

## Health Care-Seeking Behaviors among Women Suffering from Urinary Incontinence

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### Abstract

**Background:** Although urinary incontinence is not life threatening, the condition is one of 'inconvenience' and is associated with widespread adverse physical and psychological consequences. For many women, there is a general consensus to 'accept' the condition, bear the problem and not seek health care to manage the physiological leakage until the problem becomes unbearable and distressing to their daily lives.

**Objective:** To identify health care-seeking behaviors of women with urinary incontinence (UI).

**Method:** A retrospective descriptive exploratory design was utilized in this study. A convenience sample of 249 women who had UI, recruited from the outpatient clinics of three hospitals. Two tools were validated and used to collect data: Tool I: biological and socio-demographic and reproductive history interview schedule; and Tool II: health care-seeking behaviors of women with UI.

**Results:** The results clarified that the study subjects' health-seeking behavior for UI was poor. The majority (89.2%) did not seek medical consultation for UI; they attended urologic or gynecologic outpatient clinics to treat other health problems. They followed self-care practices such as use of protective pads and decrease fluid intake. A highly statistically significant correlation between help-seeking behaviors and frequency of UI, amount of urine leakage, severity of incontinence and suffering from terrible disturbances UI was revealed. Furthermore, women believed that UI is a natural part of aging and a consequence of vaginal childbirth, and that there is no effective cure or treatment. It is recommended to empower primary care providers in frontline care delivery with the necessary skills, knowledge base and tools to educate women in healthy behaviors, and UI prevention modalities.

**Keywords:** Urinary incontinence; Women; Health-seeking behavior

### Physiology of Urinary Incontinence

### Introduction

Urinary incontinence (UI) is a condition marked by the involuntary loss of urine. Called the 'silent epidemic', UI is not a life-threatening condition, but it is a worldwide problem, affecting approximately 250 million adults in the world population [1]. As many as 25% of adult women may have UI of some degree and type [1,2]. Between 5% and 10% of women may have significant UI, defined as moderate or severe UI, and perceived as troublesome. UI is an important health problem, which affects women of all age groups physically, psychologically and sexually, and it has to be treated accordingly. The condition obviously has a profound effect on women's quality of life (QOL), [1-3] but the rate of women suffering from this common problem who seek healthcare has been reported to be exceedingly low (6%–28%) [4]. For Turkish women experiencing symptoms for over five years, only 33% had sought professional help, [5] and even among Middle Eastern women who reported daily UI, only 55% had sought professional treatment [6].

Holding urine and maintaining continence requires normal function of the renal system as well as the nervous system. Upon urination, the sphincter muscles holding the stored urine in the bladder relax, the bladder wall muscle (the detrusor) contracts, and urine passes from the bladder to the outside of the body through the urethra. The ability to fill and store urine properly requires a functional sphincter muscle to control output of urine from the bladder and a stable detrusor muscle. To empty the bladder completely, the detrusor muscle must contract appropriately to force urine out of the bladder and the sphincter must relax to allow the urine to pass out of the body [4,5]. UI is defined by the International Continence Society as involuntary loss of urine that is a hygienic or social problem to the individual. There are three different types of UI according to whether the condition is induced by stress, urge or overflow [7].

Stress UI occurs during physical activity; urine leaks out of the body when the abdominal muscles contract, leading to an increase in intra-abdominal pressure (e.g., when sneezing, laughing or even standing up from a seated position). Stress UI is most commonly caused when the urethra is hyper mobile due to weakness of the detrusor muscles, and deficiency of intrinsic sphincter muscle to control escape of urine. Stress UI is the most common type of bladder control problem in

younger, middle-aged and elderly women [7]. In some cases, it is related to pregnancy and childbirth including difficult deliveries, grand multiparity, forceps use, obstetrical lacerations, and various types of genital prolapse. In addition, menopause aggravates urethral sphincter muscle weakness, and being overweight or obese can lead to stress UI. It is also common in young women who have never given birth, and often occurs while they are participating in sports [3,4]. Urge UI is the most common type of UI in older adults. It is characterized by abrupt urgency, frequency, nocturnal and leaking of large amounts of urine in association with insufficient warning to get to the bathroom in time. Urge UI is associated with detrusor over activity that may be age-related, idiopathic, secondary to lesions in central inhibitory pathways (stroke, cervical stenosis), local bladder irritation (infection, bladder stones, inflammation, tumors), and drinking too much water, coffee, tea or alcohol [8].

Overflow UI results from detrusor under-activity, bladder outlet obstruction, or both. Bladder outlet obstruction can occur in women with significant pelvic organ prolapsed (such as a **prolapsed uterus**) [9]. The urine overflows from the bladder because the pressure inside the bladder is higher than the urethral sphincter closure pressure. Leakage is small in volume but continual. The symptoms include dribbling, weak urinary stream, hesitancy, frequency and nocturia [7-9].

Some authors have emphasized that many women with UI can be improved or even cured by behavioral treatments, pharmacological therapy, or surgery, but it was noted that women with UI who seek health consultation increases with the severity of the UI and the negative social implications of the condition [3,4]. Indeed, the processes that lead women to seek professional help are complex and depend on various factors, such as perceptions of coping resources, illness, and the availability of services. Attitudes and knowledge about UI are also important factors in the encounter and management of this problem, both for women with UI and for healthcare professionals. Once staff members believe that UI is not a normal part of aging, they are more likely to be diligent in carrying out a plan of care related to UI. Additionally, basic knowledge about types of UI and treatment for UI is necessary for all skilled nursing facility staff that provides direct care and emotional support for patients [10].

### Significance of the study

Several theories have developed explanatory frameworks identifying predictors of health care utilization [1]. One of the most widely acknowledged models used in this study is the Behavioral Model of Health Services (BMHS) Use, originally developed in 1968 by Ronald M. Andersen, a United States medical sociologist and health services researcher. Is a conceptual framework of health-seeking behavior used to understand health behavior and possible reasons for non-compliance with recommended health action.

The behavioral model proposed that the use of health care services is a function of three sets of individual characteristics: (i) predisposing factors, reflecting the fact that women with different characteristics have a different propensity to use health care services e.g. age, education, working condition and health-related attitude; (ii) enabling factors, reflecting the fact that some families, even if predisposed to use health services, must have some means to obtain them, i.e. income, accessibility, acceptability, affordability and availability of health services; and (iii) need factors, reflecting the perceived health status, as indicated by severity of the conditions, its sequel, severity of disability and expected benefit from treatments. The need factor is the most

immediate cause of health service use. The presence of predisposing and enabling components may not be enough for a woman to seek health care. She must perceive the disease as serious and believe that the treatment will provide the expected benefits [11].

### Research questions

What are the health-seeking behaviors of women complaining of UI?

How do women with UI manage their problem?

### Research design

A retrospective descriptive exploratory research design was utilized in this study.

### Purpose and Methods

The purpose of this study was to identify health care-seeking behaviors of women with UI.

### Setting and subjects

The study was conducted at Urological and Gynecological Outpatient Clinics in the main governmental hospitals in Alexandria, Egypt: El-Shatby Maternity University Hospital, Gamal Abdel-Nasser Hospital and the Main University Hospital. A convenience sample of 249 women comprised the study sample. Based on Epi info program version 3.5.4.

The inclusion criteria for patients to be selected were being over 20 years of age, complaining of UI, and being willing to participate in the study. The exclusion criteria were pregnant women, postpartum women who have yet to recover from the physiological changes of urinary system, women who had previously undergone unsuccessful surgery for UI and women who are diagnosed with cancer.

### Tools

Two tools were utilized for data collection, both survey questionnaires, as described in the following sections.

#### Tool I: Biological and socio demographic and reproductive history structured interview schedule

This tool comprises two parts. Part one: Biological and socio-demographic characteristics as age, occupation, residence, monthly income, body mass index and marital status. Part two: Reproductive history such as gravidity, parity and menopausal state.

#### Tool II: Health care-seeking behaviors of women with urinary incontinence

This tool was originally developed by Hagglund et al. in 2003, [2] and modified by the researchers to suit Egyptian society. This tool consisted of 40 questions that were divided into five parts.

**Part I: Multiple-choice symptom questions:** Seven multiple-choice questions assess symptoms of UI such as onset, frequency of leakage, amount of urine leakage, severity of UI, circumstance of leakage, and type of UI. Also women were asked about the extent to which they consider their leakage as a problem.

Severity index was calculated by multiplying the reported frequency (four levels) by the amount of leakage (three levels), the resulting index value (1-12) was categorized into slight (1-2), moderate (3-6), severe (8-9) and very severe (12).

The type of UI was determined on the basis of the following questions: 'does loss of urine occur at moments of increased pressure, for example, when sneezing, jumping or straining at stool?'; 'do you experience such strong urge that you fail to reach the toilet in time?'; and 'do you experience involuntary dribbling of urine or leakage of small amounts, difficulty or delay in urinating, and a feeling that the bladder is still full?'

According to these questions, stress UI was defined as 'involuntary loss of urine during increased abdominal pressure'; urge UI was defined as 'involuntary loss of urine during strong urge'; and overflow UI was defined as 'a failure to empty the bladder, resulting in constant uncontrolled dribbling if the amount of urine in the bladder exceeds its capacity'.

**Part II: Reasons for delaying to ask medical consultation:** This part assesses the factors that hinder women to seek medical advice. It includes 12 questions categorized as believing that urine leakage is a 'simple' problem due to lack of knowledge about available services, perceiving urine leakage as normal after giving birth, or as part of normal aging process and being afraid of treatment.

**Part III: Self-care practices to manage UI:** This entails five questions for the measurement of each item using agree and don't agree, and another open-ended question about other self-care practices such as maintaining an empty bladder, decreasing fluid intake, and wearing protective pads.

**Part IV: Reasons for seeking medical consultation for UI:** This assesses the associated factors that motivate women to seek medical consultation. It includes 10 questions with yes/no responses and one open-ended question to clarify other reasons. For example, embarrassment about urine smells, being frustrated by the leakage of urine, worsening of the problem, and interference with physical activity.

**Part V: Types and satisfaction with treatment received:** This entails four questions that were answered by 'agree' or 'disagree' regarding types of medical treatment received, expectation from treatment, level satisfaction of treatment, and open-ended questions regarding reasons of satisfaction or dissatisfaction from treatment.

Permission to conduct this study from the directors of the data collection settings was secured through an official letter from the

Faculty of Nursing Alexandria University after explanation of the purpose of the research. The data collection tool was developed after review of relevant, recent literatures and translated into Arabic. The tools were tested for content validity with review of 7 experts from medical/surgical nursing and obstetric/gynecologic specialties. The reliability of tool II was tested by Cronbach's alpha, which yielded 0.868, indicating reliability.

The pilot study was conducted on 25 women excluded from the study subjects. For each recruited subject the following issues were considered: securing the subject's informed consent, keeping her privacy, right to withdraw at any time and assuring the confidentiality of her data.

Data were collected by the researchers through individualized interviews with women in the urological and gynecological outpatient clinics. The data were collected on approximately three days per week over a period of four months, starting from the beginning of June 2014 until the end of September 2014. The average time needed to complete the interview ranged between 20-30 minutes, depending upon the degree of understanding and response of the interview.

### Statistical analysis

Statistical analysis was performed using SPSS version 20 for Windows. Frequency and percentage were used for describing and summarizing categorical data. Chi-Square test and Monte Carlo test were used to compare the profile and clinical picture of UI and pattern of health seeking behaviour \*significant at  $P \leq 0.05$ .

### Results

#### Predisposing factors

Table 1 illustrates that the subjects' health-seeking behavior for UI was statistically significantly correlated with their age ( $p < 0.001^*$ ), level of education ( $p < 0.001^*$ ), income ( $p < 0.001^*$ ) and employment status ( $p < 0.001^*$ ). With increased age, health-seeking behavior increases (e.g., to 35.7% for the 60+ age group). Marital status had no relation with health seeking behavior, and sizable absolute majorities of 100%, 91.1%, 76.5% and 87.5% of single, married, widowed and divorced women (respectively) did not seek medical consultation for UI. Moreover to who were obese (19.1%) or morbidly obese (16.2%) did seek help.

Characteristics	Total		Seeking medical counselling				MCP
	(N=249)	%	No		Yes		
			N=222 -89.2	%	N=27 -10.8%	%	
<b>*Predisposing factors Age</b>							
21-	26	10.5	20	76.9	6	23.1	<0.001*
30-	38	15.3	36	94.7	2	5.3	
40-	65	26.2	61	93.8	4	6.2	
50-	92	36.7	87	94.6	5	5.4	

60+	28	11.3	18	64.3	10	35.7	
<b>Marital status</b>							
Single	5	2	5	100	0	0	0.07
Married	202	81.1	184	91.1	18	8.9	
Widow	34	13.7	26	76.5	8	23.5	
Divorced	8	3.2	7	87.5	1	12.5	
<b>*Enabling factors</b>							
Residence area							
Rural	112	45	96	85.7	16	14.3	0.114
Urban	137	55	126	92	11	8	
<b>Educational level</b>							
Illiterate	15	6	8	53.3	7	46.7	<0.001*
Read and write	87	34.9	80	92	7	8	
Primary	47	18.9	45	95.7	2	4.3	
Secondary	59	23.7	53	89.8	6	10.2	
University	41	16.5	36	87.8	5	12.2	
<b>Income</b>							
More than enough	7	2.8	2	28.6	5	71.4	<0.001*
Enough	67	26.9	48	71.6	19	28.4	
Not enough	175	70.3	172	98.3	3	1.7	
<b>Employment status</b>							
Working	48	19.3	27	56.2	21	43.8	<0.001*
Not working	201	80.7	195	97	6	3	
<b>BMI</b>							
Normal	12	4.8	12	100	0	0	0.012*
Overweight	47	18.9	38	80.9	9	19.1	
Obese	116	46.6	110	94.8	6	5.2	
Morbid obesity	74	29.7	62	83.8	12	16.2	
<b>Chronic diseases</b>							
No	75	30.1	68	90.7	7	9.3	0.615
Yes	174	69.9	154	88.5	20	11.5	
<b>Type of chronic disease*</b>							
Diabetes	114	45.8	96	84.2	18	15.8	<0.001*
Heart disease	12	4.8	9	75	3	25	
Hypertension	121	48.6	99	81.8	22	18.2	
Liver disease	14	5.6	8	57.1	6	42.9	

Rheumatoid	5	2	2	40	3	60	
<b>Reason to visit the clinic*</b>							
Vaginal inflammation	107	43	100	93.5	7	6.5	0.0258*
Urinary tract infection	51	20.5	46	90.2	5	9.8	
Vaginal bleeding	28	11.2	25	89.3	3	10.7	
Menstrual disturbance	4	1.6	3	75	1	25	
Renal calculi	59	23.7	48	81.4	11	18.6	

**Table 1:** Relationship between the study subjects' biological and socio-demographic characteristics and their health-seeking behaviour, MCP: P value based on Mon Carlo exact probability, \* P<0.05 (significant), \* (Frequencies are not mutually exclusive).

### Enabling factors

As regards level of education, unexpectedly more help-seeking behavior was noticed among illiterate women (46.7%) compared with the majority of secondary and university educated women who did not seek medical help (89.8% and 87.8% respectively). Help-seeking behavior was noticed more among subjects, who had 'more than enough' income (71.4%), almost double the rate of those with 'just enough'. Specifically, as predicted, the working women revealed higher health-seeking behavior (43.8%) compared to 97% of those who are not working who did not seek medical help. Moreover "who were obese (19.1%) or morbidly obese (16.2%) did seek help." Type of chronic disease had a statistically significantly correlation with the subjects' commitment to health seeking behavior (p=0.0729\*); those who complained of rheumatoid arthritis (60%) and liver disease (42.9%) sought medical consultation for UI, compared to large majorities (84.2% and 81.8%) of those with diabetes and hypertension who did not seek medical help. The reason to visit the clinic had a significant correlation (p=0.0258) for health seeking behavior, with 25% and 18.6% respectively attending the outpatient clinics to treat menstrual disturbance and kidney disorders were more likely to seek medical attention for UI.

Regarding the reproductive history of the subjects the results indicated, no significant correlation with their health seeking behavior. The majority of nulipara had delivery 1-2 times, 3-5 times and 6 times and more did not seek medical consultation. It also noticed that a sizable proportion 91.4% and 87.5% respectively in pre-menopause and menopausal stage did not seek medical consultation. In addition, no significant correlation was found between duration science menopause and health seeking behaviors of women.

### Needs factors

Table 2 illustrates that a highly significant correlation was found between health seeking behavior and frequency of UI (p=0.001), amount of urine leakage (p=<0.001), severity of UI (p=<0.001) and effect of UI (p=<0.001); all of the subjects (100%) who had UI monthly did not seek medical consultation, while 35.3% of women who had UI every day did. In addition, (61.5%) of women who had UI with large amount of urine leakage did seek medical consultation.

Urinary incontinence clinical profile	Total	Seeking medical counseling	MCP
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*Needs factors	(N=249)		No	Yes			
		%	N=22 2 -89.2 %	%	N=27 -10.8 %	%	
<b>Frequency of UI</b>							0.001 <sup>†</sup>
One/month	23	9.2	23	100	0	0	
3/month	131	52.6	122	93.1	9	6.9	
One or more/week	78	31.3	66	84.6	12	15.4	
Every day	17	6.8	11	64.7	6	35.3	
<b>Amount of urine leakage</b>							<0.001 <sup>†</sup>
Drops	86	34.5	77	89.5	9	10.5	
Little	150	60.3	140	93.3	10	6.7	
More	13	5.2	5	38.5	8	61.5	
<b>Severity of incontinence</b>							
Slight	85	34.1	77	90.6	8	9.4	
Moderate	141	56.6	131	92.9	10	7.1	
Severe	23	9.3	14	73.7	9	26.3	
<b>Duration of incontinence</b>							0.483
Less than 6 months	36	14.5	30	83.3	6	16.7	
6 months to less than 2 years	70	28.1	64	91.4	6	8.6	
2 years to less than 5 years	93	37.3	89	95.7	4	4.3	
5 years to less than 10 years	30	12	22	73.3	8	26.7	
More than 10 years	20	8	17	85	3	15	
<b>When UI occur</b>							0.002 <sup>†</sup>
At night	14	5.6	11	78.6	3	21.4	
Day	147	59.1	140	95.2	7	4.8	

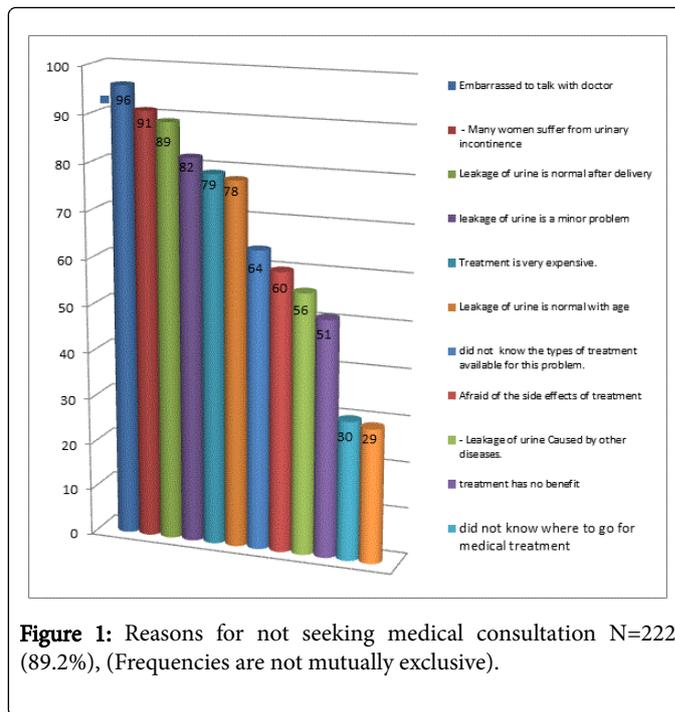
Night and day	88	35.3	71	80.7	17	19.3	
<b>Types of UI</b>							
Stress	175	70.3	159	90.9	16	9.1	0.184
Urge incontinence	100	40.2	80	80	20	20	<0.001*
Overflow	96	38.5	78	81.3	18	18.8	0.002*
<b>Effect of UI</b>							<0.001*
No problem	5	2	5	100	0	0	
Some bothered	198	79.5	184	92.9	14	7.1	
Much bothered	46	18.5	33	71.7	13	28.3	

**Table2:** Relationship between the study subjects' clinical profile of urinary incontinence and their health seeking behavior, MCP: P value based on Mon Carlo exact probability, \* P<0.05 (significant).

On the other hand, 89.5% of those who had 'just a drop' did not seek medical consultation. Similarly, the higher severity of UI the greater the necessity to use medical consultation. It should be noted that 26.3% of those with severe UI did seek medical consultation, while 90.6% of women who had slight UI did not.

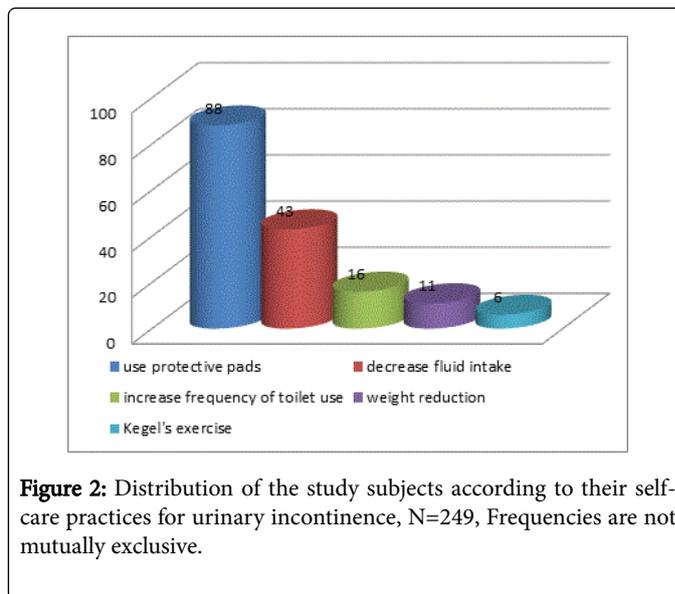
Likewise, 26.7% of women reported having suffered from UI for five years or less than 10 years did seek medical consultation, compared to 95.7% and 91.4% respectively of those who had UI since 2-less 5 years and since 6 months to less than 2 years did not seek medical consultation. The findings indicated that 21.4% and 19.3% respectively of those who complained of UI at night and at night and day did seek medical consultation (p=0.002\*). A significant correlation between type of UI and subjects' health seeking behavior was found (p=0.084\*). It was noticed that 28.3% of those who complained of terrible disturbances from UI did seek medical consultation compared to 100% and 92.9% of those who have no problem and some bother did not seek medical consultation (with statistically significant differences, p=<0.001\*).

Figure 1 shows reasons of not seeking medical consultation. It was obvious that majority of women (96%) feel embarrassed to talk with doctors about UI, and 91% of them reported that many women suffer from UI, while 89% of them mentioned that leakage of urine is normal after delivery, 82% believe that leakage of urine is a minor problem, 79% revealed that treatment is expensive, 78% indicated that leakage of urine is normal with aging, 64% did not know types of treatment available, 60% were afraid of the side effects of treatment, 56% expressed that leakage of urine was caused by another disease, 51% expressed that they foresaw no benefit from treatment, 30% did not know where to seek medical consultation, and 29% did not have enough time to seek medical consultation.



**Figure 1:** Reasons for not seeking medical consultation N=222 (89.2%), (Frequencies are not mutually exclusive).

Figure 2 shows distribution of the study subjects' self-care practices to manage UI. It was noticed that the majority of women (88%) wear protective pads, while 43% had decreasing fluid intake to avoid leakage of urine. However, 16% maintained an empty bladder, 11% tried to decrease their weight, and unfortunately only 6% were practicing Kegel exercises.



**Figure 2:** Distribution of the study subjects according to their self-care practices for urinary incontinence, N=249, Frequencies are not mutually exclusive.

Concerning women's reasons for seeking medical consultation for UI, it was evident that nearly three-quarters (74.1%) considered UI to be a big problem, 70.4% perceived the leakage of urine to be embarrassing and affecting their outdoor activities, 66.7% feel frustrated from leakage of urine and 63% reported that it requires a lot of expenditure.

Table 3 elucidates that study subjects' health seeking behavior for UI was poor. Unfortunately, 89.2% did not seek medical consultation (i.e., only 10.8% did). As regards to the types of treatment and women's satisfaction with medical treatment received, it was clear that 59.3% receive medication and exercise compared to 11.1% who receive medication only. Meanwhile, 59.3 and 29.6% reported some and complete recovery from the UI symptoms, although 63% were not satisfied from the treatment due to the symptoms not being completely recovered.

Seeking medical consultation	No (N=27)	%
<b>Seeking medical consultation</b>		
No	222	89.2
Yes	27	10.8
<b>The length of time from UI symptoms to Seek medical consultation</b>		
Less than 6 months	15	55.6
6 months	7	25.9
1 month	2	7.4
3 months	2	7.4
More 5 years	1	3.7
<b>Type of received medical treatment</b>		
Medications	3	11.1
Exercise	8	29.6
Medication and exercise	16	59.3
<b>Treatment outcome</b>		
No recovery from the symptoms	3	11.1
Some recovery from the symptoms	16	59.3
Complete recovery from the symptoms	8	29.6
<b>Level and reasons of satisfaction from treatment</b>		
(level) somewhat satisfied (reason) symptoms decreased	10	37
(level) not satisfied (reason) symptoms still present	17	63

**Table 3:** Distribution of the study subjects according to types of treatment received and satisfaction with medical treatment.

## Discussion

Although UI is not life threatening, the condition is one of 'inconvenience' and is associated with widespread adverse physical and psychological consequences. For many women, there is a general consensus to 'accept' the condition, bear the problem and not seek health care to manage the physiological leakage until the problem becomes unbearable and distressing to their daily lives [12]. This is consistent with our results that shows the majority (89.2%) of women

did not seek medical consultation for UI. From these points of view, UI is an important multifactorial health problem which affects women's quality of life negatively, related significantly to age, education, occupation, marital status, multiple birth, menopause and BMI. However, because of social, psychological and cultural problems, many women with UI did not access health centers to get support. Therefore, healthcare professionals should concentrate their efforts on improving the awareness of this problem among women and assure them that this is not a condition of humiliation and taboo, while providing appropriate medical care, advocating simple lifestyle changes, and providing psychosocial support [13].

## Predisposing factors

Regarding seeking medical consultation for UI, the results of the present study revealed that the majority of women did not seek medical consultation compared to minority of them sought medical help. Perhaps be that embarrassment and perceptions of women regarding the normality of UI symptoms and availability of treatment options are barriers to health-seeking consultation. Furthermore, UI is a very sensitive issue that some women find it shameful to discuss.

This result is in accordance with the findings of other studies such as Kang et al. and Madombwe et al. [14,15] which concluded that low consultation rate result from misconception reported by women they believed that UI is not a disease, but a natural consequence of aging, and childbirth process. Unfortunately they believe that UI is incurable. El-Azab et al. [6] emphasized that although UI is a prevalent condition and occurs among relatively younger Egyptian women; only 4% of sufferers have sought medical advice compared to a relatively higher consultation rate in a European survey (31%). It is common that these women continue to live silently with UI. This finding indicate that although UI is relatively common, it is under reported by Egyptian women because of social and culture attitudes and (most importantly) a lack of information.

The present study findings highlight that more than one-third of older women (aged above 60 years) did seek help for their UI. This result was supported by Berger et al. [16] who emphasized that a positive and significant correlation was noted between seeking health care and age; thus increasing age, correlated with increasing severity of UI symptoms, increases health-seeking behavior.

The results of these study showed that no significant correlation between marital status of women and health seeking behaviour. In addition, the majority of single and married women did not seek help. This is consistent with others research studies [16,17] that shows that embarrassment and lack of awareness towards symptoms and lack of a female doctor at the health facility have been identified as barriers to help-seeking.

## Enabling factors

This study shows that women with lower level of education are more likely to seek help when compared to those with higher education. This results inconsistent with other studies [18,19] that indicated the higher like hood of help-seeking were associated with increasing level of education. The interpretation of our results may be due to the cumulative effects of other factors such as long duration and severity of UI.

In terms of income, this study found that working women who have enough income tend to seek medical help more than those who are

housewives with insufficient income. This can be explained as housewives with no financial resources generally having less authority to take decisions concerning their health, as the male bread winner in such families typically has the power to take all decisions, particularly in societies in the Middle East and North Africa. Accordingly El-Azab et al. and Dongjuan et al. [3,6] clarified that women with better education and those who work are more likely to receive health care services than less educated ones, as there are significant associations between the working status of women as well financial income and seeking consultation for UI.

### Needs factors

The results of the present study highlight that overweight and morbidly obese women sought medical help more than those with normal weight, which is largely explained by obesity being a known risk factor for UI, with susceptibility of increased severity of symptoms. Similar results were revealed by Osborn et al. [20] who found a strong correlation between BMI and intra-abdominal pressure, which is thought to be a significant factor in the development of stress UI, overflow UI and urge UI. Consequently, increase in BMI will intensify the severity of UI, which successively bothers the women to seek medical help.

It is possible that presence of chronic illness has an influence on seeking medical help, where by the participants who have chronic disease seek medical help more than others. This can be attributed to women with chronic disease periodically visiting the clinic and having good relations with health workers to discuss with them all disturbed symptoms like UI without embarrassment. The result is supported by Ashmi et al. [21] who reported that less than half of women with diabetes discussed their UI with a doctor compared to women without diabetes. Encouraging discussions between doctors and patients about UI may lead to better identifying and treating of symptoms.

Moreover the findings of the present study illuminate that grand multiparity with vaginal delivery participant (six deliveries and more) tend to seek medical consultation. This can be explained in terms of multiple consecutive normal vaginal deliveries weakening the muscles and **sphincter** that support the urethra, which leads to severe UI with much bothering. However, it was evident that there was no significant correlation between obstetrical history and seeking medical consultation for UI. Brummen et al. [22] found that UI prevalence is greater among women who undergo spontaneous vaginal delivery three and twelve months after delivery compared to women who give cesarean births, if they are not taught to perform kegel exercises after birth.

It was noticed that although the majority of the study subjects did not seek medical help for UI, a minority of them sought medical help post-menopause, sometimes by more than 10 years. This can be attributed to specific post-menopausal factors such as reduced estrogen levels, which can contribute to a loss of tone in the urethra sphincter, affecting its closing pressure. Menopause also causes the pelvic floor muscles to become less elastic, which may aggravate existing muscle weakness and make it more difficult for the muscles to resist bladder pressure, thus increasing the incidence of UI. This finding is supported by Pakgohar M et al. [23] who observed that although quality of life was impaired in post-menopausal women with UI, their health-seeking behavior was low because most of them did not consider UI to be an important problem.

### Extreme terrible disturbances

Moreover the majority of the study subjects who suffered from severe UI with leakage of large amounts of urine during the day and night, which causes 'much bother', were more likely to seek health care compared to women who suffered from slight or moderate UI. Dongjuan et al. and Hernandez et al. [3,24] also concluded that bothersome UI mediated the relationship between UI severity, its impact on women's quality of life and their health seeking intentions. Concerning strategies that women used to cope with UI, the findings of this study indicated that the majority of women with UI wear protective pads, followed by around two-fifths who decrease their fluid intake to avoid leakage of urine, while a minority increased frequency of toilet use and practiced Kegel exercises. In this context, **Zeznock** et al. [25] reported that women addressed strategies for managing UI by forming a goal to normalize it, so that UI became part of their daily, normal life. Certain strategies were incorporated into a routine activity, such as using sanitary pads or limiting caffeinated beverages. Concerning reasons of seeking medical consultation for UI, the majority of the study subjects reported embarrassment, feeling frustration and limiting outdoor activities. El-Azab et al. [6] reported that the main factors that strongly promoted women to seek consultation were spousal encouragement, difficulty of maintaining ritual purity (for Muslims), and the severity of UI. However, factors that prompted women in the US to seek help included prolonged suffering from UI, a history of a noticeable accident, worse quality of life scores, not being embarrassed to talk with a physician about urinary symptoms, and keeping regular appointments for routine/preventive care.

Regarding women's satisfaction with seeking health care, the results of the present study revealed that of only 10.8% of study subjects who sought help for UI, nearly two-thirds of them were unsatisfied with the treatment received and they reported that they did not recover. This is likely due to the most effective treatments for the condition – exercise and medication – requiring high levels of self-efficacy to maintain adherence and uninterrupted successive sequential follow-up over a long time; conversely, women expected immediate relief of their symptoms after receiving treatment. In this context, Shaw et al. [8] revealed that most women think that UI does not require treatment and they may not be aware of the preventive and strategies of treatment aspects. Moreover, Florence et al. [26] revealed that participants were unsure of available treatment choices or the efficacy of treatment options (bladder training and pelvic floor muscle exercises); they added that pelvic exercise were reported by few number of the study subjects as they considered it to be ineffective and unsatisfying because its effectiveness was not immediately apparent. In contrast, measures such as staying near toilets and frequent voiding were rated by their study subjects as effective behaviors. However, these behaviors did not demonstrate any improvement of bladder control over time, and employing these strategies might interfere with social activities and worsen UI.

### Conclusion

Based on the findings of the present study, it can be concluded that the majority of the study subjects did not attend urological or gynecological outpatient clinics to seek medical consultation for UI, but to ask for medical diagnoses and treatment for other health problems such as U.T.I, renal calculi, vaginal bleeding or menstrual disturbance. They feel embarrassed to talk with doctors about UI itself, and regard it as a minor, non-medical issue inevitable among women

who have given vaginal birth and those who are aging. They thus apply self-care practices such as using protective pads, decreasing fluid intake and reducing their weight. However, a minority of women who did seek medical consultation showed a highly significant positive correlation between health-seeking behavior and predisposing factors (age, body weight), enabling factors (education, occupation, income), needs factors (increase in frequency of UI, amount of urine leakage, severity of UI) and extreme terrible disturbances from UI.

Nurses could play a key role in decreasing UI frequency and training the women at risk of UI about necessary precautions. Furthermore, nurses could also identify the women with UI risk factors at urology and gynecology outpatient clinics and the ones who did not mention their condition even though they were experienced UI problems. Awareness of UI would be a benefit and quality of life could be increased with early treatment [27,28]. Nurses working in the hospital and community health settings can provide information to the public to have better awareness regarding preventive practices which needs continuous treatment for better outcome and thus to improve the quality of women's lives [29].

## Recommendation

Based on the research findings, we recommend that nursing intervention include prevention of the problem by exercising the pelvic muscles and allow women to discuss their problem. Nurses could provide basic instructions and information regarding pelvic muscle exercises and their influence over time by; these explanations could be accompanied by written health educational materials such as brochures, booklet, and video viewing to increase women's awareness regarding available resources for management of UI. Furthermore, it is important to encourage women to overcome the embarrassment surrounding this issue and increase their awareness through mass media about the causes, health consequences of UI and healthy lifestyle which contribute to its the management. Also, healthcare professionals should concentrate their efforts on improving the awareness of this problem among women and assure them that this is not a condition of humiliation and taboo while providing appropriate medical care, simple lifestyle changes, and psychosocial support.

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