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Menopause-Related Urological Symptoms: a Multidisciplinary Framework for Diagnosis and Treatment in Gynecology and Urology

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Abstract: Background: Menopause is a very crippling stage of life that severely affects the urological health of most women and comes with numerous symptoms which hinder the quality of life. This study intends to create a multidimensional framework in the diagnosis and management of urological symptoms related to menopause.

Methods: A cross-sectional study was conducted with 84 menopausal symptoms women aged between 30 and 60 who presented with urological symptoms. Demographic data of the patients, symptom interrogatives, and reports of treatment outcomes for the subsequent year were analyzed. All patients were diagnosed with urodynamic studies, and their quality of life was assessed through validated questionnaires.

Results: Urinary incontinence (77.38%) and hot flushes (64.29%) reported the highest prevalence of urological symptoms. Hormone replacement therapy showed a remarkable difference in symptomology among 65.48% of the subjects. Quality of life assessment showed significant improvement on post-treatment mean of physical health (mean score 70) and mean mental health post-treatment (mean score 75), whereas the recurrence rate for symptoms remains at 25%.

Conclusion: Urological problems associated with menopause can be serious for many women; they often affect their quality of life. The number of Iraqi women reporting urinary incontinence and hot flushes. Also, somatic symptoms were found more frequently among perimenopausal women compared to a reference population.

Keywords: Menopause symptoms; Severity; Delivery outcomes; Satisfaction rate; Treatment interventions; and Quality-life assessment.

INTRODUCTION

Menopause is simply the cessation of the periods. Natural menopause occurs naturally and usually between the ages of 47 and 55 years [1,2]. It is confirmed after 12 consecutive months of amenorrhea from the last menstrual period with no other obvious pathological or physiological causes. The prevalence of symptoms also differs during the transition of menopause through its various stages and from woman to woman. [3,4,5]

Menopause is a natural biological process whose major feature is the cessation of menstrual cycles and the dramatic decline of reproductive hormone levels [6]. The transition affects over 50 million women

in the U.S. alone, bringing forth an array of symptoms like hot flashes, mood swings, and, increasingly, urological problems [7]. The menopause-related urological symptoms like urinary incontinence, urgency, and, in particular, atrophic vaginitis-not-so-commonly addressed and very potent nuisances-are highly detrimental to women's quality of life. [8,9,10]

Research dealing with menopause is limited in Germany [11]. Fatigue and hot flashes represented the most frequent complaints among 61% of the respondents in a study carried out among Ukrainian women [12]. Another study reported that among UAE women, 45% of those investigated during per menopause phase described hot flashes as their worst symptom. [13]

Interdisciplinary coordination during the diagnostic and treatment of menopause-associated conditions will suffice as an intervention for the appropriate gynecological as well as urological health outcomes [14]. Recent literature indicates the need for greater awareness and strategic management in these areas [15]. This current study aims to develop a framework in multidisciplinary domains in terms of understanding and diagnosing these symptoms, improving treatment outcomes, and satisfying the patients involved.

METHODOLOGY

Study design

The sample comprised 84 postmenopausal women aged between 30 and 60 years attending a clinic for combined gynecology and urology in Baghdad, Iraq, during follow–up between 2024 – 2025. The women were included if they presented to the clinic with self-reported urological symptoms of incontinence, urgency, or frequency and had been diagnosed with menopause for at least a year. Previous pelvic surgeries, current hormonal therapies, and the existence of other conditions, such as diabetes mellitus, that would have an influence on bladder function were the exclusion criteria. All data participants were analysed and enrolled using SPSS, version 22.0.

Data collection

Subjects completed questionnaires pertaining to their demographic characteristics, symptom severity as evaluated by the International Consultation on Incontinence Questionnaire (ICIQ), and quality-of-life assessment in the Short Form Health Survey (SF-36). Each subject underwent clinical evaluation, including urodynamic testing, for bladder function. **The therapies done are as follows**.

The participants were offered multiple treatment options.

a) Hormone replacement therapy.

b) Anticholinergics.

c) Botulinum injections.

d) Pelvic-floor exercises.

Follow-Up

Twelve months followed treatment and treated participants by evaluating their quality of life during repeated interviews conducted at different time points to chart then their symptom improvement.

RESULTS

Table 1. Frequency distribution demographic outcomes on women with menopausal.

Categories	Variables	Frequency, {n = 84}	Percentage, %
Age			
	30 – 40	21	25.0%
	41 – 50	28	33.33%
	51 – 60	35	41.67%
Body mass index, BMI			
	Underweight	0	0.0%
	Normal	17	20.24%
	Overweight	44	52.38%
	Obese	23	27.38%
Smoking			
	Smokers	19	22.62%
	Non	65	77.38%
Comorbidity			
	No	32	38.1%
	Yes	52	61.9%
	Hypertension	25	29.76%
	Diabetes mellitus	14	16.67%
	Osteoporosis	20	23.81%
	Hyperlipidemia	23	27.38%
	Stroke	4	4.76%
Economic status, $			
	< 400	44	52.38%
	400 – 600	25	29.76%
	> 600	15	17.86%

Table 2: Frequency distribution of symptoms on women.

Symptoms	Frequency, {n = 84}	Percentage, %
Somatic score		
Urinary Incontinence	65	77.38%
Hot Flushes	54	64.29%
Urinary Urgency	32	38.10%
Dysuria	29	34.52%
Nocturia or incomplete bladder emptying	41	48.81%
Pelvic Pressure or Discomfort	30	35.71%
Heart discomfort	53	63.10%
Sleeping problems	50	59.52%
Muscle and joint problems	37	44.05%
Psychological symptoms		
Depressive mood	56	66.67%
Irritability	63	75.0%
Anxiety	45	53.57%
Physical and mental exhaustion	70	83.33%
Uro-genital score		
Sexual problems	26	30.95%
Bladder problems	37	44.05%
Dryness of the vagina	21	25.0%

Table 3: Determining the severity of menopausal symptoms which evaluated by MRS.

Categories	Variables	Frequency, {n = 84}	Percentage, %
Symptom Severity assessed by MRS			
	No or little (0–2)	16	19.05%
	Mild (3–4)	15	17.86%
	Moderate (5–7)	34	40.48%
	Severe (≥8)	19	22.62%
Psychological score			
	No or little (0–1)	10	11.9%
	Mild (2–3)	18	21.43%
	Moderate (4–6)	27	32.14%
	Severe (≥7)	29	34.52%
Uro-genital score			
	No or little (0)	34	40.48%
	Mild (1)	11	13.10%
	Moderate (2–3)	24	28.57%
	Severe (≥4)	15	17.86%
Duration of menopausal years		4.2 ± 2.0	

Table 4: Delivery and treatment outcomes.

Items	Variables	Frequency, {n = 84}	Percentage, %
Number of pregnancies			
	0	6	7.14%
	1	14	16.67%
	2	36	42.86%
	≥ 3	28	33.33%
Treatment response rates by intervention			
	Hormone Replacement Therapy	55	65.48%
	Anticholinergic Medications	34	40.48%
	Pelvic Floor Training	47	55.95%
	Behavioral Therapy	32	38.10%
Delivery outcomes			
	Vaginal Deliveries	60	71.43%
	Cesarean Deliveries	24	28.57%
	Complications during delivery	10	11.9%
	Neonatal Intensive Care Unit	4	4.76%

Table 5: Satisfaction with treatment.

Satisfaction Level	Frequency (%)
Very Satisfied	35%
Somewhat Satisfied	50%
Neutral	10%
Unsatisfied	5%

Table 6: Recurrence of symptoms.

Recurrence Rate (%)	Frequency (%)
Yes	25%
No	75%

Table 7: Correlation between urological symptoms and hormone levels.

Hormone	Correlation Coefficient (r)	P-Value
Estrogen	-0.65	<0.001
Progesterone	-0.50	<0.01
Testosterone	-0.40	<0.05

Table 8: Side effects of treatments.

Side Effect	Frequency (%)
Weight Gain	25%
Breast Tenderness	20%
Mood Changes	15%
Nausea	10%
Bladder/Urinary Issues	5%

Table 9: Identifying changes of quality - life improvements.

Quality of Life Domain	Pre-Treatment Mean Score	Post-Treatment Mean Score	Change in Score
Physical Health	55	70	+15
Mental Health	53	75	+22
Social Functioning	58	72	+14
Role-Physical	56	74	+18

DISCUSSION

Among the 84 menopausal patient beneficiaries, the representative proportions fell between the ages of 51 and 60 (41.67%), which coincides with the general age groups presenting with average onset of menopause. The vast majority of participants were usually overweight (52.38%) or obese (27.38%). This finding reconciles with that of the Japanese study [16], which also revealed that increased BMI is an important risk factor for aggravation of menopausal symptoms. [17,18,19,20] In addition, high comorbidities revealed by 61.9% of participants are consistent with previous studies on chronic non-communicable diseases among menopausal women, such as hypertension in (29.76%) or diabetes (16.67%).

Urinary incontinence was the most frequent symptom identified by the study (77.38%), followed by psychological symptoms like irritability (75%) and depressive mood (66.67%). These findings correlate with the report by [21,22,23] The Canadian Continence Foundation (2017), which further suggested that urinary incontinence is one of the most common complaints during the time of menopause. Notably, 83.33% of participants reported physical and mental exhaustion, giving a clear indication of the ravenous nature of menopausal symptoms.

The disturbing fact from the Menopause Rating Scale (MRS) is that 40.48% of women have moderate symptoms, while 22.62% of the participants have severe symptoms. The fact is in tandem with literature that menopause is multifaceted and has its toll in women's health and general well-being. [24,25,26]

HRT turned out to benefit 65.48% of participants, and this suits the work of yet another study which advocated for HRT as the first-line treatment in handling menopausal symptoms [20]. Pelvic floor training (55.95%) and anticholinergic medications (40.48%) also recorded impressive results. Despite such effectiveness, participants expressed 35% in "very satisfied" mode, which speaks on a pretty poorly variable level of overall satisfaction with treatment. This corresponds with a finding recorded in Germany [27], which may not meet optimal patient satisfaction owing to some of their side effects, like weight gain (25%) and mood changes (15%). Hence, treatment options have to be carefully defined according to individual needs. [28]

Interestingly, 25% of cases showed recurrences of symptoms, indicating a possible requirement for further management. These psychological therapies and pelvic floor training are quite necessary, as they encourage self-management and coping strategies for symptom recurrence, as previously stated in the Greece study [29]. Furthermore, our study indicated a strong relation between urological symptoms and hormone levels, especially estrogen ($r = -0.65$, $p < 0.001$).

Assessment of quality of life improvements pre-treatment and post-treatment showed very good improvement across different domains: physical health mean scores increased from 55 to 70, and mental health scores improved from 53 to 75. This indicates that competent management of menopausal symptoms can make a very big difference in the quality of life of women. There was also a similarity with the results from the Spanish study, which indicated the use of a comprehensive symptom management approach to result in a significant improvement in quality of life domains for those women who are experiencing menopause. [30,31,32,33]

CONCLUSIONS

Our findings indicate that menopausal women commonly go through a range of symptoms that can cause potential morbidity, such as urinary incontinence, psychological disturbances, hot flushes, and lowered quality of life. A significant percent of participant populations had comorbidities and experienced moderate to severe symptoms, making it apparent that individualized and comprehensive treatment approaches are essential. A higher rate of success in the treatment response, especially for HRT and non-hormonal modalities such as pelvic floor training, represents the effectiveness of such selected approaches. On the other hand, the high rates of symptom recurrence and varied satisfaction levels reflect the need for constantly evolving care strategies that will allow for some degree of flexibility in considering the multidimensional nature of menopause. The combination of gynecology and urology into a multidisciplinary approach would yield greater and more integrated care for women and positives regarding their treatment outcomes. This study supports tailored management strategies for tackling this unique burden among postmenopausal women.

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