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Physical and Psychological Condition for Elderly Women's With Urinary Incontinence: Impact of Breathing and Kegal Exercise

Hanan Elzeblawy Hassan[1], Samar shaban Abdelazim Mohamed[2], Amel Ahmed Hassan Omran[3], Elham Abozied Ramadan[4]

[1,2] Maternal and Newborn Health Nursing, Faculty of Nursing, Beni-Suef University, Egypt

[3,4] Obstetrics Gynecological Nursing, Faculty of Nursing Benha University

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Corresponding Author:
Hanan Elzeblawy Hassan

ABSTRACT

Background: The International Continence Society (ICS) defines urinary incontinence (UI) as the complaint of any involuntary leakage of urine. It is a distressing and debilitating condition that is becoming more prevalent as our population ages. It significantly impacts on quality of life, both physically and psychosocially and has major economic ramifications. ***Aim of the study*:** The study aimed to assessing correlation between deep breathing and kegel exercises adherence, physical and psychological condition of the studied sample through the program phases. ***Design*:** A quasi-experimental study design was utilized in this study (one group pre and post-test). ***Sample:*** A purposive sample was selected and this study was performed on 100 Menopausal women diagnosed with stress urinary incontinence. ***Setting:*** gynecological and urological outpatient clinics Beni-Suef university hospital. ***Tools*:** Data was collected using 1) a structure interviewing questionnaire schedule, 2) The International Consultation on Incontinence Modular Questionnaire 3) Pelvic floor muscles exercises checklist. **Results:** Most of the studied sample **(**78%) complained from (untreated urinary tract, gestational diabetes, ante partum hemorrhage, anemia and pregnancy induced hypertension) (30%, 19%, 15%, 7%, 7%), respectively, during their previous pregnancies, 45% of the studied women reported that their frequency of urination is several times per day preprogram but it became only 19% post program implementation. It reveals that there are improvement in the performance of all steps of deep breathing and Kegel exercise throughout the time of the study. ***Conclusion***: It indicates effectiveness of the program as the results revealed highly statistical significant differences in the frequency of urine leakage of the studied sample after intervention than pre intervention, highly statistical differences in the studied sample's performance of the deep breathing and Kegel exercises throughout the time of the study. A negative correlation between regularity of practicing deep breathing and Kegel exercise and frequency of urinary incontinence was found and highly statistical significant improvement in the frequency of urinary incontinence at the end of the 3rd month of intervention. ***Recommendations:*** Health education about the correction of misconceptions about urinary incontinence, which can be an effective means of bringing incontinent women into contact with health care center for early appropriate intervention.

INTRODUCTION

The International Continence Society (ICS) defines urinary incontinence (UI) as the complaint of any involuntary leakage of urine. It is a distressing and debilitating condition that is becoming more prevalent as our population ages. It significantly impacts on quality of life, both physically and psychosocially and has major economic ramifications [1].

Menopause is one of the natural and normal life stages of women. Menopause is defined as "permanent cessation of menstruation

as a result of loss of the ovarian activity. The studies have revealed that the age of menopause has increased in recent years. The age of menopause is approximately 45-55 in the world. Due to the prolonged life expectancy, women spend an important part of their lives during the menopause and postmenopausal period [2-5].

Vasomotor, genitourinary and emotional symptoms develop in menopausal women. Urogenital problems are prevalent in the woman population in this period and they have an important effect on the physical, psychological and socio-economic aspects of life. Urinary incontinence (UI) is one of the most important urinary problems. Estrogen which decreases as a result of menopause causes vaginal atrophy, reduces supportive tissues surrounding the urethra, weakens pelvic muscles and may consequently increase tendency for incontinence [6-8].

Urinary incontinence, in whichever forms, intensively affects the QOL of women. The symptoms are perceived as a poor health which ultimately affects the holistic well- being. Women avoid social gatherings and lose self-confidence, which has a proportional impact on their social interactions and sexual and psychological health. Apart from the emotional and social repercussions, however, urinary incontinence is a risk factor for other physical conditions and diseases, while simultaneously being a financial burden on their family [9-11].

Kegel exercise involves the repetitive contraction of the pelvic floor muscle, which builds strength and perineal support, and improves muscle tone. As the pelvic floor is entirely composed of striated muscle, the principles of strength training for striated muscle should be followed when attempting to tone and strengthen the pelvic floor. The movement is a voluntary inward and upward contraction or squeeze of the pelvic floor. The number of contractions recommended across studies ranges from 8 to 12 contractions three times a day, to 20 contractions four times a day, to as many as 200 contractions per day [12-13].

Aim of the study

1. Assessing effect of urinary incontinence on the woman's pattern of life (physical and psychological conditions of women).
2. Instructing elderly women about the technique of deep breathing and Kegel exercises and encouraging practicing these exercises regularly.
3. Evaluate urinary incontinence according to ICIQ-SF scale before and after practice of deep breathing and Kegel exercise.
4. Evaluate effect of kegal and breathing exercise on elderly women's urinary incontinence according to ICIQ-SF scale.

Hypothesis

1. Remarkable improvement in urinary incontinence according to ICIQ-SF scale will be observed after practice of deep breathing and Kegel exercise.
2. Technique Kegel and breathing exercise will be improved among elderly women through intervention phases
3. Remarkable improvement in physical and psychological conditions among elderly women as well as performing daily activities without stress, feeling of self-confidence and satisfied from sexual relation.

SUBJECT AND METHODS

Study design:

The study followed a quasi-experimental one group (pre-post) test study design.

Study Setting:

The study was conducted at gynecological and urological outpatient clinics at Beni-Suef University Hospital.

Sampling;

Sample type* & Size*:

A Purposive sample was used from the above mentioned setting. Total sample was 100 women.

Inclusion criteria:

- Age: women in menopausal age (perimenopause, menopause and late menopause).
- Menopausal women diagnosed with stress urinary incontinence.
- Free from any chronic disease that may aggravate the condition.
- Not consume any treatment for urinary incontinence (UI)
- Available phone number or whats practicing (whats app) for communication.
- Women should accept to participate in the study.

Exclusion criteria:

- Pelvic organ prolapsed (POP).
- Women having surgical/medical history that affect pelvic floor muscle tone as (Congenital Urological Disease, and Tumors of the Bladder).

Tools of data collection:

Tool I: A structured interviewing questionnaire sheet was developed by the researcher in the Arabic language based on a review of recent literatures, under guidance of supervisors. It was consist of three parts:

The first part: included personal characteristics data of the study women such as (age, height, weight, education level, occupation, residence, marital status).

Second part: Obstetrics history such as (number of gravidity, parity, and abortion, mode of deliveries, any complications during pregnancy, labor and post-partum, mode of delivery, weight of baby at birth and duration between pregnancy).

Tool II: The International Consultation on Incontinence Modular Questionnaire ICIQ-SF: (sponsored by the World Health Organization (WHO) and organized by the International Consultation on Urological Diseases (ICUD, 1998)

Scoring system of The ICIQ-UI:

- The total score is consider mild when <25% (<10points).
- Consider moderate when 25-50 % (10-15 points).
- Consider sever when >50% (>15 points).

Tool III: Pelvic floor muscles exercises checklist:

It included two sections, the first part was follow up of exercise practicing, which contained number of weeks for exercise technique, number of exercise frequency per day, duration of each contraction and relaxation. **Second part** included check list for exercise technique. This check-list was adapted from ***Goda., et al (2015)*** [14]. It contained 8 items to assess the accuracy of applying the Kegel and deep breathing exercise. This checklist contained step by step of deep breathing and Kegel exercises procedure.

Scoring of pelvic floor muscles exercises checklist:

The score zero (0) indicated not done, score (1) indicated done but not accurate, and score (2) indicated done and accurate.

The total score was16 points:

- **Poor practicing** for deep breathing and Kegel exercise (women scored less than 4 points),
- **Fair practicing (**score from 4-8 points).
- **Good practicing** (score from 9-12 points).
- **Excellent practicing (**13-16 points).

Supportive material: instructional brochure developed by the researcher based on review of literatures contained data regarding the following:

- Urinary incontinence (definition, causes, risk factors, symptoms, types, complications and management.
- Kegel exercise (benefits, technique, duration, frequency).
- Deep breathing exercise (benefit, technique, duration, frequency).

Pilot study:

A pilot study was conducted on 10% (10 women) to evaluate the applicability, efficiency, clarity of tools, assessment of feasibility of field work and identification of suitable place for interviewing women, beside to detect any possible obstacles that might face the researcher and interfere with data collection. Necessary modifications were done based on the pilot study findings such as (omission of some questions from tool, editing on paraphrasing of some questions, adding some questions) in order to strengthen their contents or for more simplicity and clarity .the pilot sample was excluded from the main study sample.

Field work (procedure):

The data was collected through a period of nine months, from the beginning of July 2021 until the end of March 2022. The researcher attended at the previous mentioned setting till all the pre-mentioned sample size collected. The data was collected through the following phases:

Assessment phase

Firstly the researcher introduced herself to the studied women and explained the aim of the study and explained the benefits of performing Kegel and deep breathing exercises on stress urinary incontinence to encourage them in the participation in the study and maintain their cooperation. All women interviewed individually using the previously mentioned tools.

Then the researcher started to fill the interviewing questionnaire to assess women's personal characteristics, obstetric history, and urinary incontinence history. After that the researcher assessed the frequency, severity of urinary incontinence and its effect on physical and psychological women's life by using the International Consultation on Incontinence Modular Questionnaire ICIQ-SF as a pretest assessment. These assessments took about 15 minutes for each studied women.

Implementation phase:

The researcher provided the instructions to studied women about Kegel and breathing exercise through three months. At the beginning of the first month; that started immediately after assessment and included two instructional sessions.

The first instructional session, This session included information about urinary incontinence causes and risk factors, possible ways of management, what are the pelvic floor muscles and their functions, definition of Kegel exercise and its benefits on improving the strength and elasticity of pelvic floor muscles and reducing symptoms of stress urinary incontinence . It took about 10 minutes.

The 2nd session included instructions about how to detect the right muscle group for applying Kegel exercises by instructing the studied women to try to stop the urine flow in the middle of urination , and must experience a feeling of squeezing and lifting in the same time. If she could do this, she was using the right muscles; it took 20 minutes [15].

Also the researcher provided the instructions to women such as take deep breathing during the exercises; don't try to move legs, buttock, or abdominal muscles during the exercises, also the researcher instructed the studied women to relax for a period equal to the period of holding [10].

The researcher instructed the studied women to contract the muscle as she is trying to stop the urine follow and count for 3 (3 seconds) and relax for another 3 seconds , contract and relax 5 times (the first exercise group) and repeat this exercise group 5 times per day (25contractions per day) these contractions increased frequently [14].

Moreover the researcher instructed the women that they can do these exercises at any position at any time also may be done during sexual intercourse. Also, each studied women received brochure about urinary incontinence, breathing exercise and Kegel exercises to remind them with the procedure at home. At the end of the first month: the researcher assessed the accuracy of practicing of deep breathing and Kegel exercises for the last four weeks by using check list tool. Then the researcher instructed the studied women to increase the number of contractions and the duration of holding to 6 seconds and increase the number of contractions and relaxations to 10 times (1st exercise group) and repeat this exercise group 5 times per day (50 contractions per day).

At the end of 2nd month the researcher assessed the accuracy of practicing of deep breathing and Kegel exercises for the last week by using check list tool. After that the researcher instructed the studied women to increase the number of contractions and the duration of holding to 9 seconds and increase the number of contractions and relaxations to 15 times (1st exercise group) and repeat this exercise group 5 times per day (75 contractions per day).

At the end of the 3rd month the researcher assessed the accuracy of practicing of deep breathing and Kegel exercises for the last week by using check list tool. Then the researcher instructed the studied women to increase the number of contractions and the duration of holding to 12 seconds and increase the number of contractions and relaxations to 20 times (1st exercise group) and repeat this exercise group 5 times per day (100 contractions per day).

Evaluation phase:

The researcher evaluated effect of practicing deep breathing and Kegel exercises on stress urinary incontinence among elderly women as posttest by reassessing the frequency and severity of urinary incontinence and its effect on women's physical and psychological conditions by using the same tool of pretest and evaluate whether the frequency and severity and the effect of urinary incontinence decreased or not .this tool took about 5-10 minutes.

RESULTS

Figure (1): Reveals that 49% of the studied sample was in the menopausal stage and 51% were in the late-menopausal stage and 71% were from rural areas.

Table (1): Illustrates complications during pregnancy (78%) of the studied sample complained from (untreated urinary tract, gestational diabetes, ante partum hemorrhage, anemia and pregnancy induced hypertension) (30%, 19%, 15%, 7%, 7%), respectively, during their previous pregnancies. Regarding complications during labor revealed that about 34% experienced prolonged labor, 32%, 18%, and 14% of them complained from chronic constipation and post-partum hemorrhage and Puerperal sepsis, respectively.

Table (2): Portrays studied women ICIQ-SF scale (pre & post practice of deep breathing and Kegel exercise). It reveals that frequency of urine leakage decreased after implementation of the program as the following report; 45% of the studied women reported that their frequency of urination is several times per day preprogram but it became only 19% post program implementation. It indicates that there were highly statistical significant differences in the frequency of urine leakage of the studied sample after intervention than pre intervention.

Table (3): Illustrates the distribution of studied sample according to their practice of deep breathing and Kegel exercise throughout the time of the study. It reveals that there are improvement in the performance of all steps of deep breathing and Kegel exercise throughout the time of the study. There were highly statistical differences in the studied sample's performance of the deep breathing and Kegel exercises throughout the time of the study.

Table (4): Indicates that there was negative correlation between regularity of practicing deep breathing and Kegel exercise and frequency of urinary incontinence and highly statistical significant mprovement in the frequency of urinary incontinence at the end of the 3rd month of intervention.

Table (5): Shows that there was positive correlation between deep breathing and Kegel exercises adherence and physical and psychological condition of the studied sample as well as (performing daily activities, sleeping, negative feelings practicing worship (prayers) in the desire manner and sexual relation).

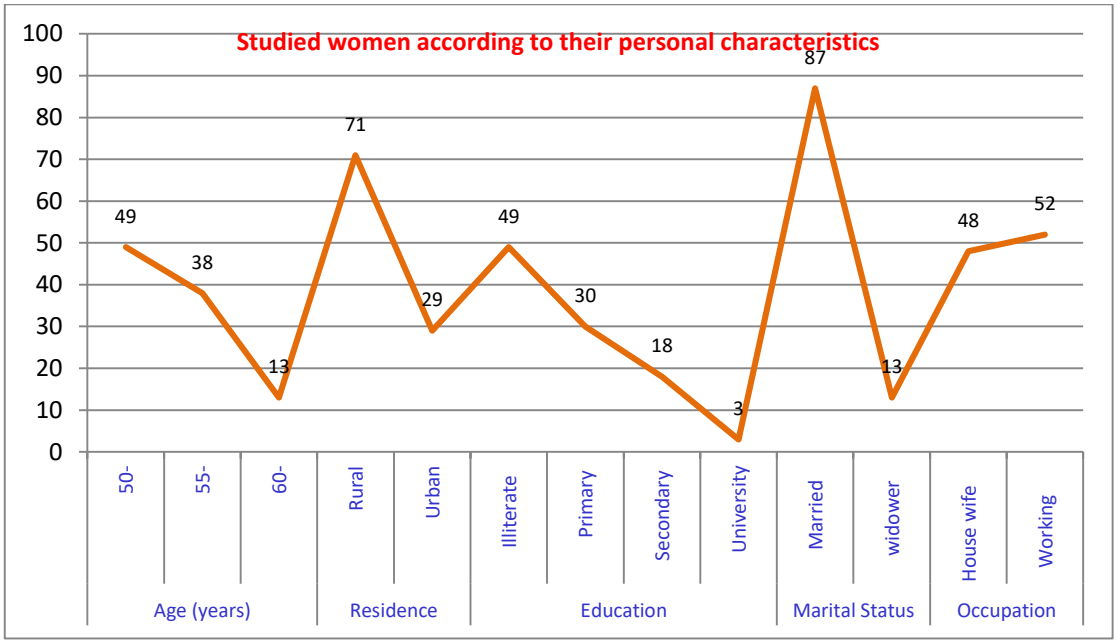

Figure (1): Distribution of studied sample according to personal characteristics (n=100)

Table (1): Distribution of studied sample according to obstetrics history (n=100).

Obstetrics history	***No***	***%***
Number of gravidity		
1-3 pregnancies	30	30.0
More than 3pregnancies	70	70.0
Number of parity		
1-3 deliveries	30	30.0
More than 3 deliveries	70	70.0
Number of abortion		
No abortion	44	44.0
1-3 times of abortion	56	56.0
***Type of delivery**		
Spontaneous vaginal deliveries	66	66.0
Vaginal deliveries with episiotomy	25	25.0
Caesarean section	29	29.0
Instrumental deliveries	1	1.0
Baby weight at birth		
Less than 2.5 kg	13	13.0
2.5-4 kg	82	82.0
More than 4kg	5	5.0
Duration between pregnancy		
Usually between 1 - 2 year	4	4.0
Usually between 2- 3 years	51	51.0
More than 3 years	16	16.0
Not regular intervals	29	29.0
***Complication during pregnancy**		
No complications	40	40.0
Antepartum hemorrhage	15	15.0
Gestational Diabetes	19	19.0

Pregnancy Induced Hypertension	7	7.0
Untreated urinary tract infection	30	30.0
Anemia	7	7.0
***Complication during labor**		
No complications	46	46.0
Antenatal hemorrhage	9	9.0
Prolonged Labor	36	36.0
Obstructed labor	14	14.0
***Complication during postpartum**		
No complications	51	51.0
Postpartum hemorrhage	18	18.0
Chronic constipation	32	32.0
Puerperal sepsis	14	14.0

**results not mutually exclusive*

Table (2): Distribution of studied sample according to their ICIQ-SF scale (n=100)

ICIQ-SF scale	Pre		Post		X^2	p-value
	No	%	No	%		
Frequency of urine leakage						
About once a week or less often	20	20.0	44	44.0	23.785	0.000**
Two or three times a week	30	30.0	24	24.0		
About once a day	5	5.0	13	13.0		
Several times a day	45	45.0	19	19.0		
The amount of urine leakage						
A small amount (under wear or pad is damp)	61	61.0	83	83.0	13.318	0.004*
A moderate amount (under wear or pad is wet)	32	32.0	12	12.0		
A large amount (under wear or pad is very wet	7	7.0	5	5.0		
***Time of urine leakage**						
Leaks before getting to the toilet	24	24.0	23	23.0	4.382	0.357
Leaks during cough or sneeze	100	100.0	100	100.0		
Leaks during sleeping	2	2.0	1	1.0		

**results not mutually exclusive*

Table (3): Distribution of studied sample according to their practice of deep breathing and Kegel exercise (n=100)

Steps of deep breathing and Kegel exercise	1st week of the 1st month			At the end of the 1st month			At the end of the 2nd month			At the end of the 3rd month			$X^2(1)$	p-value	$X^2(2)$	p-value	$X^2(3)$	p-value
	Done accurate	Done not accurate	Not done	Done accurate	Done not accurate	Not done	Done accurate	Done not accurate	Not done	Done accurate	Done not accurate	Not done						
Can detect the right muscle group	32.0	65.0	3.0	82.0	18.0	0.0	90.0	10.0	0.0	93.0	7.0	0.0	51.54	0.000**	70.90	0.000	79.49	0.000**
Take deep breathing during the exercise	21.0	72.0	7.0	47.0	52.0	1.0	87.0	13.0	0.0	97.0	3.0	0.0	17.66	0.000**	88.43	0.000	119.42	0.000**
Don't move your leg, buttock,	21.0	66.0	13.0	53.0	46.0	1.0	86.0	14.0	0.0	98.0	2.0	0.0	27.69	0.000**	86.28	0.000	123.05	0.000**

or abdominal muscles during the exercises and Pull up of the rectum and vagina during contraction.																		
Relax for a period equal to the period of contraction regularly.	46.0	54.0	0.0	91.0	9.0	0.0	97.0	3.0	0.0	98.0	2.0	0.0	46.92	0.000**	63.82	0.000	67.06	0.000**
Able to hold contraction accurately for count of three (3 seconds) and relax for another three seconds.	29.0	71.0	0.0	81.0	19.0	0.0	87.0	13.0	0.0	90.0	10.0	0.0	54.62	0.000**	69.04	0.000	77.20	0.000**
Repeat this exercise 3 times daily (15 contractions each day).	22.0	78.0	0.0	59.0	41.0	0.0	81.0	19.0	0.0	87.0	13.0	0.0	28.40	0.000**	69.68	0.000	85.19	0.000**
Increase the duration of contraction and relaxation regularly over 12 weeks with average of three seconds	28.0	72.0	0.0	61.0	39.0	0.0	77.0	23.0	0.0	81.0	19.0	0.0	22.04	0.000**	48.14	0.000	56.63	0.000**
Increase the number of	28.0	72.0	0.0	61.0	39.0	0.0	77.0	23.0	0.0	81.0	19.0	0.0	22.04	0.000**	48.14	0.000	56.63	0.000**

contractions in each exercise group with average of 3 times																		

Chi test **significant at p≤ 0.05* ***highly significant at p≤0.01*

$X^2$1 between 1st week and 1st month $X^2$2 between 1st week and 2nd month

$X^2$3 between 1st week and 3rd month

Table (4): Correlation between practicing Kegel and breathing exercise and frequency of urinary incontinence through the study (N=100)

kegel and deep breathing exercise adherence	frequency of urinary incontinence	
	r	p-value
1st week of the 1st month	-0.209	0.037*
At the end of the 1st month	-0.394	0.000**
At the end of the 2nd month	-0.423	0.000**
At the end of the 3rd month	-0.511	0.000**

Person correlation coefficient test **significant at p≤ 0.05* ***highly significant at p≤0.01*

Table (5): Correlation between deep breathing and kegel exercises adherence, physical and psychological condition of the studied sample through the program phases (N=100)

Physical and psychological condition	**Deep breathing and kegel exercises adherence**							
	1st week	**p-value**	**After the 1st month**	**p-value**	**After the 2nd month**	**p-value**	**After the 3rd month**	**p-value**
	R		**R**		**R**		**R**	
Carrying heavy objects	-0.308	0.002*	-0.466	0.000**	-0.338	0.001*	0.366	0.000**
Doing daily activities as (shopping, cooking, cleaning	-0.259	0.009	0.400	0.000**	0.329	0.000**	0.403	0.000**
Practicing any type of sport	-0.243	0.015*	-0.397	0.000**	-0.289	0.004*	-0.301	0.002*
Travelling	-0.294	0.003*	-0.475	0.000**	0.345	0.000**	-0.431	0.000**
Sleeping	-0.329	0.001*	-0.407	0.000**	0.373	0.000**	0.489	0.000**
Wear any kind of clothes or color	-0.298	0.003*	-0.304	0.002*	-0.157	0.119	-0.255	0.010*
Participating in social activities outside the home	-0.243	0.015*	-0.347	0.000**	0.136	0.178	-0.184	0.066
Feeling negative feelings as (loss of self-confidence, nervousness or anxiety, embarrassed, fear and frustration)	-0.245	0.014*	-0.225	0.025*	0.157	0.118	0.185	0.066
Practicing worship (prayers) in the desire manner	-0.146	0.176	-0.231	0.006	0.165	0.056	0.198	0.045*
Sexual relationship	-0.134	0.183	-0.260	0.009	-0.178	0.076	0.199	0.048*

Person coefficient test **significant at p≤ 0.05* ***highly significant at p≤0.01*

DISCUSSION

Stress Urinary Incontinence: According to the International Continence Society, Stress Urinary Incontinence is defined as the involuntary leakage of urine with exertion such as coughing, sneezing, and laughing. An increase in abdominal pressure due to physical exertion places stress on the bladder, causing urine to leak. The basic mechanisms of failure of the urethra to maintain a water-tight seal are poor urethral support by the pelvic floor muscles and intrinsic sphincter deficiency, accounts for about 50–70% of all types of UI [16].

Urinary incontinence is a significant health problem with serious physical, psychological, and social consequence, particularly among elderly women. Approximately 13 million people in United State suffer from urinary incontinence, with prevalence of stress urinary incontinence (SUI) varying between 10% and 30% in women between the age 15 and 64 years, as well as the prevalence of urinary incontinence in Egypt was 54.8% for all cases, and 14.8% of them suffer from stress urinary incontinence (SUI) [17].

The current study which reported that there was there was positive correlation between deep breathing and Kegel exercises adherence and physical and psychological condition of the studied sample as well as (performing daily activities, sleeping, negative feelings practicing worship (prayers) in the desire manner and sexual relation). These findings were in congruent with Rocha et al., (2018) who studied the Evaluation of the pelvic floor muscles training in older women with urinary incontinence and revealed that limitations of daily activities, physical limitations, social limitations, personal relationships, emotions, sleep, coping measures, and symptom severity significantly improved in the study group than in control group. This result suggests a possible positive effect of Kegel's exercises on improving the QoL among menopausal women with urinary incontinence [18].

Also, Ptak et al., (2019) who studied that The Effect of Pelvic Floor Muscles Exercise on Quality of Life in Women with Stress Urinary Incontinence and Its Relationship with Vaginal Deliveries and concluded that both the combined training of the pelvic floor muscle and the synergistic muscle, and the only pelvic floor muscle exercises improve physical, psychological, social, sexual conditions of women with stress urinary incontinence [19]. In addition Radzimińska et al., (2018) who studied the impact of pelvic floor muscle training on the quality of life of women with urinary incontinence and concluded that the pelvic floor muscle training is an effective treatment for urinary incontinence in women [20].

Also Dumoulin et al., (2018) who studied Pelvic floor muscle training versus no treatment, or inactive control treatments, for urinary incontinence in women found those women with stress and all types of urinary incontinence their patterns of life were improved in the pelvic floor muscle training groups [21]. Moreover, the present finding is in accordance with that of Bretotto et al., (2019) who studied the Effect of electromyographic biofeedback as an add-on to pelvic floor muscle exercises on neuromuscular outcomes and quality of life in postmenopausal women with stress urinary incontinence and concluded that pelvic floor muscle training, with and without biofeedback, is associated with improved physical , psychological and social conditions in postmenopausal women with stress urinary incontinence.

From the researcher point of view, although incontinence is not a life-threatening disease, the loss of bladder control can affect social, psychological, familial, occupational, physical and sexual aspects on patients' lives. Urinary incontinence leads to reduce quality of life, to cause social isolation and to restriction life styles.

Concerning the correlation between adherence of doing Kegel and breathing exercise and physical, psychological condition of the studied women, the current study demonstrated that the studied women experienced improvement in their physical condition(carrying heavy objects, daily activities, sporting, travelling, sleeping, wearing any kind of cloths) and psychologically (prayers, and sexual relation with husband) after regular practicing of deep breathing and kegel exercise at the end of the twelfth week. this results was supported with Ptak et al., (2019) who study The Impact of Pelvic Floor Muscles Exercises with and without Synergistic Muscles on Quality of Life of Women with Stage I Stress Urinary Incontinence and reported that there was statistical significant improvement in physical, psychological, social, sexual functions of the studied group after three months of practicing pelvic floor muscle exercise, also Fitz et al., (2021) who assessed effects of the three-month kegel exercise training in 36 women with SUI and demonstrated significant difference among the studied sample [19, 22].

Dissimilar to, Ptak ,m et al, (2019) who studied The Effect of Pelvic Floor Muscles Exercise on Quality of Life in Women with Stress Urinary Incontinence and Its Relationship with Vaginal Deliveries and Sharaf et al, (2020) who assessed The Impact of Nursing Interventions on the Control of Urinary Incontinence among Women both studies reported that there was significant improvement was only observed in (daily activities , sleeping and the domains of emotions)in their studied sample [19,1].

In this study, all the studied women were complaining of interruption of their prayer due to urine incontinence with different degrees. This is supported by ElAzab et al (2019) who assessed Arabic validation of the Urogenital Distress Inventory and Adapted Incontinence Impact Questionnaires short forms [23]. Neurology and Urodynamics and Hafez & Mohamed (2018) who assessed the Effect of Pelvic Floor Muscle Strengthening-Kegel's Exerciseon Severity of Stress Urinary Incontinence and Quality Of Life among Women both of them reported in their studies that vast majority of stress urinary incontinence women suffered of interruption of their prayers time table related to urinary leakage [24].

From the researcher point of view this complains is greatly disturbing women's physical and psychological condition especially among Muslim women who are obligated to repeat ritual washing needed before prayer and if they pass urine involuntary or

experience incontinence, they become impure and prayer is denied.

As regarding to regular practicing of deep breathing and kegel exercise and its effect on frequency of urinary incontinence, the current study revealed that there was negative correlation between regularity of performing deep breathing and Kegel exercise and frequency of urinary incontinence and there was highly statistical difference in the frequency of urinary incontinence at the end of the 3rd month of regular practicing deep breathing and kegel exercise (p value =0.000), in the same line Hartini et al., (2018) who assessed The Influence of Kegel Exercise on Urine Incontinension Reduction in Elderly and found in their study that Kegel Exercise has a significant effect on decreasing urinary incontinence among elderly [25].

The results of the current study declare the women's condition getting better after the implementation of the educational program regarding kegal and breathing exercise. The results indicated that there is a significant enhancement in women's condition. Moreover, the progression of good women's and regression of frequency of micturition, after the implementation of the guidelines compared to before, were observed associated with statistical differences. This improvement/ progression were also maintained up to the follow-up test through the observed results. This improvement could be attributed to that all women of the sample were committed with the guidelines. Additionally, the attending of the guidelines sessions and the lecture and positive reinforcement or the long-term retention of knowledge, as well as wide verities of used educational used methods [26-28].

The distributed Arabic booklets, also, played a crucial role in attaining and retain knowledge about kegal and breathing exercise. Booklets are best used when they are brief, written in plain language, full of good pictures and when they are used to back-up other forms of education. This is, in accordance, with Edgar Dale's or the NTL's Pyramid of Learning as cited by Masters as the pyramid illustrated that individuals can retain 10.0% of what he read and 20.0% of what he sees and hear (audiovisual). The same author added that ones can retain 50.0% of what he learned by a discussion [29-31].

CONCLUSION

It indicates effectiveness of the program as the results revealed highly statistical significant differences in the frequency of urine leakage of the studied sample after intervention than pre intervention, highly statistical differences in the studied sample's performance of the deep breathing and Kegel exercises throughout the time of the study. A negative correlation between regularity of practicing deep breathing and Kegel exercise and frequency of urinary incontinence was found and highly statistical significant improvement in the frequency of urinary incontinence at the end of the 3rd month of intervention.

RECOMMENDATIONS

Health education about the correction of misconceptions about urinary incontinence, which can be an effective means of bringing incontinent women into contact with health care center for early appropriate intervention

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