group had nursing guidelines and control group had the routine care based on the number of the women with urinary incontinence who admitted uro-gynecology unit at Ain Shams Maternity University Hospital at year 2015-2016 which was 760 women.

The sample size calculation done based on power analysis: Type error by power test (1-B) = 90%.

Sample was calculated according to formula statistics

$$n = \frac{\left(Z_{1-\alpha 12} + Z_{1-\beta}\right)^2 [P_1(1 - P_1) + P_2(1 + P_2)]}{(P_1 - P_2)^2}$$

Z_1: Statistic for a level of confidence (for the level of confidence of 95%, which is conventional, Z value is 1.96).

P_1: Expected prevalence or proportion in intervention group (P is considered 0.5).

P_2: Expected prevalence or proportion in control group (P is considered 0.5).

α: Error type 1 (is considered 0.05).

β: Error type 2 (is considered 0.10).

Tools of Data collection:

6 tools of data collection were used.

Tool I: Interviewing questionnaire sheet

It was designed by the researcher in simple Arabic language based on reviewing

the recent and related literatures **(Linton, 2014, DeGroot & Munden, 2015: Washington & Leaver, 2015).** It was divided into:

Part (1): It was used to assess women's demographic data e.g., age, occupation, level of education, it was consisted of 3 questions.

Part (2): Medical and obstetrical history:

- It was designed by the researcher and written in Arabic language after reviewing related literatures.

- It was used to assess of women data such as: The previous obstetrical and gynecological history as (number of pregnancies, number, of labor. Types of births, etc). It included 8 questions. History of obstetrics and gynecology; It was used to assess history as (menstrual cycle, operation related to urinary incontinence, complications during or after births, etc). It included 5 questions. The current medical history: It was used to assess current medical history as (many times of urination, taking medications for urinary incontinence, time period of treatment, etc). It included 7 questions.

Part (3): Women's knowledge related to urinary incontinence.

It was designed to assess level of knowledge regarding urinary incontinence as (concept, sign & symptoms, and complication, etc). It included 9 questions. Risk factors and types of urinary incontinence. It included 27 questions.

❖ **Scoring system:**

The score for correct answer for each statement was (2) and incorrect answer was (1) the total score of women knowledge was classified as follows:

• < 70% was considered unsatisfactory.

• ≥ 70% was considered satisfactory.

Tool II: The kings health questionnaire (KHQ):

It was used to assess the impact of urinary incontinence on marital problems as physical limitations (13 items), social limitations (10 items), psychological limitations (10 items), sexual relationship (10 items), spiritual limitations (6 items) and economic effect (7 items). The responses in KHQ have four point rating system (No at all, Slightly Moderately and a lot) **(Grain et al., 2017; Hunt, McEwen, McKeena, 2017).** It was modified by the researcher and scored by Not at all = 4, Slightly = 3, Moderately = 2 and a lot = 1.

❖ **Scoring system:**

Total score was classified as follows:

• < 70% was considered unsatisfactory.

• ≥ 70% was considered satisfactory.

III- Voiding diary:

It was a sheet designed by the researcher in Arabic language to record frequency of urine, timing and amount of voiding, it provided baseline information, help to monitor progress and effectiveness of therapy **(Fantl et al., 2015).**

IV- Observational checklist: For women with marital problems suffering from urinary incontinence.

It was developed by researcher based on literature review **(Baum & Manni, 2017; Bertoldo, Boccard, Bombardieri, Laura & Valdagni, 2017).** It was written in Arabic language and was used to assess women practices as hand washing, prineal care, kegel exercises and pelvic floor muscle exercises. The response of each procedure was divided into (done correctly and not done). The observational checklists were included hand washing 10 steps, care of prineal area 9 steps, kegel exercise 8 steps, pelvic floor muscle exercise 4 steps.

❖ **Scoring system:**

Two marks was given to the step which was done correctly and one to the step which was not done. Total observational checklist was 31 marks.

Total score was classified and categorized as follows:

• < 70% was considered unsatisfactory level of care practices.

• ≥ 70% was considered satisfactory of care practices.

V- Follow up card:

It was designed by the researcher to identify women's name, telephone number and time of visits.

VI: Women opinionaire: it included women's opinion regarding guidelines sessions and consisted of nine statements and answer yes or no.

Field work

The study was carried out through four phases: assessment, planning, implementation, and evaluation. Data collection for this study was carried out over a period of 12 months from beginning of June 2018 to the end of May 2019. Researcher was available in the study setting 3 days/week (Saturday, Monday and Wednesday) to collect data from control and study groups. From 9:00 a.m to 2.00 p.m. Researcher first explained the aim of the study to the participants and reassure women that information collected would be treated confidentially and that would be used only for the purpose of the research.

Phase I: Assessment phase

- During assessment phase:

- The researcher held the first meeting with each women at uro-gynecology Unit at Ain Shams Maternity University Hospital for participants in both groups by researcher and introduce her-self and briefly explained the nature and the purpose of the study. They were informed that participation in this study was voluntary and they had the right to withdraw at any time. Oral approval of women to share in this study was achieved.

- The researcher took telephone number at the first contact to determine the next appointment in order to complete data collection process.

- The researcher provided an overview and clarification about the tools, then the structured questionnaire was distributed to each women in study group to assess socio-demographic characteristic, history of obstetrics and gynecology, knowledge about urinary incontinence, nursing guidelines and practices. Using observational checklist as a pretest for

procedures of hand washing, perineal care and kegel exercise in a time ranged from 60 to 70 minutes distributed as the following: women demographic characteristics took about 5 minutes, women history took about 5 minutes, knowledge took about 10 minutes, women practices took about 30 minutes and king health questionnaire and marital problems took about 20 minutes. The number of group assessed participated ranged from 1-3 group.

Regarding the pre assessment was done also as control group and took approximately same time for all data collection tools.

Phase II: Planning phase

Based on the needs identified in the assessment phase from the participated women and in view the literature. The researcher determined the teaching strategy (time table of sessions, teaching methods, media used). The content met women' needs (pre, during and after procedure). Nursing guidelines was developed by the researcher in the form of printed Arabic booklet to satisfy the women's knowledge deficit and care practices.

Phase III: Implementation phase (conducting nursing guidelines)

a.Study group:

This phase divided into two stages; 1st stage was conducted as a part of preparatory phase on which researcher outlined all areas to be included in the nursing guideline through extensive review of the literature and other available resources. Then designed nursing guidelines for women with marital problems from urinary incontinence. And finally, experts' opinion was obtained to ensure guideline's validity. While, 2nd stage consisted with implementation of nursing guidelines it started with distribution of nursing guidelines among study group then, instructions were given to each women for six sessions.

b. Control group:

Women in the control group received only routine care without any instructions.

- After women in the study group filling in the tool with orientation about the content and purpose of the study. The teaching session were conducted in classrooms in uro-gynecology unit at Ain Shams Maternity University hospital. The classrooms with air conditioned, quite, well ventilated, well furnished and had adequate lighting.
- Implementation of nursing guidelines lasted over a period of 3 months for all women in the study group.
- Each session had taken about 45-60 minutes/day for three days per week. These session were conducted for small group ranged from 7-8 women. Each woman was treated as case by case based on the needs of woman.
- The nursing guidelines involved 6 scheduled sessions which was theoretical sessions and 2 practical sessions.
- Each session was started by a summary about what has been discussed in the previous session and the objectives of the new session, using simple, Arabic language, also the session ended by a summary of its contents and feedback from the woman was obtained to ensure that the woman got the maximum benefits.
- First session: included anatomy of urinary system, anatomical position of the pelvic floor definition of urinary incontinence, types, causes, risk factors, complications, diagnosis and methods of treatment.
- Second session: included marital problems that result from urinary incontinence (physical, social, sexual, spiritual, economic problems).
- Third session: included nursing guidelines for reducing marital problems from urinary incontinence (physical treatment, behavioral, sexual, psychological treatment), prevention and management of complication of urinary incontinence.
- Fourth session: nursing guidelines regarding follow up and psychological, social, sexual, physical and spiritual aspects.

- Fifth session: included practices regarding hand washing, care of prineal area.
- Sixth session: included practices regarding kegel exercises' pelvic floor exercises.
- These sessions were repeated to each group of women, repeated until all groups finished.
- Feedback was given in the beginning to each session about the previous one. The teaching methods used were small group discussion. Suitable teaching media were used, included posters, videos booklet was distributed to all women that first session. The researcher communicated with women via telephone call for reinstruction and reinforcement.

Phase IV: Evaluation phase

Evaluation was done using assessment of knowledge pre, post and follow up, researcher follow up women in both groups at third month after implementing nursing guidelines, both groups were evaluated using the same tools during pretest, posttest and follow up this instrument evaluations were (1) evaluation of knowledge was done using the same pretest, post-test and follow up test, (2) evaluation of practice using the same observational checklist for pre, post and follow up test and (3) using king health to assess marital problems.

Ethical considerations:

The research approval was obtained from scientific research ethical committee in faculty of nursing at Ain Shams University before starting the study, the researcher was clarified the importance and aim of the study to the women included in the study, the researcher assured maintain anonymity and confidentally of the subject data, questionnaire did not include any immoral statements that touch women's beliefs, dignity, culture, tradition and religious issues, women were informed that they are allowed to choose to participate or not in the study and that they have the right to withdraw from the study at any time and

women were informed that the collected data would be used only for the purpose of the present study, as well as for their benefit.

Pilot study:

10% from total sample represented about (8 cases) was included and chosen randomly from the previously mentioned setting. It was carried out for a period of one week to evaluate the applicability of the tools to find the possible obstacles that might be faced during data collection.

There were no major modifications found after pilot study. The pilot also served to assess the applicability of the scale through examining its internal consistency.

Statistical analysis:

All data were collected, tabulated and subjected to statistical analysis. Statistical analysis is performed by Microsoft office excel is used for data handling and graphical presentation. Quantitative variables are prescribed by mean, stander deviation (SD), while qualitative categorical variables are described by proportions and percentages. Chi-squared test of independence is used for categorical variables. Test of significance was used and regarding significance of the results. The observed difference and association were considered as follows:

- Non significance (NS) P > 0.05.
- Significant (S) P ≤ 0.05.
- Highly significant (HS) P ≤ 0.01.

Results

Table (1): Regarding sociodemographic characteristics of the study and control groups, table (1) shows that the mean age of the study group was (31.57±4.62), while mean age in the control group was (32.44 ± 5.22). Regarding educational level 34.2% of the study group were at preparatory school and 31.6% of the control group were at secondary school.

Figure (1): Concerning risk factors of urinary incontinence figure (1) shows that diabetes mellitus, hysterectomy,

smoking, calcium medication, caffeine and increase body mass index are the most common risk factors in 57.9%, 55.3%, 57.9%, 50%, 52.6% and 55.3% respectively in the study group and in 52.6%, 50%, 63.2%, 47.4%, 47.4% and 50% respectively in the control group, this table show no statistically significant difference between study and control groups in pre as regard risk factors for urinary incontinence when p- value was > 0.05 and while increase body mass index, diabetes mellitus, blood pressure medication are the most risk factors in 28.9%, 23.7% and 21.1% respectively in the study group and 44.7% and 52.6% in the control group respectively in post test and in follow up 13.2% in increase body mass index and 0% in alcohol in the study group and in control group 44.7% in blood pressure medication and 18.4% in alcohol, finally there was statistically significant difference between two groups (study and control groups) in post and follow up test when p-value was < 0.05.

Table (2): Concerning symptoms and types of urinary incontinence table 5 shows that going to urinate 8 times or more a day, leaking urine during sex, suffering from gall stone in the ureter, waking up to urinate after you go to sleep and leakage of urine during cough, laugh and sneeze are the most common symptoms in 86.8%, 81.6% and 65.8% respectively in the study group and in 71.1%, 78.9%, 84.2%, 89.5% and 73.7% respectively in the control group this shows non statistically significant difference between study and control groups in pre test as regard symptoms and types of urinary incontinence when p-value was > 0.05 while was statistically significant difference between two groups (study and control groups) in post and follow up when p-value was < 0.05.

Table (3): shows that regarding satisfactory level of total knowledge about urinary incontinence there were 15.7% of the studied women had a satisfactory level of knowledge pre implementation of nursing guidelines, 81.5% had satisfactory

about total knowledge post implementation of nursing guidelines and 73.7% at follow up there were highly significant difference between pre, post and follow up of guidelines implementation.

Figure (2): show highly statistically significant between study and control groups regarding sexual dimension of king health post and follow up of guidelines implementations when p-value was <0.001**

Table (4): illustrated that 15.8% of the study group and 18.4% of the control group had satisfactory level of total care practices, pre implementation of nursing guidelines with no statistical significant differences between them (P > 0.05). While, post implementation of nursing guidelines 78.9% of the study group and 31.6% of the control group had satisfactory level with statistical significant differences between

them (P < 0.001). At follow up 68.4% of the study group and 26.3% of the control group had satisfactory level with statistical significant differences between them (P < 0.001).

Table (5): shows that, there were statistically significant positive correlations with the increase of total knowledge there is increase in practice in the study and control groups pre, post and follow up of guidelines implementation (P < 0.001), posttest is highly significant than follow up.

Table (6): show statistically significant deference between Total king's health pre and post with Level of education when p-value was <0.05*. And there was statistically significant deference in the control group between Total king's health pre with Level of education when p-value was <0.05* when p-value was <0.05*.

Table (1): Distribution of women (control and study group) according to their socio-demographic characteristics (n= 38 of each group).

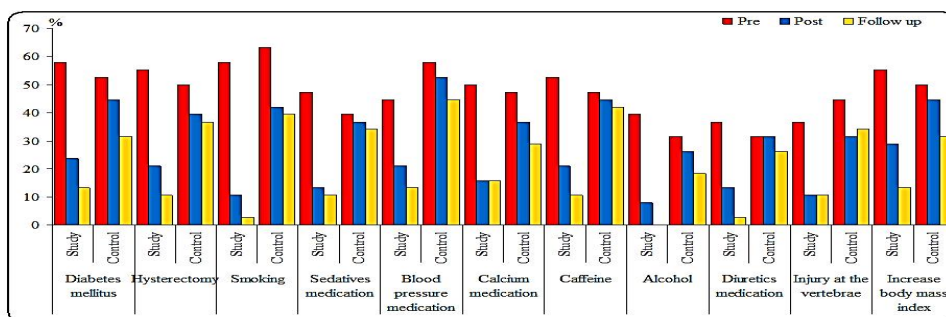|	Study		Control		Total		Chi-square	
	N	%	N	%	N	%	X^2	P-value
Age								
< 20 years	5	13.2	6	15.8	11	14.5		
20 - 25 years	7	18.4	8	21.1	15	19.7		
30 - 35 years	11	28.9	13	34.2	24	31.6	0.940	0.816
35 - 40 years	15	39.5	11	28.9	26	34.2		
Mean±SD	31.57±4.62		32.44±5.22		32.01±4.9			
Occupation								
House wife	17	44.7	16	42.1	33	43.4		
Crafts women ship	7	18.4	9	23.7	16	21.1	0.317	0.853
Employee	14	36.8	13	34.2	27	35.5		
Level of education								
Preparatory	13	34.2	8	21.1	21	27.6		
Secondary	10	26.3	12	31.6	22	28.9		
University	8	21.1	11	28.9	19	25.0	3.013	0.556
High education	2	5.3	4	10.5	6	7.9		
Tertiary education	5	13.2	3	7.9	8	10.5		

Figure (1): Comparison between pre, post and follow up in two groups (study and control groups) according to their risk factors for urinary incontinence.

Table (2): Comparison between pre, post and follow up in two groups (study and control groups) according to their identify symptoms and types of urinary incontinence.

Symptoms and types of urinary incontinence		Pre		Post		Follow up		Chi-square (P-value)		
		N	%	N	%	N	%	Pre	Post	Follow up
Leakage of urine during cough, laugh, lift something or sneeze	Study	25	65.8	8	21.1	6	15.8	0.454	0.004*	0.003*
	Control	28	73.7	20	52.6	18	47.4			
Leaking urine during sex	Study	31	81.6	12	31.6	5	13.2	0.773	<0.001**	<0.001**
	Control	30	78.9	26	68.4	24	63.2			
Leaking urine when having a strong desire on the way to bathroom	Study	27	71.1	10	26.3	9	23.7	0.087	0.003*	0.002*
	Control	25	65.8	23	60.5	22	57.9			
Waking up to urinate after you go to sleep	Study	31	81.6	9	23.7	4	10.5	0.328	<0.001**	<0.001**
	Control	34	89.5	28	73.7	25	65.8			
Waking up to urinate at night	Study	25	65.8	13	34.2	10	26.3	0.622	<0.001**	0.019*
	Control	27	71.1	27	71.1	20	52.6			
Feeling urination and losing urine at inappropriate times	Study	29	76.3	6	15.8	7	18.4	0.574	<0.001**	<0.001**
	Control	31	81.6	29	76.3	28	73.7			
Leaking urine during sleep	Study	27	71.1	12	31.6	6	15.8	0.427	<0.001**	<0.001**
	Control	30	78.9	26	68.4	21	55.3			
Feeling leakage of urine in public places	Study	26	68.4	11	28.9	8	21.1	0.807	0.003*	<0.001**
	Control	25	65.8	24	63.2	23	60.5			
Going to urinate 8 times or more a day	Study	33	86.8	5	13.2	6	15.8	0.091	<0.001**	<0.001**
	Control	27	71.1	25	65.8	22	57.9			
Going to urinate at night twice or more	Study	26	68.4	12	31.6	10	26.3	0.105	0.003*	<0.001**
	Control	32	84.2	25	65.8	24	63.2			
Having a strong desire to urinate immediately	Study	29	76.3	12	31.6	5	13.2	1.000	0.006*	<0.001**
	Control	29	76.3	24	63.2	20	52.6			
Suffering from gall stone in the ureter	Study	31	81.6	10	26.3	7	18.4	0.761	<0.001**	<0.001**
	Control	32	84.2	28	73.7	26	68.4			
Having a urinary tract tumor	Study	30	78.9	7	18.4	8	21.1	0.361	<0.001**	<0.001**
	Control	33	86.8	32	84.2	30	78.9			
Suffering from any mental illness such as forget fullness	Study	27	71.1	10	26.3	4	10.5	0.803	<0.001**	<0.001**
	Control	26	68.4	28	73.7	25	65.8			
Suffering from any physical impairment that hinders you in fast movement	Study	25	65.8	12	31.6	2	5.3	0.622	<0.001**	<0.001**
	Control	27	71.1	30	78.9	25	65.8			
Suffering from joint pain	Study	26	68.4	11	28.9	7	18.4	0.803	0.036*	0.007*
	Control	27	71.1	20	52.6	18	47.4			

Sig.: < 0.05   NS: > 0.05   HS: < 0.001

Table (3): Assessment of the study group satisfaction regarding total knowledge about urinary incontinence pre, post and follow up implementation of nursing guidelines.

Total knowledge	Study Satisfactory		Unsatisfactory		Chi-square	
	N	%	N	%	X²	P-value
Pre	6	15.79	32	84.21	0.350	0.554
Post	31	81.58	7	18.42	15.745	<0.001**
Follow up	28	73.7	10	26.3	13.511	<0.001**

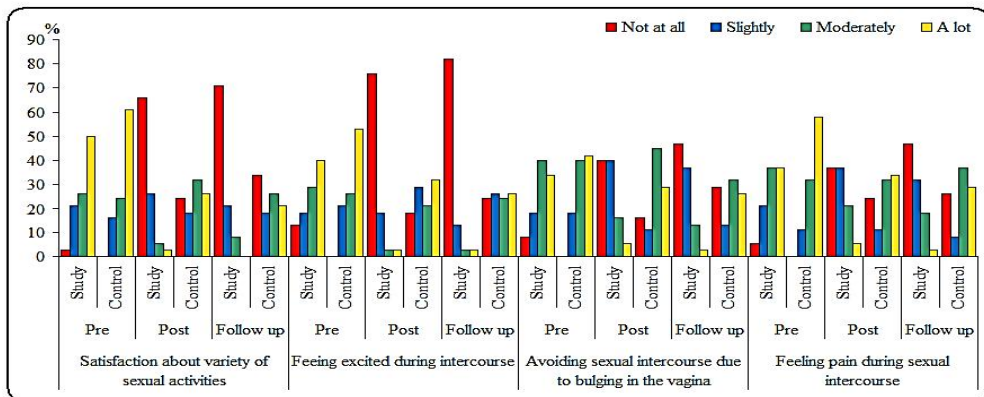Sig.: < 0.05   NS: > 0.05   HS: < 0.001

Figure (2): Comparison between study and control groups regarding sexual dimension of king health, pre, post and follow up guidelines implementation.

Table (4): Comparison between study and control groups regarding their satisfactory level of care practices pre, post and follow up guideline's implementation.

Items of practice		Pre		Post		Follow up		Chi-square (P-value)		
		N	%	N	%	N	%	Pre	Post	Follow up
Hand wash	Study	7	18.4	30	78.9	28	73.7	0.773	<0.001**	0.002*
	Control	8	21.1	11	28.9	9	23.7			
Preineal care	Study	6	15.8	29	76.3	24	63.2	1.000	<0.001**	0.014*
	Control	6	15.8	12	31.6	10	26.3			
Kegel exercise	Study	6	15.8	32	84.2	27	71.1	0.554	<0.001**	0.008*
	Control	8	21.1	13	34.2	12	31.6			
Total practice	Study	6	15.8	30	78.9	26	68.4	0.761	<0.001**	<0.001**
	Control	7	18.4	12	31.6	10	26.3			

Sig.: < 0.05   NS: > 0.05   HS: < 0.001

Table (5): Correlation between women's total knowledge and practice in the study and control group pre, post and follow up of implementation nursing guidelines.

Total practice	Total knowledge Study		Control	
	r	P-value	r	P-value
Pre	0.248	0.039*	0.142	0.357
Post	0.745	<0.001**	0.253	0.046*
Follow up	0.684	<0.001**	0.267	0.071

Sig.: < 0.05   NS: > 0.05   HS: < 0.001

Table (6) Relation between total king's health and their education level in the study and control group pre, post and Follow up implementation of nursing guidelines.

Level of education		Total king's health					
		Study Mean±SD	ANOVA f	P-value	Control Mean±SD	ANOVA f	P-value
Pre	Preparatory	138.54±4.31			146.00±3.38		
	Secondary	139.10±4.43			145.00±1.83		
	University	137.25±4.40	3.603	0.015*	140.33±4.08	21.872	<0.001**
	High education	132.00±2.83			133.00±2.00		
	Tertiary education	131.80±3.56			130.67±5.86		
Post	Preparatory	111.69±4.53			130.88±6.56		
	Secondary	112.60±6.50			131.00±3.37		
	University	106.38±4.53	2.836	0.038*	135.25±4.03	2.190	0.092
	High education	108.05±0.00			132.67±4.16		
	Tertiary education	105.70±5.29			128.45±3.53		
Follow up	Preparatory	112.08±2.05			138.10±10.69		
	Secondary	115.08±10.13			137.27±11.01		
	University	114.68±9.27	0.450	0.772	139.55±9.48	0.220	0.925
	High education	113.56±1.92			134.09±10.20		
	Tertiary education	110.07±12.18			136.67±11.60		

Discussion

The current study aimed to evaluate the effect of nursing guidelines for reducing marital problems among women suffering from urinary incontinence, this aims was significantly achieved through the present study research findings.

Grodstein (2017) reported that the overall prevalence of incontinence in the middle-aged women is somewhat higher than the prevalence of 34.1%, **Hunskaar et al. (2017)** reported a 30% to 40% prevalence of incontinence among middle-age women. Regarding to demographic characteristics of studied samples revealed that's mean age of the studied women was (31-57±4.62) and mean age of control group was (32.44±5.22), this findings was supported by **Naser Eldeen (2016)** who reported that prevalence of SUI increased in middle age women ranged from 41-5 years and **Balci et al. (2017)** who reported that, mean age of women (31.9±6.6) and **Mallah et al. (2018)** who reported that mean age of women was (32.4±9.9). On the other hand disagreements with **Fritel, Ringa & Fauconner (2017)** who reported that stress urinary incontinence (SUI) prevalence increased with age and reached a maximal level around the age of 50 and also disagreement with **Segedi et al. (2016)**

who reported that the mean age of women was (60.83±8.63). This is due to the middle age women carried heavy things and overloaded work while the old age didn't carry anything heavy and needs rest.

Altaweel, and Alharbi, (2017) reported that women with higher educational level had a greater awareness of UI, a greater perception of hygiene and a better lifestyle. Also, they had better access to medical services if they had UI previously. The result of the present study showed that the studied women had various educational backgrounds, it was found that the women with preparatory school had a higher risk for marital problems with UI where they represented more than one third of the studied women and control group represented less than third. In addition less than one third of women were at secondary school and control group about one third, which explained why they were responding easy to the knowledge given to them so they were not coping with their disease or their treatment. **El-Azab, Mohammed and Sabra (2017)** who studied that the high prevalence of UI was among women with low education level this agreed with the present study. Also, **Kirss, Lang, and Toompere (2018)** reflected approximately the same picture contradicting with the

previous findings, **Naser Eldeen (2016)** who found that, women who were highly educated (university and secondary school education) done more visits to outpatient clinics and insisted on getting cured and had normal life than do the women with less education, this is due to different culture.

Sensoy, Dogan, Ozek, Karaaslan, (2018) who reported that urinary incontinence is an important multifactorial health problem which affects women's life quality negatively and related significantly to age, education, occupation, marital status and BMI. In the present study there were about two thirds of women were housewives in the study group and control group. **Hannestad, et al., (2017)** were consistent with the results of the current study where they found in their study that the majority of the studied women were housewives. This may interpret the lower level of self efficacy and also indicated their poor ways of coping with the disease as the researcher was reported by many of the women in the study sample that they were housewives because they were feeling embarrassed of urine leakage during their work hours. **Gom and Ruggiero (2016)** suggested that the work performance of women with urinary incontinence was impaired. Similar to the results of **Blanche and Mirrelle (2015)** who found in their study about assessment the health related concerns and experiences of the employed women in Alexandria, Egypt. Found that the usually mentioned concerns in order of frequency were chronic headaches, chronic fatigue, transportation and communication problems, financial problems, job dissatisfaction.

Rogers, (2016) reported that stress incontinence is common in women who had given vaginal birth as it leads to pelvic floor muscle destruction, the chances to develop various forms of incontinence like stress incontinence and urge incontinence are higher in women who had vaginal delivery as compared to those who had cesarean section. In the present study

showed that more than two thirds in the studied groups had normal delivery and more than one third had four or more times of pregnancy in the same context **Peyrat et al., (2019)** who observed that, pregnancy and childbirth were established risk factors for stress incontinence. All though vaginal delivery and caesarean delivery increased the risk of stress urinary incontinences, the risk was higher in women who delivered vaginally. Also this findings go in line with **Rortveit et al., (2016)** who indicated that in a study of more than 15000 women the prevalence of urinary incontinence among nullipara group and 21% in the vaginal delivery group, this may be due a combination of injury to the pelvic floor musculature and connective tissue, as well as nerve damage as a result of pregnancy and labor.

Brown et al., (2018) suggested that the extent of hysterectomy, thus increased potential for neurovascular bundle (NVB) damage, is correlated to risk of UI. In the current study there were more than two thirds had pelvic surgery (hysterectomy) in the studied groups and about fifth had uterine prolapse. This finding go in line with **Brown et al., (2017)** who revealed that hysterectomy had been associated with the development of urinary incontinence, particularly SUI, hysterectomy may damage the muscles of the pelvic floor and lead to incontinence, stress urinary had also been associated with vaginal prolapse uterine prolapse and vaginal vault prolapse after hysterectomy, probably from the common risk factors of the weak of the pelvic floor muscles, weakening of the structures of the pelvic floor can contribute to both prolapse and incontinence.

Subak, Richter and Hunskaar, (2018) showed that several risk factors are associated with the presence of lower urinary tract symptoms (Luts) such as age, parity, mode of delivery, birth weight, gestational age and obesity. **Miller and Kasper, (2018)** reported that some studied had shown significant tendencies in females with high body mass index (BMI)

for developing UI. This has been attributed to excess weight in the abdominal area, which increased the abdominal pressure and as a consequence increased the pressure of the bladder and caused mobility of the urethra **(Twonsend et al., 2016).** In the current study, it was found that related to body mass index, there were found around more than half of the studied women fall in the category of obese, where their body mass index was ≥ 30kg/m². In the same context, **Wesnes, Hunskaar, Bo, Rortveit, (2018)** who observed that, a high BMI was associated with each type of UI. Also this findings go in line with **Harai, Qura and Mori (2018)** who indicated that the prevalence of all the three types of UI increased with age and the BMI value. The reason is that aging and obesity probably cause a chronic in illness and affect urinary function. Obesity is also considered to be a factor that promotes UI and the likely cause for this association may be the increased intra-abdominal and bladder pressure that occurs with increased BMI **(Mishra, Hardy and Cardozo, 2018).** This increased pressure may create difficulties in the mechanism for urethral continence through diminishing the pressure rise between the urethra and the bladder, so participating or exacerbating UI, although hyper active bladder has also been cited more frequently among obese women, weight reduction by 5% to 10% had efficacy similar to other non-surgical treatment and can be considered to be a first line treatment for UI **(Funganti, Gowdy and Santiago, 2016).** However, the results of the study was in consisted with **Yagmur and Ulukocal, (2017)** who found that BMI was not a risk factor for UI.

Caffeine had a diuretic effect and also affected the bladder by increasing detrusor pressure and promoting detrusor muscle excitability **(Arya, Myers and Jackson, 2019).** In the current study more than half of studied women taking caffeine drinks this study in relation to **Riesenhuber (2015)** who revealed that caffeine had a diuretic effect and might

also play a role in urgency urinary incontinence and found that daily caffeine intake of greater than 204mg was associated with a prevalence of 40% of any type of incontinence most commonly stress urinary incontinence.

Lower urinary tract symptoms (LUTS) are subjective indicators of disease or change in condition perceived by the women and are generally qualitative indicators. Among the most common symptoms are urinary frequency and urgency, nocturia, and urinary incontinence (UI) **(Hunskaar et al., 2017).** Among the symptoms UI has a greater prevalence and is defined, according to international continence society, as all involuntary loss of urine originating from different process that alter its storage in the bladder. In the present study concerning the symptoms and types of urinary incontinence revealed that most of the women leaking urine during sex, waking up to urinate after sleep and going to urinate 8 times or more a day in according with this findings **Mendive, Rebollo, and Perez (2017)** who reported that among all women with treatment SUI, had a mean prevalence of 49%, UUI 21% and MUI of 29%.

Studied had shown that smokers were at an increased risk for incontinence, overtime, many smokers develop a chronic cough, which could put an enormous amount of pressure on the pelvic muscles, caused them to weaken and increased the chance of stress incontinence. Additionally, smokers also experience more frequent urges to use the rest room, as smoking is an irritant to the bladder, even more alarming. It was been shown that smoking could also lead to bladder cancer.

In the present study there were more than half of the studied women were smokers this results in disagreement with **Cheung et al., (2017)** who reported that found little of the studied women were smokers, smoking had been associated with urgency urinary on the bladder, smoking was also associated with chronic cough

which could contribute to stress urinary incontinence SUI.

Female sex is a key function of human being and has a fundamental role in women reproductive life, this function integrates physical, emotional and psychological factors and affects marital life. Indeed it has been suggested that any problems in sexual function might lead to a worsened general well-being and overall quality of life **(Chedraui et al., 2016).**

Concerning sexual effect on marital life the present study showed that statistically significant difference between two groups P > 0.05 post and follow up of guidelines implementations regarding (satisfaction about variety of sexual activities, feeling excited during inter course and feeling pain during sexual inter course) these findings similar with **Bartolig Aguzzi, and Tarricone (2018)** and **Unsal, Tozun and Arslantas (2018)** who found that many aspects of women life are impaired including psychological wellbeing, sexual and interpersonal relationships, social interactions and activities. The researcher was reported that UI impacts on sexual life as incontinent women did not talk to anyone about their incontinence, not even with their husband because they were ashamed of having the symptom and fear perception of urine odor. However the UI impact varies from woman to woman. It is possible that a woman with severe UI is satisfied with exhausting a panty-liner just in case, whereas a woman with mild UI considers only a complete cure acceptable consequence of aging **(Huang et al., 2019).**

Considering statistical relation between women knowledge, practice and total king's health the study results showed that definition about the disease, causes, types, methods of prevention UI and treatment and did the perineal care procedure, kegel exercise and hand wash, the current study results revealed that there was a significant relation between women's king health and their level of knowledge and practice where p > 0.05. This means

that unsatisfactory knowledge and practice had a negative effect on total king health. These findings was supported by **Fitz Gerald et al., (2017)** and **Robinson et al., (2016)** who reported that women had a poor Quality of life (QOL).

Regarding to statistically relation between total king health and their level of education the present study indicated that there was statistically significant difference between factors of king health (physical, psychological, sexual, social and spiritual) and educational level. This means that, the highly educated women were more knowledgeable and had better quality of life than low educated. This result come in agreement with **Bengtsson et al., (2018)** who stated that women's information had a significant effect on marital life and there was positive association between education and women's knowledge level. According to **Herber et al., (2017)** highly educated women's had more knowledge and better quality of life than low educated ones in addition educated women's had a good marital life and quality of life and quality of life whilst low educated women had a poor quality of life. That result also supported by **Robinson et al., (2018)** who reported that these younger than 55 years, with degree of qualifications and income of above a $40.000 perannun, were significantly less likely to experience incontinence.

Conclusion

The result of the study was supported the study hypothesis in which nursing guidelines reduced marital problems among women suffering from urinary incontinence.

Recommendations

Performing training programmes for improving women awareness about urinary incontinence and sexual life.

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