An-Najah National University

Faculty of Medicine and Health Sciences

Graduation research project

Menopausal symptoms and quality of life among Palestinian women visiting primary care clinics in Nablus, a cross sectional study 2018-2019

Prepared by:

Balqees Nassar 11344302

Noor Nabresi 11316141

Supervisors:

Dr. Souad Belkebir & Dr. Lubna AlSaudi

Department of Medicine, Faculty of Medicine and Health Sciences

An-Najah National University

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By

Balqees Nassar **Noor Nabresi**

Supervisor: Dr. Souad Belkebir

Dr. Lubna AlSaudi

This study was defined successfully on / /2019, and approved by

Defense committee members' signature

Dr. Souad Belkebir / main supervisor …….

Dr. /internal examiner …….

Dr. /internal examiner ……....

Dr. /internal examiner …….

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Dedication

To our parents who we will be forever grateful ..

&

To all those people who changes the lives of others by living as an example, a candle

And by empowering others for greatness.

Acknowledgment

We would like to thank our research supervisors, Dr. Souad Belkebir & Dr. Lubna AlSaudi for there efforts guiding us through a year of working on this research.

We also thank our Faculty of Medicine at An-Najah National University for providing us with necessary facilities for the research .And the Ministry of Health for facilitating the access to patients.

Thank you to our Palestinian women who patiently agreed to participate and share their experience and feeling about such sensitive issue.

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List of Abbreviations

MRS	Menopause rating scale
SPSS	Statistical Package for Social Sciences
%	Percentage
BMI	Body mass index
SD	Standard deviation
PHCC	Primary Health Care Centers
PMoH	Palestinian Ministry of Health

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Menopausal symptoms and quality of life among Palestinian women visiting primary care clinics in Nablus, Palestine: a cross sectional study 2018/2019

Abstract

Introduction: Natural Menopause is associated with somatic, vasomotor, psychological, and sexual complaints that may affect quality of life. We determined the prevalence and severity of menopausal symptoms and their impact on the quality of life among Palestinian women visiting primary care centers in Nablus.

Methodology: A cross-sectional study was conducted from November 2018 through March 2019. In total, 380 women aged 45–60 years were conveniently interviewed Participants were divided into three categories: premenopausal (n=105), perimenopausal (n=75), and postmenopausal (n=200). The Menopause Rating Scale (MRS) assessed the prevalence and severity of menopausal symptoms as will as quality of life. Mean scores of menopausal categories were compared for different symptoms. Descriptive and analytical analyses were performed. The level of significance was set at 5%. Data was analyzed using Statistical Package for Social Sciences (SPSS) version 21.

Results: The study included 380 Palestinian women aged 45–60 years with a mean age of 52.15 ± 4.7 years. In this study, age of onset of menopause (defined as an absence of period more than 12 months (N= 200) was found to be 49.37 ±3 years. The three most prevalent reported symptoms were **physical and mental exhaustion (86%), anxiety (85.5%) and irritability (85.3).** All somatic subscale symptoms were prevalent in the postmenopausal group. Only the prevalence of sleep problems was found to be statistically different between the three groups (P value=0.00).

Conclusion: Mean age of onset of menopause was found to be within the range of onset of natural menopause worldwide. The most prevalent symptoms at menopause were the psychological symptoms which indicate the need of psychological support activities for this age group. The average Palestinian MRS score after calculating the total score for each woman is **18.64 ± 9.19 SD** indicating very severe symptoms, reflecting bad quality of life and poor ability to cope with climacteric symptoms.

Keywords: Menopause, Palestinian women, Menopause Rating Scale, Quality of life.

أعراض انقطاع الطمث وجودة الحياة بين النساء الفلسطينيات المراجعات لدى عيادات الرعاية الصحية الأولية في نابلس - فلسطين: دراسة مقطعية 2019/2018.

ملخص

مقدمة: يرتبط انقطاع الطمث الطبيعي باعراض جسدية ، حركية ، نفسية وجنسية قد تؤثر على جودة الحياة. لقد حددنا مدى انتشار وشدة أعراض انقطاع الطمث وتأثيرها على نوعية الحياة بين النساء الفلسطينيات اللواتي يزرن مراكز الرعاية الأولية في نابلس.

المنهجية: أجريت دراسة مقطعية من نوفمبر 2018 حتى مارس 2019. تم إجراء مقابلات مع 380 امرأة تتراوح أعمارهن بين 45-60 عامًا بشكل عشوائي باستخدام استبيان. تم تقسيم المشاركين إلى ثلاث فئات: قبل انقطاع الطمث (المجموع = 105) ،حول انقطاع الطمث (المجموع = 75) ، وبعد انقطاع الطمث (المجموع = 200). تم استخدام المقياس العالمي MRS score لقياس نسبة وحدّة أعراض انقطاع الطمث. تم استخدام برنامج SPSS النسخة 21 لإجراء التحليل الوصفي والتحليلي حيث تم اعتماد مستوى الدلالة الاحصائية P =0.05

النتائج: شملت الدراسة 380 امرأة فلسطينية تتراوح أعمارهن بين 45 و 60 عامًا بمتوسط عمر 52.15 ± 4.7 سنوات. في هذه الدراسة ،تبين ان عمر ظهور انقطاع الطمث 49.37 ± 3 سنه. كانت الأعراض الثلاثة الأكثر هي الإرهاق البدني والعقلي (86٪) والقلق (85.5٪) والتهيج (85.3). كانت كل الأعراض الجسدية سائدة في مجموعة ما بعد انقطاع الطمث. تم العثور فقط على انتشار مشاكل النوم لتكون مختلفة إحصائيا بشكل كبير بين المجموعات الثلاث (P = 0.00) .

الاستنتاجات: وجد أنّ متوسط عمر ظهور انقطاع الطمث يقارب عمر ظهور انقطاع الطمث الطبيعي في جميع أنحاء العالم. كانت أكثر الأعراض شيوعًا في فترة انقطاع الطمث هي الأعراض النفسية التي تشير إلى الحاجة تشير إلى أنشطة الدعم النفسي لهذه الفئة العمرية. متوسط حدّة أعراض إنقطاع الطمث عند النساء الفلسطينيات **18.64 ± 9.19 SD** مما يشير أعراض شديدة ، مما يعكس جودة حياة سيئة.

الكلمات المفتاحية: انقطاع الطمث ، النساء الفلسطينيات ، مقياس تقييم انقطاع الطمث ، جودة الحياة

Introduction

Menopause is an inevitable event in the reproductive life of every woman. A woman can be said to have reached menopause when she has had 1 year without menstruating[1] .The age at natural menopause is between 45 years and 50 years[1].

World Health Organization (WHO) classifies menopause as premenopause, perimenopause and postmenopause. Premenopausal women are those who have experienced regular menstrual bleeding within the last 12 months, 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 [2, 3].

Natural menopause results from hormonal disturbances that will lead to cessation of ovulation[20.] As women approach the late thirteen's, her ovaries start making less estrogen and progesterone and her fertility declines. In fourteen's, women's menstrual periods may become longer or shorter, heavier or lighter, and more or less frequent, until eventually — on average, by age 51 women's ovaries stop producing eggs, and she has no more periods [4].

Menopausal women often experience a range of symptoms that are different for every woman including hot flashes, night sweats, difficulty sleeping that may make her feel tired and irritable during the day, a reduced libido, problems with memory and concentration, vaginal dryness and pain, itching or discomfort during intercourse , headaches, mood changes, heartbeats that suddenly become more noticeable, joint stiffness and urinary tract infections [4].Some changes and symptoms can start several years earlier [5].

After menopause, women risk of certain medical conditions increases, this include, heart and blood vessel (cardiovascular) disease, osteoporosis, Urinary incontinence, Sexual dysfunction and weight gain [4].

Globally, with the increasing expected life expectancy of women at birth, improved living conditions and the availability of medical services, women constitute an increasing proportion of the elderly population [6].

The number of women aged 50 years and older in the world is expected to reach 1,200 million by 2030 and the average life expectancy of women worldwide will reach 72 years worldwide by 2025 (82 years in developed countries)[6].

Different studies found that there is considerable variation of menopausal symptoms by women all over the world. In Latin America, the most reported symptoms included hot flushes (68.9%), followed by sleeping disturbances (68.4%) [4]. In Australia, menopause was associated mostly with hot flushes, followed by night sweats [5]. In Nigeria, joint and muscular discomfort was the most commonly reported symptom (59%) [6]. In Egypt, the most common symptoms were fatigue, followed by headache [7].

In contrast, women from most countries in East and Southeast Asia reported joint and muscle pain as the most frequent complaint[8-12].Study results in Arab countries are consistent with those performed in most Asian countries finding 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 [8].

Other studies focused on determining the age of natural menopause and its association with cardiovascular disease, osteoporosis, as well as endometrial and breast cancer [9]. 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 [10].

Age of onset of natural menopause also varies worldwide (Table 1) with the international range being 44.6–52 years [8].

Table1: Mean age at menopause worldwide

Country	Mean age of menopause	Standard deviation
USA	51	± 3.42
Europe	54.2	± 3.21
Alexandria	46.7	± 5.44
UAE	48	± 3.8
Bahrain	48	± 2.92
Saudi Arabia	50	±3.87
Turkey	47	± 2.65
India	45	± 4.35
Pakistan	49.3	± 4.35
Morocco	48. 3	± 5.21

A Palestinian study of fifteen interviews for women, 4 premenopausal, 3 perimenopousal and 8 postmenopausal in the north area of West Bank aimed to evaluate level of awareness of the Palestinian women about menopausal period, assessed women's beliefs and needs before, during and after menopause and investigated if there are any differences of perception towards menopause between rural and urban women.

The study found that most of the women who were interviewed had not enough information about the menopausal period, more over the urban women reported more positive perception towards menopausal period than rural women. The study concluded that women had experienced many menopausal symptoms, some women expressed that as a normal change of aging, so they didn't seek any health care to follow up changes and risks during this period, unless if they had serious symptoms such as sever heavy bleeding, or if they had any other complications which cannot coped with it [(17)].

Up to our best knowledge, there are no published studies in Palestine tackling this important period in the women's life cycle. Only one study done at Birzeit University, a cross-sectional study among Palestinian women between 45 and 65 years in order to investigate the symptoms and the factors associated with symptoms experienced by women around the time of menopause,. A local instrument rather than the international Menopause Rating Scale (MRS) questionnaire was developed.

The main result of this study was that post-menopausal women who had less than a high school education, had no family support, lived in poverty, having non-communicable diseases (one or more) and had unsatisfied psychosocial issues were more likely to report menopausal symptoms. So effort should be directed towards alleviating the psychosocial health of menopausal women, and should not be focused on medication only[11].

And revising the grey literature, a study made by nursing and midwife students at An-Najah National University aimed to study the perception of Palestinians women towards menopausal period and to examine if there are differences of perception between, urban and rural women premenopausal and postmenopausal women period Using qualitative methodology that applied by recorded and semi-structured interviews using both open-ended and Pop questions. for fifteen women ages from 45-60 years, and they conclude that women perceptions were more positive in postmenopausal and urban areas, than premenopausal and rural areas[12] .

Our study involving Palestinian women provided detailed data on menopausal symptoms and quality of life during menopausal transition using the international Menopause Rating Scale (MRS).

-Aim and objectives:

A. Main Aim:

To determine the prevalence and severity of menopausal symptoms and quality of life among Palestinian women visiting primary Health care centers in Nablus

B. Secondary Objectives:

1. To figure out the medium age of onset of menopause among Palestinian women.

2. To determine the impact of menopause on quality of life.

3. To find out the variations in the menopausal symptom within the various sociodemographic variables.

Methodology

- Study design& Setting:

A cross sectional study, was conducted among women aged 45 to 60 years old who visit Primary health Care Centers in Nablus between November 2018 and March 2019.

- Sample size and Sampling technique:

We used the Sample Size Calculation formula, with 5% margin of error, 95% confidence interval, 1.96 z-score, and the minimum required sample size was 377 patients, and they will be recruited by convenient sampling until reaching at least the minimum number required.

- Sample population:

The study will include women aged between 45 and 60 years old attending Primary Health Care Centers in the Ministry of health in Nablus between November 2018 and March 2019.

Inclusion criteria:

1. Any women between 45- and 60-years old years old
2. Women with no medically or surgically induced menopause.
3. Women neither using nor has used hormone replacement therapy
4. Women neither pregnant nor lactating women.
5. Women who agreed to participate

Exclusion criteria:

1. Any women less than 45 years old or more than 60.
2. Women with medically or surgically induced menopause.
3. Women using or has used hormone replacement therapy.
4. Pregnant or lactating women

-Study variables:

Dependent:

- Age of onset of menopause
- Severity of menopausal symptoms
- Quality of life among menopausal women.

Independent:

- Age: by years
- Body Mass Index: calculated by dividing women's weight per kilogram to women's height square per meter.
- Marital status: Single, married, divorced or widow.
- Educational level: Illiterate, primary school, intermediate school, high school, university
- Occupation: Housewife, working or retired.
- Parity: number of live births
- Smoking: never, past smoker or active smoker.
- Exercise: any physical activity for a duration of 20–30 minutes and was divided into three levels: infrequent (less than 3 times/week), average (3–5 times/week), and more frequent (more than 5 times/ week)
- Hot flushes: (Yes/ No) defined as short, sudden feelings of heat, usually in the face, neck and chest, which can make the skin red and sweaty
- Night sweats: hot flushes that occur at night
- Difficulty sleeping: either difficulty in initiation of sleeping or recurrent walk up
- Libido: sexual drive.
- Vaginal dryness and pain, itching or discomfort during sex.
- Headaches

- Mood changes: either low mood or anxiety
- Palpitations: heartbeats that suddenly become more noticeable
- Joint stiffness, aches and pains
- Recurrent urinary tract infections: More than one upper urinary tract infection (pyelonephritis) or more than two lower urinary tract infections (cystitis).

- Measurement tools:

The predesigned MRS questioner (Annex 1) was used to get information about menopausal women.

The Menopause Rating Scale (MRS) is a health-related, quality-of-life scale that was developed to measure severity of menopausal symptoms and their impact on quality of life. It was initially published in English and other languages, and it is internationally accepted.

In 2015 a study in Saudi Arabia used this scale after translate it to Arabic language. MRS consists of eleven items assessing menopausal symptoms divided into three subscales: somatic, psychological, and urogenital. Somatic symptoms include hot flush, heart discomfort, sleeping problem, and muscle and joint pain. Psychological symptoms include depressive mood, irritability, anxiety, and physical and mental exhaustion. Urogenital symptoms include sexual problem, bladder problems, and dryness of vagina. Each item is graded by subjects from 0 (not present) to 4 (1 – mild, 2 – moderate, 3 – severe, 4 – very severe). The total score of each subscale is the sum of item scores contained in that subscale. The higher the score, the worse the quality of life. Total severity according to the score ranged as follows: no or little symptoms (0–<4), mild (4–8), moderate (9–16), and severe (17).

Statistical analysis

Data were analyzed using Statistical Package for Social Sciences (SPSS) version 21. The chi-square test was used to compare the prevalence of menopausal symptoms in relation to the different menopausal categories indicated above. Analysis of variance and Tukey tests were used to compare the mean of the total MRS score and the somatic, psychological, and urogenital subscale scores for pre-, peri-, and postmenopausal women. The mean scores for those with and without chronic disease were compared using Student's *t*-test. Multiple linear regressions were performed to assess the factors affecting the MRS score. All results were considered statistically significant with a *P*-value of 0.05.

Ethical considerations

This study was approved by Al Najah National University Medical Research team and IRB was obtained, then research approval to conduct the study was obtained from PMoH director to carry on the study in Primary care centers in Nablus.

Verbal consent was obtained from each participant, privacy and data confidentiality was achieved and data used for research purposes only

Results

The study included 380 Palestinian women aged 45–60 years with a mean age of 52.15 ± 4.7 years.

Most women were married 86.6%, 32.6% high schooled, 84.5% housewives, 85.8% multipara. Regarding medical characteristics, 40% of women were obese, while 35.8 % were overweight. 321 (84.5%) were nonsmoker, 256 (67.4 %) have limited physical activity (less than 3 times /week), 158 (41.6 %) have no any chronic disease. (Table 2)

Table 2 : Baseline Characteristics of participant (n=380)

Characteristics	Frequency	Percentage %
BMI :		
Underweight and normal	90	23.7 %
Overweight	136	35.8 %
Obese	154	40.5 %
Marital Status :		
Single	26	6.8 %
Married	329	86.6 %
Widow	16	4.2 %
Divorced	9	2.4 %
Level of education :		
Illiterate	23	6.1 %
Primary school	84	22.1 %
Intermediate school	92	24.2 %
High school	124	32.6 %
University	57	15 %
Occupation :		
House wife	321	84.5 %
Working	45	11.8 %
Retired	14	3.7 %
Parity :		
Nullipara	54	14.2 %
Multipara	326	85.8 %
Smoking :		
Nonsmoker	321	84.5 %
Previous smoker	32	8.4 %
Current smoker	27	7.1 %
Exercise		
Less than 3 times / week	256	67.4 %
3-5 times per week	99	26.1 %
More than 5 times / week	24	6.3 %

In this study, among women who reported absence of period 12 months or more (N=200) the age of onset of menopause was found to be 49.37 ±3 years.

Hundred and five (27.6 %) women were premenopausal, 75 (19.7 %) were perimenopausal, and 200 (52.6 %) were postmenopausal. With mean age of 49.2 ± 4 for premenopausal, 49.37±3 for perimenopausal, 54.75 ±4 for postmonopausal. (Table 3).

Table 3: Characteristics of participant according to menopausal status (n=380)

	Premenopause		**Perimenopause**		**Postmenopause**	
Frequency (%)	**105 (27.6)**		**75(19.7)**		**200(52.6)**	
Age (mean ± (SD))	**49.2**	**4**	**49.37**	**3**	**54.75**	**4**
Marital status:						
Single	9	34.6%	4	15.4%	13	50%
Married	91	27.7%	63	19.1%	175	53.2%
Widow	3	18.8%	4	25%	9	56.3%
Divorced	2	22.2%	4	44.4%	3	33.3%
Education:						
Illiterate	0	0.0%	7	30.4%	16	69.6%
Primary school	23	27.4%	15	17.9%	46	54.8%
Intermediate school	20	21.7%	16	17.4%	56	60.9%
High school	39	31.5%	26	21%	59	47.6%
University	23	40.4%	11	19.3%	23	40.4%
Occupation :						
Housewife	88	27.4%	62	19.3%	171	53.3%
Working	14	31.1%	10	22.2%	21	46.7%
Retired	3	21.4%	3	21.4%	8	57.1%
Parity:						
Nullipara	12	22.2%	11	20.4%	31	51.8%
Multipara	93	28.5%	64	19.6%	169	52.6%
Smoking						
Non smoker	83	25.9%	60	18.7%	178	55.5%
Previous smoker	14	43.8%	5	15.6%	13	40.6%
Currant smoker	8	29.6%	10	37%	9	33.3%
Exercises (times/ week), n (%)						
< 3	69	27.0%	54	21.1%	113	52.0%
3-5	28	28.3%	21	21.2%	50	50.5%
>5	8	33.3%	0	0.0%	16	66.7%

BMI						
Underweight and normal	20	22.2%	14	18.7%	56	62.2%
Overweight	33	24.3%	28	20.6%	75	55.1%
Obese	52	33.8%	33	21.4%	69	44.8%
Medical status						
Diabetes mellitus	16	20.3%	12	15.2%	51	64.6%
Hypertension	19	21.3%	19	21.3%	51	57.3%
Dyslipidemia	8	34.8%	5	21.7%	10	43.5%
Others	3	14.3%	7	33.3%	11	52.4%
Free	58	36.7%	29	18.4%	71	44.9%

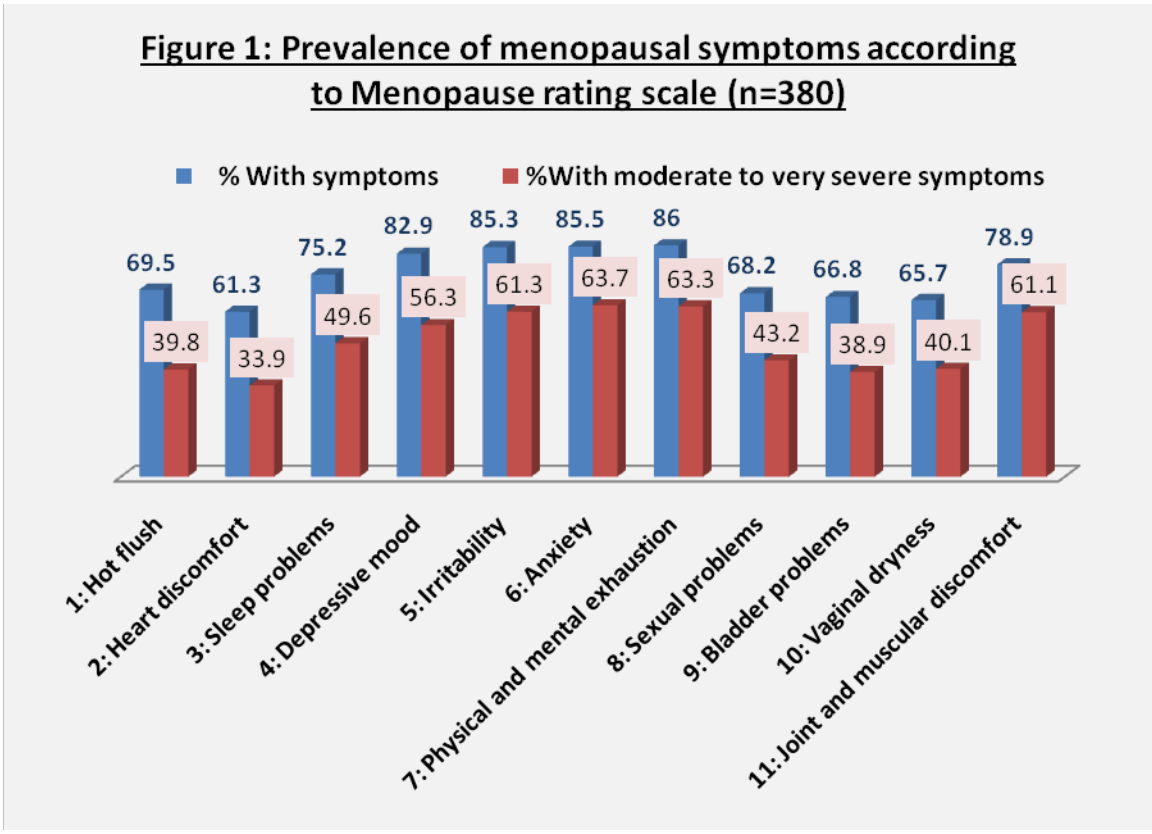
The association between BMI and parity with age of onset of menopause was found to ne not significant, P value = .269 and .414 respectively, there is a significant association between smoking and early onset of menopause. This is illustrated by (table 4).

Table 4: Association between smoking status and the onset of menopause.

	Age of onset of menopause				
Smoking status	**Less than 40 years**	**Between 40 and 50**	**More than 50**	**Total**	**P value**
Non smoker	8	115	55	178	**.000**
Previous smoker	1	7	4	12	
Current smoker	4	5	1	10	
Total	13	127	60	200	

Menopausal symptoms

The three most prevalent reported symptoms were **physical and mental exhaustion (86%), anxiety (85.5%) and irritability (85.3),** all the three were from psychological subscale. Of those who reported **physical and mental exhaustion**, more than half (63.3%) considered it to be moderate to very severe, while 63.7%, 61.3% of those with anxiety and irritability were moderate to very severe respectively. The most prevalent somatic symptom was joint and muscular discomforts (78.9%), (61.1%) of those were moderate to very sever, and the most prevalent urogenital symptom was sexual problems (68.2%), with (43.2%) moderate to very sever symptoms. (Figure1).



The prevalence of menopausal symptoms according to menopausal status is shown in Table 6. All of the somatic subscale symptoms were prevalent in the postmenopausal group. Although hot flushes, heart discomfort, sleep problems and joint and muscular discomfort were highly prevalent in the postmenopausal group, only the prevalence of sleep problems was found to be statistically significantly different between the three groups(P value=0.00).

The same was true for the psychological subscale: depression, anxiety, physical and mental exhaustion were all prevalent in the postmenopausal group, and the only statistically significant symptom between menopause groups was the depressed mood (P value=.038). Also in the urogenital subscale, the most prevalent symptom was in the postmenopausal age but none of these symptoms were statistically significant during menopausal transition.

Table 5: Prevalence of menopausal symptoms according to menopausal status (n=380)

Subscale	Menstrual status			P value
	Premenopause N=107	Perimenopause N=75	Postmenopause N=200	
Somatic				
1.Hot flashes	22.5%	18.5%	58.9%	.121
2.Palpitations	25.6%	21.7%	52.7%	.711
3.Sleep problems	20.2%	16.0%	63.8%	**.000**
11.Joint and muscle pain	27.2%	21.1%	51.7%	.698
Psychological				
4.Depressive mood	24.3%	17.3%	58.4%	**.038**
5. Irritability	27%	18.0%	54.9%	.454
6. Anxiety	26.0%	17.8%	56.2%	.171
7. Fatigue	26.7%	19.2%	54.2%	.774
Urogenital				
8. Sexual problems	22.6%	21.3%	56.1%	.156

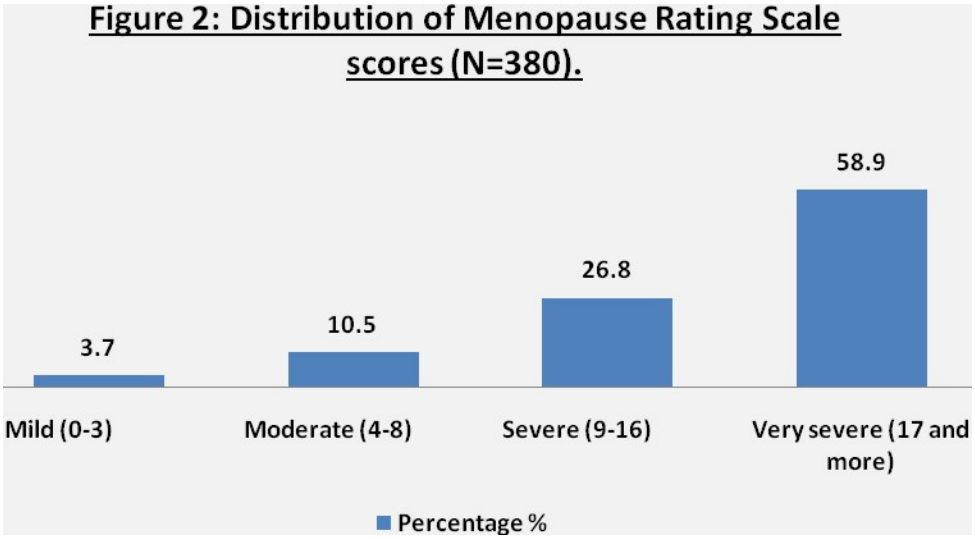
9.Urinary symptoms	23.6%	18.9%	57.4%	.281
10.Vaginal symptoms	23.0%	18.4%	58.6%	.152

Quality of life using MRS

The menopause rating scale (MRS score) expresses the quality of life as the higher the score, the worse the quality. The score subdivided in to four categories according the severity that is Mild (0-3), Moderate (4-8), sever (9-16) and Very sever (17 and more).

The average MRS score after calculating the total score for each woman is **18.64 ± 9.19 SD**.

In this study, the most frequent total score belongs to the very severe category (58.9%) followed by severe (26.8%), the following figure shows the frequency of each total score category (Figure2).



Mean total score and subscale scores of the MRS in relation to menopausal categories are shown in Table 7. The mean total score was higher in the postmenopausal group (19.59 ±8.27). Although all means of the subscales were more in premenopausal women, the only statistically significant means different were in both urogenital and total mean scores between pre and post menopausal groups, P value = .045 and .034 respectively

Table 6: Mean scores of MRS according to menopausal status.

Subscale	Premenopause	Perimenopause	Postmenopause	Pre vs peri	Pre vs post
Somatic	5.83 ±6.31	6.51 ±3.59	6.73 ±3.39	.569	.210
Psychological	7.59 ±4.31	7.80 ±4.56	8.54 ±4.57	.949	.191
Urogenital	7.59 ±4.31	7.80 ±4.57	8.54 ±4.57	.130	**.045**
Total	16.83 ±10.41	18.64 ±9.44	19.59 ±8.27	.390	**.034**

Regression analysis (multiple linear regressions) between MRS score and personal and health variables:

The linear regression model was used to study the relationship between the MRS score and the demographic and health variables of the sample. The results of the final model (Table 9) showed: $R^2 = 0.077$, $F = 2.798$, $p = 0.002$, % of the contrast ratio in the menopause index can be given to the variables embedded in the analysis. The results also show that women who are at or beyond the age of menopause have higher scores on the MRS score and therefore poorer quality of life compared with premenopausal women ($\beta = 1.636$, $p = 0.013$).

These results are logic because the symptoms are related primarily to changes in the proportions of hormones that become more acute as women approach menopause, during which immediately after the body has stopped completely from the secretion of estrogen. This in addition to other factors such as unhealthy life behaviors, social and psychological factors affect the severity of the symptoms as well.

Table (7) Results of linear regression model between mean MRS score for women and personal and health variables (total women 380)

Variable	Unadjusted β(SD)	Adjusted β	p value
Menopausal Status (premenopause)	1.636	.153	**0.013**
Occupation(who does not work)	-3.3190	-1.74	**0.002**
Number of births(nullipara)	-3.190	-0.121	**0.027**
Exercise(who has limited exercise)	1.679	0.110	**0.033**
R^2	**Adjusted R^2**	**F**	**p value**
0.077	0.050	2.798	**0.002**

Age, marital status, level of education, BMI, smoking, and history of a chronic disease did not contribute to the multiple regression model because there is no statistical significance.

In contrast, women who are physically active (β = 1.679, p = 0.033), have an occupation (β = -3.319, p = 0.002) and multipara (β = -3.190, p = 0.027) have a better quality of life because of a reversed relationship with the increase of the menopausal total score.

These results are similar to the results of previous studies (7, 13-15)where there is a consensus that physical activity (regardless of how it is defined in each research) is always a positive factor that reduces the physical and psychological symptoms.

Discussion

The present study investigated the prevalence of menopausal symptoms and health-related quality of life in a sample of Palestinian women aged 45–60 years.

The calculated mean age of onset of menopause (for those who had an absence of period more than 12 months) (N= 200) was found to be 49.37 ±3 years, and this is within the worldwide range age of onset of natural menopause which is between 44.6 and 52 years[13] . The same results were found in nearby countries including UAE (48±3.8), Bahrain (48±2.92), Saudi Arabia (50±3.87) [13] and more further in Pakistan [16].

The onset time of menopause may be affected by several factors including BMI, smoking and parity level. In literature review low BMI was associated with earlier menopause, and this may be due to peripheral adipose tissues that stores estrogen, [17] also smoking is associated with earlier onset of menopause [18]. In contrast multipara women have anovulatory periods that will delay menopause onset [17, 19] .

The study finds significant association between smoking status and early onset of menopause with P value of **0.000.** Although as regard BMI and Parity status the association was found to be not significant and this could be attributed to the nature of the results as both parity and BMI are high in almost the entire sample.

The study showed that the most reported symptoms were four psychological parameters which are physical and mental exhaustion, anxiety, irritability and depressed mood respectively, followed by joint and muscle discomfort from somatic subscale. This is close to other studies' results in Asian populations as in Turkey, South India, and southern Thailand [20-22]. Moreover results were consistent with results of South America study where depression, sexual dysfunctions and discomfort , muscle pain and joint aches are the main complains among menopausal women[23]. In contrast, the classical menopausal symptoms, hot flushes and night sweating, were noted to be less prevelant in our study than in western population [24] and Australia[23] and in compared to African women sleep disorders were less prevalent in our study. [23] As regards sexual dysfunction the highest prevalence was observed in Africa (92% of women) and in Australia in (88%

of women). while the lowest level of these symptoms was observed in North America (on average in 32%)[23].

This difference in symptoms prevalence can be attributed to the hot climate in Asian areas which reduces women's sensitivity to elevated temperatures makes them attribute warming sensation of hot flushes to ambient weather [25]. Moreover, time of data collection in winter months may play a role, since depression and other psychological problems noticed to be more prominent in winter. Not to mention that poor socioeconomic status and occupational possessions makes women more worried about their own future and the future of their families.

The study showed that postmenopausal women reported higher frequency of somatic, psychological and urogenital symptoms compared to other groups. This found to be similar to the results in a study in Iran[26] ,one in Ethiopia[27] and other in Ecuador[28] where the postmenopausal women found to have higher MRS scores in all subscales with a significant difference ($p<0.001$) between the three study groups , concluded that total and subscale MRS scores significantly increased in relation to age and the menopausal stage.

In contrast, in another relevant study in Jordan and Saudi the most symptomatic period was the perimenopausal period [1, 29]. And they attribute that to the fluctuation in hormone concentrations at that period [30].

The quality of life (Measured by MRS) in this study found to be decreasing along with progression of menstrual status from premenopausal across perimenopausal to postmenopausal periods, with mean total score 16.83 (SD ± 10.41), 18.64 (SD ± 9.44), 19.59 (SD ± 8.27) respectively, the more the score the worse the quality of life. Moreover, the most frequent total score was found to be in the very sever category (17 and more) N=224, 58.9%. This is different from the severity of symptoms reported in the study of Saudi Arabia where total MRS score found to be higher in the perimenopausal group compared to the postmenopausal and premenopausal groups while the total MRS score indicated mild severity of symptoms (MRS <9)[24].

A study in Iran reported that 43.8% of the postmenopausal women on there sample were asymptomatic and only 1% of the samples had severe or very severe symptoms while none in the other two groups were complaining of severe symptoms[26]. In Ethiopia About 8.4% of women presented a very sever total MRS scores [14].

Up to our review of articles we have not found any results that are related with the severity of the results in this study. This deference can be justified by the effect of racial differences on the prevalence and severity of menopausal symptoms [30] also this may be attributed to overestimation of symptoms by the women in this study sample. Moreover this may indicate a bad adaptation with menopausal symptoms by menopausal women that maybe caused by low level of awareness about this period of women life including menopausal symptoms and the ways to deal with it.

Conclusion:

In conclusion, Mean age of onset of menopause found to be within the range of onset of natural menopause worldwide**,** by using MRS scale we found the psychological symptoms including fatigue, anxiety and irritability and depression were the most prevalent in the study, rather than the classical menopausal symptoms of hot flushes and sweating which are less prevalent compared to western studies.

A mean of 18.64 ± 9.19 was found to be most prevalent MRS score in Palestinian women, which reflects bad quality of life and poor ability to cope with menopausal symptoms.

Recommendations :

Based on study conclusion that the most prevalent symptoms at menopause period were the psychological symptoms, we recommend psychological support activities and programs for this age group which will strongly reflect quality of life and ability to cope with climacteric symptoms.

For the future, we recommend multicenter studies involving Palestinian women with a different geographic locations and larger sample population to have more generalized data on symptoms and quality of life for menopausal age group.

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أعراض انقطاع الطمث ونوعية الحياة بين النساء الفلسطينيات في عيادات الرعاية الأولية في نابلس
دراسة مقطعية عرضية 2018-2019

نحن الطالبتان (بلقيس نصار ونور نبريصي) في كلية الطب وعلوم الصحّة في جامعة النجاح الوطنية، نقوم بإجراء دراسة عن مرحلة سن الأمان في منطقة نابلس والأعراض المصاحبة لها و جودة الحياة للمرأة في هذه المرحلة.

ندعو حضرتك للمشاركة في هذه الدراسة مع العلم أنه لا يوجد تأثيرات سلبية وفي حال وافقت على الاشتراك في هذه الدراسة سيبقى اسم حضرتكِ طي الكتمان , ولن يكون لأي شخص حق االإطلاع على نتيجة البحث المتعلقة بك شخصياً ، مع العلم أنه يحقّ لكِ الإنسحاب من الدراسة في أي وقت.

لقد شرحت بالتفصيل للمشتركة _____ في البحث الطبي طبيعة البحث ومجرياته , ولقد أجبت عن كل أسئلتها بوضوح

<u>البيانات الاجتماعية والديمغرافية:</u>

1. العمر(سنوات):.....
2. الطول(سم) :.....
3. الوزن(كغم).....
4. **مكان الإقامة**: 1- مدينة 2- قرية 3- مخيّم
1. ***الحالة الاجتماعية***: 1- عزباء 2- متزوجة 3- أرملة 4- مطلقة
5. **المستوى التعليمي**: 1-غير متعلمة 2- ابتدائي 3- متوسط 4- ثانوي 5- جامعي
6. **الوظيفة**:1- ربة منزل 2- موظفه 3- متقاعدة
7. **الخصوبة:**1 - لم يسبق لك الإنجاب 2- سبق لك الإنجاب
8. **التدخين و الأرجيلة:** 1- لم يسبق لك 2- مدخنه سابقه 3- مدخنه حاليه
9. **ممارسة الرياضة**: 1- اقل من3مرات بالأسبوع 2- (3-5) مرات بالأسبوع 3 - أكثرمن خمس مرات بالأسبوع
10. **هل لديك أمراض مزمنة؟** 1- سكري 2- ضغط 3- دهنيات 4- أخرى 5- لا
11. **أوصفي دورتك الشهرية في ال 12شهر الماضية**:
    1. الدورة منتظمة
    2. تغيير في الدورة، أو انقطاع اقل من 12 شهر.
    3. انقطاع الدورة الشهرية 12 شهر أو أكثر.

12كم كان **عمرك عند إنقطاع الدورة الشهرية ؟** .....

مقياس تصنيف انقطاع الطمث

لاشي	خفيف	متوسط	حاد	حاد جدا
I-------I	-------I	----------I	--------I	---------I
0	1	2	3	4

1- شعور بالحرارة بالصدرو الرقبة أو الوجه والتعرق الزائد بدون مجهود	□	□	□	□	□
2-عدم انتظام في ضربات القلب (كزيادة السرعة)	□	□	□	□	□
3 صعوبة في بدء النوم أو الاستمرار فيه (الارق),أو الاستيقاظ مبكراً	□	□	□	□	□

4-اكتئاب المزاج (الشعور بالحزن،على وشك البكاء,انعدام الحافز,تقلب المزاج □ □ □ □ □
5- العصبية (النرفزة والتوتر بسرعة) □ □ □ □ □
6- القلق (التململ الداخلي ، والشعور بالذعر) □ □ □ □ □
7- الإرهاق والتعب (نقص في الأداء ، وضعف الذاكرة ،وانخفاض في التركيز والنسيان) □ □ □ □ □
8- المشاكل الجنسية (تغير في الرغبة الجنسية ،أو تغير في المعاشرة الزوجية,أو الرضا عن المعاشرة الزوجية) □ □ □ □ □
9- مشاكل المثانة البولية (صعوبة في التبول ، زيادة الحاجة للتبول ، وسلس البول) □ □ □ □ □
10- جفاف المهبل (الإحساس بجفاف أو حرقان في المهبل ، مع صعوبة الجماع) □ □ □ □ □
11- أعراض مصاحبة في المفاصل والعضلات (ألم في المفاصل ، أو باقي أنحاء الجسم,تورم أو حرارة في المفاصل) □ □ □ □ □

مجموع النقاط :.....