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Research Article

Urinary Incontinence among Northern Upper Egyptian Menopausal Elderly Women

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Abstract

Background: Urinary incontinence occurs when there is dysfunction in either the storage function or occasionally, in the emptying function of the lower urinary tract. Types of urinary incontinence, based on etiology and pathophysiology, urinary incontinence is classified into three types: Stress Urinary Incontinence, Urge Urinary Incontinence, and Mixed Urinary Incontinence.

Aim of the study: The study was conducted to assess urinary incontinence related factors among elderly women.

Design: A descriptive study design was utilized in this study.

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 a structure interviewing questionnaire schedule.

Results: It reveals that 72% of the study sample was obese, 70% got pregnant and delivered more than three times while 56% of them aborted from 1-3 times, about 66% of them delivered spontaneous vaginally, while about 29% delivered by cesarean section. It indicates that 56% of the study sample has no regular frequency of urination; 53% of them experienced stress urinary incontinence during day and night, 38% lost splashes amount of urine, while 27% lost large amount of urine per once.

Conclusion: Statistically significant association between BMI, number of gravid, and number of parity and frequency of urinary incontinence among the studied sample were found.

Recommendations: Application of health education program for measurement of management of urinary incontinence among elderly women

Kew Words: urinary incontinence; menopausal elderly women; obesity

Introduction

Urinary incontinence occurs when there is dysfunction in either the storage function or occasionally, in the emptying function of the lower urinary tract. Urethral sphincter dysfunction and bladder dysfunction can co-exist and various components of the continence mechanism may compensate one another. For example, women may experience anatomical or neuromuscular injury during childbirth but remain asymptomatic until there is a loss of urethral sphincter function due to aging. [1-5].

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) [6-11].

The international Continence Society (ICS) has classified nomenclature types of urinary incontinence (UI), Based on etiology and pathophysiology, urinary incontinence is classified into three types: Stress Urinary

Incontinence (SUI), Urge Urinary Incontinence (UUI), and Mixed Urinary Incontinence (MUI) [1,12-16].

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 [12].

Urge Urinary Incontinence may be triggered by simple everyday occurrences such as the sound of running water, exposure to cold temperatures, or drinking cold beverages. A classic example of a trigger is the notorious "Key in the lock" syndrome. Women are able to hold their urine until they get home, but when they insert the key in their door the urine just pours out beyond their control, occurs in about 14% of all cases [17].

Mixed Urinary Incontinence is the involuntary leakage of urine associated with exertion and urgency. It is a mixture of Stress and Urge Urinary Incontinence. Basically, the bladder is overactive and the urethra and urethral sphincter muscles are underactive or deficient. In some cases, the Stress symptoms are more defined than the Urge symptoms, and the patients are categorized as Stress Predominant-Mixed Urinary Incontinence sufferers. If it is the other way around and Urge symptoms are the primary complaint, then they are categorized as Urge Predominant-Mixed Urinary Incontinence sufferers [18-20].

Aim of the study

The study was conducted to assess urinary incontinence related factors among elderly women through:

1. Assess level of obesity among elderly women with urinary incontinence
2. Assess relationship between body mass index and frequency of urinary incontinence among elderly menopausal women.
3. Assess relation between number of gravid and frequency of urinary incontinence among elderly women

Research questions

1. What about the level of obesity among elderly women suffering from urinary incontinence?
2. Is there relationship between body mass index and frequency of urinary incontinence among elderly menopausal women?
3. Are menopausal women's gravida and parity can affect frequency of urinary incontinence?
   Subject and methods

Study design:

The study followed a descriptive study design.

Study Setting and Sampling:

The study was conducted at gynecological and urological outpatient clinics at Beni-Suef University Hospital. A Purposive sample was used from the above-mentioned setting. Total sample was 100 women who attended to the previous mentioned setting.

Tools of data collection:

Tool that was used for data collection is 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 consisting of three parts:

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

Second part: Obstetrics history such as (number of gravidities, 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).

Third part: urinary incontinence history included duration of illness, frequency, amount of leakage of urine, timing (day and night), and predisposing factors as coughing, sneezing, laughing, using sanitary towels for urine leakage, frequency of change the towels.

Validity of the tools:

Tools of data collection were investigated for their content validity by three experts in the field of Obstetric and Gynecological Nursing from Faculty of Nursing and Benha University.

Administrative Design:

An official written approval letter for data collection to conduct this study clarifying the purpose of the study was obtained from dean of faculty of nursing, Benha University to the director of Beni-Suef university hospital.

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.

Statistical Design:

The collected data was revised, coded, tabulated and introduced to a computer using statistical package for social sciences (IBM SPSS .25.0). Data was presented and suitable analysis was done according to the type of data obtained for each parameter. Descriptive Statistics used Mean and Standard deviation $(X2\pm SD)$ and range for parametric numerical data, and Frequency and percentage of non-numerical data

Results

Personal Characteristics	*No*	*%*
Age (in years)		
50-55 years	49	49.0
> 55-60 years	38	38.0
>60 years	13	13.0
Residence		
Rural	71	71. 0
Urban	29	29.0
Education		
Illiterate	49	49.0
Primary education	30	30.0
Secondary education	18	18.0
University education	3	3.0

Marital status		
Married	87	87.0
widower	13	13.0
Occupation		
House wife	48	48.0
Working	52	52.0

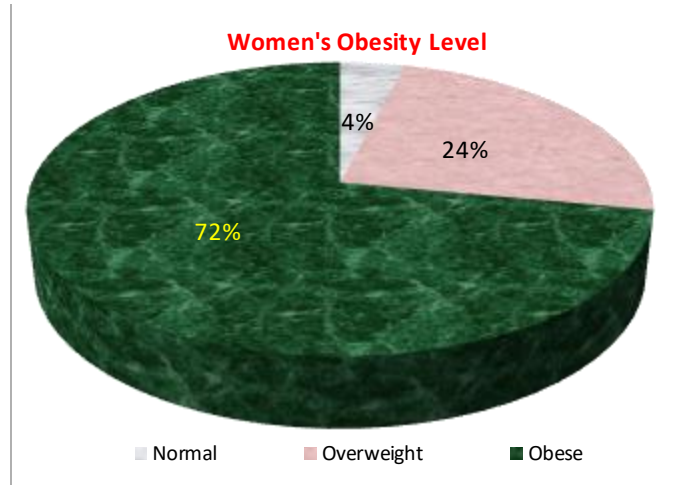**Table 1:** Distribution of studied sample according to personal characteristics (n=100).

Figure 1: Distribution of studied sample according to their obesity level (n=100

Figure (1): Portrays the distribution of studied sample according to their obesity level. It reveals that most of the studied sample (72%) was obese.

Table (2): Illustrates that 70% of the studied sample got pregnant and delivered more than three times while 56% of them aborted from 1-3 times. Regarding type of delivery, about 66% of them delivered spontaneous vaginally, while about 29% delivered by cesarean section. Regarding complications during pregnancy; 30% of the studied sample complained from untreated urinary tract, 19% gestational diabetes, 15% ante partum hemorrhage, 7% anemia and 7% pregnancy induced hypertension during their previous pregnancies. While complications during labor revealed that about 46% of the studied sample delivered without any complications; while 34% experienced prolonged labor. Also, complications during postpartum period showed (32%, 18%, and 14%) of them complained from chronic constipation and post-partum hemorrhage and Puerperal sepsis, respectively.

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
***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
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

Figure (2): Present the distribution of studied sample according to urinary incontinence history. It indicates that 56% of the study sample has no regular frequency of urination. Moreover, 60% of them began to suffer from stress urinary incontinence from 5 years and more; 53% of them experienced stress urinary incontinence during day and night. Regarding the amount of urine leakage per once, (38%) lost splashes amount of urine, while (27%) lost large amount of urine per once.
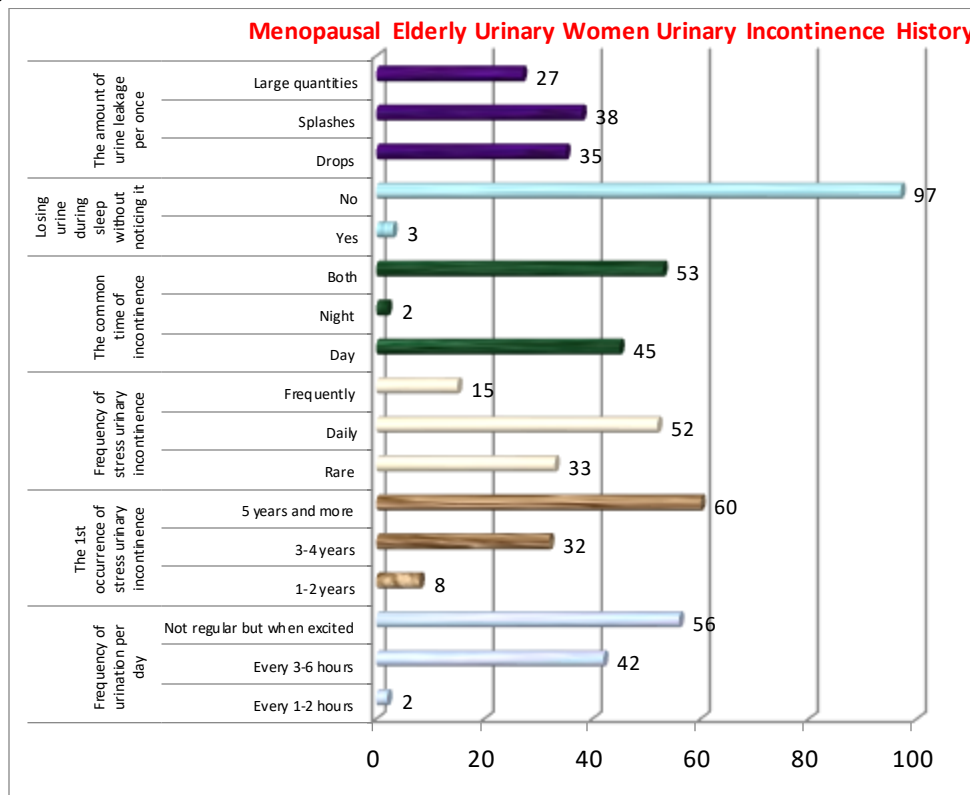

Figure 2: Distribution of studied sample according to urinary incontinence history (n=100)

Table (3): Demonstrates the relationship between body mass index and frequency of urinary incontinence among studied sample. It demonstrates that there was statistically significant association between BMI and frequency of urinary incontinence among the studied sample ($p \leq 0.05$).

Frequency of urinary incontinence	Body mass index						X^2	p-value
	Normal		Overweight		Obese			
	No	%	No	%	No	%		
About once a week or less often	4	100.0	6	25.0	10	13.8	19.75	0.003*
Two or three times a week	0	0.0	8	33.3	22	30.6		

| About once a day | 0 | 0.0 | 2 | 8.4 | 3 | 4.2 | | |
| Several times a day | 0 | 0.0 | 8 | 33.3 | 37 | 51.4 | | |

*Significant at p≤ 0.05   **highly significant at p≤0.01*

Table 3: Relationship between body mass index and frequency of urinary incontinence (n=100)

Figure (3): Present the distribution of studied sample according to using sanitary towel for urine leakage. It reveals from both figures that 63% of the studied sample used sanitary towel for urine leakage.

Figure 3: Distribution of studied sample according to using sanitary towel for urine leakage (n=100)
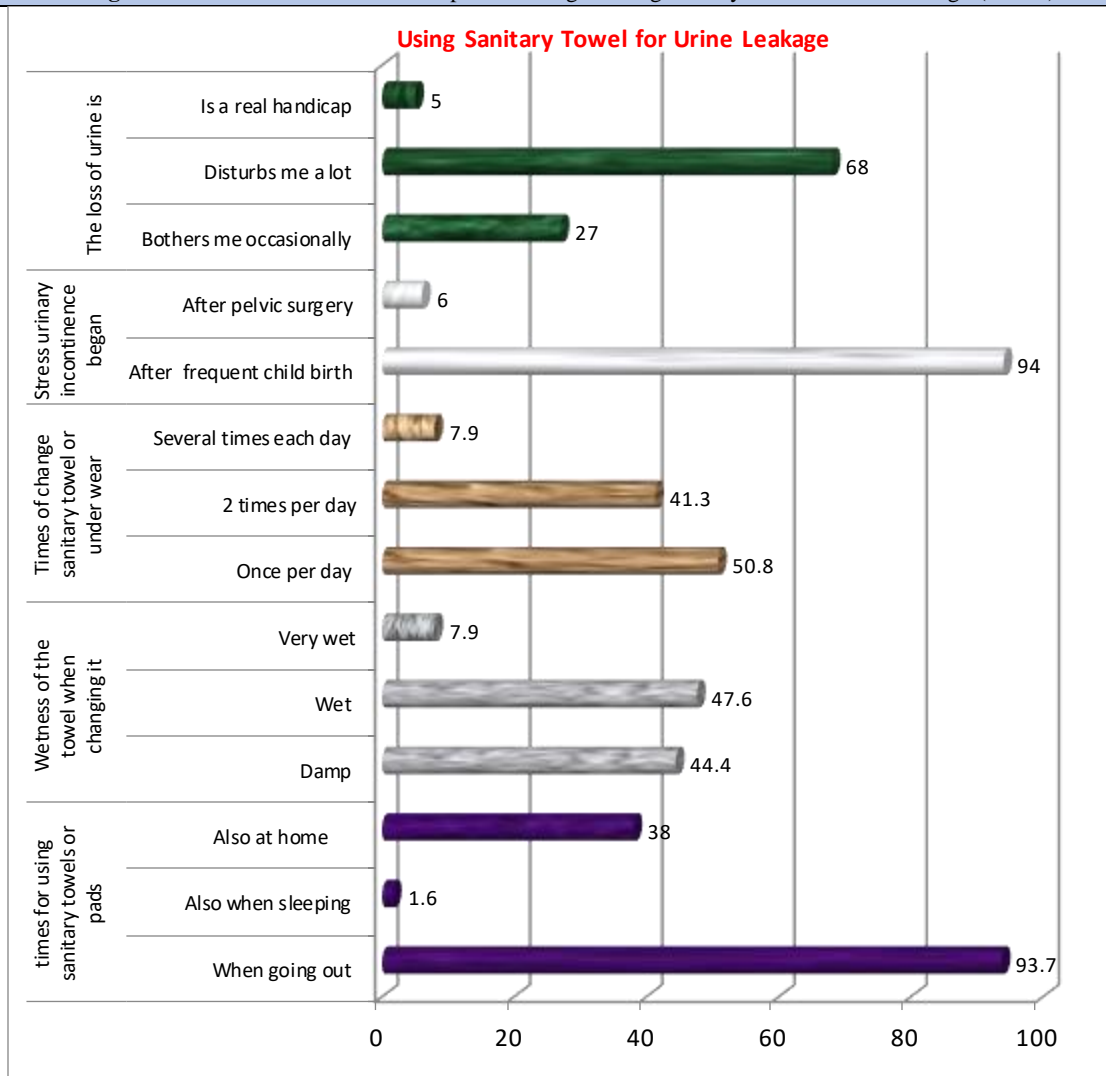
Table (4): Illustrates the statistical relation between number of gravid and frequency of urinary incontinence; it reveals that there were statistical differences in the frequency of urinary incontinence in relation to number of gravidities among the studied sample (p≤0.05).

Frequency of Urinary Incontinence	Number of gravidity				X^2	p-value
	1-3 pregnancies (n=30)		More than three pregnancies (n=70)			
	No	%	No	%		
About once a week or less often	10	33.3	10	14.3	14.233	0.003*
Two or three times a week	13	43.3	17	24.3		
About once a day	2	6.7	3	4.3		
Several times a day	5	16.7	40	57.1		

*Significant at p≤ 0.05   **highly significant at p≤0.01

Table 4: Statistical relation between number of gravid and frequency of urinary incontinence (N=100)

Figure (4): Present the distribution of studied sample according to using sanitary towel for urine leakage. It reveals from figure 94% of the studied sample began to suffer from stress urinary incontinence after frequent child birth and 68% of the studied sample stress urinary incontinence disturbed them a lot.
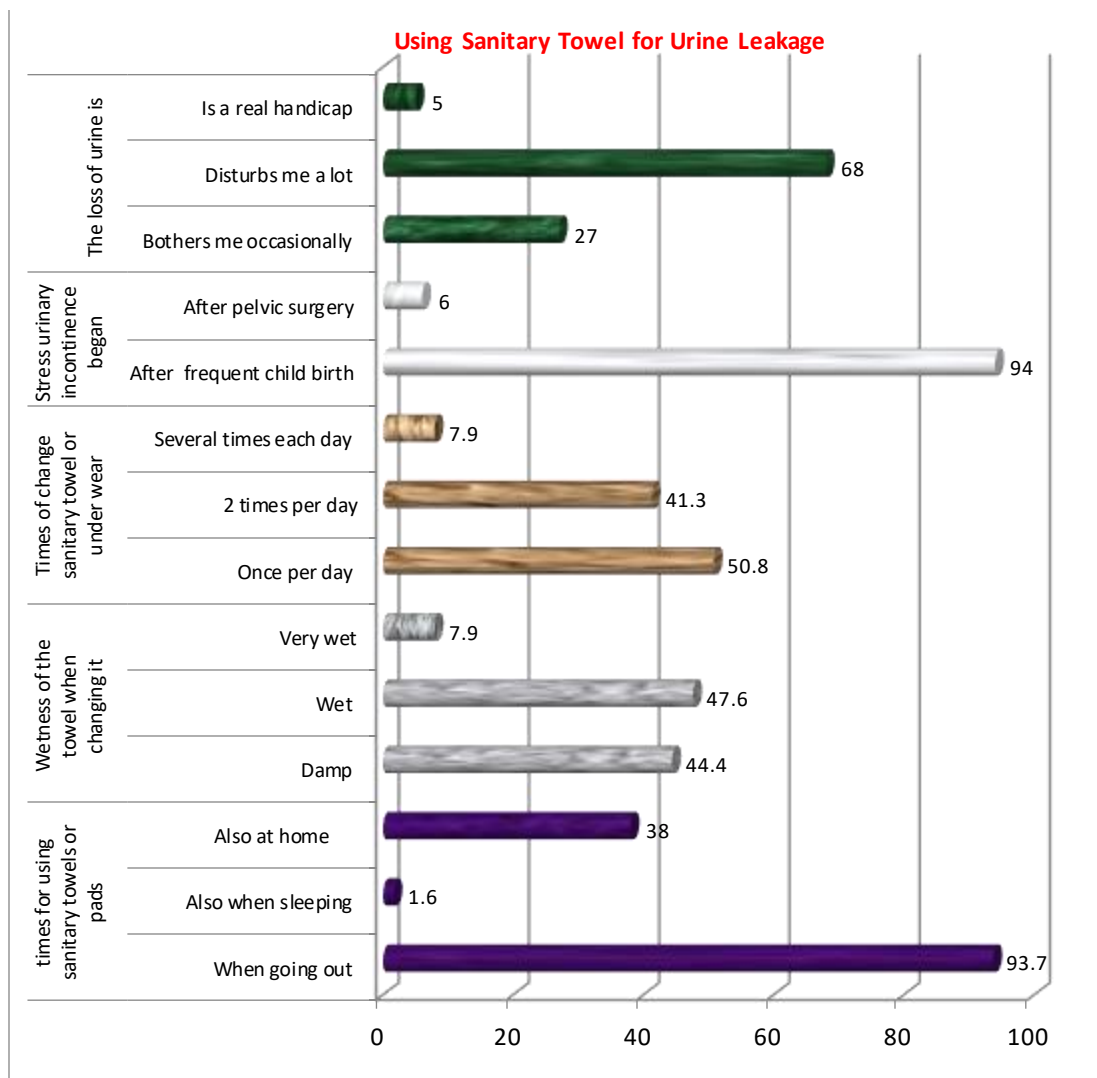

Figure 4: Distribution of studied sample according to using sanitary towel for urine leakage (n=63)

*Results not mutually exclusive

Table (5) shows the statistical relation between number of parity and frequency of urinary incontinence. It reveals that there were highly statistical differences in the frequency of urinary incontinence in relation to number of parities among the studied sample (p≤0.05).

Frequency of Urinary Incontinence	number of parity						X²	p-value
	1		2		3			
	No	%	No	%	No	%		
About once a week or less often	1	50.0	9	31.0	10	14.5	22.141	0.001*
Two or three times a week	0	0.0	13	44.8	17	24.6		
About once a day	1	50.0	1	3.4	3	4.3		
Several times a day	0	0.0	6	20.7	39	56.5		

*Significant at p≤ 0.05   **highly significant at p≤0.01

Table 5: Statistical relation between number of parity and frequency of urinary incontinence (N=100)

Discussion

Stress urinary incontinence results from failure of the sphincter mechanism to maintain outlet closure during bladder filling and increased intra-abdominal pressure during sneezing, coughing, running, laughing or exertion of greater physical effort [21].

The current study aimed to assess urinary incontinence related factors among elderly women. As regard to age of the studied women as a part of socio

demographic characteristics of the studied women, the present study indicated that slightly less than half of the studied women were in the menopausal stage (50-55yrs) and slightly more than half were in the post-menopausal stage (>55yrs), the same results reported by El-Sayied H.A (2020), who studied Self-care model management of urinary incontinence for elderly women attending Ain Shams hospital and mentioned that near half of the studied sample their age was 50yrs and above [22].

From the researcher pint of view the aging process is associated with many changes in the body include the urinary tract system especially in women due to pregnancy and delivery that weakens the pelvic floor muscles this is the physiological explanation of increasing incidence of urinary incontinence among elderly women. In relation to Body Mass index, the present study showed that slightly less than three quarters of the studied women were obese, while one quarter was overweight. This result similar to Deshmane, S & Memchoubi, K (2018) who studied an experimental study to assess the effectiveness of pelvic floor exercise for the management of urinary incontinence among women in selected areas of Pune city and mentioned that the most dominant group was obese followed by overweight then normal weight [23].

These results were not consistent with Khalifa, M., et al (2019) who assessed the urinary Incontinence in Healthy Saudi Women and reported that the most dominant group was the obsess group followed by normal weight females and finally overweight females [24].

Concerning correlation between number of parity and frequency of urinary incontinence, the current study revealed that there was positive correlation between number of parity and frequency of urinary incontinence pre and post intervention with highly statistically significant difference (p value=0.000), this was similar to Khalifa, M et al (2019) who studied the Urinary Incontinence in Healthy Saudi Women and revealed that multi-parity was related to the urinary incontinence prevalence [24].

Also, Rizk DE et al (2019) who studied the Urinary Incontinence in The United States Women and reported that urinary incontinence prevalence was more common in females who had three or more births [25].

Regarding correlation between number of gravidity and frequency of urinary incontinence, the present study reported that there was positive correlation with statistically significant (p value = 0.003), this result was in accordance with Cotillo (2019) who studied Hospital extra: urinary incontinence and depression [26].

Political, A (2019) who studied Pelvic muscle training may relieve SUI long term: study reports some patients experience extended relief after 8 weeks' training both of them documented that women suffer from urinary incontinence four times more than men due to multiple traumata from child birth that affects urethral sphincter function [27].

on the other hand, Wyman et al (2018) & Sharaf A-Y et al (2020) who studied The Impact of Nursing Interventions on the Control of Urinary Incontinence among Women and mentioned that there was no significant relationship between gravidity and frequency of urinary incontinence [28-29].

Conclusion:

Statistical significant association between BMI, number of gravid, and number of parity and frequency of urinary incontinence among the studied sample were found.

Recommendations:

1. Replication of the present study under different circumstances (sampling, setting, measurement, is recommended to validate its results.
2. Application of health education program for measurement of management of urinary incontinence among elderly women

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