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Evidence Based Nursing Guideline for Improving Sexual Quality of Life among Women with Stress Urinary Incontinence

Amira morsy yousif[1], Wafaa Khalil Ibrahim[2], Hisham Mahmud[3]
Lecturer of Maternity and Gynecology Nursing- Faculty of Nursing- Ain Shams University[1], Lecturer of Community Health Nursing- Faculty of Nursing -Ain Shams University, Professor of Obstetric and Gynecological-Faculty of Medicine-Ain Shams University[3]
Corresponding Author: Amira morsy yousif

Abstract: *Sexual quality of life serves a great role in overall women health and well-being. Stress urinary incontinence (SUI) is unintentional leakage of urine on effort or exertion which can have extreme effect on female sexual life and may lead to complete abandon of sexual activity in high proportion of cases.*
This study aimed *to assess the effect of evidence based nursing guideline on improving quality of sexual function among women with stress urinary incontinence.*
A quasi experimental study was conducted at *urodynamic unit at Ain Shams Maternity University Hospital and women homes.* ***A purposive sample*** *was used to recruit one hundred eight women in the study.*
Four tools *of data collection were used;*
1st tool *was structure interviewing questionnaire,*
2ed tool *incontinence severity index (ISI),*
3rd tool *was Female Sexual Function Index (FSFI), and*
4th tool *was sexual quality of life-female (SQOL-F) questionnaire.*
The result of the study *shows that there is no statistical significant difference between control, and intervention groups as regard degree of SUI, FSFI, and SQOLL-F before implementation of evidence based nursing guideline. While, there is a highly statistical significant reduction on degree of SUI with highly statistical significant improvement on FSFI, and SQOLL-F after implementation of evidence based nursing guideline on intervention group.*
Conclusion and recommendations: *The study concluded that implemented evidence based nursing guideline was effective on improving quality of sexual function among women with stress urinary incontinence* ***Accordingly, the following recommendation is proposed:*** *implemented evidence based nursing guideline to improve quality of sexual function among women with stress urinary incontinence at urodynamic unit at Ain Shams Maternity University Hospital.*

Keywords: *Evidence based nursing guideline, Stress urinary incontinence, Sexual Quality of Life*

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I. Introduction

Stress urinary incontinence (SUI) is the most prevalent subtype of urinary incontinence (UI). Stress urinary incontinence describes as involuntary loss of urine during activities requiring increased abdominal pressure such as sneezing, coughing, jumping, physical exercise and sports. SUI approximately affects 15−20% of adult women ***(Vitale, et al, 2017)***.Stress urinary incontinence usually occurs as the consequence of weakened pelvic floor muscles that lessen the ability of the urethral sphincter to completely close, leading to urine loss ***(Arshiya, et al, 2015).***

Risk factors for SUI include obesity, menopausal status, parity, vaginal delivery, pelvic floor disorders, gynecological surgery, smoking, diabetes, and physical & sexual activity. Other risk factors comprise chronic obstructive airway disease, constipation, neurological disease, and spinal cord trauma ***(Jack, Vicente, and Isabel, 2018).*** Currently, stress urinary incontinence classify according to American urogynecological association into *mild* degree of SUI if women have light leakage through hard activity such as playing sports or exercising, sneezing, laughing, coughing, or lifting objects. While, loss of larger volumes of urine that occur with little movements as standing up, walking, or bending over classify as moderate or severe degree of SUI ***(Osman, et al, 2016).***

SUI affects all aspect of women's health depending upon its degree. Consequently, women's suffering from SUI has several physical complications including candida infection, cellulitis, pressure sores, persistent skin irritation and insomnia. Furthermore, low self-esteem, depression, sexual dysfunction, and limited social activities represented major psychological problems associated with SUI ***(Perera, et al, 2014)***. Stigma leading to

social isolation and internalize shame that negatively correlated with quality of life of women suffering from SUI ***(Wan, et al, 2014).***

Woman suffering from SUI currently has various options of treatment that ranging from conservative treatment to surgical treatment. Conservative treatment comprise of behavioral therapy, bladder training, pelvic floor muscle training, lifestyle changes, mechanical devices, vaginal cones, and electrical stimulation ***(McClurg, et al, 2016).*** While, surgical treatment consists of mid-urethral sling (MUS) using tension-free vaginal tape (TFVT), with a retro-pubic (RP) or trans-obturator approach. This treatment approach demonstrates successful result. In spite of this, there are major complications as bleeding, infection, perforation of bladder, urethral injury, and groin pain ***(Schanz, Dalenz, and Almiron 2018).***

Sexuality is crucial part of women's life and quality of sexual life certainly affects the general well-being ***(Kwong, et al, 2015).*** Female sexual quality of life is described as ‘‘females’ personal evaluation of positive and negative aspects of females’ sexual relationship, and females’ subsequent emotional response to this evaluation’’. Furthermore, female sexual quality of life is related to physical, psychological, and interpersonal aspects of sexuality. Therefore, getting sexual pleasure, achieving orgasm, and the frequency of sexual activity are evaluated in relation to physical aspects of sexual quality of life ***(Dogan, Tugut, and Golbasi, 2013)***.

Sexual activity of women with stress urinary incontinence affected by numerous factors comprises; women's fear of foul-smelling and urinary incontinence during coitus that accompanying with poor image and self-esteem that reflected on low frequency of sexual activity ***(Mota, 2017).*** Various studies conducted to assess quality of sexual life amonge women with stress urinary incontinence stated that incontinence with sexual penetration; reduced ability to reach orgasm; low desire, arousal, lubrication, and satisfaction. Decreased desire in these women may be related to unsatisfying partner relationship ***(Karbage, et al, 2016).***

Evidence-based nursing guidelines are pointed out as: systematically developed statements of recommended distant nursing practice in certain clinical area, designed to offer direction to nursing specialists in their practice. Moreover, evidence-based nursing guidelines are implemented to support the achievement of the following objectives; provide effective care based on current evidence, solve a problem in the clinical setting, and accomplish quality of care delivery by meeting quality standards ***(Burkhard, et al, 2016).*** Therefore, nurses have an active role through implementing evidence based guideline while providing care for women with stress urinary incontinence. Nurse's act as an educator, provide psycho-emotional support and plan the individualized nursing care based upon the needs of each woman ***(Michal, et al, 2017)***.

Consequently, evidence based nursing guideline for woman with SUI consist of: assist woman's in the perception and adaptation of the incontinent being; Early identification of SUI risk factors; Establishment of self-care as the best way to cope with SUI; Encourage exchange of experience through involvement in support groups; Promote trust and empathy in the nurse-patient relationship; Identify recommended strategies to manage SUI woman; Guide lifestyle change; Stimulate the practice of physical exercise and reduction of body weight. Strengthen pelvic floor musculature through exercise ***(Ribeiro, 2017).***

Justification of the study

In Egypt 14.8% of women suffering from stress urinary incontinence in spite of that those women do not seek medical care because of stigma, embarrassment and shame related to clinical condition, with repercussion on self-esteem and disturbance of personal, social and sexual life ***(Mota, 2017).*** Moreover, women with SUI suffering from several sexual problems as consequence of SUI that reflected upon sexual quality of life. Various researches revealed that up to 50−68% of women with SUI were affected by sexual dysfunction. Moreover, sexual activity amonge women with SUI tend to avert for the reason that wetness at night, coital incontinence, embarrassment, and depression ***(Ko, et al, 2016)***. In addition, urinary tract infection symptoms that accompany with SUI leads to emotional distress and low self-esteem, which may contribute to sexual dysfunction ***(Michal, et al, 2017)***.

Therefore, implementing evidence based nursing guideline can be helpful to ensure the provision of quality and safe care that reflected upon decrease several sexual problems associated with SUI. Based on this important issue researchers suggested this study for improving quality of sexual life among women with stress urinary incontinence.

Aim of the study:

To assess the effect of evidence based nursing guideline on improving quality of sexual life among women with stress urinary incontinence through;

1. Assessing severity of stress urinary incontinence amonge women before implementing evidence based nursing guideline.
2. Evaluating female sexual function and quality of sexual life among women with stress urinary incontinence before implementing evidence based nursing guideline.

3. Designing and implementing evidence based nursing guideline to improve quality of sexual function among women with stress urinary incontinence.
4. Evaluating the effect of implemented evidence based nursing guideline on quality of sexual life and severity of stress urinary incontinence among women

Research hypothesis: Implementing evidence based nursing guideline will improve quality of sexual life among women with stress urinary incontinence more than women who receive routine care

II. Subject and Methods

Research design: A quasi-experimental study design was used.
Setting: This study was carried out at urodynamic unit at Ain Shams Maternity University Hospital and women homes.
Sample: was calculated according to formula statistics

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

- 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)

A purposive sample consisting of (98) women with SUI were recruited on the study under the following inclusion criteria; women's age ranged between 20-45 years. Women medically diagnosed with SUI and sexually active. Women free from other medical problems that affect urinary and sexual function. After excluding ten women who included on pilot study the rest of women (88) were randomly divided into two equal groups; control group (44 women receive routine care for SUI), and intervention group (44 women receive evidence based nursing guideline for SUI). This sample size reached eighty four (84) women as three women were lost at time of follow up from control group. In addition one woman was lost at time of follow up from intervention group.

III. Tools for Data Collection

Four tools of data collection were used.

I. Structured interviewing questionnaire sheet was designed by researchers based on literature review, and written in simple clear Arabic language named " Sexual Quality of Life among Women with Stress Urinary Incontinence " It was consisted of

Part I: Designed to collect data about the demographic characteristics of women with SUI which include age, education, occupation, residence, and income.
Part II: It was consisted with obstetrical history such as gravidity, mode of delivery; problems associated of delivery that affecting on pelvic floor muscles.
Part III: Designed to collect data about duration of SUI, and management of SUI.

II. Incontinence severity index (ISI): It was adapted from ***Harvie, et al, (2014)***.It was used to assess the severity of stress urinary incontinence problem. The index consists of 2 questions regarding frequency and amount of urine leakage. The first question "how often is urine leakage experienced? The responses were categorized in the following manner: never (0), less than once month (1), one to several times per month (2), one to several times per week (3), every day and/or night (4). The second question "how much urine is lost each time? The score of this question was as follows: a few drops (1), a little (2), more (3). The index value is obtained by multiplying the total amount in the two parameters (i.e. Severity index=points for frequency x points for amount).1-2 = slight, 3-6 = moderate, 7-9 = severe, 10-12= very severe. The higher score, the more severity of stress urinary incontinence. Cronbach's alpha coefficient was 0.82.

III. Female Sexual Function Index (FSFI) it was adapted from ***Owiredu, et al, (2015)***. The Female Sexual Function Index (FSFI) was consisted of 19-items. This tool was self-report inventory designed to assess female sexual function. It comprises six domains: desire [two items], arousal [four items], lubrication [four

items], orgasm, satisfaction, pain [three items each]. Test-retest reliability coefficients were (r = 0.79 to 0.86) and internal consistency was (Cronbach's alpha values of 0.86).

IV. The Sexual Quality of Life-Female (SQOL-F) was a short questionnaire that specifically assesses the relationship between female sexual dysfunction and quality of life it was adapted from ***Symonds, Boolell, and Quirk; (2015)***. The SQOL-F questionnaire is a specific and self-reporting instrument that focuses on sexual self-esteem, emotional issues and relationship issues. It consists of 18 items, rated using a six-point scale (completely agree to completely disagree). The total score can range from 18 to 108 points. Higher scores indicate better female sexual quality of life. The total score was converted into total percentage and grade as follow; total percentage more than 75% indicated good SQOL, total score ranged between 60 < 75 % consider average SQOL, and if total score was less than 60% reflect poor SQOL. Cronbach's alpha coefficient was 0.90.

- **A supportive material evidence based nursing guideline for woman with SUI:** it was designed and developed by researchers in simple Arabic-language in the light of related literature **[*Arshiya, et al; (2015), Ko, et al; (2016), McClurg, et al, (2016)* & *Michal, et al; (2017)*]**. The guideline was divided into 2 parts as follows:

Part one: concerned with providing woman with the essential information about concept of SUI, causes, diagnostic measures, management strategies and complications. **Part two**: Evidence based Nursing guideline that include; life style changes and pelvic floor muscle training.

Validity and Reliability: Tools were reviewed by a panel of 5 experts in obstetric and gynecological & community health nursing at faculty of nursing Ain Shams University to test the face. Each of experts was asked to examine tools for content coverage, clarity, wording, length, format and overall appearance. Modifications were done according to the comments "rephrasing and cancelling for four questions".

Ethical Considerations: An official approval was obtained from Dean of faculty of nursing Ain Shams University directed to director of at urodynamic unit at Ain Shams Maternity University Hospital. Researchers introduced themselves to women with SUI who met the inclusion criteria and informed them about the purpose of this study in order to obtain their acceptance to share in this study. Researchers ensured that, the study posed no risk or hazards on their health. Researchers ensured that women's participation in the study was voluntary. Women who were willing to participate in the study were approached by researchers and asked for verbal consent to confirm their acceptance. Each participant had right to withdraw from the study at any time and all data that obtained were considered confidential.

Pilot study after the development of tools a pilot study was carried out on 10% of the predicted total sample size (ten women with SUI). The purposes of the pilot study were to ascertain the clarity, completeness, simplicity and applicability of the tools, estimating the exact time needed for data collection and detect any problem that might face the researchers and interfere with data collection.

Field work: Data collection for this study was carried out over a period of 12 months from beginning of September 2017 up to the end of August 2018. Researchers were available in the study setting 3 days/week from 9.00 A.m. to 2.00 P.m. Researchers first explained the aim of the study to the participants and reassure women that information collected would be treated confidentiality and that would be used only for the purpose of the research. Data collection procedure has been done through four phases; assessment, implementation, follow up and evaluation phase.

Phase I (Assessment phase) done at urodynamic unit for participants in both groups by researchers. Researchers met each participant individually and fill tools of data collection that require 25-30 minutes to fill by each participant.

Phase II (implementation phase)

a. Intervention group:

This phase divided into two stages; 1st stage was conducted as part of preparatory phase on which researchers outlined all areas to be included in the evidence based nursing guideline through extensive review of the literature and other available resources. Then they designed evidence based nursing guideline for women with SUI. And finally, experts' opinion was obtained to ensure guideline's validity. While, 2nd stage consisted with implementation of evidence based guideline; it started with distribution of evidence based guideline among study group then, instruction was given to each women individually for 3 sessions

each session ranged from 25-30 minutes on individual bases as each woman was treated as case by case based on the needs of woman.

- 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.
- At the end of session the researcher assessed the time and date of next session depend on woman's follow up visit at urodynamic unit.
- The researchers also communicated with women via telephone call for instruction and follow up them at home if required.

Researchers started the *orientation session* by providing women knowledge about contents of the guideline, its purpose and its impact on the woman health condition and quality of sexual life. Then researchers clearly explain SUI, risk factors for SUI, impact of SUI on daily and social activity & sexual quality of life, and different management modalities for SUI.

First instruction session was focus on woman training on (pelvic floor muscle exercise) Kegel exercise; woman instructed to identify pelvic floor muscles. Woman can do this by stopping urine during midstream. Tighten pelvic muscles and hold for 5 seconds and then release for 5 seconds. Repeat this until woman achieve up to holding for 10 seconds and releasing for 10 seconds. Remember to breathe normally throughout. Also, pelvic muscles region of flexing and no other muscles like woman's stomach, buttocks, or thighs. Gradually increases the length of time woman tighten and release every week until woman reach the 10 seconds. Woman instructed to practice kegel exercise at minimum three sets of 10 repetitions per day. At the end exercise needs to be performed many times each day, for several minutes at a time, for one to three months, to begin to have an effect ***(Golmakani, et al, 2015).***

Second instruction session was concerned with life style modification where researchers set a diet plan for each woman based on base line assessment and requirement needed. On this instruction session researchers used different method as example for certain type of food and drinks that should be avoided, Visual aid "illustrated pictures", and discussion. Women instructed to follow healthy nutritional habits, avoid holding heavy objects.

b. Control group

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

Phase III (Follow up phase and evaluation phase)

Researchers follow up women in both groups at third month, and six month after implementing of evidence based nursing guideline.

Researchers conduct two refreshment instruction sessions to each woman on the intervention group at second and fourth months its purpose was ensure that woman committed to evidence based nursing guideline. Moreover, woman informed that she can made contact with research team through phone or Whats-App if woman had any problem.

The evaluation phase was done to assess the effect of evidence based nursing guideline on improving quality of sexual life among women with stress urinary incontinence. Comparison between two groups control and study was conducted to investigate study hypothesis.

Statistical design:

Data was tabulated and analyzed, all statistical calculations were done using computer session SPSS (Statistical Package for the Social Science; SPSS version 20). Descriptive statistics: data were presented in the form of mean ± standard deviation or frequencies and percentages. Inferential statistics: independent T test was used to determine the difference between both groups. Chi-square test was used to study association between two qualitative variables. ANOVA test was used to compare qualitative variables within-group. P values less than 0.05 will considered statistically significant.

IV. Result

Table (1): Distribution of women in (control and study group) according to their socio-demographic characteristics

Socio-demographic characteristics	Control group (n=41)		Intervention group (n=43)		X^2	P value
	No	%	No	%		
Age:					1.432	0.067
20- ≤ 25	2	4.9	2	4.7		
26- ≤30	3	7.3	3	6.9		

31- ≤ 35	7	17.1	8	18.6		
36- ≤40	14	34.1	14	32.6		
41- ≤45	15	36.6	16	37.2		
Mean±SD	40.03±1.04		38.48±3.51			
Educational level:					0.982	0.792
Read and write	6	14.6	7	16.3		
Secondary education	25	61.0	26	60.5		
University education	10	24.4	10	23.3		
Residence:					1.925	0.877
Urban	38	92.7	40	93.0		
Rural	3	7.3	3	7.0		
Occupation:					1.657	0.582
Working	34	82.9	36	83.7		
House wife	7	17.1	7	16.3		

Table (1): Shows that 36.6% of woman on control group their age range between 41 - 45 years compared to 37.2% of woman on intervention group. Regarding educational level 61.0% of woman on control group had secondary education as compared with 60.5% of woman on intervention group. As regard place of residence 92.7% of woman on control group from urban area versus 93.0% of woman on intervention group. Concerning occupation 82.9% of woman on control compared to 83.7% of woman on intervention group were working.

Table (2): Distribution of the studied women according to their obstetric history

Items	**Control Group (n= 41)**		**Intervention Group (n= 43)**		**X^2**	**P Value**
	No	**%**	**No**	**%**		
Parity					4.08	0.057
1-2	1	2.4	3	6.9		
3-4	28	68.3	26	60.4		
More than 4	12	29.3	14	32.6		
Mode of Delivery					2.83	0.098
Vaginal delivery	38	92.7	39	90.7		
Cesarean section	3	7.3	4	9.3		
Problems associated with Delivery	(n=27)		(n=29)		4.63	0.062
Precipitate labor	5	18.5	7	24.1		
Prolonged labor	6	22.2	5	17.2		
Laceration	16	59.5	17	58.7		

Table (2): Reveals that 68.3% of woman on control group were gravida for 3-4 times compared to 60.4% of woman on intervention group. Concerning mode of delivery 92.7% of woman on control group had vaginal delivery versus 90.7% of woman on intervention group. As regard, problems associated with delivery that affecting pelvic floor muscles 59.5% of woman on control group had laceration compared to 58.7% of woman on intervention group.

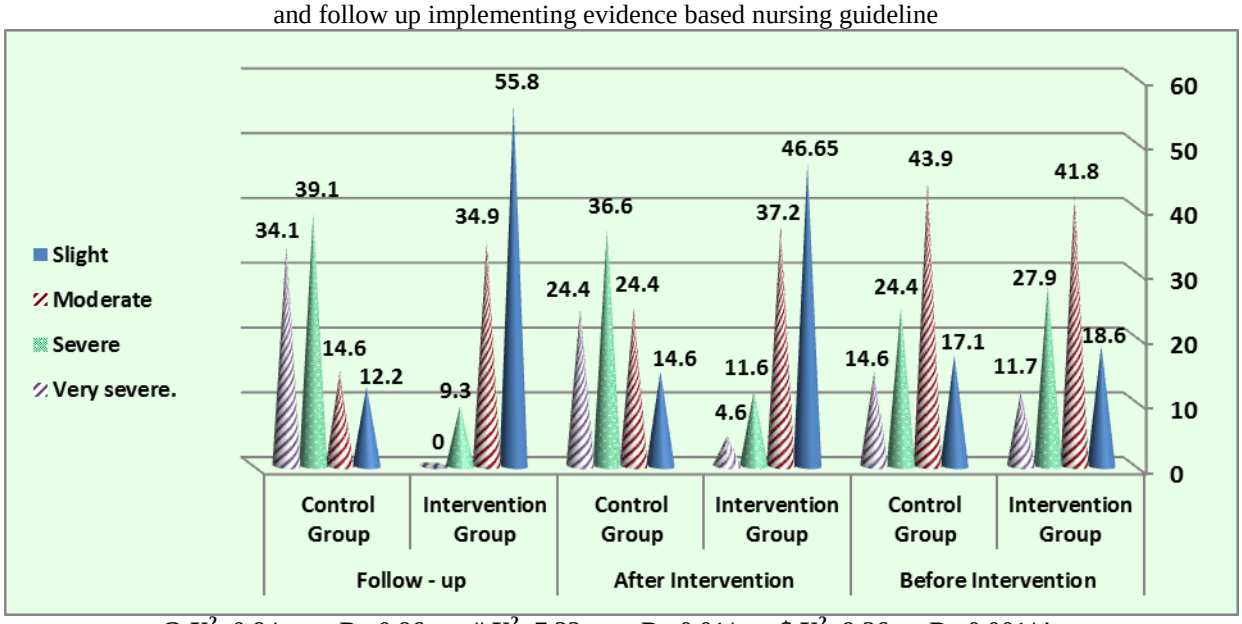
Table (3): Distribution of the studied women according to their SUI history

Items	**Control Group (n= 41)**		**Intervention Group (n= 43)**		**X^2**	**P Value**
	No	**%**	**No**	**%**		
Duration of SUI					3.97	0.061
<1 year	12	29.3	14	32.6		
1-	15	36.6	15	34.8		
2-	8	19.5	7	16.3		
>3 years	6	14.6	7	16.3		
Frequency of urine leakage					4.16	0.058
Never	0	0	0	0		
Less than once month	1	2.4	2	4.6		
One to several times month	13	31.7	14	32.6		
One to several times week	16	39.0	17	39.5		
Every day and/or night	11	26.9	10	23.3		
Amount of urine leakage					4.93	0.056
Few drops	5	12.2	7	16.3		
A little	6	14.6	5	11.6		
More	30	73.2	31	72.1		

Table (3): Displays that 36.6% of woman on control group had SUI for one year compared to 34.8% of woman on intervention group. Concerning frequency of urine leakage 39.9% of woman on control group had leakage of urine from one to several times per week versus 39.5% of woman on intervention group. As regard,

amount of urine leakage 73.2% of woman on control group had more amount of urine leakage compared to 72.1% of woman on intervention group.

Figure (1): Distribution of the studied women according to severity of stress urinary incontinence before, after and follow up implementing evidence based nursing guideline



@ X^2=0.94 **P** =0.86 **#** X^2=7.33 **P** =0.01* **$** X^2=9.36 **P** =0.001**

@SUI severity Control group versus intervention group (pre intervention)
SUI severity Control group versus intervention group (post intervention by 3 months)
$ SUI severity Control group versus intervention group (post intervention by 6 months)

Table (4): Compression between studied women on control and intervention groups according to FSFI before implementing evidence based nursing guideline

Items	Control group n=41	Intervention group n=43	Independent T test	P Value
Desire	4.03 ± 0.78	4.12 ± 0.66	1.06	0.352
Arousal	2.76 ± 1.02	2.31 ± 0.98	2.02	0.451
Lubrication	3.04 ± 1.00	2.99 ± 1.12	1.98	0.263
Orgasm	3.23 ± 1.05	3.12 ± 0.99	2.87	0.861
Satisfaction	2.97 ± 1.21	2.88 ± 1.02	2.34	0.338
Pain	3.32 ± 1.11	3.11 ± 1.04	1.08	0.376
Total FSFI Score	19.42 ± 6.89	19.36 ± 6.88	2.23	0.461

Table (4): Points out that there was no statistical significant difference between women on control and intervention group regarding subtotal and total score of female sexual function index before implementing of evidence based nursing guideline. Moreover, desire, arousal, lubrication, orgasm and satisfaction represent the lowest domains among female sexual function.

Table (5): Compression between studied women on control and intervention groups according to FSFI after implementing evidence based nursing guideline

Items	Control group n=41	Intervention group n=43	Independent T test	P Value
Desire	4.02 ± 1.42	6.43 ± 0.54	7.51	0.01*
Arousal	2.00 ± 0.72	4.67 ± 0.88	6.04	0.02*
Lubrication	2.98 ± 0.88	5.88 ± 1.49	6.36	0.03*
Orgasm	3.09 ± 0.99	4.75 ± 1.43	6.53	0.04*
Satisfaction	2.68 ± 1.42	6.76 ± 1.34	9.76	0.01*
Pain	3.49 ± 1.54	1.23 ± 0.23	5.85	0.01*
Total FSFI Score	19.83 ± 7.23	36.62 ± 4.40	25.54	0.001**

Table (5): Reveals that there was statistical significant difference between women on control and intervention group regarding subtotal and total score of female sexual function index after implementing of evidence based nursing guideline. Moreover, desire, arousal, lubrication, orgasm and satisfaction represent the highest domains among female sexual function.

Table (6): Comparison of total FSFI before, after implementing evidence based guideline and follow up among studied women on both groups.

Items	Before-intervention	After-intervention (3 months)	Follow up (6 months)	F test	P value
Total FSFI:					
Intervention group	19.36 ± 6.88	36.62 ± 4.40	42.06 ± 2.64	20.66	0.001**
Control group	19.42 ± 6.89	19.83 ± 7.23	19.03± 5.32	3.34	0.987

Table (6): Indicates that there is a highly statistical significant improvement on total score of FSFI after implementing of evidence based nursing guideline and at follow up in the intervention group. Conversely, the improvement of FSFI in control group was not significant.

Table (7): Comparison between studied women on control and intervention groups according to SQOL-F before implementing evidence based nursing guideline

Items	Control group n=41	Intervention group n=43	Independent T test	P Value
When I think about my sex life				
I feel frustrated	1.36 ± 0.82	1.52 ± 0.67	1.63	0.073
I feel depressed	1.03 ± 0.63	1.13 ± 0.06	1.87	0.082
I feel like a less of a woman	1.28 ± 0.64	1.38 ± 0.59	1.72	0.070
I feel sad about my self	1.33 ± 0.74	1.25 ± 0.63	1.53	0.089
I feel anxious	1.68 ± 0.03	1.42 ± 0.58	1.76	0.074
I have lost confidence in myself as sexual partner	1.83 ± 0.65	1.23 ± 0.23	1.85	0.081
I feel anger	1.57 ± 0.82	1.62 ± 0.78	1.75	0.073
I feel far off my partner	1.52 ± 0.04	1.49 ± 0.03	1.52	0.089
I worry about the think of my sex life	1.06 ± 0.03	1.04 ± 0.13	1.83	0.081
I have lost a pleasure about sexual activity	1.42 ± 0.01	1.43 ± 0.02	0.89	0.090
I feel embarrassment	1.05 ± 0.36	1.11 ± 0.30	1.74	0.075
I can't talk to my partner about sexual matters	1.21 ± 0.43	1.23 ± 0.53	1.56	0.087
I try to avoid sexual activity	1.04 ± 0.14	1.03 ± 0.16	1.86	0.086
I feel guilty	1.26 ± 0.71	1.18 ± 0.88	1.67	0.076
I worry that my partner feels hurt or rejected	1.05 ± 0.04	1.03 ± 0.03	1.63	0.073
I feel like I have lost something	1.03 ± 0.61	1.01 ± 0.66	1.82	0.080
I'm not satisfy with frequency of sexual activity	1.03 ± 0.02	1.05 ± 0.01	1.72	0.072

Table (7): Points out that there was no statistical significant difference between women on control and intervention group regarding their sexual quality of life before implementing evidence based nursing guideline.

Table (8): Compression between studied women on control and intervention groups according to SQOL-F after implementing evidence based nursing guideline

Items	Control group n=41	Intervention group n=43	Independent T test	P Value
When I think about my sex life				
I feel frustrated	1.26 ± 0.74	3.32 ± 1.89	7.24	0.001**
I feel depressed	0.97 ± 0.84	4.13 ± 0.85	7.47	0.001**
I feel like a less of a woman	1.02 ± 0.15	4.91 ± 0.96	8.41	0.002**
I feel sad about my self	1.25 ± 0.34	4.31 ± 1.76	8.26	0.002**
I feel anxious	1.16 ± 0.27	4.83 ± 1.27	7.69	0.001**
I have lost confidence in myself as sexual partner	1.06 ± 0.52	4.61 ± 0.79	8.36	0.002**
I feel anger	1.66 ± 0.91	4.95 ± 1.96	7.91	0.001**
I feel far off my partner	1.31 ± 0.26	4.75 ± 1.16	7.82	0.001**
I worry about the think of my sex life	0.96 ± 1.02	4.68 ± 1.92	8.89	0.002**
I have lost a pleasure about sexual activity	1.63 ± 0.04	4.84 ± 1.67	9.14	0.003**
I feel embarrassment	1.36 ± 0.07	4.72 ± 1.65	8.74	0.002**
I can't talk to my partner about sexual matters	1.04 ± 0.63	4.78 ± 1.89	8.91	0.002**
I try to avoid sexual activity	0.98 ± 1.02	4.57 ± 1.72	8.90	0.002**
I feel guilty	1.43 ± 1.12	4.68 ± 1.27	9.16	0.003**
I worry that my partner feels hurt or rejected	1.23 ± 0.33	4.86 ± 01.64	8.65	0.002**
I feel like I have lost something	1.16 ± 0.74	4.88 ± 1.94	9.27	0.003**
I'm not satisfy with frequency of sexual activity	0.89 ± 0.88	4.97 ± 1.68	8.86	0.002**

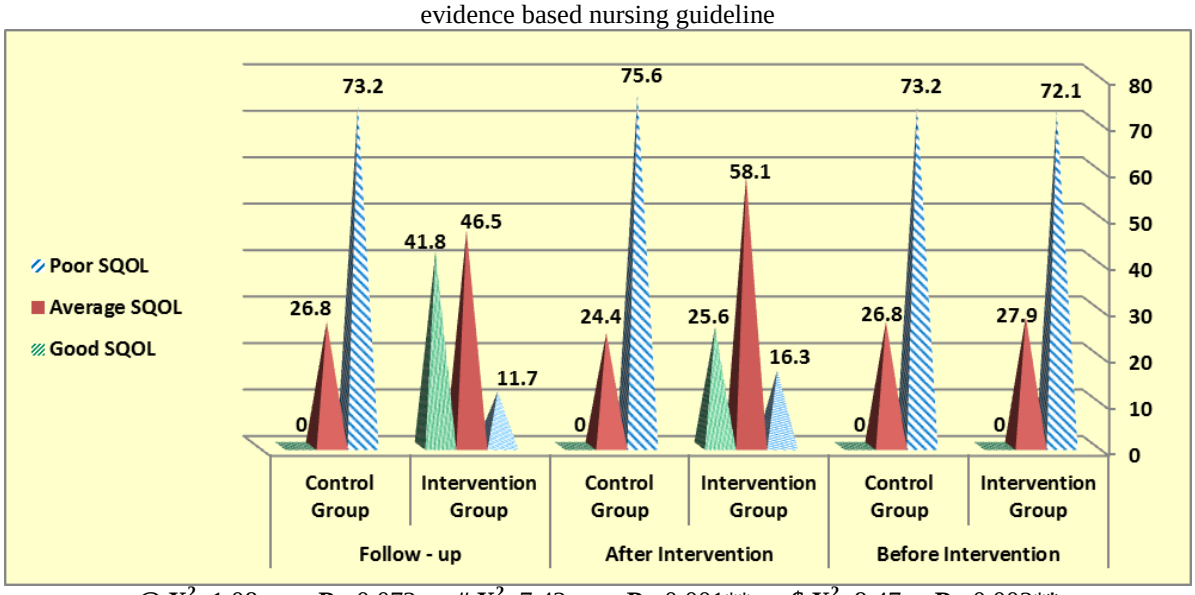
Table (8): Indicates that there was a highly statistical significant difference between women on control and intervention group regarding their sexual quality of life after implementing evidence based nursing guideline.

Table (9): Comparison of total SQOL-F before, after implementing evidence based guideline and follow up among studied women on both groups.

Items	Before-intervention	After-intervention (3 months)	Follow up (6 months)	F test	P value
Total FSFI:					
Intervention group	18.48 ± 4.26	52.73 ± 8.21	76.23 ± 8.91	18.74	0.001**
Control group	18.03 ± 4.15	18.25 ± 5.20	18.36 ± 5.41	2.65	0.089

Table (9): Indicates that there is a highly statistical significant improvement between total score of SQOL-F and FSFI after implementing of evidence based nursing guideline and at follow up in the intervention group. Conversely, the improvement of SQOL-F in control group was not significant.

Figure (2): Distribution of the studied women according to grade SQOL-F before and after implementing evidence based nursing guideline



@ X^2=1.08 **P** =0.072 **#** X^2=7.42 **P** =0.001** **$** X^2=9.47 **P** =0.002**

@SQOL grade Control group versus intervention group (pre intervention)
SQOL grade Control group versus intervention group (post intervention by 3 months)
$ SQOL grade Control group versus intervention group (post intervention by 6 months)

V. Discussion

Female Sex is a key function of human being and has a fundamental role in woman reproductive life. This function integrates physical, emotional and psychological factors and affects quality of 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). In support to the previous concept researchers conducted the present study which was aiming to assess the effect of evidence based nursing guideline on improving quality of sexual function among women with stress urinary incontinence.

Concerning women's socio-demographic characteristics the result of current study shows that more than one third of woman on control group their age range between 41 - 45 years compared to less than two fifth of woman on intervention group with Mean±SD 40.03±1.04 and 38.48±3.51 for control group and intervention group respectively. These results are in agreement with Raziyeh, et al; (2013) who studied that the sexual quality of life-female of Iranian women found that the mean age of participants was 33.0 (SD = 8.07) years. Regarding educational level, the current study showed that nearly two third of woman on control and intervention group had secondary education. This result disagreement with Nyström, et al; (2018) who carried out randomize control trial study amonge 123 adult women with SUI to find factors associated with a successful outcome among women who used the mobile app for treatment of SUI in Sweden and reported that 90.2% of studied sample had university education.

As regard mode of delivery the result of present study points out that majority of woman on control and intervention group had vaginal delivery. This finding was in the same line with El-Sokkary, et al; (2015) who carried out a case-series study to retrospectively assess the relationship between female stress urinary incontinence (SUI) and mode of delivery for 80 women suffering from SUI at Ain Shams University Maternity Hospital and reported that There were significant positive correlations between stress urinary incontinence and vaginal delivery [r= 0.297, p<0.001]. Also, Tähtinen, et al; (2016) mentioned that vaginal delivery is associated

with an almost twofold increase in the risk of long-term SUI. This could be possibly explained by nearly two third of women in both groups were multipara, also more than half of them had laceration that affecting pelvic floor muscles and subsequently leading to stress urinary incontinence.

Concerning female with SUI history, the present study displayed that more than one third of woman on control and intervention group had SUI for one year. Concerning frequency of urine leakage more than one third of woman on control and intervention group had leakage of urine from one to several times per week. As regard, amount of urine leakage less than three fourth of woman on control and intervention group had more amount of urine leakage. These results are in harmony with Michal, et al; (2017) who conducted a cross section study to describe the sexual function of women with mild to moderate stress urinary incontinence, and examine correlations with symptoms and quality of life among one hundred and eighty seven ambulatory women and reported that most of the women (94.4%) had leakage frequency of "once a week or more," with over half of the women reporting a "moderate to large amount" of leakage (55.1%).

Considering female sexual function index, the current study results revealed that there was no statistical significant difference between women on control and intervention group regarding subtotal and total score of female sexual function index before implementing of evidence based nursing guideline. Moreover, desire, arousal, lubrication, orgasm and satisfaction represent the lowest domains among female sexual function. This finding was in accordance with Aslan, et al; (2015) who conducted a study in Department of Urology, Dokuz Eylul University School of Medicine, Turkey, to evaluate sexual function in women with urinary incontinence, they reported that lower scores of FSFI in incontinent women compared to control subjects. This study results were in agreement with Handa et al., (2014) Severe SUI has been found to be significantly associated with decreased libido and vaginal dryness, decreased interest, and decreased satisfaction with sexual intercourse, including orgasmic dysfunction.

In relation to compression between studied women on control and intervention groups according to FSFI after implementing evidence based nursing guideline, the current study results revealed that there was statistical significant difference between women on control and intervention group regarding subtotal and total score of female sexual function index after implementing of evidence based nursing guideline. Moreover, desire, arousal, lubrication, orgasm and satisfaction represent the highest domains among female sexual function. This finding was in agreement with Al-Ali, et al; (2013) who carried out an intervention study to evaluate the impact of SPARC sling system on 98 female sexual function at Medical University of Graz, Austria and found that FSFI score of all 33 pre- and postoperative sexually active women increased from 25.3 ± 5.7 at baseline to 27.4 ± 4.8 at follow-up (P=0.01). Scores of women with reduced sexual function at baseline increased significantly in the domains desire, arousal, and lubrication as well as orgasm and satisfaction and total FSFI-score (P=0.001) postoperatively.

While, this finding was disagreement with Kim and kim; (2019) who studied about Lower Urinary Tract Symptoms, Sexual Function, and the Quality of Life of Married Women with Urinary Incontinence in South Korea, who reported that the total score for the Sexual function was 14.67±10.52 and scores for sub-factors were 2.21±1.05 for sexual desire, 2.06±1.85 for sexual arousal, 2.60±2.26 for lubrication, 2.31±2.04 for orgasm, 2.68±1.61 for sexual satisfaction, and 2.83±2.37 for sexual pain. This difference could be justified by

Regarding to relation between the total FSFI before, after implementing evidence based guideline and follow up among studied women on both groups, the study result revealed that there is a highly statistical significant improvement on total score of FSFI after implementing of evidence based nursing guideline and at follow up in the intervention group. Conversely, the improvement of FSFI in control group was not significant. This finding was in the same line with Serati, et al; (2015) who conducted a randomize control study to assess the effect of pelvic floor muscle training on female sexual function on thirty-four women (64.7% of them were referred with stress urinary incontinence without sexual disorders, while 35.3% complained of stress urinary incontinence and sexual symptoms). They mentioned that female Sexual Function Index score significantly improved after pelvic floor muscle training even in women with sexual disorders (12.5 ± 9.5 vs. 29.7 ± 3.7; p <.001).

Concerning with SQOL for women with SUI, the current study indicated that there was a highly statistical significant difference between women on control and intervention group regarding their sexual quality of life after implementing evidence based nursing guideline. These current study agree with Chu, Arya and Andy; (2015) who reported that highly statistically significant improvements in overall sexual health (as indicated by improvement in Female Sexual Function Index score).

Considering the relation between total SQOL-F and FSFI before, after implementing evidence based guideline and follow up among studied women on both groups, the present result of this study indicated that there is a highly statistical significant improvement between total score of SQOL-F and FSFI after implementing of evidence based nursing guideline and at follow up in the intervention group. Conversely, the improvement of SQOL-F in control group was not significant. This result is on line with Vitale, et al. (2017) which revealed that there was significant positive correlation between SQOL-F and total FSFI score ($p < 0.001$). Based on the results

of this study, it is expected that evidence based nursing guideline should be introduced in nursing practice to improve the sexual function, and the SQOL of married women.

VI. Conclusions

The findings of present study confirmed the study hypothesis; evidence based nursing guideline was effective on improving quality of sexual life among women with stress urinary incontinence. This was clarified by a statistical significant reduction on severity of stress urinary incontinence on intervention group after implementing of evidence based guideline and at follow up. In addition to, a highly statistical significant improvement on total score FSFI and SQOL-F after implementing of evidence based guideline and at follow up on the intervention group.

VII. Recommendations

In the light of results of the present study the following recommendations are suggested; implemented evidence based nursing guideline to improve quality of sexual life among women with stress urinary incontinence at urodynamic unit at Ain Shams Maternity University Hospital. The current study was implemented only for women's with stress urinary incontinence so the researchers recommended further research to study the effect of evidence based nursing guideline on improving quality of sexual life among women with urgency and mixed urinary incontinence.

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