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PREVALENCE OF EARLY ALARMS OF MENOPAUSE AND ASSOCIATED DISEASES AMONG SAUDI WOMEN: A CROSS-SECTIONAL STUDY

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Abstract:
Objective: To determine the prevalence of early menopausal symptoms and associated medical conditions with menopause among Saudi Women.
Methods: This research employs a cross-sectional study design to investigate the prevalence of early alarms of menopause and associated diseases among Saudi women. Cross-sectional studies are suitable for examining the prevalence of conditions within a specific population at a single point in time.
Results: The study included 249 participants. The most frequent weight among them was 51-65 kg (n= 89, 35.7%) followed by 66-75 kg (n= 71, 28.5%). The most frequent height among study participants was 1.51-1.60 m (n= 146, 58.6%) followed by 1.61-1.70 m (n= 72, 28.9%). The most frequent body mass index value among study participants was 18.5-24.9 kg/m² (n= 86, 34.5%) followed by 25-29.9 kg/m² (n=83, 33.3%). The most frequent age among them was 40-43 years old (n= 127, 51%) followed by 52-55 years old (n= 73, 29.3%). The most frequent marital status among them was married (n= 172, 69.1%) followed by single (n= 48, 19.3%). Participants were asked to describe their nutrition. Most of them had good nutrition (n=164, 65.9%), followed by excellent nutrition (n=69, 27.7%), and the least were bad (n=16, 6.4%). Participants were asked about how many times have they pregnant. The most frequent was previously been pregnant and given birth (n= 189, 75.9%) followed by didn't get pregnant at all (n= 60, 24.1%). The sports activity per week was average among most of the participants less than 3 times (n= 167, 67.1%) and 3-5 times 69 participants (27.7%). On the contrary, it was more than 5 times among 13 participants (5.2%). Participants were asked about their Age at menopause. Most of them had Menopause has not stopped (n=166, 66.7%), followed by 50 years and over (n=52, 20.9%), and the least were under 50 years old (n=31, 12.4%). Participants were asked about How long does menopause last. The most frequent was Menopause has not stopped (n= 171, 68.7%) followed by Less than 10 years (n= 60, 24.1%).
Conclusion: Study results showed that most of the study participants are normal according to their BMI. Most educational level was the university. Their nutrition was good. Their sports activity is low. In addition, most of the study participants had good social connection.

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INTRODUCTION:

Menopause is defined as the permanent cessation of menstruation [1]. Most women experience menopause gradually between the ages of 47 and 55 [2]. Menopause may be present if menstruation has not occurred for 12 months without other physiological or pathological explanations [1,2]. Somatic symptoms (heartburn, night sweats) and psychological symptoms (depression, irritability, anxiety) as well as urogenital symptoms (sexual difficulties, urinary incontinence) are all telltale signs of menopause [3, 4].

Postmenopausal women had a greater severity of menopausal symptoms compared to premenopausal women, which had a major impact on their quality of life [4]. Prevalence of postmenopausal symptoms may be affected by socio-demographic, psychological, cultural, and behavioral factors. Women experience menopause differently in various parts of the globe [5,6].

In Latin America, hot flushes (68.9%) and sleep problems (68.4%) were the most often reported postmenopausal symptoms [7]. Night sweats and flushes were the symptoms of menopause in Australia [8]. Muscle and joint pain was the most common symptom reported by Nigerians (at 59%) in one research [9]. According to research conducted in Egypt [10], the most common symptoms of menopause are aches and pains in the joints (90.3%), trouble sleeping (84%) and general fatigue (80%). Muscle and joint pain topped the list of menopausal symptoms for Saudi women at 83.9%, followed by fatigue at both the physical and mental levels at 80.2%, heart discomfort at 73.1%, sleep disturbances at 71.2%, hot flashes at 71.0%, and irritability at 71.0%. [11].

The menopause rating scale (MRS) is a reliable tool for gauging the intensity of menopausal symptoms. The Menopause Rating Scale (MRS) is a valid instrument for monitoring menopausal symptoms over time. MRS's excellent dependability and simple execution [12] promote its use in practice.

There is a lack of data on the prevalence and severity of menopausal symptoms among Saudi women. The purpose of this research was to identify postmenopausal symptoms and their associated factors among Saudi women. This research contributes to our understanding of postmenopausal symptoms and the factors that contribute to them in Saudi women. When it comes to women's health, the Saudi community was until very recently thought of as closed. In addition, their Islamic upbringing makes it even more taboo to discuss sensitive personal matters with complete strangers. There was a lack of information on Saudi women's real reproductive health requirements since few of them agreed to take part in research about their reproductive issues or their privacy. This research contributes to the new era of advancement in women's rights based on the 2030 Saudi vision by investigating the reproductive health of Saudi women, providing a snapshot of postmenopausal symptoms and their correlations, and then sharing that information with policymakers in an effort to improve the quality of life for women who have reached menopause. The purpose of this research is to test the hypothesis that postmenopausal symptoms in Saudi women would vary in intensity and that a wide range of demographic and menopausal factors will play a role in shaping these experiences.

The research problem addressed in the study "Prevalence of Early Alarms of Menopause and Associated Diseases among Saudi Women: A Cross-sectional Study" is multifaceted and holds significant clinical and epidemiological importance. Firstly, the study focuses on the prevalence of early indicators or "alarms" of menopause among Saudi women. Menopause is a natural biological event in a woman's life, but early onset or irregular menopausal symptoms can have profound health implications. Understanding the prevalence of such early alarms is crucial because it can help identify women at risk of experiencing menopause-related health issues at a younger age,

allowing for early interventions and improved quality of life.

Secondly, the research problem delves into the relationship between early menopausal indicators and associated diseases. Menopause is known to be associated with an increased risk of conditions like osteoporosis, cardiovascular diseases, and hormonal imbalances. However, there is a paucity of research specifically addressing these associations in the Saudi context. This research problem is pertinent because it can shed light on the unique risk factors, genetic factors, and lifestyle influences that Saudi women may face, potentially uncovering distinct patterns in disease prevalence and severity. Such insights are vital for tailoring healthcare strategies and preventative measures for this population.

Lastly, the research problem also carries broader implications for women's health in the Middle East and beyond. While the study focuses on Saudi women, its findings can contribute to the broader understanding of menopause and its associated diseases in the region, possibly benefiting women in neighboring countries with similar sociocultural and environmental factors. This research problem encourages the exploration of a more comprehensive perspective on women's health, emphasizing the need for a holistic approach to address the multifaceted challenges and opportunities that emerge during the menopausal transition.

METHODS:

Study design
This research employs a cross-sectional study design to investigate the prevalence of early alarms of menopause and associated diseases among Saudi women. Cross-sectional studies are suitable for examining the prevalence of conditions within a specific population at a single point in time.

Study approach
The study will be conducted in multiple healthcare facilities and communities across different regions of Saudi Arabia to ensure representation from urban and rural areas. Collaborations with local health institutions will be established to facilitate data collection.

Study population
The target population for this study consists of Saudi women aged 40 to 55 years. This age range is chosen to capture women who may be experiencing early indicators of menopause and associated medical conditions.

Study sample
A stratified random sampling technique will be employed to select a representative sample. The strata will be based on urban and rural areas. The required sample size will be calculated using appropriate statistical methods to ensure adequate statistical power.

Study tool
Questionnaires will be designed based on standardized scales and adapted to the cultural context of Saudi Arabia. Instruments for medical assessments will follow established clinical protocols. Additionally, consent forms and information sheets will be developed for participants.

Data collection
Data will be collected through structured interviews and medical examinations. Trained research personnel will administer questionnaires to gather information on menopausal symptoms and medical histories. Medical assessments will be conducted to diagnose or confirm associated diseases, including bone density scans for osteoporosis and lipid profiles for cardiovascular conditions.

Data analysis
Data will be analyzed using appropriate statistical software. Descriptive statistics will be used to summarize the prevalence of menopausal symptoms and associated diseases. Inferential statistics, such as chi-squared tests and logistic regression, will be applied to explore associations and risk factors. The significance level will be set at $p < 0.05$.

Ethical considerations
This research will adhere to ethical principles and guidelines for human research. Ethical approval will be sought from relevant institutional review boards. Informed consent will be obtained from all participants, and their privacy and confidentiality will be strictly maintained. Participants will be provided with information about the study's purpose and their rights, including the option to withdraw from the study at any time without consequences.

RESULTS:
The study included 249 participants. The most frequent weight among them was 51-65 kg (n= 89, 35.7%) followed by 66-75 kg (n= 71, 28.5%). Figure 1 shows the weight distribution among study participants. The most frequent height among study participants was 1.51-1.60 m (n= 146, 58.6%) followed by 1.61-1.70 m (n= 72, 28.9%). Figure 2 shows the height distribution among study

participants. The most frequent body mass index (BMI) value among study participants was 18.5-24.9 kg/m^2 (n= 86, 34.5%) followed by 25-29.9 kg/m^2 (n=83, 33.3%). Figure 3 shows the distribution of BMI among study participants.
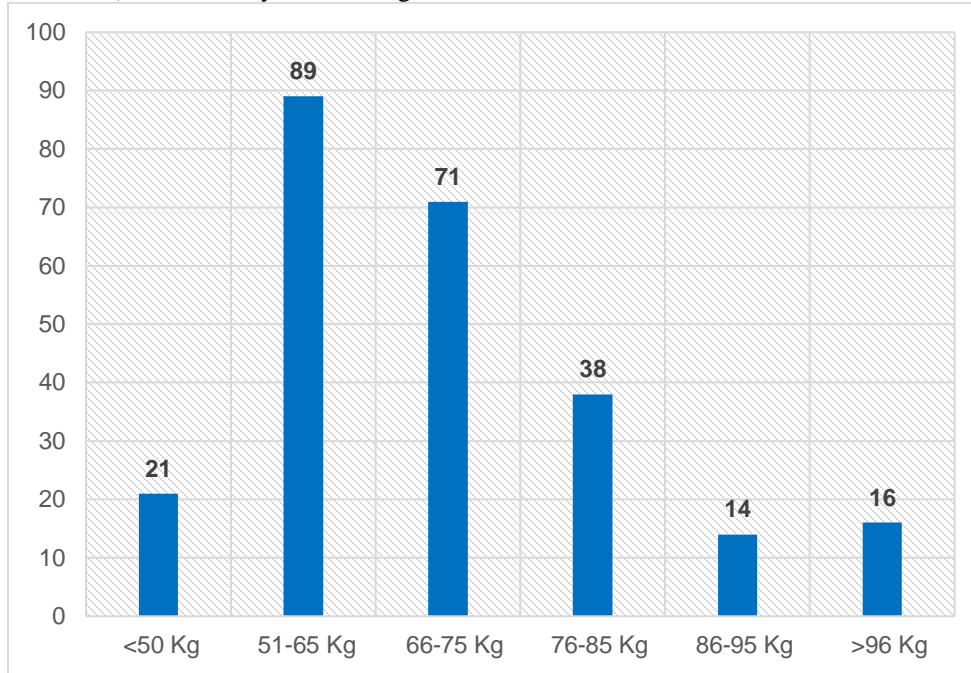
Figure 1: Weight distribution among study participants
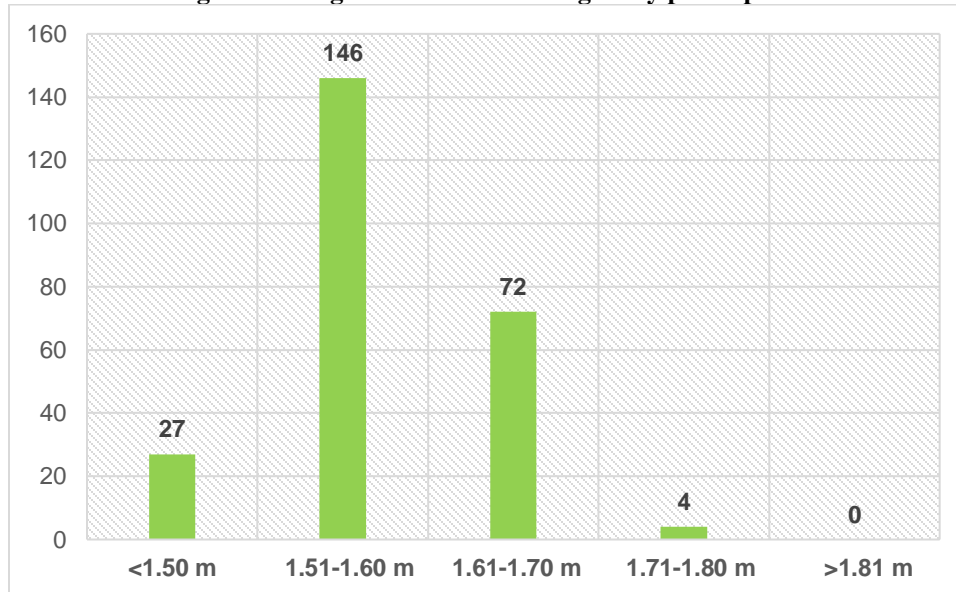
Figure 2: Height distribution among study participants
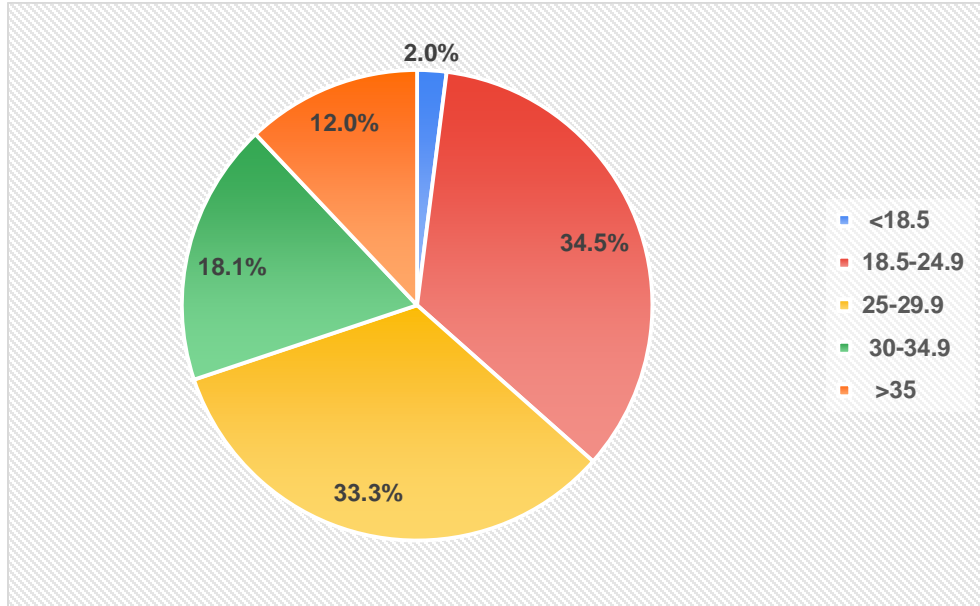
Figure 3: BMI distribution among study participants

The most frequent age among them was 40-43 years old (n= 127, 51%) followed by 52-55 years old (n= 73, 29.3%). Figure 4 shows the weight distribution among study participants. The most frequent marital status among them was married (n= 172, 69.1%) followed by single (n= 48, 19.3%). Figure 5 shows the marital status distribution among study participants.
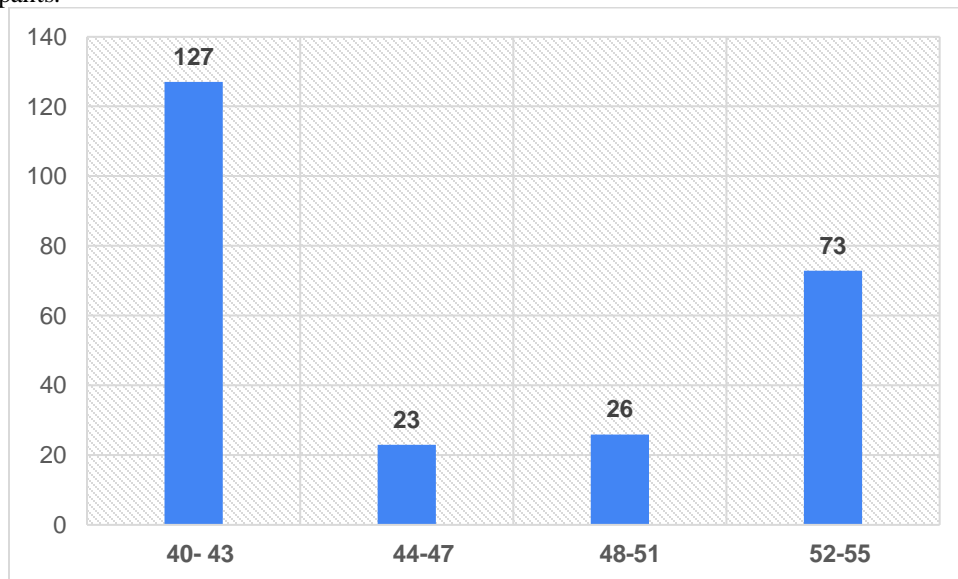
Figure 4: Age distribution among study participants
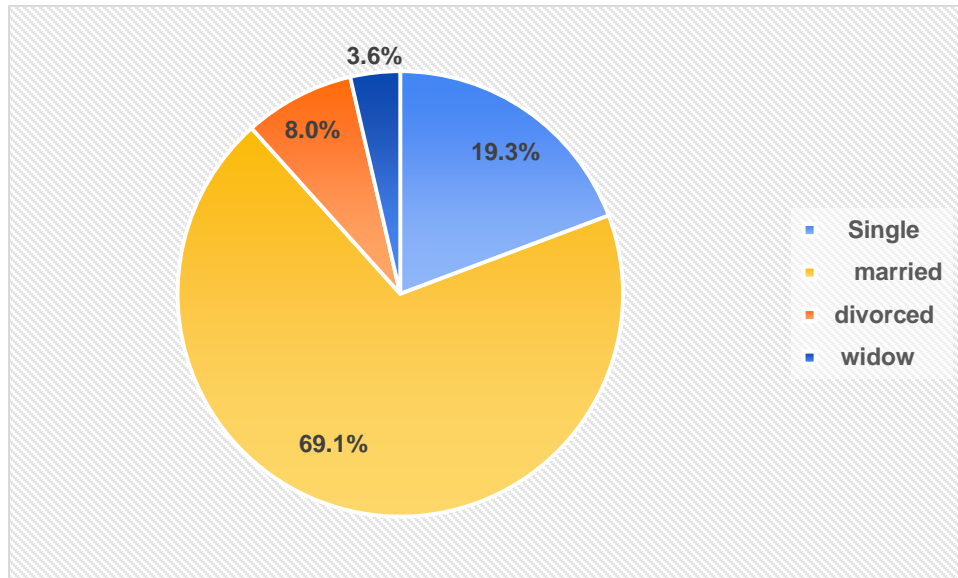
Figure 5: Marital status distribution among study participants

Participants were asked to describe their nutrition. Most of them had good nutrition (n=164, 65.9%), followed by excellent nutrition (n=69, 27.7%), and the least were bad (n=16, 6.4%). Figure 6 shows the percentage of describing the participant's nutrition.
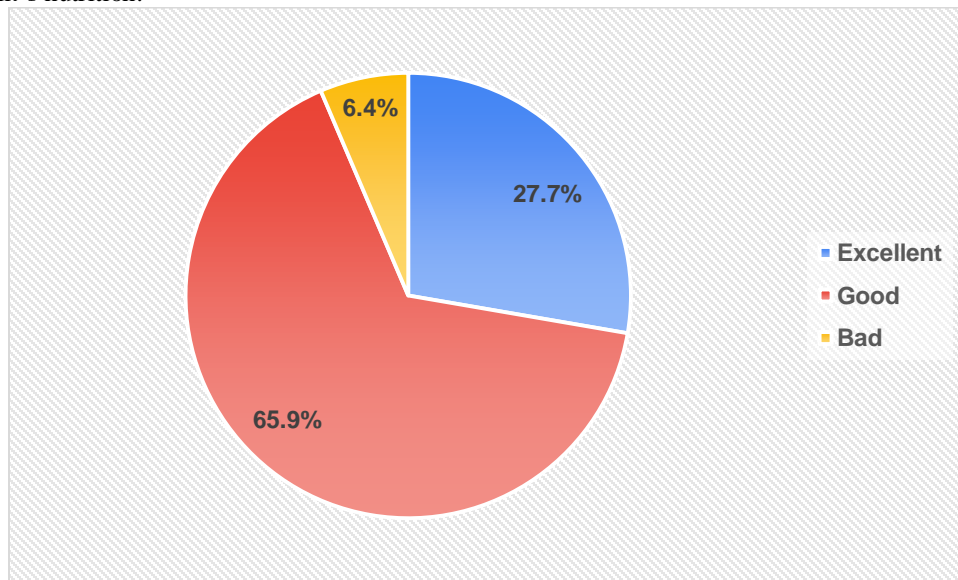
Figure 6: Describe nutrition distribution among study participants

The participant's responses and results for Questionnaire questions are presented in Table 1.

Table 1: Questions among study participants		
survey item	Yes	No
	16	233
Do you smoke?	6.4%	93.6%
	63	186
Is there a family history of early menopause?	25.3%	74.7%
	56	193
Do you use any contraceptives?	22.5%	77.5%

Participants were asked about how many times have they pregnant. The most frequent was previously been pregnant and given birth (n= 189, 75.9%) followed by didn't get pregnant at all (n= 60, 24.1%).

The sports activity per week was average among most of the participants less than 3 times (n= 167, 67.1%) and 3-5 times 69 participants (27.7%). On the contrary, it was more than 5 times among 13 participants (5.2%).

Participants were asked about their Age at menopause. Most of them had Menopause has not stopped (n=166, 66.7%), followed by 50 years and over (n=52, 20.9%), and the least were under 50 years old (n=31, 12.4%). Participants were asked about How long does menopause last. The most frequent was Menopause has not stopped (n= 171, 68.7%) followed by Less than 10 years (n= 60, 24.1%).

DISCUSSION:

Menopause is a normal physiologic process, defined as the permanent cessation of menses for 12 months or more due to cessation of ovarian hormone production [11-12]. According to the World Health Organization (WHO) classification [11], premenopausal women are those who have experienced regular menstrual bleeding within the last 12 months. In addition, perimenopausal women are defined as those women who have experienced irregular menses within the last 12 months or the absence of menstrual bleeding for more than 3 months but less than 12 months. And postmenopausal women are those who have not experienced menstrual bleeding for 12 months or more. Women with iatrogenic menopause are those for whom periods have stopped as a result of medical or surgical intervention, for example, due to chemotherapy or radiation of ovaries, hysterectomy or oophorectomy, or both. The age at natural menopause is between 45 years and 50 years. Early menopause is defined as menopause occurring before the age of 45 years, while premature menopause occurs before the age of 40 years.

Menopause is a critical period in a woman's life that not only marks the end of reproductive ability but is also associated with multiple physical, vasomotor, psychological, and sexual complaints. There is considerable variation in reporting of menopausal symptoms by women all over the world in different studies. In Latin America, the most reported symptoms included hot flushes (68.9%), followed by sleeping disturbances (68.4%) [13]. In Australia, menopause was associated mostly with hot flushes, followed by night sweats [14]. In Nigeria, joint and muscular

discomfort was the most commonly reported symptom (59%) [15]. In Egypt, the most common symptoms were fatigue, followed by headache [16]. In contrast, women from most countries in East and Southeast Asia reported joint and muscle pain as the most frequent complaint [17-20]. Study results in Arab countries are consistent with those performed in most Asian countries. In Jordan, muscle and joint stiffness had a frequency of 89% [21]. In the UAE, the most frequent symptoms indicated by menopausal women were pain in the back of the neck or head, followed by aches in muscle and joints [22].

Age of onset of natural menopause also varies worldwide, with the international range being 44.6–52 years [23]. In the US, the median age at menopause is 51 years [24], while across Europe, age of onset of natural menopause is higher with a mean of 50.7 years and a median of 54.25 years [25]. Younger ages are observed in Africa, for example, in Morocco, a median age of 48.4 years, and in Alexandria, a mean age ± standard deviation (SD) of 46.7±5.44 years [26-27]. In South Asia, the mean age of onset of natural menopause in Pakistan is 49.3 years, and in India, the mean age ± SD is 45.02±4.35 years [28-29]. In Turkish women, one study showed that median age at menopause was 47 years [30]. Data from two Gulf countries showed a mean age ± SD of 48.4±3.8 years in the UAE and 48.67±2.92 years in Bahrain [22,31]. In Saudi Arabia, only one study has been performed and showed the mean age at natural menopause to be 48.98 years with a median age of 50 years [32].

The importance of determining the age at natural menopause is that age is associated with an increased risk of cardiovascular disease, osteoporosis, as well as endometrial and breast cancer [30]. Moreover, women are expected to live a quarter to a third of their lives in menopause, which makes the quality of life during this period a great concern for women and their treating physician [28,31,33,34]. The presence of menopausal symptoms significantly reduces the quality of life, and with more severity, worsens the quality of life [17,19,35-37].

Literature still regard the dearth of research on menopause, health, and the workplace to be an epistemic gap, despite the fact that the number of studies on the topic has been growing over the last several years. Even if we are critical, we do not believe that the studies done in the previous 20 years are any less important because of it, and the results of the pioneering studies included in this review help us move ahead and motivate more study. Women at this

period of their professional lives have a high resilience, but they are under a lot of stress. Women's health is vital to the success of businesses and communities. The effects of menopause on the workplace should be given careful thought at all stages of research and policymaking.

CONCLUSION:

Study results showed that most of the study participants are normal according to their BMI. Most educational level was the university. Their nutrition was good. Their sports activity is low. In addition, most of the study participants had good social connection.

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ANNEX 1: DATA COLLECTION TOOL

1. How old are you?
   - 40- 43
   - 44-47
   - 48-51
   - 52-55

2. What is your marital status?
   - Single
   - married
   - divorced
   - widow

3. What is your job?
   - housewife
   - A job in the government or private sector
   - Freelancing
   - Retired from work

4. What is your educational level?
   - Uneducated
   - the school
   - University study

5. Do you smoke?
   - Yes
   - No

6. What is your Sports activity per week?
   - Less than 3 times
   - 3- 5 times
   - More than 5 times

7. What is your weight?
   - <50 Kg
   - 51-65 Kg
   - 66-75 Kg
   - 76-85 Kg
   - 86-95 Kg
   - >96 Kg

8. What is your height?
   - <1.50 m
   - 1.51-1.60 m
   - 1.61-1.70 m
   - 1.71-1.80 m
   - >1.81 m

9. What is your BMI value?
   - <18.5
   - 18.5-24.9
   - 25-29.9

- 30-34.9
- >35

10. How many times have you been pregnant?
- I didn't get pregnant at all
- I have previously been pregnant and given birth

11. Age at menopause?
- Under 50 years old
- 50 years and over
- Menopause has not stopped

12. How long does menopause last?
- Less than 10 years
- 10 years or more
- Menopause has not stopped

13. Have you been diagnosed with any of these diseases? You can choose the most option?
- Rheumatism
- Hypertension
- Diabetes type I, or II
- The red wolf
- Thyroid diseases
- Myasthenia gravis
- Hyperactivity of the parathyroid glands
- Osteoporosis
- depression
- Cervical cancer
- breast cancer
- Endometriosis (migratory).
- Heart disease
- Uterine abnormalities
- Epilepsy
- Gastrointestinal diseases
- Other
- none of the above

14. Do you suffer from any of the following psychological disorders? You can choose more than one option?
- Schizophrenic disorders
- Eating disorders
- Mood disorders
- Anxiety disorders
- Personality disorders
- Other
- none of the above

15. Do you have a deficiency in the following vitamins and elements? You can choose more than one option.
- Vitamin D deficiency
- Vitamin B12 deficiency
- Calcium deficiency
- Other
- None of the above

16. How would you describe your nutrition?
   - Excellent
   - Good
   - Bad

17. Are you suffering from any of the following symptoms?
   - High temperature in the face (hot flashes)
   - Discomfort in heartbeat
   - Sleep problems
   - Muscle and joint pain
   - Depression
   - Anxiety
   - Physical and mental exhaustion
   - Bladder problems
   - Vaginal dryness
   - Migraines
   - Night sweats
   - Breast pain
   - Difficulty sleeping
   - Increase in weight
   - Emotional disturbances
   - Other
   - none of the above

18. Is there a family history of early menopause?
   - Yes
   - No

19. Do you use any contraceptives?
   - Yes
   - No

APPENDIX 2: Participants responses to scale items

variable		Frequency	Percent
age	40- 43	127	51.0%
	44-47	23	9.2%
	48-51	26	10.4%
	52-55	73	29.3%
educational level	uneducated	2	0.8%
	the school	52	20.9%
	the university	195	78.3%
marital status	Single	48	19.3%
	married	172	69.1%
	divorced	20	8.0%
	widow	9	3.6%
job	housewife	67	26.9%
	A job in the government or private sector	119	47.8%
	Freelancing	13	5.2%
	Retired from work	50	20.1%
weight	<50 Kg	21	8.4%
	51-65 Kg	89	35.7%
	66-75 Kg	71	28.5%
	76-85 Kg	38	15.3%
	86-95 Kg	14	5.6%
	>96 Kg	16	6.4%
height	<1.50 m	27	10.8%
	1.51-1.60 m	146	58.6%
	1.61-1.70 m	72	28.9%
	1.71-1.80 m	4	1.6%
	>1.81 m	0	0.0%
BMI	<18.5	5	2.0%
	18.5-24.9	86	34.5%
	25-29.9	83	33.3%
	30-34.9	45	18.1%
	>35	30	12.0%

Table 1: Questions among study participants		
survey item	Yes	No
Do you smoke?	16	233
	6.4%	93.6%
Is there a family history of early menopause?	63	186
	25.3%	74.7%
Do you use any contraceptives?	56	193
	22.5%	77.5%

What is your Sports activity per week?	Frequency	Percent
Less than 3 times	167	67.1%
3- 5 times	69	27.7%
More than 5 times	13	5.2%

How many times have you been pregnant?	Frequency	Percent
I didn't get pregnant at all	60	24.1%
I have previously been pregnant and given birth	189	75.9%

Do you have a deficiency in the following vitamins and elements? (more than one)	Frequency	Percent
Vitamin D deficiency	144	41.6%
Vitamin B12 deficiency	59	17.1%
Calcium deficiency	32	9.2%
Other	25	7.2%
None of the above	86	24.9%

Have you been diagnosed with any of these diseases? (more than one)	Frequency	Percent
Rheumatism	10	3.2%
Hypertension	38	12.1%
Diabetes type I, or II	29	9.3%
The red wolf	0	0.0%
Thyroid diseases	31	9.9%
Myasthenia gravis	2	0.6%

Hyperactivity of the parathyroid glands	0	0.0%
Osteoporosis	11	3.5%
depression	11	3.5%
Cervical cancer	1	0.3%
breast cancer	4	1.3%
Endometriosis (migratory)	6	1.9%
Heart disease	7	2.2%
Uterine abnormalities	0	0.0%
Epilepsy	2	0.6%
Gastrointestinal diseases	7	2.2%
Other	19	6.1%
none of the above	135	43.1%

Are you suffering from any of the following symptoms? (more than one)	Frequency	Percent
High temperature in the face (hot flashes)	53	8.7%
Discomfort in heartbeat	19	3.1%
Sleep problems	52	8.5%
Muscle and joint pain	83	13.6%
Depression	20	3.3%
Anxiety	47	7.7%
Physical and mental exhaustion	40	6.6%
Bladder problems	10	1.6%
Vaginal dryness	27	4.4%
Migraines	34	5.6%
Night sweats	17	2.8%
Breast pain	19	3.1%
Difficulty sleeping	73	12.0%
Increase in weight	0	0.0%
Emotional disturbances	34	5.6%
Other	6	1.0%
none of the above	76	12.5%

Age at menopause?	Frequency	Percent
Under 50 years old	31	12.4%
50 years and over	52	20.9%
Menopause has not stopped	166	66.7%

How would you describe your nutrition?	Frequency	Percent
Excellent	69	27.7%
Good	164	65.9%
Bad	16	6.4%

How long does menopause last?	Frequency	Percent
Less than 10 years	60	24.1%
10 years or more	18	7.2%
Menopause has not stopped	171	68.7%

Chi-square

Age menopause * smoke

Crosstab

			smoke		
			yes	no	Total
Age menopause	Under 50 years old	Count	2	29	31
		% of Total	0.8%	11.6%	12.4%
	50 years and over	Count	2	50	52
		% of Total	0.8%	20.1%	20.9%
	Menopause has not stopped	Count	12	154	166
		% of Total	4.8%	61.8%	66.7%
Total		Count	16	233	249
		% of Total	6.4%	93.6%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.754[a]	2	.686
Likelihood Ratio	.838	2	.658
Linear-by-Linear Association	.235	1	.628
N of Valid Cases	249		

Age menopause * sport activity

Crosstab

			Sport activity			
			less than 3 times	3-5 times	more than 5 times	Total
age.menopause	Under 50 years old	Count	26	4	1	31
		% of Total	10.4%	1.6%	0.4%	12.4%
	50 years and over	Count	32	18	2	52
		% of Total	12.9%	7.2%	0.8%	20.9%
	Menopause has not stopped	Count	109	47	10	166
		% of Total	43.8%	18.9%	4.0%	66.7%
Total		Count	167	69	13	249
		% of Total	67.1%	27.7%	5.2%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.590ᵃ	4	.232
Likelihood Ratio	6.094	4	.192
Linear-by-Linear Association	2.130	1	.144
N of Valid Cases	249		

Age menopause * times pregnant

Crosstab

			Times pregnant		
			I didn't get pregnant at all	I have previously been pregnant and given birth	Total
Age menopause	Under 50 years old	Count	5	26	31
		% of Total	2.0%	10.4%	12.4%
	50 years and over	Count	6	46	52
		% of Total	2.4%	18.5%	20.9%
	Menopause has not stopped	Count	49	117	166
		% of Total	19.7%	47.0%	66.7%
Total		Count	60	189	249
		% of Total	24.1%	75.9%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	8.227[a]	2	.016
Likelihood Ratio	8.972	2	.011
Linear-by-Linear Association	5.786	1	.016
N of Valid Cases	249		

Age menopause * describe nutrition

Crosstab

			Describe nutrition			
			excellent	good	bad	Total
age.menopause	Under 50 years old	Count	8	23	0	31
		% of Total	3.2%	9.2%	0.0%	12.4%
	50 years and over	Count	12	40	0	52
		% of Total	4.8%	16.1%	0.0%	20.9%
	Menopause has not stopped	Count	49	101	16	166
		% of Total	19.7%	40.6%	6.4%	66.7%
Total		Count	69	164	16	249
		% of Total	27.7%	65.9%	6.4%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	10.567[a]	4	.032
Likelihood Ratio	15.517	4	.004
Linear-by-Linear Association	.379	1	.538
N of Valid Cases	249		

Age menopause * family history early menopause

Crosstab

			Family history.early menopause		Total
			yes	no	
Age menopause	Under 50 years old	Count	9	22	31
		% of Total	3.6%	8.8%	12.4%
	50 years and over	Count	11	41	52
		% of Total	4.4%	16.5%	20.9%
	Menopause has not stopped	Count	43	123	166
		% of Total	17.3%	49.4%	66.7%
Total		Count	63	186	249
		% of Total	25.3%	74.7%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.733[a]	2	.693
Likelihood Ratio	.745	2	.689
Linear-by-Linear Association	.001	1	.974
N of Valid Cases	249		

Age menopause * use contraceptives

Crosstab

			Use contraceptives		Total
			yes	no	
age.menopause	Under 50 years old	Count	5	26	31
		% of Total	2.0%	10.4%	12.4%
	50 years and over	Count	4	48	52
		% of Total	1.6%	19.3%	20.9%
	Menopause has not stopped	Count	47	119	166
		% of Total	18.9%	47.8%	66.7%
Total		Count	56	193	249
		% of Total	22.5%	77.5%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	10.481[a]	2	.005
Likelihood Ratio	12.024	2	.002
Linear-by-Linear Association	6.251	1	.012
N of Valid Cases	249		

Age menopause * age

Crosstab

			age				Total
			40-43	44-47	48-51	52-55	
Age menopause	Under 50 years old	Count	3	3	7	18	31
		% of Total	1.2%	1.2%	2.8%	7.2%	12.4%
	50 years and over	Count	4	1	2	45	52
		% of Total	1.6%	0.4%	0.8%	18.1%	20.9%
	Menopause has not stopped	Count	120	19	17	10	166
		% of Total	48.2%	7.6%	6.8%	4.0%	66.7%
Total		Count	127	23	26	73	249
		% of Total	51.0%	9.2%	10.4%	29.3%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	152.229ᵃ	6	.000
Likelihood Ratio	160.400	6	.000
Linear-by-Linear Association	99.618	1	.000
N of Valid Cases	249		

age. menopause * BMI

Crosstab

			BMI					Total
			1	2	3	4	5	
Age menopause	Under 50 years old	Count	0	8	7	11	5	31
		% of Total	0.0%	3.2%	2.8%	4.4%	2.0%	12.4%
	50 years and over	Count	0	13	20	12	7	52
		% of Total	0.0%	5.2%	8.0%	4.8%	2.8%	20.9%
	Menopause has not stopped	Count	5	65	56	22	18	166
		% of Total	2.0%	26.1%	22.5%	8.8%	7.2%	66.7%
Total		Count	5	86	83	45	30	249
		% of Total	2.0%	34.5%	33.3%	18.1%	12.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	15.842ᵃ	8	.045
Likelihood Ratio	16.658	8	.034
Linear-by-Linear Association	9.003	1	.003
N of Valid Cases	249		