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## Nurses Knowledge and Practices About Urinary Incontinence Among Elderly at Assiut University Hospital.

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### Abstract

Urinary incontinence is more common with ageing. **Aim:** to assess nurses' knowledge and practice about elderly with urinary incontinence. **Research design:** Descriptive research design was used in the study. **Setting:** the study was carried out in the Urology, Neurology, Coronary department and the Private sector at Assiut University Hospital. A convenient sample was used. And included all nurses in previous mentioned settings. Total number were 243 nurses. **Two tools:-** Tool I: Interview questionnaire sheet:- included 2 parts: First part included personal characteristics. Second part included: questions to measure nurses' knowledge about urinary incontinence. Tool II: urinary incontinence scale to assess urinary incontinence nursing practice. **Results:** 66.3% of the studied nurses were diploma. 69.1% of them had fair knowledge score, and only 14% of them had good knowledge score, 70.8% of nurses had faire in practice score. **Conclusion:** There are statistical significant differences between nurses' total score of knowledge about urinary incontinence and their total score of practice in caring elderly patient with urinary incontinence ( $p < 0.01$ ). **Recommendation:** Continued nursing education and in service training programs on unit should be well organized at Assiut University to upgrade the nurses' knowledge and practicing skills regarding elderly urinary incontinence.

**Keywords:** *Elderly, Urinary, Incontinence, Knowledge, Nurses & Practices.*

### Introduction

The number of elderly people of 65 years and older in developing countries in 2010 rose by 6% and is expected to reach 15% in 2050. While the percentage of the elderly in the developed countries is 16% and is also expected to reach 26% by 2050. In 2015, their number in Egypt was 4.6 million and will increase in 2050 to 18.1 million. Moreover, the population aged 80 and over, has been growing faster than the population of people between ages 65 and 79 because of increasing life expectancy at older ages (Wan, et al., 2016, United Nations States, 2011).

Urinary incontinence (UI) is an involuntary loss of urine sufficient to be a problem. UI is a costly condition impacting many older adults. It affects more women, and becomes more common with advancing age and with increasing frailty. For community-dwelling adults aged 65 years and older in USA, approximately 44% of women and 29% of men have UI. These percentages increase to 57% for women and 43% for men aged 80 years and older (Talley et al., 2011).

The prevalence of urinary incontinence in USA was 18.9 % in men and 37.7 % in women. One-year incidence rates of about 20 % among women and about 10 % among men were found. One-year remission rates were about 12 % for women and about 30 % for men. When becoming incontinent, respondents were most likely to develop mild incontinence. Those who changed their severity level

were most likely to progress from mild to moderate (Gerontological Society of America, 2012).

Causes of UI that can affect women and men are chronic constipation, medication, excess weight, infections, enlarged prostate and caffeine or cola, and age-related changes in the urinary tract may cause various elimination problems. One of the greatest annoyances is urinary frequency, caused by hypertrophy of bladder muscle and thickening of the bladder, which decreases bladder ability to expand and reduces storage capacity (Eliopoulos, 2010).

There are many types of urinary incontinence such as; Stress incontinence, urge incontinence, mixed incontinence, Functional incontinence, overflow incontinence and Transient incontinence (Dowling-Castronovo, 2008) Urinary incontinence many cause skin problems, such as rashes, skin infections and sores (skin ulcers) from constantly wet skin and urinary tract infections. Also, it causes changes in daily activities and work life (Sally et al., 2008).

Although bothersome, frequent, and potentially life-threatening, some feel embarrassment or believe it is inappropriate to talk about urinary problems, while other individuals may accept symptoms of urinary disorders as a normal part of aging. These factors often delay early detection and treatment. Nurses are in ideal positions to develop close relationships with older patients, which can help patients to more comfortably discuss problems of the urinary tract. By demonstrating sensitivity, acceptance, and understanding of patients' problems, nurses can

facilitate prompt appropriate intervention (Eliopoulos et al., 2010).

Gerontological nurses provide the highest quality of care to the older adults within a health care system facing an unprecedented increase of their numbers, to do so, a gerontological nurse employs a body of skills & knowledge enough to provide frequent opportunities for voiding, at least every 2 hours. Clean skin in perineal area thoroughly after each incontinence episode. Protective barriers such as ointment may be applied to skin if constant leakage occurs. Keep an intake and output records and don't limit fluids, keep approximately 2,000 ml/day (Joahn, 2010).

### Significance of the study

Urinary incontinence predisposes to perineal rashes, pressure ulcers, urinary tract infection, urospis, falls, and fractures. It is associated with embarrassment, isolation, depression, anxiety, sexual dysfunction. Geriatric incontinence remains neglected by patients and physicians alike. Providers and older patients alike often neglect incontinence or dismiss it as a normal part of growing old, but it is abnormal at any age, although its prevalence increased, even over age 85. Regardless, incontinence is usually treatable and often, curable at all ages, even in frail elderly (Alan, 2011).

### Aim Of The Study

#### Aim of this study includes that

**General objective:** To improve nurses' knowledge and practice about urinary incontinence disease.

### Specific Objectives

- 1- To assess nurses' knowledge about urinary incontinence.
- 2- To assess nurses' practice regarding urinary incontinence.

### Research question

To fulfill the aim of the study the following research questions were formulated:

1. What are the nurses' knowledge about urinary incontinence among the elderly?
2. What is the current nurse practice regarding urinary incontinence?
3. Is there a correlation between nurses' knowledge about urinary incontinence and their practice?

### Subjects & Method

#### Research design

Descriptive research design was used in this study.

#### Setting of the study

The study was carried out in (Urology department, Neurology department, Coronary department, Private sector) at Assiut University Hospital.

### Sample

Convenient sample was used for the study. It consisted of all nurses' in previously mentioned setting. The total number of them was 243nurses.

#### The sample divided into as following

Department	No of nurses
Urology department	35
Neurology department	61
Coronary department	50
Private sector	97

### Tools of the study

**Tool 1:** A questionnaire sheet was developed by the investigator for the collection of data. It was based on a review of related literature, it included the following:-

**Part I:** Personal data for nurses as (name, age, sex, level of education, years of experience, marital status ... etc).

**Part II:** Includes 18 questions to assess nurses' knowledge such as, definition, causes, types, symptoms, complications and nursing role.....etc). **Scoring system:** The total score for knowledge was (22) on 18 item. Each item was given 2 degrees for each correct answer, 1 for incomplete correct answer and 0 for incorrect answer. The scores of each item were summed up and converted into a percent score using the following score system to assess level of knowledge (Poor = score less than 50%, Fair = score 50-70% and good= score more than 70%) (Saxer et al., 2008).

**Part III:** Using urinary incontinence practical scale developed by (Saxer et al., 2008) to assess nursing practice about urinary incontinence. This is a modification scale according to community in the content validity of the knowledge and practice scale, the developed questions were shown of 5 experts from medical & surgical nursing and community health nursing departments the nurse response by (done or not done).

It included 15 statements such as the following:- Training the elderly on bladder emptying every 2-4 hours. Training the patient to do some exercise and prevent smoking.....etc). Regarding the total score of nurses' practice, it consisted of 15 questions a score of 1 was given for each item (done) and a score of zero was given for an incorrect answer (Not done). It was calculated by summing up the scores of each item done and then converting it into a percent score (Poor= score < 50%, Fair= score from 50-70%, good= score >70%) (Saxer et al., 2008).

### Method

#### 1 -Administrative phase

An official approval letter was obtained from the Dean of Faculty of Nursing, Assiut University to

the director of hospital at Assiut University Hospital and the Head of urology department, neurology department and coronary department. The letter included a permission to carry out the study and explained the purpose and nature of the study.

## **2- Pilot study**

A pilot study was carried out before starting data collection on 10 % of nurses, the aim of the pilot study was to assess tools' clarity and applicability, moreover, to estimate the time required to fill in the form. According to the result of the pilot study, necessary modifications were done.

## **3-Ethical considerations**

The researcher explained the purpose and nature of the study for each nurse. The nurses had the right to agree or disagree on participation in the study; consent to participate in the study was secured orally from every nurse and informed that the information obtained will be confidential and used only for the purpose of the study.

## **4- Field work**

The researcher started to collect data from the first of September 2014, until the mid of January 2015. The researcher met the nurses in the departments at Assiut University Hospital. The form was filled by the researcher herself with every interviewed nurse, after explaining the purpose and the nature of the study and asking them to cooperate with her throughout the interview. Each interview took about (20-30) minutes. Throughout the interview every answer from the nurse's was recorded as it is according to the designated question in the form, then explanation of every wrong answer was given to the nurses. The data was collected on three days every week; (4-5) sheets were completed every day.

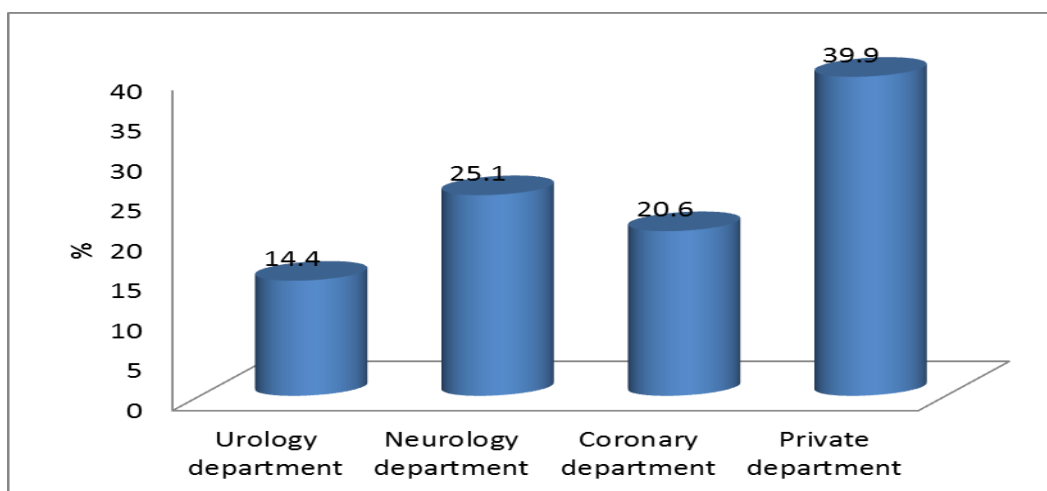
## **5- Statistical analysis**

The obtained data was reviewed and prepared for computer entry, coded, analyzed and tabulated. Description statistics such as frequencies, percentage, mean and standard deviations were utilized to analyze data using the computer program SPSS version (20.0). Categorical variables were described by number and percent (N, %), where continuous variables described by mean and standard deviation (Mean±SD). Relevant statistical tests to significance were used to identify the relation among the study variables. The Chi-square test was used to compare difference in the distribution of frequencies between different groups. It was considered significant when p-values were less than 0.05.

## Results

**Table1: Distribution of personal and professional data of participating nurses at Assiut university hospital 2014 n= 243.**

Item	No.=243	%
<b>Age</b>		
20 - < 30 years	174	71.6
30 - < 40 years	55	22.6
40 years and more	14	5.8
Range	20 – 58	
Mean $\pm$ SD	30.2 $\pm$ 8.0	
<b>Sex:</b>		
Male	20	8.2
Female	223	91.8
<b>Marital status</b>		
Single	62	25.5
Married	179	73.6
Widowed & divorces	2	0.9
<b>Qualification</b>		
Diploma	161	66.3
Technical institute	60	24.7
Bachelorate & post graduate	22	9.0
<b>Years of experience</b>		
<10 years	133	54.7
10 :< 20 years	88	36.2
20 :< 30 years	15	6.2
30 years & more	7	2.9
Range	1– 40	
Mean $\pm$ SD	10.6 $\pm$ 8.1	



**Fig (1): Distribution of studied nurses according to their working department at Assiut University Hospital (2014).**

**Table (2): Distribution of studied nurses about their attained training courses in the field of specialization at Assiut University hospital 2014 (no=243).**

Items	No.=243	%
<b>Presenting training courses in the field of specialization</b>		
Yes	135	55.6
No	108	44.4
<b>Number of training courses (n=135)</b>		
One course	64	47.4
Two courses	45	33.3
Three courses	21	15.6
Four courses and more	5	3.7

**Table (3): Distribution of studied nurses regarding their knowledge about urinary incontinence among elderly patients (n=243).**

Item	Correct		Correct incomplete		Incorrect	
	No.	%	No.	%	No.	%
Define the urinary incontinence	229	94.2	0	0.0	14	5.8
Components of urinary tract	200	82.3	38	15.6	5	2.1
Urinary tract functions	2	0.8	208	85.6	33	13.6
Causes for urinary incontinence	7	3.4	233	95.1	3	1.5
Types of urinary incontinence	0	0.0	77	31.7	166	68.3
Signs and symptoms of urinary incontinence	38	15.6	166	68.3	39	16.0
Method of treatment	38	15.6	182	74.9	23	9.5
Complications of urinary incontinence	164	67.5	0	0.0	79	32.5
Nursing role	42	17.3	0	00.0	201	82.7

**Table (4): Distribution of nurses' practice about caring for elderly patients with urinary incontinence at Assiut University hospital (no= 243).**

Item	Done		Not done	
	No.	%	No.	%
Training the elderly on bladder emptying every 2-4 hours	5	2.1	238	97.9
Training the patient to do some exercise	0	0.0	243	100.0
Encourage patient to prevent smoking	112	46.1	131	53.9
Record the member of urination	110	45.3	133	54.7
Record the amount of urine each time	210	86.4	33	13.6
Support the patient psychologically	50	20.6	193	79.4
Help the patient to make personal hygiene and cleanliness of his clothes	141	58.0	102	42.0
Make skin care	135	55.6	108	44.4
Educate the elderly to prevent forced movement	7	2.9	236	97.1
Help the elderly to maintain the level of blood sugar	234	96.3	9	3.7
Help the elderly to maintain the level of blood pressure	224	92.2	19	7.8
Urine analysis periodically to prevent infection	54	22.2	189	77.8
Give and register medications to patient regularly	234	96.3	9	3.7
Help the patient to decrease weight	8	3.3	235	96.7
Encourage the patient to eat fiber-rich foods to prevent constipation	24	9.9	219	90.1

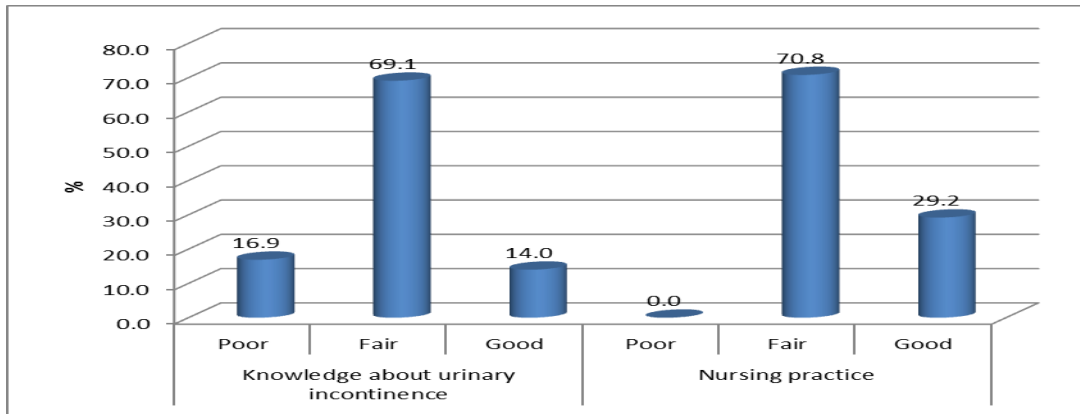


Fig (2): Distribution of the studied nurses regarding their total score of knowledge and Practice for caring elderly patient with urinary incontinence.

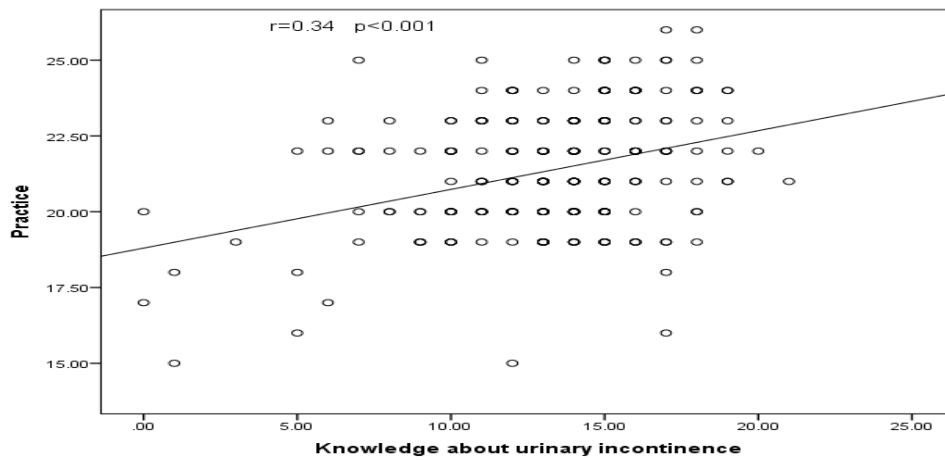


Fig (3): Correlation between nurses knowledge and practice regarding urinary incontinence

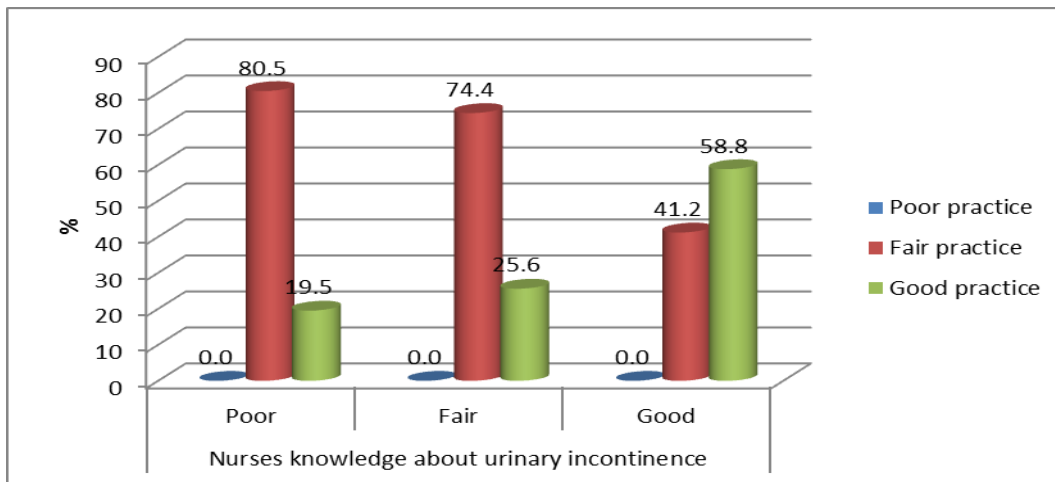


Fig (4): Relationship between nurses' total score of knowledge and their total score of practice in caring elderly patient urinary incontinence.



**Table (1):** Shows that studied nurses were ranged from 20 to 58 years old with mean and standard deviation  $30.2 \pm 8.0$ , as regard age groups the age groups less than three quarter of nurses (71.6%) their age ranged from 20 to 30 years. As regard their gender 91.8% of studied nurses were female. Nearly three quarter (73.6%) of studied nursing were married. According to their qualification about two third 66.3% of studied nurses were diploma qualified, while 24.7% of them were technical institute. As regard years of experience 54.7% of studied nurses were less than 10 years, and 2.9% of them were experienced years from 30 years & more.

**Fig (1):** This Figure shows that 39.9% of studied nurses worked in private department, while 14.4% of them worked in urology department.

**Table (2):** Revealed that distribution of studied nurses about their attaining training courses in the field of specialization it was observed that more than half of nurses 55.6% have attaining training course in the field of specialty. More over less than half of them 47.4% attained one course and only 3.7% of them have attained four courses or more.

**Table (3):** Revealed that nurses' knowledge about urinary incontinence, it was observed that the 94.2%, 82.3%, 67.5% of nurses had correct knowledge about definition, component of urinary tract, and complication of urinary incontinence respectively. Also, 85.6%, 74.9%, 68.3% of nurses' had correct incomplete knowledge about urinary tract function, signs and symptoms urinary incontinence, method of treatment and respectively, more over 68.3%, 32.5% of them had incorrect knowledge about type of urinary incontinence, and complications of urinary incontinence respectively.

**Table (4):** Shows that nurses' practice for caring for elderly patients with urinary incontinence it was observed that the nurse help the elderly to maintain the level of sugar, give medications to patient regularly and registration, help the elderly to maintain the level of blood pressure, recording the amount of urine each time, and make skin care by 96.3%, 96.3%, 92.2%, 86.4%, respectively and all nurses don't train the patient to do some exercise.

**Fig (2):** This figure illustrate that more than two third of studied nurses 69.1% had faire knowledge about urinary incontinence, and only 14% of them had good score of knowledge, while zero % of nurses had poor practice and 70.8% of them had faire score of practice for caring patient with urinary incontinence and 29.2% of them had good score of practice.

**Fig (3):** This figure reveals that there are statistically significant positive correlation between nurses knowledge and their practice about urinary incontinence ( $r = 0.34$ ,  $p < 0.001$ ).

**Fig (4):** This figure reveals that there are statistical significant differences between nurses' total score of knowledge about urinary incontinence and their total score of knowledge about practice in caring elderly patient with urinary incontinence ( $P < 0.00$ ).

## Discussion

Gerontological nurses can play an important role in the assessment and treatment of urinary symptoms in a primary care setting. Some of these options are lifestyle interventions (e.g., weight loss, decreased caffeine intake or dietary interventions), behavioral therapy (e.g., bladder training or pelvic muscle rehabilitation) or conservative treatment (e.g., medication and fluid schedules) (Du Moulin et al., 2016).

In the present study, it was found that, the nurses' ages ranged from 20 to 58 years old and about three quarter of nurses their age ranged from 20 to 30 years. Also, 91.8% of studied nurses were females. According to their qualification, the present study revealed that two thirds of the studied nurses were diploma qualified, while 24.7% of them were technical institute graduates. As regards to the years of experience, 54.7% of the studied nurses had less than 10 years of experience.

These findings are similar with (Saxer et al., 2008) who studied Nurses' knowledge and practice about urinary incontinence in nursing home care and reported similar findings, as 80% of the participating nurses level of education were registered nurses (bachelor degree) and nurse assistants (technical degree), 39% of the participants had more than 10 years' experience in the care of old people, 40% between 3 and 10 years and 21% less than 3 years.

While Ehlman et al., (2012) who studied nursing home staff members' attitudes and knowledge about urinary incontinence and reported that the age of participant nurses, were between 18 and 63 years old, with a mean of 28 years. 40% were younger than 33 years, 28% and 32% were older than 43 years.

These results agreed with (Jordan et al., 2011) who study the effects of nursing education on decreasing catheter associated urinary tract infection rates and found that the majority of nurses were more females and they were predominantly between the ages of 20 and 29 (52.5%), although the ages ranged from 20 to 60 years. But this was in contradiction with present study's findings of the nurse's level of education as most of the nurses hold a baccalaureate degree, (75.4%), resulting in (96.7%) registered nurses and (3.3%) licensed practical nurses. Also, concerning years of experience the present study showed the highest range of experience on the unit ranged from

less than 10 years by (59%) of nurses which was similar to the study findings by **Jordan et al., (2011)**. The present study observed that more than half of the nurses 55.6% have attained a training course in the field of specialty. Moreover less than half of them 47.4% have attained one course and only 3.7% of them have attained four courses or more. These findings reflected that about half of nurses needed more training programs in their specialty to improve their knowledge and practice.

However in a study by **Yuan et al., (2011)** who were less is more was none of the nurses received any continuing education about urinary incontinence and therefore were less knowledgeable about its management. **Ehlman et al., (2012)** found that education surrounding urinary incontinence should extend beyond nursing to include other departments, such as physical therapy, occupational therapy, social work, activities, and environmental services.

This result goes in line with **De Gagne et al., (2015)** who studied a urinary incontinence continuing education online course for community health nurses in South Korea and reported that 70% of nurses answered correctly on similar questions related to anatomy of urinary system. This means that nurses have basic knowledge about the urinary system but need to update of their knowledge periodically. Similarly, a study done by **Yuan et al., (2010)** on knowledge of urinary incontinence among Chinese community nurses and community-dwelling older people community nurses displayed a moderate level of knowledge about urinary incontinence. They answered 69% of all items correctly.

In the present study 46.5% of the nurses, considered the weakness of the bladder muscles is the most likely cause of urinary incontinence. These findings were similar to **Ehlman et al., (2012)** who reported that bladder disorders are a normal part of aging due to its weakness (50%). Similar study findings by **Yuan et al., (2011)** who reported that 53.3% of responses refer that muscles weakness of the bladder is one of the main causes of urinary incontinence. About the types of urinary incontinence, in the current study 42.4% of the participants stated that stress urinary incontinence is the most common types of urinary incontinence followed by functional urinary incontinence (36.6%) because it is one of the most common types of urinary incontinence faced during work. While **Yuan et al., (2010)** found that more than half of the nurses could not differentiate urge urinary incontinence from other types of urinary incontinence.

Likewise, these findings are similar to those of **Saxer et al., (2008)** who reported that 78% of nurses knew about certain medications such as antihypertensive drugs can cause urinary incontinence (versus 35% of

nurse assistants). However, a study done by **Yuan et al., (2010)** represented that the nurses possessed insufficient knowledge about avoiding constipation (6%) and they did not know how to assist people with hypertension (27%) or diabetes mellitus (2%) to deal with the leakage of urine. The present study may be due to asking nurses about the risk factors not about their practice with patients with chronic diseases.

As regard the nurses' knowledge about urinary incontinence, it was observed that the majority of nurses had correct knowledge about definition, component of urinary tract. These findings similar or better than findings reported by **De Gagne et al., (2015)** which reported that 50% of nurses had knowledge about symptoms of urinary incontinence. Also these findings matching with **Keilman et al., (2010)** who studied knowledge, attitudes, and perceptions of advanced practice nurses regarding urinary incontinence in older adult women and reported similar findings of nurses knowledge about symptoms of urinary incontinence.

### Conclusions

Based on the results of the present study, it was concluded that more than two third of studied nurses had fair score of knowledge about urinary incontinence. About three quarters of them scored fair while about quarters had a good score of practice.

There is statistical significant difference between nurse's age, marital status, years of experience and their score of knowledge about urinary incontinence. Also, there is a statistical significant difference between nurses' total score of knowledge about urinary incontinence and their total score of practice in caring elderly patient with urinary incontinence.

### Recommendations

Based on the results of the present study, the researcher come up with the following suggests

1. Continued nursing education and in service training programs on unit should be well organized within Assiut University Hospital and equipped with the necessary educational facilities to upgrade the knowledge and skills of practicing nurses about urinary incontinence, which will be reflected on better outcome and service for in patients.
2. Establish standards care protocol for nurses regarding care of patients of urinary incontinence and periodic review and evaluation of these standards are highly required.
3. Encouraging the nurses to improve and update their knowledge by reading attending seminars or conferences is important.

4. Further research is needed to identify best nursing care strategies for the knowledge and practice about urinary incontinence among older patients.

## References

1. **Alan, J., & Wein, L., (2011):** Geriatric incontinence & Voiding Dysfunction. Tenth Edition; Chapter 76 Campbell-Walsh Urology- p.p 2195-2203
2. **De Gagne J., Sunah Park, Aeyoung S., Bei Wu, & Palmer, M., (2015):** A Urinary Incontinence Continuing Education Online Course for Community Health Nurses in South Korea. The Journal of Continuing Education in Nursing. 46, (4), pp;738-746.
3. **Du Moulin, M., Hamersa, J., Paulus, A., Berendsenc, C., & Halfens R., (2016):** The role of the nurse in community continence care: a systematic review International Journal of Nursing Studies 42 (2005) 479–492. Available from: Ruud J G Halfens Retrieved.
4. **Dowling- Castro Novo, A., (2008):** Urinary incontinence, Nursing Standard of Practice, Protocol: urinary incontinence in older Adults Admitted to Acute car. Six Edition; Chapter 20 p.p 259-278.
5. **Eliopoulos C., (2010):** Gerontological Nursing Urinary Elimination, Seventh Edition; Chapter 22 philadelphia: Lippincott Willams &Wilkins, p.p 282:290.
6. **Ehlman, K., Wilson A., Dugger, R., Eggleston, B., Coudret, N., & Mathis, S., (2012):** Nursing Home Staff Members' Attitudes and Knowledge About Urinary Incontinence. Urol Nurs; 32(4) pp:205-213.
7. **Gerontological Society of America (2012):** Urinary incontinence in the Elderly Prevalence Incidence. Journal of American Geriatric Society, Reterioved on:15 (5):779-786.
8. **Jordan, L., Mackey, E., Coughlan, K., Wyer, M., Allnutt, N., & Middleton, S., (2011):** Continence management in acute stroke: A survey of Current national practices. Journal of Advanced Nursing, 67(1),pp 94-104.
9. **Keilman, L., & Dunn, K., (2010):** Knowledge, attitudes, and perceptions of advanced practice nurses regarding urinary incontinence in older adult women. Research and Theory for Nursing Practice: An International Journal, 24,pp 260-279.
10. **Sally S., Roach, R., (2008):** Introductory Gerontological Nursing. Managing Common Physiologic Problems. (11<sup>th</sup>) ed chapter 14. Philadelphia: Lippincott. New York, Baltimore pp:150-171.
11. **Saxer S., Halfens, R., De Bie, R., Dassen, T., (2008):** Nurses, Knowledge and practice about urinary incontinence in nursing home care. Nurse Education Today, 28, pp;926-934 <http://www.elsevier.com>.
12. **Talley. K., Wyman J., Shamliyan T., (2011):** State of the science: Conservation interventions for urinary incontinence in frail community-dwelling older adults. Urology Nursing 31(3), pp: 321-334 [http://www.nursing\\_outlook.org](http://www.nursing_outlook.org).
13. **United Nations States, (2011):** Colorectal Cancer Screening incidence, and Mortality: Morbidity and Mortality-Weekly Report (CDC),<http://www.cdc.gov>.
14. **Wan H., Goodkind D., & Kowal P., (2016):** An Aging World: International Population Reports. Washington, DC. U.S. CENSUS BUREAU
15. <http://www.census.gov/library/publications/2016/demo/p95-16-1.html>.
16. **Yuan H., Bin Beverly A., Williams & Ming Liu (2011):** Attitudes Toward Urinary Incontinence Among Community Nurses and Community-Dwelling Older People. J Wound Ostomy Continence Nurs. 38(2): pp; 184-189.
17. **Yuan H., Beverly A., & Williams (2010):** Knowledge of urinary incontinence among Chinese community nurses and community-dwelling older people. Health and Social Care in the Community 18(1), 82–90.