

ASSESSMENT OF MENOPAUSAL SYMPTOMS AND THEIR ASSOCIATED RISK
FACTORS AMONG A SAMPLE OF IRAQI WOMEN IN BAGHDAD/ 2025Sarah Mahmood Sabbar (M.B.CH.B), Ashwaq Ridha Abdul-Sada (M.B.CH.B/Fl.C.M.S/F.M), Zainab Faisal
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ABSTRACT

Background: Menopause represents a critical transitional period in women's health, with symptoms that vary in prevalence and severity according to sociodemographic and lifestyle factors. Understanding these patterns is essential for improving healthcare strategies for midlife women. **Aim:** This study aimed to assess the commonly reported menopausal symptoms among a sample of women in Baghdad, to identify the associated risk factors, and to determine the mean age of menopause. **Methods:** A cross-sectional study was conducted at Baghdad teaching hospital and Al- Imammain Al-Kadhimain medical city from 1st of February to 31st of July 2025. This study include 250 women aged 45-55 years who have amenorrhea for at least 12 months. Data were collected using a structured questionnaire covering sociodemographic characteristics, lifestyle factors, and gynecological/obstetric history. The Menopausal Rating Scale was applied to assess somatic, psychological, and urogenital symptoms. Statistical analyses were performed to examine associations between symptoms, menopausal age, and risk factors. **Results:** In this study, the mean age of menopause was 48.95 ± 3.6 years, with 86.8% of women experiencing menopause at ≥ 45 years. Joint and muscular discomfort were the most frequent somatic symptoms (97.6%), followed hot flushes and sweating (85.6%). Mood related symptoms, including physical and mental exhaustion (64.4%), and urogenital complain such as vaginal dryness(71.2%), were also common. According to the menopausal rating scale, 36% reported mild to moderate symptoms, while 64% were asymptomatic, and none had severe or very severe symptoms. Menopausal symptoms were significantly more prevalent among current smokers, non-working women, and those with chronic diseases such as hypertension and diabetes mellitus ($p < 0.05$). In contrast, moderate physical activity was strongly associated with an absence of symptoms ($p < 0.001$). Menopause at ≥ 45 years was significantly associated with being married, non-smoker participants with ≥ 5 parities ($p < 0.05$). **Conclusion:** Menopausal symptoms are common among women in Baghdad, with mean age at menopause of 48.95 years. Joint and muscular discomfort, hot flushes, exhaustion, and vaginal dryness were the most frequent symptoms. The timing of menopause and the occurrence of symptoms were influenced by marital status, parity, occupation, chronic disease, and smoking. Routine screening, lifestyle modification, and awareness programs are recommended to improve quality of life and mitigate early menopause risk.

1.1. INTRODUCTION

Menopause is a normal aging process in women. However, it is considered as an unwelcome phenomenon among many women. Partly this belief is due to misconceptions about menopause and partly due to the realistic reflection of social position of older women in our society.^[1] The word "menopause" is derived from the Greek term men, which means month, and pauses, which

means stop.^[2] According to the World Health Organization, it is a permanent absence of menstruation following a year of amenorrhea due to the loss of ovarian follicular function.^[3] While most women experience menopause between the ages of 45 and 55, menopause can also be brought on by medical or surgical procedures. A decline in ovarian follicular activity and a drop in blood estrogen levels are the two main causes of

menopause.^[4] The menopause is considered natural when a woman hasn't had her period for 12 months and there doesn't seem to be any other physiological or mental cause for this. She also didn't need any medical help. Not all women reach menopause at the same time, but some do (before age 40). This early menopause might be caused by genetic problems, autoimmune diseases, or other things that haven't been found yet.^[5]

Menopausal types include surgical menopause, medical menopause, chemotherapy, radiotherapy, premature ovarian insufficiency (before age 40), early menopause (before age 45), and average age at natural menopause (51 -52).^[6] There are numerous factors that affect when menopause begins, although it is unclear if these factors are universal for all women. The age at which the first menstrual cycle occurs, the number of pregnancies, body mass index (BMI), smoking, physical activity, and other factors all influence the onset age of menopause, according to studies. It is thought that the age at which menopause begins is influenced by genetic factors in roughly 50% of women.^[7]

A woman's age at menopause is an indicator of underlying health. For instance, earlier age at menopause has been shown to be associated with increased risk of cardiovascular disease, stroke, atherosclerosis, and osteoporosis, and by contrast with a reduced risk of breast cancer and ovarian cancer. This does not necessarily imply any causal relationships, but could result from common risk factors, including genetic factors and exposures in early life.^[5]

Hormonal changes associated with menopause may affect a person's social, mental, emotional, and physical well-being.^[4] People experience many different symptoms both during and after the menopausal transition. Some people have absolutely no symptoms. Others could suffer from severe symptoms that affect their daily activities and quality of life. Menopausal is often accompanied by a range of physical, psychological, and vasomotor symptoms that can significantly affect quality of life. Common symptoms include hot flashes, night sweats, sleep disturbance, mood changes, joint pain, and urogenital issues. The severity and frequency of these symptoms vary widely among women and are influenced by multiple factors such as genetics, lifestyle, and sociodemographic characteristics.^[8]

The global population of postmenopausal women is growing. In 2021, women aged 50 and over accounted for 26% of all women globally. This was up from 22% 10 years earlier. Additionally, women are living longer. Globally, a woman aged 60 years in 2019 could expect to live on average another 21 years.^[4]

This study aims to assess the commonly reported menopausal symptoms among a sample of women in Baghdad, to identify the associated risk factors of

menopausal symptoms, and to determine the mean age of menopause.

PATIENTS AND METHODS

Study setting and period

This cross-sectional study was carried out at Baghdad medical city (on the Rusafa district) is a tertiary center and it receives referral from primary and secondary medical centers and Al-Imammain Al-Kadhimain medical city (on the Karkh district) from the 1st of February to 31st of July 2025. The target population was represented by middle aged women 45-55 years who attended the gynecological and obstetrics outpatient clinics. Inclusion criteria were Iraqi women aged 45-55 who have cessation of menstruation for at least 12 months. Exclusion criteria were women who underwent treatment for cancer (amenorrhea secondary to chemoradiotherapy), on hormonal replacement therapy (not for menopausal symptoms), with amenorrhea secondary to ovarian surgery, and underwent Hysterectomy.

Data Collection tool

Data of 250 women was collected through direct interview for about 15 minutes with each women, by the researcher herself using a structured questionnaire developed from previous literatures and evaluated by two family medicine specialist, and minor modification were made accordingly (Appendix-A).^[60,61,62,63,64,65] With validated scale [Menopausal Rating Scale (MRS)].^[66] and translated to the Arabic language by researcher. Data was collected for 3 consecutive months; 3 days per week, and 5 hours/day. During this period, any woman who visited the out-patient clinic, met the inclusion criteria, and agreed to participate in the study was enrolled. Half of the participant were from Baghdad medical city and other from Al-Imammain Al-kadhimain medical city.

The structure questionnaire consisted of two parts

The first part: Socio-demographic data of the women, which include: age, BMI, marital status, parity, age of the first child /years, age of menarche/years, regularity of the menses, age of menopause, educational level, occupation, smoking, coffee consumption, physical activity, and chronic diseases.

The second part consisted of the menopausal rating scale (MRS).^[11] The total score of the MRS is between 0 (asymptomatic) and 44 (highest degree of complaints). Based on literature reviews, total score ≤ 11 are considered as asymptomatic, 12-35 mild to moderate and ≥ 36 are considered as severe to very severe. Then the 11 symptoms were categorized in three subgroups as physical, psychological and urogenital symptoms.^[2,3,4,5]

Ethical Considerations

Approval was obtained from the Scientific Committee of Arab Board for Health Specializations. Approval was obtained from Baghdad medical city and Al-Imammain

Al-Kadhimain medical city. Verbal consent was taken from participants after explaining the study objectives and assuring confidentiality.

Data analysis

Data were submitted to SPSS version 26 and presented as numbers, tables, and graphs. Analytical statistics using Chi-square test (or Fisher's exact test) to show the association between dependent and independent variables. Independent sample t-test was

used to define the significance of the mean difference among the variables. P-value of less than 0.05 was considered statistically significant.

RESULTS

Sociodemographic data of participants are shown in Table 1.

Table 1: Sociodemographic data of participants.

Sociodemographic		No. (250)	100 %
Age/ years	<45	6	2.4%
	≥45	244	97.6%
Educational level	Illiterate	34	13.6%
	Primary school graduate	91	36.4%
	Secondary school graduate	95	38.0%
	College graduate	30	12.0%
Occupation	Retired / Housewife	203	81.2%
	Working	47	18.8%
BMI	Underweight (≤18.5)	0	0.0%
	Normal weight (18.6 -24.9)	49	19.6%
	Overweight (25-29.9)	102	40.8%
	Obese (≥30)	99	39.6%
Marital status	Single	12	4.8%
	Married	188	75.2%
	Divorced	18	7.2%
	Widowed	32	12.8%
Chronic disease	Yes	132	52.8%
	No	118	47.2%

Gynecologic and obstetric data of participants are illustrated in Table 2.

Table 2: Gynecologic and obstetric data of participants.

Gynecologic & Obstetric		No. (250)	100 %
Parity* *n=(238)			
0		21	8.8%
1-4		75	31.5%
≥5		142	59.7%
Age of the first child/ years** **n=(217)			
<20		95	43.8%
≥20		122	56.2%
Age of menarche/ years	10-13	186	74.4%
	14-17	64	25.6%
Regularity of the menses	Regular	224	89.6%
	Irregular	26	10.4%
Age of menopause/ years	<45	33	13.2%
	≥45	217	86.8%
Menopausal status of women: no menstrual bleeding in last	1-5 years	122	48.8%
	>5 years	128	51.2%

Life style (drink coffee and physical activity) among participants are in table 4.3.

Table 4.3: Life style (drink coffee and physical activity) among participants.

Life Style		No. (250)	100 %
Smoking	Current smoker	22	8.8%
	Never smoker	225	90.0%
	Formal smoker	3	1.2%

Drink coffee	Yes	17	6.8%
	No	233	93.2%
If answer yes, how much coffee do you drink in day?* *n=(17)			
One		17	100%
Physical activity	Low-intensity activities (slow walking, stretching, light yoga, light household chores)	219	87.6%
	Moderate-intensity activities (brisk walking, cycling, light swimming)	31	12.4%
	High-intensity activities (running, intense cardio exercises, weightlifting)	0	0.0%

In a study on menopausal symptoms, 32.4% experienced mild hot flushes, 36.4% had mild heart discomfort, 51.6% reported mild sleep problems, and 39.2% faced

moderate joint and muscular discomfort, as shown in Table 4.

Table 4: Menopausal Rating scale: Somatic symptoms (physical).

Somatic Symptoms	None		Mild		Moderate		Severe		Very severe	
	No.	%	No.	%	No.	%	No.	%	No.	%
Hot flushes, sweating (episode of sweating)	36	14.4%	81	32.4%	66	26.4%	64	25.6%	3	1.2%
Heart discomfort (unusual awareness of heart beat ,beat skipping ,tightness)	110	44.0%	91	36.4%	39	15.6%	10	4.0%	0	0.0%
Sleep problems (difficulty in falling a sleep ,difficulty in sleeping through, waking up early)	87	34.8%	129	51.6%	30	12.0%	4	1.6%	0	0.0%
Joint and muscular discomfort (pain in the joint ,rheumatoid complain)	6	2.4%	62	24.8%	98	39.2%	78	31.2%	6	2.4%

Most participants experienced mild mood changes: 38.4% had depressive symptoms, 49.2% irritability,

48.0% anxiety, and 58.4% physical and mental exhaustion, as shown in Table 5.

Table 5: Menopausal Rating scale: Mood changes symptoms(psychological).

Mood changes symptoms	None		Mild		Moderate		Severe		Very severe	
	No.	%	No.	%	No.	%	No.	%	No.	%
Depressive mood (feeling down, sad, on the verge of tears, lack of drive, mood swings)	144	57.6%	96	38.4%	10	4.0%	0	0.0%	0	0.0%
Irritability (feeling nervous, inner tension, feeling aggressive)	118	47.2%	123	49.2%	9	3.6%	0	0.0%	0	0.0%
Anxiety (inner restlessness, feeling panicky)	120	48.0%	120	48.0%	10	4.0%	0	0.0%	0	0.0%
Physical and mental exhaustion (general decrease in performance, impaired memory, decrease in concentration, forgetfulness)	89	35.6%	146	58.4%	14	5.6%	1	0.4%	0	0.0%

Out of participants, 36.8% experienced mild sexual issues, 34.8% had mild bladder problems, and 31.6%

reported mild vaginal dryness, with 36.8% experiencing moderate dryness, as shown in Table 6.

Table 6: Menopausal Rating scale: Urinary and Sexual symptoms (Urogenital).

Urinary and Sexual symptoms	None		Mild		Moderate		Severe		Very severe	
	No.	%	No.	%	No.	%	No.	%	No.	%
Sexual problems(change in sexual desire, in sexual activity and satisfaction)	136	54.4%	92	36.8%	22	8.8%	0	0.0%	0	0.0%
Bladder problems(difficulty in urination, increased need to urinate, bladder incontinence)	88	35.2%	87	34.8%	72	28.8%	3	1.2%	0	0.0%
Dryness of vagina (sensation of dryness or burning in the vagina, difficulty with sexual intercourse)	72	28.8%	79	31.6%	92	36.8%	7	2.8%	0	0.0%

Regarding MRS; 160 (64.0%) participants were moderate symptoms, and no one 0 (0.0%) had Severe to Asymptomatic, 90 (36.0%) had Mild to very severe symptoms, as shown in figure 2.

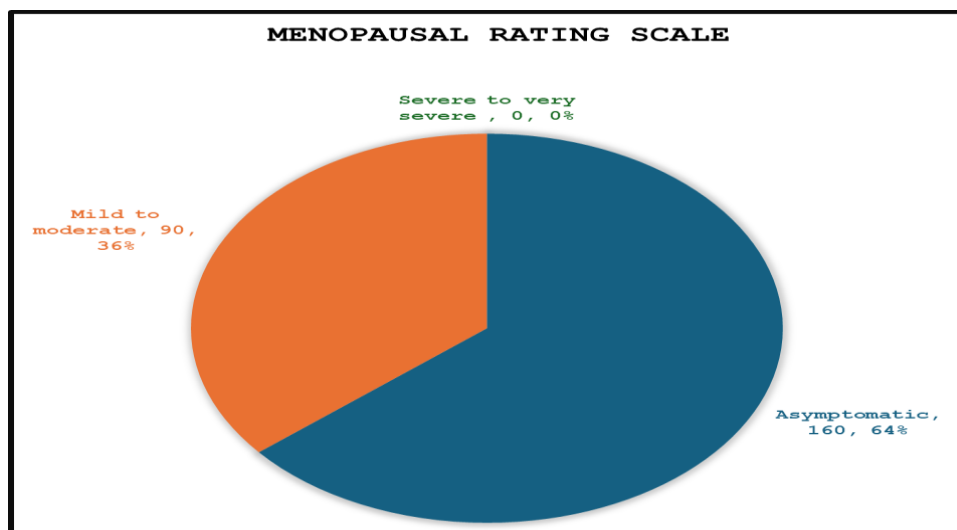


Figure 2: Menopausal Rating scale among participants.

Distribution of Sociodemographic data regarding Menopausal Rating scale among participants was shown in table 7.

No menopausal symptoms was significantly observed among working participants, never or ex-smoker, no chronic diseases (like HT, DM, and others); $P < 0.05$.

Table 7: Distribution of Sociodemographic data regarding Menopausal Rating scale among participants.

Sociodemographic		MRS				P value
		Asymptomatic		Mild to moderate		
		No.	%	No.	%	
Age/ years	<45	5	83.3%	1	16.7%	0.42**
	≥45	155	63.5%	89	36.5%	
Educational level	Illiterate	17	50.0%	17	50.0%	0.10*
	Primary school graduate	58	63.7%	33	36.3%	
	Secondary school graduate	61	64.2%	34	35.8%	
	College graduate	24	80.0%	6	20.0%	
Occupation	Retired / Housewife	122	60.1%	81	39.9%	0.008*
	Working	38	80.9%	9	19.1%	
BMI	Underweight (≤18.5)	0	0.0%	0	0.0%	0.14*
	Normal weight (18.6 -24.9)	36	73.5%	13	26.5%	
	Overweight (25-29.9)	67	65.7%	35	34.3%	
	Obese (≥30)	57	57.6%	42	42.4%	
Marital status	Single(if selected skip the next two question)	11	91.7%	1	8.3%	0.18*
	Married	120	63.8%	68	36.2%	
	Divorced	11	61.1%	7	38.9%	
	Widowed	18	56.3%	14	43.8%	
Smoking	Current smoker	9	40.9%	13	59.1%	0.04**
	Never smoker	149	66.2%	76	33.8%	
	Formal smoker	2	66.7%	1	33.3%	
Chronic disease	Yes	70	53.0%	62	47.0%	<0.001*
	No	90	76.3%	28	23.7%	
HT	Yes	54	55.7%	43	44.3%	0.02*
	No	106	69.3%	47	30.7%	
DM	Yes	28	42.4%	38	57.6%	<0.001*
	No	132	71.7%	52	28.3%	
Others	Yes	7	41.2%	10	58.8%	0.04*
	No	153	65.7%	80	34.3%	

*Chi-Square Test (asymptotic sig. 2-sided), **Fisher's Exact Test (Exact Sig. (2-sided))

Distribution of Gynecological and obstetrical data regarding Menopausal Rating scale among

participants was shown in table 8 and revealed no significant differences; $P > 0.05$.

Table 8: Distribution of Gynecological and obstetrical data regarding Menopausal Rating scale among participants.

Gynecological & Obstetric		MRS				P value
		Asymptomatic		Mild to moderate		
				No.	%	
Parity	0	11	52.4%	10	47.6%	0.37*
	1-4	51	68.0%	24	32.0%	
	≥5	87	61.3%	55	38.7%	
Age of the first child/ years	<20	57	60.0%	38	40.0%	0.33*
	≥20	81	66.4%	41	33.6%	
Age of menarche/ years	10-13	114	61.3%	72	38.7%	0.12*
	14-17	46	71.9%	18	28.1%	
Regularity of the menses	Regular	143	63.8%	81	36.2%	0.87*
	Irregular	17	65.4%	9	34.6%	
Age of menopause/ years	<45	21	63.6%	12	36.4%	0.96*
	≥45	139	64.1%	78	35.9%	
Menopausal status of women: no menstrual bleeding in last	1-5 years	83	68.0%	39	32.0%	0.19*
	>5 years	77	60.2%	51	39.8%	

*Chi-Square Test (asymptotic sig. 2-sided), **Fisher's Exact Test (Exact Sig. (2-sided))

Distribution of Life style (drink coffee and physical activity) regarding Menopausal Rating scale among participants was shown in table 9.

No menopausal symptoms was significantly observed among participants with Moderate-intensity activities (brisk walking, cycling, light swimming); $P < 0.001$

Table 9: Distribution of Life style (drink coffee and physical activity) regarding Menopausal Rating scale among participants.

Life Style		MRS				P value
		Asymptomatic		Mild to moderate		
		No.	%	No.	%	
Drink coffee	Yes	10	58.8%	7	41.2%	0.64*
	No	150	64.4%	83	35.6%	
Physical activity	Low-intensity activities (slow walking, stretching, light yoga, light household chores)	129	58.9%	90	41.1%	<0.001*
	Moderate-intensity activities (brisk walking, cycling, light swimming)	31	100.0%	0	0.0%	

*Chi-Square Test (asymptotic sig. 2-sided), **Fisher's Exact Test (Exact Sig. (2-sided))

Menopause at age 45 years or above was significantly observed among married, Former smoker participants with ≥ 5 parities ($P < 0.05$), as shown in table 10.

Table 4.10: Distribution of sociodemographic and Life style (drink coffee and physical activity) regarding Age of menopause among participants.

Sociodemographic & life style		Age of menopause/ years				P* value
		<45		≥45		
		No.	%	No.	%	
Educational level	Illiterate	6	17.6%	28	82.4%	0.67**
	Primary school graduate	10	11.0%	81	89.0%	
	Secondary school graduate	12	12.6%	83	87.4%	
	College graduate	5	16.7%	25	83.3%	
Occupation	Retired / Housewife	23	11.3%	180	88.7%	0.06*
	Working	10	21.3%	37	78.7%	
BMI	Underweight (≤18.5)	0	0.0%	0	0.0%	0.07*

	Normal weight (18.6 -24.9)	2	4.1%	47	95.9%	
	Overweight (25-29.9)	18	17.6%	84	82.4%	
	Obese (≥ 30)	13	13.1%	86	86.9%	
Marital status	Single(if selected skip the next two question)	7	58.3%	5	41.7%	<0.001**
	Married	15	8.0%	173	92.0%	
	Divorced	4	22.2%	14	77.8%	
	Widowed	7	21.9%	25	78.1%	
Parity	0 (if selected skip the next question)	6	28.6%	15	71.4%	0.009*
	1-4	10	13.3%	65	86.7%	
	≥ 5	10	7.0%	132	93.0%	
Age of the first child/ years	<20	11	11.6%	84	88.4%	0.28*
	≥ 20	9	7.4%	113	92.6%	
Age of menarche/ years	10-13	24	12.9%	162	87.1%	0.81*
	14-17	9	14.1%	55	85.9%	
Regularity of the menses	Regular	29	12.9%	195	87.1%	0.72**
	Irregular	4	15.4%	22	84.6%	
Menopausal status of women: no menstrual bleeding in last	1-5 years	20	16.4%	102	83.6%	0.14*
	>5 years	13	10.2%	115	89.8%	
Smoking	Current smoker	12	54.5%	10	45.5%	<0.001**
	Never smoker	21	9.3%	204	90.7%	
	Former smoker	0	0.0%	3	100.0%	
Drink coffee	Yes	3	17.6%	14	82.4%	0.47**
	No	30	12.9%	203	87.1%	
Physical activity	Low-intensity activities (slow walking, stretching, light yoga, light household chores)	31	14.2%	188	85.8%	0.39**
	Moderate-intensity activities (brisk walking, cycling, light swimming)	2	6.5%	29	93.5%	
	High-intensity activities (running, intense cardio exercises, weightlifting)	0	0.0%	0	0.0%	
Chronic disease	Yes	17	12.9%	115	87.1%	0.87*
	No	16	13.6%	102	86.4%	
HT	Yes	12	12.4%	85	87.6%	0.75*
	No	21	13.7%	132	86.3%	
DM	Yes	9	13.6%	57	86.4%	0.9*
	No	24	13.0%	160	87.0%	
Others	Yes	0	0.0%	17	100.0%	0.09*
	No	33	14.2%	200	85.8%	

*Chi-Square Test (asymptotic sig. 2-sided), **Fisher's Exact Test (Exact Sig. (2-sided))

DISCUSSION

In terms of menopausal symptoms according to the menopausal rating scale (MRS), in the present study, the most prevalent symptom in the somatic category and in general was Joint and muscular discomfort 97.6% , this rate is higher than other studies done in Saied NH et al., (2021) study in Mosul/ Iraq (93.0%).^[6]

Saudi Arabia by AlDughaiter A et al., 2015 (80.7%).^[7] An Iranian study by Taziki Met al., 2024 (79.7%).^[8] and Khatoon F et al (2018) (87.0%) in north india.^[64]

The second most prevalent symptoms in current study was Hot flushes/sweating (85.6%) this agrees with study done by Saied NH et al., (2021) in Mosul/Iraq.^[6] Taziki M et al., 2024, Pal A et al.'s study, and India (2013).^[9]

The high prevalence of joint pain in menopausal women may be explained by the heavy burden of household work without domestic helpers, together with obesity and low physical activity.

Regarding mood symptoms, more than a half of woman reported physical and mental exhaustion agree with other study done in Saudi by AlDughaiter A et al., 2015.^[7] About half of women had irritability and anxiety disagree with study done in India by Khatoon F et al in India (2018).^[10] Depressive mood was reported by (42.4%) of participants, which was lower than the (70%) reported in the same Indian study.^[10]

Regarding Urinary and Sexual Symptoms, about more than two third of the women had vaginal dryness,

followed by bladder problems affecting less than two thirds, and sexual problems affecting less than half. This finding disagrees with Khatoon F et al. in India (2018).^[10] and Mahmoudian A et al. in Iran (2025).^[11] who found in their study that bladder problems were more prevalent (39.3%) compared to sexual problems (20.7%). This variation in reporting urinary and sexual symptoms across studies may be attributed to cultural factors, as sexual health problems in some regions may be less openly discussed or acknowledged.

According to the scale of the present study, nearly two thirds of participants were asymptomatic, one third reported mild to moderate symptoms, and no severe cases were observed. In contrast, an Iraqi study in Mosul (2021) reported 43.8% asymptomatic, the majority with mild to moderate symptoms, and 1% severe or very severe.^[6] In comparison, Jalal SM et al. (2024) found that 25.9% of Saudi women experienced mild symptoms, 69.8% moderate, and 4.3% severe.^[12] and Dehghan A et al. (2022) in Iran reported 28.8% asymptomatic, 26% mild, 30.6% moderate, and 14.2% severe symptoms.^[13] The differences in symptom severity across studies may be due to variations in cultural attitudes toward reporting, study design, and population characteristics such as lifestyle and health status.

This study shows significant association between the symptoms of menopause and occupation, were working women were less likely to report symptoms than the non-working women. In contrast to this study, Soumya A et al (2024), found that retired women were less symptomatic than working women in their study.^[14] Saied NH et al., (2021) in Iraq, found that Menopausal symptoms were significantly more severe among working, women.^[6] Generally, Non-working women in Iraq often spend most of their time at home with limited entertainment and social engagement options, which can increase feelings of isolation and negatively affect their psychological wellbeing or due to limited awareness of menopausal symptoms which makes minor complain appear exaggerated. In contrast, employment provides women not only with daily social interactions but also with financial independence and stability. This can reduce menopausal symptoms such as anxiety, mood disturbances, and sleep problems.

Regarding BMI, About 40% of our participants were overweight. Weight in our study was not associated with severity of symptoms. This disagrees with a study in Jordan (2021) by Bustami et al.^[15] and Chang SJ et al (2014) in USA.^[16], all of them found a significant association. The variation in findings regarding BMI's effect on menopause symptom severity can be explained by differences in study design, and regional factors, lifestyle habits.

The vast majority of participants were non-smokers, and only small proportion were smoker. Smoking increased the severity of menopausal symptoms. This finding is

supported by research by Anderson DJ et al (2023) on women across Australia, the UK, the USA, and Japan, which reported that smoking significantly increased the risk of experiencing frequent or severe vasomotor symptoms, such as hot flashes and night sweats. Smokers had more than an 80% higher risk compared to non-smokers.^[17]

Having chronic diseases increased the severity of symptoms. This agrees with A study in Iran by Taziki M et al (2024).^[8] and Sharami SH et al (2024) study in India.^[18] Women suffering from chronic diseases may have menopausal symptoms more severely due to the added pain, discomfort, and lowered quality of life caused by their chronic conditions.

Regarding lifestyle, three quarters of our participants practiced low level physical activity, and only 12.4% of them practiced moderate physical activity and none of them practiced severe physical activity. Our data revealed that moderate physical activity was significantly associated with less menopausal symptoms. This finding is agree with other studies in the literature; a 2024 study of 324 menopausal women in England conducted by Asiamah N et al., found that physical activity was linked to fewer menopausal symptoms and better psychological well-being, with exercise reducing symptoms such as depression, anxiety, and stress.^[19]

Regarding Factors that affect age at menopause, our analysis revealed that being married was significantly associated with a later age at menopause. Our finding is consistent with other studies such as Ahuja M et al (2016) in India.^[20] and Al Shahrani AS et al (2018) In Saudi Arabia.^[21] Being married may delay menopause due to factors like better social and emotional support, which can reduce stress. Also marriage is typically linked to higher parity, which is known to be associated with a later onset of menopause. These factors, may cause the delayed timing of menopause in married women.^[22]

Regarding parity, 59.7% of participants had more than 5 children and we found that having more than five children was associated with later menopause. This finding agrees with a study done In India, Sharma M (2022).^[23] And a Somali Study by Ali KY et al., 2023 also found a significant association with parity.^[24] On the other hand, In china a study by Sun X et al (2022), reported that There is no relationship between parity and age at menopause.^[25] A Canadian study by Hardy R et al (2025), found that Women with 0 or 1 child had an increased risk of menopause before age 50.^[26] Some studies found a later age at menopause with higher parity, while others find no significant relationship. The variation may be due to differences in population characteristics.

This study showed that being a non-smoker was associated with a later age at menopause, whereas smoking was significantly linked to an earlier onset of

menopause. Similarly, an Iraqi study by Ahmed DT and Hussein EA (2015) found that smoking was associated with a younger age at menopause.^[27]

The biological explanation for these consistent findings is that toxins in cigarette smoke can damage ovarian follicles, accelerate follicular depletion, and alter estrogen metabolism, ultimately leading to reduced ovarian reserve and earlier menopause.^[28]

CONCLUSION

Menopausal symptoms are common among women in Baghdad, with mean age at menopause of 48.95 years. Joint and muscular discomfort, hot flushes, exhaustion, and vaginal dryness were the most frequent symptoms. The timing of menopause and the occurrence of symptoms were influenced by marital status, parity, occupation, chronic disease, and smoking. Routine screening, lifestyle modification, and awareness programs are recommended to improve quality of life and mitigate early menopause risk.

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