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Quality of Life and Sexual Function among Postmenopausal Women with Urinary Incontinence and Adopting Coping Strategies

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Abstract:
Background: Urinary Incontinence is the complaint of any unintentional passing of urine which had a significant physical, psychological, sexual and social problem that affects more than half of women after menopause and this can have a profound impact on their quality of life. Consequently women tend to adopt negative or positive coping strategies to improve their quality of life. **Aim of the study:** Investigate the quality of life and sexual function among postmenopausal women with urinary incontinence and adopting coping strategies. **Design:** A descriptive design was used. **Setting:** The study was conducted at obstetric & gynecological outpatient clinic and the dynamic unit at urology department at outpatient clinics in Zagazig University Hospitals. **Sample:** A purposive sample consisted of 200 post-menopausal women. **Tools of data collections:** Five tools were used; **Tool I:** A structure interview questionnaire, Tool **II:** Characteristics' of urinary incontinence among post- menopausal women: **Tool III:** Urinary incontinence quality of life, **Tool IV:** Female sexual function index **and Tool V:** Coping strategies adopted by postmenopausal women. **Results:** It was found that 67% of postmenopausal women had low quality of life and all of them had a variety of sexual problem. Furthermore, 63.5% of continence postmenopausal women were used a coping strategy**. Conclusion:** Urinary incontinence remarkably affects quality of life and sexual function of postmenopausal women and more than three fifth of them were used coping strategies. **Recommendation:** Health education and training programs for post-menopausal women about urinary incontinence and appropriate coping strategies should be provided. In additions, a continuous assessment of all post-menopausal women quality of life domains for early intervention and better outcomes.

Keywords: Quality of life, Sexual function, Post-menopause, Urinary incontinence & coping strategies

Introduction
Urinary incontinence (UI), which is defined as the involuntary leakage of urine and decreased bladder control during voiding, is a silent epidemic that affects people all over the world but is not life-threatening. Stress incontinence, urge incontinence, and mixed incontinence are the three forms of UI, and many women may exhibit characteristics of more than one type **(Munaganuru et al., 2017).** Stress incontinence is the term used to describe the inadvertent and unexpected loss of pee brought on by a rise in intra-abdominal pressure during actions like laughing, pushing, sneezing, and coughing. A sudden, strong urge to urinate that is followed by an uncontrollable loss of urine is known as urgency incontinence, stress andurgency incontinence are both types of mixed incontinence **(Todhunter-Brown et al.,2022)**.Age and body mass both influence the frequency and severity of this symptoms. (**Qiu et al., 2022**).

Urinary incontinence affects roughly 56% of postmenopausal women, which has a negative impact on their quality of life (QoL) and interferes with daily activities. According to **Stewart et al. (2017),** 9–39% of women over 60 experience daily urinary leakage and 25–45% of women of various ages are thought to lose urine involuntarily

Incontinence was more common among women than men, which may be related to physical, social, economic, and cultural variables. Alterations in anatomy and physiology, such as the hormonal and reproductive changes brought on by menopause and pregnancy **(Begum et al., 2019).** After menopause, decreased estrogen levels cause tissue to weaken, the vaginal walls lose its flexibility and blood flow, and the epithelium become thin. Reduced urethral blockage, decreased bladder feeling, and recurrent UTIs can result from epithelium thinning. In addition, vaginal pH changes from acidic (pH 4 to 5) to alkaline (pH 6 to 8), altering cellular glycogen and lactic acid levels, and increasing vulnerability to infections. Moreover, certain causes of UI among older people include advanced age, obesity, low physical activity, diabetes, stroke, confusion, and urinary tract infections **(Yaacob et al., 2019).**

Urinary incontinence can affect the physical, social, and psychological state of women. Physical effects include having wet clothes, a bad smell, sensitive skin

that doesn't go away, and bacterial and fungal infections. Social as travel, shopping, exercise and the social presence of the ladies are all disrupted on a daily basis (**Aoki et al., 2017).** Additionally, the stress and guilt connected with this illness can have a negative impact on sexual activity because of the worry of unintentional urine leakage or a sense of embarrassment. The quality of life is unquestionably impacted by decreased sexual satisfaction because it leads to emotions of failure and insecurity **(Grzybowska & Wydra, 2017).** According **to Schumpf et al. (2017),** psychological impacts can include anxiety, concern, and hopelessness as well as stress, sadness, mood fluctuations, low self-esteem, and loss of confidence.

Especially throughout the crucial stages of a woman's life (menopause and post-menopause), quality of life has a significant impact on health outcomes. The UI has been deemed one of the health field's top concerns by the World Health Organization because it has a negative influence on older people's quality of life in several ways and has social, psychological, and physical repercussions **(WHO, 2017).**

Although it is not a fatal condition, urinary incontinence can have an impact on a woman's social, psychological, familial, professional, physical, and sexual aspects of life. According to **Refrigeratio et al. (2022)** & **Porto et al. (2021)** it

lowers life quality by fostering social isolation and restricting social activity. According to **Verbeek & Hayward (2019),** it is also linked to diminished sexual desire and sexual satisfaction, as well as feelings of guilt and stress.

Sexual function (SF) is the frequency, outcome, and level of subjective satisfaction experienced during the stages of sexual desire, arousal, and orgasm. SF is a crucial component of QoL **(Fielder, 2013).** Women who experience sexual dysfunction are thought to have a number of factors, including a fear of UI during sexual contact and shame about odour. Studies have revealed that although UI does not directly cause sexual dysfunction, it dramatically lowers libido and frequency of sex **(Mota, 2017).**

There are several different and successful treatment options for urine incontinence, including behavioral therapies, pelvic floor exercises, different drugs, and surgery. The majority of women who experience urine incontinence, however, choose to address it on their own rather than visiting a doctor for help **(Park et al., 2017).** Since UI is frequently linked to a loss of self-control, coping strategies are crucial for maintaining women's identity and perceived competence. In order to cope with their problems, shield themselves from the symptoms of UI, and take different actions to solve their problems, post-menopausal women with UI employ a wider range of coping strategies and self-measures **(Segedi et al., 2011).**

Many women employed coping mechanisms and self-measures such as limiting their social and outgoing activities, ceasing other activities, consuming fewer fluids, avoiding locations without restrooms, and using pads and cloths to prevent wetting because they were afraid of experiencing urinary urgency and the risk of becoming incontinent in public. On the other hand, in the long run, this distances the woman from society and lowers her quality of life. **(Seshan, 2016)**

Regardless of where they are in the treatment trajectory, nurse midwives play a critical role in helping women manage their health effectively in their daily lives. They also encourage women to talk about their concerns and thoughts with older individuals as a way of coping with the emotional effects of UI. Additionally, a nurse midwife can provide clients with information and assistance to help them solve problems and create goals for living more successfully with urine incontinence. This will raise women's self-esteem, enhance their quality of life, stop secondary issues, and offer them greater control over their lives. **(Tozun et al., 2019**)

Significance of the study:

Urinary incontinence (UI) is not a life-threatening condition, but it has a significant impact on women's physical, psychological, social, and sexual lives and lowers their quality of life. Postmenopausal women are typically thought to have the highest prevalence of UI due to anatomical and physiological changes. Additionally, women frequently do not seek treatment for their issues and employ a wider range of coping strategies and self-care practices to manage their challenges, shield themselves from the symptoms of UI, and take various actions to resolve their issues. On the other hand, in the long run, this distances women from society and lowers their quality of life **(Seshan, 2016)**. Therefore, the current was done to investigate the quality of life and sexual function among postmenopausal women with urinary incontinence and coping strategies adopted by them.

Aim of the study:

The current study was aimed to investigate the quality of life and sexual function among postmenopausal women with urinary incontinence and adopting coping strategies.

Research Questions:

1. What is the effect of urinary incontinence on post-menopausal women qualityof life?
2. What is the effect of urinary incontinence on post-menopausal women sexualfunction?
3. What is the coping strategies' adopting by post-menopausal women for urinary incontinence?

Subjects and Method

Study design: A descriptive research design was used to conduct the study Descriptive research design is a type of research design that aims to systematically obtain information to describe a phenomenon, situation, or population. It helps answer the what, when, where, and how questions regarding the research problem rather than the why. **(Aquil Bayyan, 2016).**

Study Setting:

The study was conducted at obstetric & gynecological outpatient clinic and at the dynamic unit of Urology Department. These units were found on the second floor at outpatient clinics in Zagazig University Hospitals and offer a free medical service for all patients. The working hours were from 9.00 am to 2.00 pm at the dynamic unit of Urology Department every Saturday and Thursday. Meanwhile, the obstetrics unit was working every day Thursday and Friday.

Study sample:

A purposive sample composed of 200 post-menopausal. Purposive sampling is a non-probability sampling method and it occurs when "elements selected for the sample are chosen by the judgment of the researcher **Black, (2010).** Women who admitted to the previously mentioned settings within a period of 9 months according to the following criteria:

- Married postmenopausal women who had age ≥57 years, have reported amenorrhea for at least 12 months ,
- Diagnosed with any type of urinary incontinence for at least six months ,
- Free from any mental or psychological disorders and volunteer to participate in this study.

Data collection tools: An interview questionnaire form was used to collect the study data to achieve the purpose of this study

Tool (I): Structure interview questionnaire: This tool was developed by the researcher after reviewing the current available literature and included 3 parts:

- **Part 1: Bio-socio demographic characteristics of the study subjects that was** composed of 6 questions related to age, educational level, occupation, residence, income and body mass index(BMI).
- **Part 2: Medical, surgical history and urological history:** Medical history like hypertension, diabetes mellitus, heart disease, gastrointestinal disorder, respiratory disorder and musculoskeletal disorder and surgical history as (cystoscopy, renal surgery and bladder surgery). Meanwhile, the past **urological history was** as recurrent urinary tract infections, renal stones and pyelonephritis.
- **Part 3: Obstetrical** history includes number of para, mode of last delivery, occurrence of perineal tears and age at menopause. Past urological history

Tool (II): Characteristics of urinary incontinence among postmenopausal women: This tool was adopted from **Dhillon, et al; (2016)** and composed of two parts that contain 10 questions. **The first part** was for the assessment of urinary incontinence among post-menopausal women; it consists of four questions such as duration of UI, frequency of incontinence, amount of urine leakage and types of urinary incontinence**. The second part** was composed of 6 items questionnaire designed to distinguish between Stress UI and Urge UI. The reliability of these tool items was assessed in this study, and the findings showed that this tool is reliable, with a Cronbach's alpha of 0.792.

The scoring system:

Scoring system for urinary incontinence diagnosis, each item scores 0 (None of the time), 1 (Rarely), 2 (Once in a while), 3 (Often), 4 (Most of the time) or 5 (All of the time). Responses to items 1, 2 and 3 were summed for the Stress incontinence score, responses to items 4, 5, and 6 were summed for the urge incontinence score and responses to all items are summed for combined incontinence. The total score was calculated in the range of (0- 30). The scores of the items were summed-up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into percent scores.

Tool (III): Urinary Incontinence Impact on quality of life by using the King's Health Questionnaire (KHQ).

It was a standardized questionnaire adopted from **(Kelleher et al., 1997)** and self-administered by the patient to assess the effect of UI on health related quality of life (HRQOL) which has 29 items in 10 domains (general health perception, incontinence impact, role limitations, physical limitations, social limitations, personal relationships, emotions, sleep/energy, severity measures & severity of symptoms) and it's composed of the following 3 parts:-

Part A: Included general health perception and incontinence impact (one item for each e.g. how you describe your health at present.

Part B was included: **Role limitations** (two items) such as household tasks and normal daily activities**, Physical and social limitations** (four items) such as going for a walk, traveling, visiting friends, **Personal relationships** (three items) such as relationships with partner, sex life and family life, **Emotions** (three items) such as feeling anxious, nervous, depressed, **Sleep/Energy** (two items) such as feeling worn, tired and **Severity measures** (four items) such as wearing pads, decreasing fluid intake.

Part C: Severity of symptoms which is considered as

a single item and contain nine responses in relation to frequency, nocturia, urgency, urge, stress, intercourse incontinence, nocturnal enuresis, infection and bladder pain.

The response of king health questionnaire (KHQ) had four point rating system as follows: not at all = 1, slightly= 2, moderately = 3, and a lot = 4. The exceptions was the domain of general health perception with five choices (very good = 1, good= 2, fair = 3, poor =4 and very poor = 5) , the domain personal relationships (not applicable= 0, not at all= 1, slightly= 2, moderately= 3 and a lot= 4) and the domain severity of symptoms (Never= 0, a little=1, moderately=2, a lot=3). Decrease in KHQ domain scores (part A, part B and part C) indicate an improvement in the quality of life. It was interesting to note that higher scores which indicated patient wellbeing and lower scores mean that the person was severely affected by the disease condition. KHQ was translated into Arabic and approved to be valid and reliable(r=0.95) by **Mohammed et al (2015)** and the Arabic version of this questionnaire was used in this study

The scoring system: A score range from 1 to 2 was given for each question. Score 1 means low quality of life while, 2 means high quality of life. As regard question 1, poor or very poor answer were take score 1 while very good, good or fair were take score 2. Moderately or a lot answer take score 1 while not at all or a little answer take score 2. Sometimes or often or all the time answers take score 1 while never answer take score 2. Total score ranging from 1 to 40. If the total score ranging from 1 to 20 is considered low quality of life while total score ranging from 21 to 40 is considered high quality of life

Tool (IV): Female sexual function index (FSFI Domains), this scale was developed by **Rosen et al. (2000)** and used by the researchers to assesses women's sexual function over the past 4 weeks. It consists of 19 items with six subdomains: sexual desire (2 items), arousal (4 items), lubrication (4 items), orgasm (3 items), satisfaction (3 items), and pain 3 items).

The scoring system: Desire and satisfaction items are rated on a 5-point Likert scale, ranging from 1 to 5, and the other items are rated on a 6-point Likert scale, ranging from 0 to 5. The final score is obtained by summing the scores of each domain after multiplying them by the factorial number. The person who has not had sexual activity for the past 4 weeks scores zero. A higher score means better sexual function. Minimum score is 2 and maximum score 36. FSFI total score of 26.55 to be the optimal cut score for differentiating women with and without sexual dysfunction. The reliability of this questionnaire was confirmed by Cronbach's alpha coefficient was >0.70 in all subdomains **by (Reed et al., 2014) Tool (V): Coping strategies performed by postmenopausal women to alleviate urinary incontinence:** This tool was developed by the researchers after reviewing of relevant literature **(Seshan, 2016, Bilgic et al., 2017 & Kocatas et al., 2021)** and composed of 20 questions. Started by question if the women performed some strategies to alleviate urinary incontince then asked about this coping strategies like bathing frequently despite the lack of sense of urgency to urinate, uses pads to manage urine leakage, limiting physical activities and limiting social life. The Reliability for these by using cronbach's alpha was 0.87.

Content validity: Once prepared in its initial form, the tool was presented to a panel of three experts' professors from faculty of nursing Zagazig University (two from obstetrics and gynecological nursing and one from community nursing) for face and content validation. They assessed the tool for clarify, relevance, comprehensiveness, and applicability. The tool was modified according to their comments and suggestions.

Pilot study: A pilot study was carried out on 20post-menopausal women (10% of the study sample) prior to the initiation of the fieldwork. This was done to ensure the clarity of the items and to determine the length of time required to complete the questionnaire. The necessary modifications were done according to the answers and comments made by post-menopausal women. The women who shared in the pilot study were not included in the main study sample.

Field work: This lasted for 9 months from the first of the beginning of June 2022 to end of February 2023. The data were collected two days a week (Saturday & Thursday) from 9:30 am to 2:00 pm. The time used for finishing the questionnaire ranged between 30- 40 minutes for each woman. The questionnaire was filled by the researchers after asking the women questions in simple Arabic language.

Ethical considerations: Ethical approval was obtained from the Scientific Ethics Committee of faculty of Nursing, Zagazig University. The researchers met with the subjects, provided them with all necessary information about the purpose and procedures of the study and encouraged them to participate. They verbally agreed to participate after being informed that participation was completely voluntary and that they had the right to decline at any time without reason or repercussions. Eachparticipant was assured that any information received would be treated confidentially and used only for research purposes. This research manipulation is unlikely to have any actual or potentially harmful effects on theparticipants. Participants could

not potentially or actually suffer injury as a result of the study procedures.

Administrative design:

Formal approval was obtained through appropriate communication channels. This was done through a letter from the Dean of Nursing, Zagazig University, explaining the purpose and procedure of the study, and seeking cooperation from the Director of Outpatient Services, Zagazig University Hospital.

Statistical design:

Data entry and statistical analysis were done using SPSS 23.0 statistical software package. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, and means and standard deviations and medians for quantitative variables. Percent of categorical variables were compared using Chi-square test or Fisher's exact test when appropriate. Cochran's Q test of significant was used to compare more than two dependent categorical variables .MC Nemar test was used to compare two dependent categorical variables. P-value < 0.05 was considered statistically significant (S), p-value < 0.001 was considered highly statistically significant (HS), and p-value ≥ 0.05 was considered statistically insignificant (NS)

Results

Table (1): Distribution of the studied women according to their bio-sociodemographic characteristics (n=200).

Bio-sociodemographic characteristics	Frequency	Percent (%)
Age(years):		
▪ ≥57 – 65	137	68.5
▪ > 65	63	31.5
Mean ± SD	**60.9±3.5**	
Level of Education:		
▪ Illiterate -Read & write	33	16.5
▪ Primary and Preparatoryschool	51	25.5
▪ Secondary school	75	37.5
▪ University	41	20.5
Occupation before retirement:		
▪ Working	64	23.0
▪ House wife	136	77.0
Income :		
▪ Enough	79	39.5
▪ Enough & save	41	20.5
▪ Not enough	80	40.0
Type of family		
▪ Nuclear	125	62.5
▪ Exetnded	75	37.5
Residence		
▪ Urban	133	66.5
▪ Rural	77	38.5

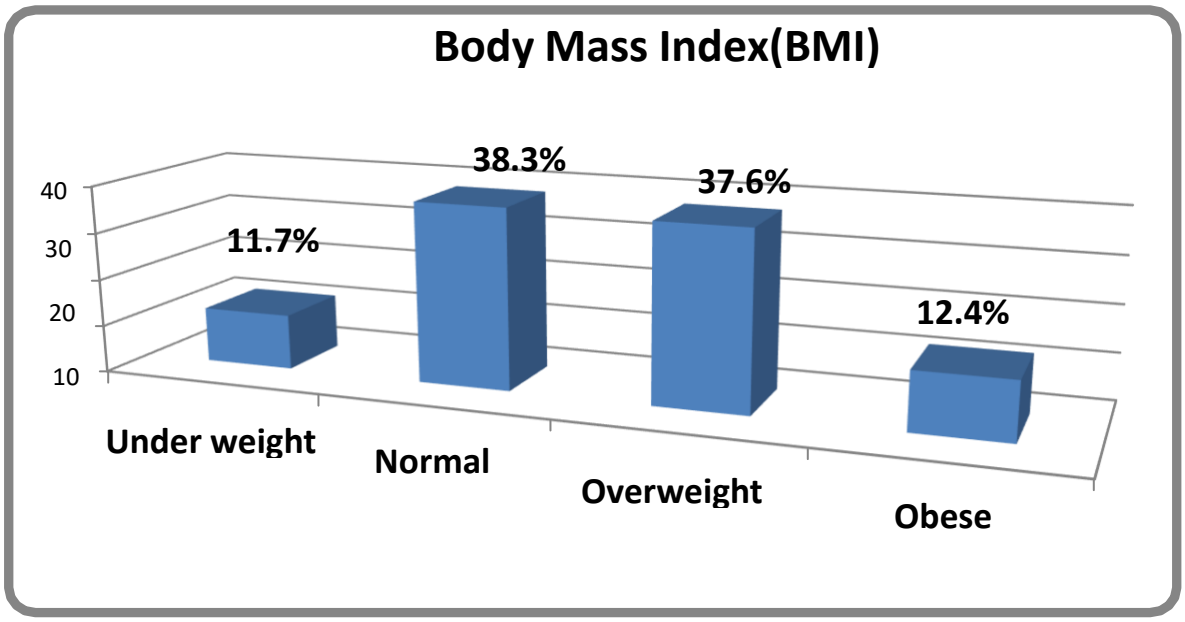

Figure (1): Distribution of the studied women according to their body mass index(n=200). Concerning body mass index

Table (2): Distribution of the studied women according to their past medical, surgical and urological history (n=200).

Items	Frequency	Percent (%)
***Medical history :**		
▪ Hypertension	63	31.5
▪ Diabetes mellitus	89	44.5
▪ Heart diseases	41	20.5
▪ Gastro-intestinal disorders	35	17.5
▪ Respiratory disorders	12	6.0
▪ Musculoskeletal disorders	81	40.5
Surgical history		
▪ Cystoscopy	27	13.5
▪ Renal surgery	14	7.0
▪ Bladder surgery	16	8.0
Occurrence of Urological Probem:-		
▪ Yes	154	77.0
▪ No	46	23.0
Types of Urological Probem:-n= 154		
▪ Urinary tract infections (UTIs)	92	59.8
▪ Renal stones	38	24.7
▪ Pyelonephritis	24	15.5

**responses are not mutually exclusive.*

Table (3): Distribution of studied women according to their obstetrical history (n=200).

Items	Frequency	Percent (%)
Obstetrical history:-		
Number of para		
▪ < 3	63	31.5
▪ 3-5	100	50.0
▪ >5	37	18.5

Items	Frequency	Percent (%)
Mode of previous delivery		
▪ Normal vaginal delivery	134	67%
▪ Cesarean section	66	33 %
Occurrence of perineal tears:-n=134		
▪ Yes	68	50.7
▪ No	66	49.3
Age of menopause:		
▪ < 45	12	6.0
▪ >45-50	87	43.5
▪ >50	101	50.5

Table (4): Urinary incontinence Characteristics' among studied women (n=200).

Items	Frequency	Percent (%)
Duration of urinary incontinence/years:		
▪ < 3 years	123	61.5
▪ ≥ 3years	77	38.5
Frequency of incontinence :		
▪ One to several times/ day	96	48.0
▪ One to several times /week	59	29.5
▪ One to several times /month	45	22.5
Amount of urine leakage		
▪ Drops	51	25.5
▪ Little	86	43.0
▪ Much	63	31.5
Types of urinary incontinence :		
▪ Stress incontinence	73	36.5
▪ Urge incontinence	50	25.0
▪ Combined incontinence	77	38.5

Table (5) A: Distribution of studied women according to urinary incontinence Characteristics' (n=200).

Urinary incontinence occur during	None of time		Once in a while		Often		Most of time		All of time	
	No	%	No	%	No	%	No	%	No	%
Before reach to toilet.	10	5.0	30	15.0	70	35.0	60	30.0	30	15.0
Undressing for toilet	30	15.0	50	25.0	35	17.5	35	17.5	40	20.0
Walking quickly	30	15.0	25	12.0	50	25.0	90	45.0	5	2.5
Bending down.	15	7.5	45	22.5	90	45.0	50	25.0	00	0.0
Coughing or sneezing	17	8.5	25	12.5	99	49.5	50	25.0	9	4.5
Rushing to the bathroom	22	11.0	50	25.0	52	26.0	70	35.0	6	3.0

Table (6): Coping strategies performed by studied women to alleviate urinary incontinence (n=200).

Items	Frequency	Percent (%)
Adopt coping strategies: Yes	127	63.5
No	73	36.5
***Types of strategies:**		
Bathing frequently despite the lack of sense of urgency to urinate	93	73.2
Uses pads to manage urine leakage	42	33.7
Limiting physical activities	101	79.5
Limiting social life	96	75.5

Items	Frequency	Percent (%)
Carrying spare clothes	81	63.7
Preferring clothes which are taken off easily	67	52.7
Using anti-odor	57	44.8
Using pad/cloth pads	53	41.7
Wearing absorbent underclothing	79	62.2
Wearing dark clothes which would not reveal stains	64	50.3
Wearing long clothes that would cover stains	73	57.4
Keeping feet warm	64	50.3
Performing hot application to perineum	39	28.3
Limiting daily fluid intake	102	80.3
Avoiding lifting heavy things	98	77.1
Changing underwear frequently	111	78.4
Cleansing oneself with hot water	105	82.6
Putting pressure on perineum	86	67.7
Praying	91	71.6
Drinking herbal tea	57	44.8

**More than one answer*

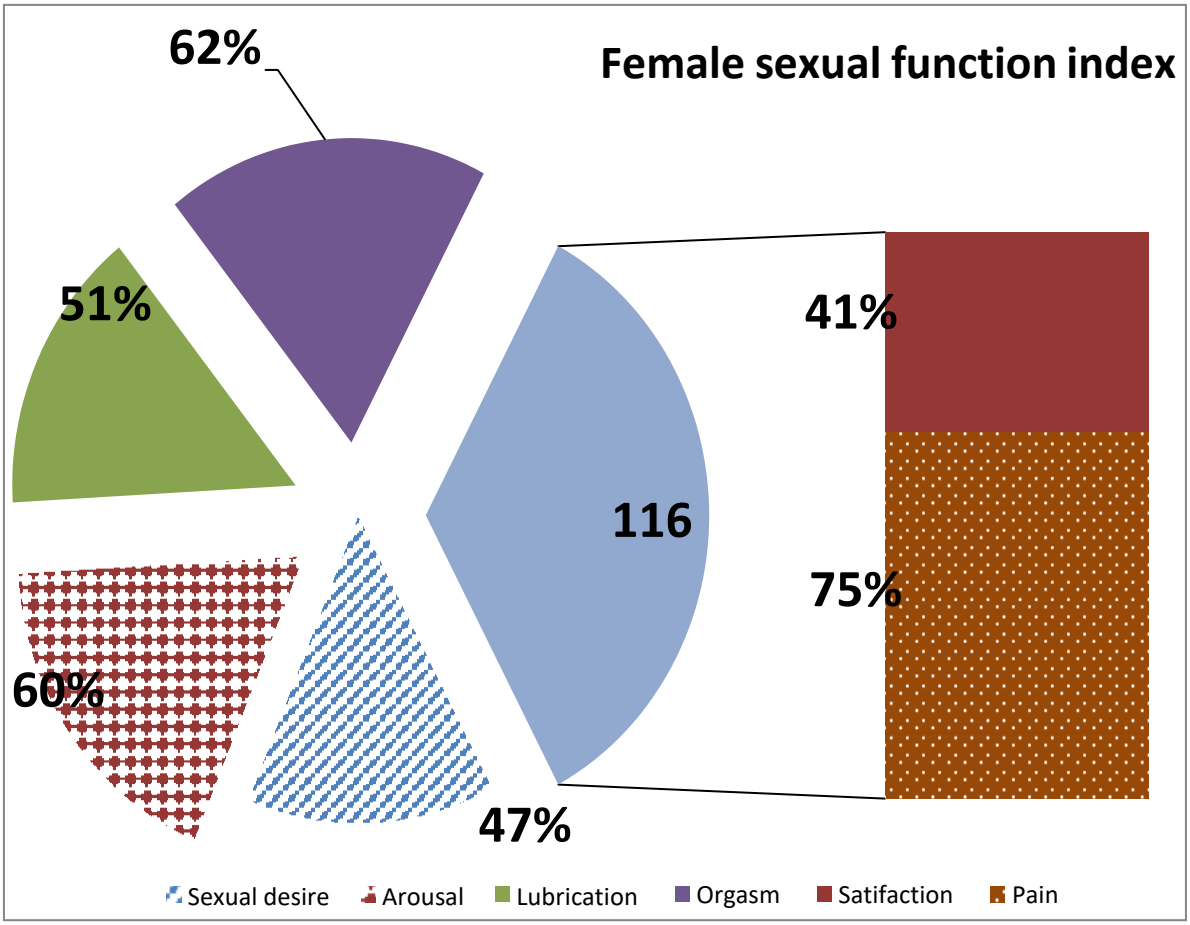

Figure (2): Effect of urinary incontinence on total score of sexual function of studied women.

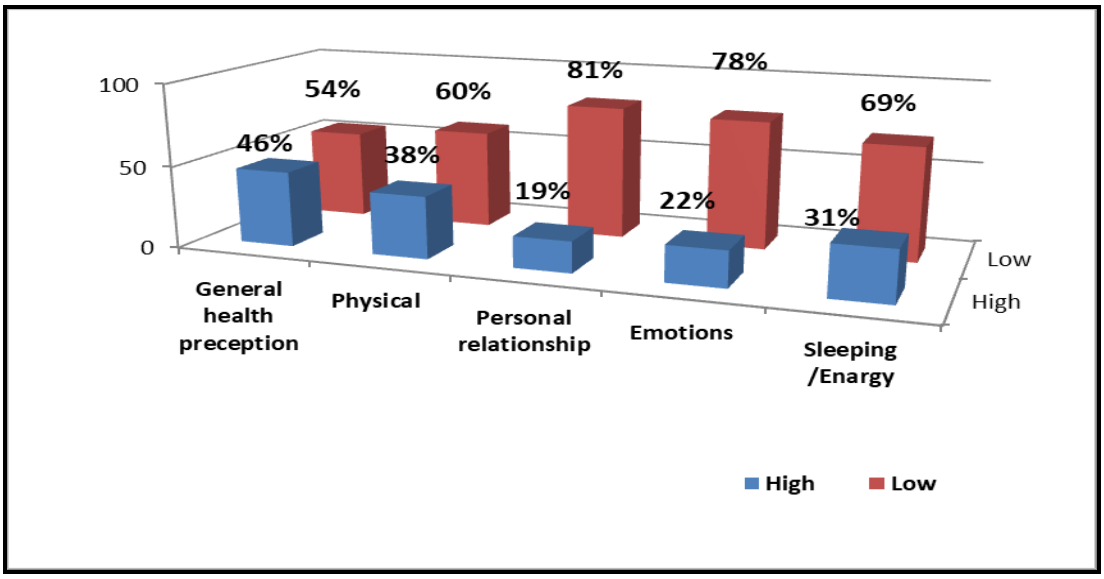

Figure (3): Impact of urinary incontinence on quality of life of post-menopausal women (n=200)

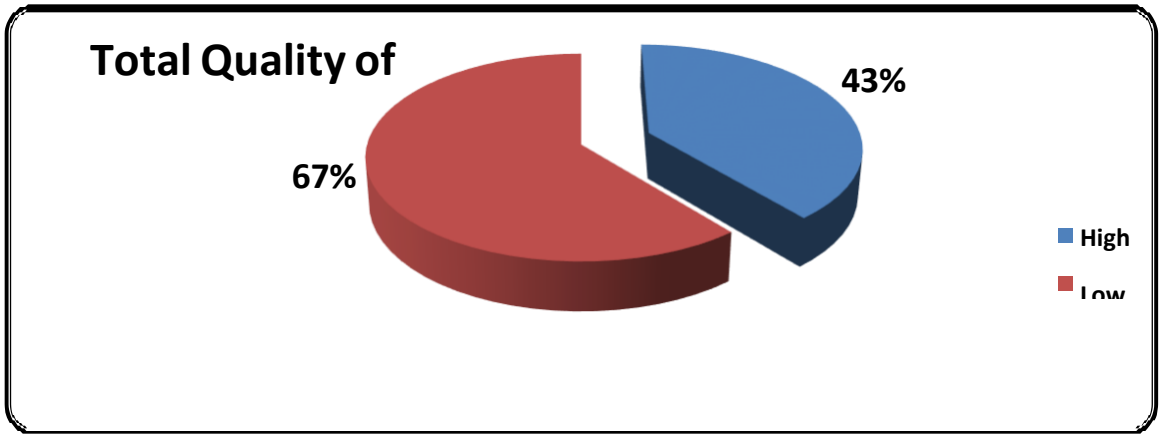

Figure (4): Total quality of life for studied women suffering from urinaryincontinence in the study sample (n=200).

Table (7): Relation between urinary incontinence and quality of life and sexualfunction of post-menopausal women (n=200).

	Stress incontinence		Urge incontinence		Combined incontinence		
	N	%	N	%	N	%	
Total quality of life score							
▪ High	35	17.2	21	10.5	26	13.3	
▪ Low	38	19.0	29	14.5	51	25.5	<0.001
FSFI Domains							
▪ Desire	7	3.5	6	3.0	12	6.0	
▪ Arousal	9	4.0	8	4.0	10	5.0	
▪ Lubrication	17	8.5	9	4.0	14	7.0	
▪ Orgasm	11	5.5	5	2.5	10	5.0	<0.091
▪ Satisfaction	13	6.5	13	6.5	15	8.0	
▪ Pain	19	9.0	9	4.0	16	8.0	

Table (1): Shows that 68.5 % of the studied women were in age group 57to 65 years with a mean age of 60.9±3.5 years. The table also clarifies that 77.0% & 40.0% respectively of the studied women were housewife and hadn't enough income. As for the type of family and residence, it was found that 62.5% & 66.5% were had a nuclear family and from urban area.

Figure (1): Illustrates that 38.3 % of the studied women had normal BMI while 37.6% were overweight.

Table (2): Portrays past medical and surgical history. It was obvious that 44.5% &40.5% respectively of the studied women were suffered from diabetes mellitus and musculoskeletal disorders followed by hypertension and heart disease (31.5% & 20.0% respectively). As for the previous surgery, its represents that 13.5 % of womenin the study subjects had cystoscopy while 8 % had bladder surgery. Concerning to the urological history and problems it was found that 77% of studied women had urological problem and urinary tract infections was the most common in 59.8% followed by renal stones in 24.7%.

Regarding obstetrical history, **table (3)** Demonstrates that the number of para was between 3-5 in 50% of studied women and 67% reported normal vaginal delivery. Furthermore, 50.7% of studied women had perineal tears during labor. Asfor age of menopause the table reveals that 50.5% of studied women had menopause after age of 50 years.

Table (4): Displays that that 61.5% of the studied women were had urinary incontinence for a duration less than 3 years and the frequency of incontinence was one to several times /day in 48 % of post-menopausal women. Additionally, 43 % of studied women reported little amount of urine leakage. As for types of urinary incontinence 36.5% &38.5% respectively of women reported stress and combined incontinence.

Table (5): A clarifies that 49.5%, 45% & 35% respectively of the studied women reported that urinary incontinence often occurs during their coughing or sneezing, during bearing down and before reach to toilet.

Table (6): Shows that 63.5% of the studied women were used a coping strategies to alleviate urinary incontinence from those 82.6% cleaning oneself with hot water, 80.3% limiting daily fluid intake, 79.5% limiting physical activity, 78.4% changeunderwear,77.1% avoiding lifting heavy things and 75.5% limit their social life**.**

As regards the impact of urinary incontinence on sexual function of post- menopausal women, **figure (3)** Illustrates a variety of problem associated with sexual relation over the past 4 weeks among the studied women , as 75% reported problem of pain during sexual relation, 62% for orgasm , 60% for arousal, and 51% for lubrication.

As regards impact of urinary incontinence on quality of life of post-menopausal women **figure (3)** demonstrates that 81%, 78% and 69% of women reported low score of personal relationship, emotions and sleeping respectively.

Figure (4): Demonstrates that 67% of post-menopausal women had low level of their quality of life while only 43 were high in their quality of life.

Investigation the relation between urinary incontinence and quality of life and sexual function of post-menopausal women table 7 shows that a statistically significant difference observed between urinary incontinence and quality of life and sexual function of post-menopausal women as 59% women complain of different type of urinary incontinence reported low quality of life score. And nearly the same percent of women with urinary incontinence reported occur of problems with all aspect of sexual function.

Discussion

A widespread and bothersome illness that can affect people of any age, urinary incontinence is more prevalent in older women. Women of all ages are affected physically, psychologically, and sexually by this major health issue, which necessitates appropriate treatment. Although the condition appears to have a substantial influence on women's quality of life, **Steenstrup et al. (2022)** note that very few women experience this common issue and seek medical attention.

An individual's sexual well-being is seen as a beneficial and significant aspect of their overall health. The World Health Organization claims that the social and intellectual facets of a person's personal development are influenced by a form of coordination between the mind, senses (feelings), and body. According to studies, developmental life events including menarche, pregnancy, birth, breastfeeding, and menopause have an impact on women's sexuality and sexual wellbeing. Menopause has also been found to have a significant impact on sexuality. **(Eftekhar, et al., 2016).**

In all age groups, urinary incontinence was a multifactorial disorder that was correlated with ageing and more prevalent in women than in males. Age is one of the major factors influencing the prevalence of UI and defining the quality of life because of the increased life expectancy following menopause. The current study's findings showed that the mean age of postmenopausal women in this age range was 60.9 years, with a range of 57 to 65. Additionally, three quarters of the study sample were housewives, and three fifth came from urban areas and were raised in

nuclear families. According **to Alizadeh et al. (2023)** in Iran, the prevalence of UI increased considerably with age, and the majority of their participants were housewives and househusbands and living in their private homes. These findings are consistent with those of this study..

Due to an increase in intra-abdominal pressure that weakens the pelvic floor muscles and tissue, the severity of UI symptoms was substantially correlated with BMI (Yan et al., 2018). More than one-third of postmenopausal women were found to be overweight, according to the current study. This finding is consistent with Italian researchers **Corrado et al.'s (2020)** findings that a greater BMI is linked to more severe UI symptoms. In a study titled "Urinary incontinence frequency and affecting factors in women**," Terzi, et al. (2013)** reported that one of the two women who took part in the research was overweight or obese. This finding points to obesity as one of the risk factors affecting the case of urinary incontinence.

Other predictors and risk factors for UI in elderly and postmenopausal women include chronic illnesses and other comorbidities. The current study found that all study participants had one or more medical conditions, including heart disease, hypertension, musculoskeletal diseases, and diabetes mellitus. This finding is in line with that of **Najafi et al., (2023),** who discovered a strong relationship between the prevalence of UI and hypertension, arthritis, cardiovascular illness, and respiratory disease. According to **Moudi et al. (2017),** this comorbidity increased abdominal

pressure, which in turn increased pressure on the urethra and affected the pelvic tissues that support the pelvis, finally leading to a UI in the patient.

Urinary incontinence is primarily influenced by parity, and parous women were considerably more likely to experience UI than nulliparous women were **(Saba et al., 2022).** Similar to this, it was shown in the current study that 3 to 5 times were parity for half of the subjects. **Alizadeh et al. (2023)** in Iran showed that UI was dramatically reduced in women who had three pregnancies, which is in contrast to the findings of our study.

In terms of delivery method, the present study findings revealed that nearly two thirds of the post-menopausal women investigated had a normal delivery and that nearly half had previously experienced perineal tears. Similar findings were found in a study by **Mohamed et al. (2020)** entitled "Coping strategies with stress urinary incontinence among menopausal women" that was carried out in Alexandria, Egypt. The study's subjects had a normal vaginal delivery in about two thirds of cases, and fewer than one-quarter had complications with their most recent delivery. Furthermore, vaginal births were linked to an increased risk of harm to the pelvic floor muscles, nerves, and connective tissue, which are known to increase the risk of urinary incontinence (UI), according **to zdemr et al. (2015).**

According to the results of the current study, more than three-quarters of women reported having urological problems, with urinary tract infections being the most frequent type. This conclusion was reinforced by **Demirtas et al. (2022),** who claimed that a prior history of urinary tract infection was discovered as a risk factor in terms of UI in their study concerning "urinary symptoms and incontinence in postmenopausal women and the effects on quality of life".

According to the study's findings, more than three fifth of post-menopausal women with urinary incontinence have had it for less than three years, and in nearly half of the study sample, it occurs once to several times per day. Stress and combined incontinence were the most common types of U.I. in nearly more than one third of the women. This result was consistent with that of **Elik et al. (2021),** who investigated the undiscovered prevalence of urine incontinence in middle-aged women and its relationship to quality of life. They found that almost one-third of these women had

UI problems for 2-4 years, with stress and mixed types being the most prevalent. Additionally, according to **Elbana et al. (2018),** more than half of the study sample had a length of urinary incontinence about 1 to less than 3 years and about two thirds of the studied subjects had several times UI per day. However, **Gümüşsoy et al. (2019)** found that the majority of their respondents experienced urine incontinence multiple times per day in their descriptive study in Turkey, which examined the impact of UI on body image, self-esteem, and quality of life in women diagnosed with UI. Additionally, mixed incontinence was the most common type of UI noted in the current investigation, followed by stress incontinence.

According to the findings of the present study, nearly half of women claimed that theyfrequently experience urine incontinence while coughing, sneezing, and while bending over. And one third takes place before you go to the bathroom. The researchers believe that coughing or sneezing causes the urethral pressure to rise, which in turn affects the pelvic tissues that support the pelvis and ultimately results in a UI. This conclusion is in agreement with **(Najafi et al., 2023).**

According to **Padilha et al. (2018),** urinary incontinence has a variety of effects on women's quality of life (QoL), including constraints on physical, social, and sexual activities as well as daily activities and psycho-emotional alterations. The

majority of women reported low scores in the personal relationship, emotions, and sleeping dimensions, and more than half of them reported low scores for overall quality of life in response to the research question of whether urinary incontinence had an impact onpostmenopausal women's quality of life. Such a finding demonstrates that urine incontinence not only results in medical issues but also negatively affects quality of life and has psychological, social, and economic consequences.

This result was in agreement with **Demirtas et al., (2022)** who conduct study about urinary symptoms and incontinence in postmenopausal women and the effects on quality of life who concluded that the quality of life of women with urinary incontinence was significantly affected. Also **Chow et al., (2022)** who reported that impairs quality of life in both physical and mental health domains. On the same line **Elbana et al., (2018)** in Egypt who illustrates that effect of urinary incontinence on quality of life and reported that about half the sample had low quality of life.

Additionally, two studies conducted by **Caruso et al., (2017) & Doğan, et al., (2017)** it was found that the quality of life of all incontinent women decreased and that sexual problems increased.

This worsen impact of urinary incontinence on quality of life could be explained fromthe researchers point of view as UI cause bad odor for women and her clothes feeling wet and smelling and most of women often choose not to leave their home for fear and shame of losing urine in public and not finding a bathroom when they need to change clothes or their protective pad so this make her socially isolated and affect her physical and emotional health decreased and that sexual problems increased.

As regards impact of urinary incontinence on sexual function of post- menopausal women in the current study, it was found that the majority of married women reported variety of problem associated with sexual relation over the past 4 weeks where three quarter of them complain of pain during sexual relation, and more than half reported loss of arousal and problem with orgasm, in additions to half of women reported loss of lubrication during sexual relation. From the researchers' point of view these problems occurred due to women with urinary incontinence may fear sexual activity due to the unpredictability leakage of urine during intercourse, and this fear can ultimately lead to decreased sexual desire, sexual satisfaction and self-esteem

.Furthermore, hormonal changes during menopause and decreased estrogen can cause vaginal dryness which negatively affect sexual function.

In a similar vein, **Shabani et al.'s** study from Iran in the year 2023 on the relationship between urinary incontinence and postmenopausal women's quality of life and sexual life came to the conclusion that urinary incontinence significantly affects both sexual function and quality of life, with postmenopausal women who had urinary incontinence having lower quality of life and sexual function than those who did not. In addition, **Lee, et al. (2018)** noted that UI can alter sexual processes such sexual activity, sexual desire, and diminished orgasm.

One of our study objectives was the assessment of coping strategies adopted bystudy subjects to alleviate urinary incontinence, it was found that more than half of study subjects adopted coping strategies and the forms of coping were varied as bathing frequently despite the lack of sense of urgency to urinate, limiting daily fluid intake, avoiding lifting heavy things, change underwear frequently and cleaning oneself with hot water and praying to alleviate urinary incontinence. From the researchers points of view this reported coping resulted from postmenopausal women expectations as they considered incontinence as a normal part of ageing, embarrassment, belief that the symptoms are self-limited or mild, perception of a lack of available treatment options, low expectation of treatment effectiveness and fear of invasive procedures.

These results concurred with those of **Elik et al., (2021)** who observed that 82.8% of their patients often changed their pants, followed by utilising pads ordiapers, limiting fluid intake, and keeping their feet warm. **Mohammed et al. (2020)** stated that half of their participants rarely used coping techniques in their study on coping mechanisms for stress urine incontinence in menopausal women. **Seshan., (2016)** in Oman and reported that the majority of their women employed coping mechanisms and self-measures including restricting their fluid intake, using pads or garments, and visiting the toilet to empty their bladder to control the UI. A study by **Wojtowicz et al. (2014)** follows in a similar vein. Who said that 89.4% of females used techniques to deal with UI symptoms they developed without seeking medical care. These strategies were fluid restriction, searching for a bathroom outdoors, wearing dark clothing, and restricting physical activities.

Investigation the relation between urinary incontinence and quality of life and sexual function of post-menopausal a statistically significant difference observedbetween urinary incontinence and quality of life and sexual function of post- menopausal women more than half of study subjects with different type of urinary incontinence reported low quality of life score. And nearly the same percent of women with urinary incontinence reported occur of problems with all aspect of sexual function. This finding with agreement with **Aksoy YE., & Yılmaz SD. (2022)**

who study the effect of urinary incontinence symptoms on sexual functions and quality of life in women and reported that it was found that urinary incontinence problem of women had a negative effect on sexual function and quality of life. As one quarter of the women were found to have pain during sexual intercourse due to vaginal dryness, although their frequency varies and QoL are adversely affected because of UI symptoms.

Conclusion:

Based on the results of the present study and answering of the research questions; the study can be concluded that, the urinary continence affected the post- menopausal women quality of life and sexual function as more than half of the study subjects had low level of their quality of life and all of them had sexual problem in their life. On other hand more than half of study subjects adopted coping strategies to relief the symptoms of urinary incontinence. Additionally, there was a statistically significant difference observed between urinary incontinence and postmenopausal women quality of life, sexual function

Recommendations

Based on the findings of this study, the following recommendations were suggested:

- Health education and training programs for post-menopausal women about urinary incontinence and appropriate coping strategies should be provided.
- Ongoing assessment of all quality of life domains for incontinent women must be performed for early intervention and better outcomes.
- Postmenopausal women with urinary incontinence should be encouraged to seek treatment early as the problem can be treated, which contribute them to have a healthy life style, good sexual function and better quality of life.
- Plan a comprehensive care for incontinence postmenopausal women to empower them to cope with their condition, adopt healthy behavior to promote their quality of life and sexual function.
- To generalize the study findings and reapplication of the same study on a large sample is recommended.

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