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Assessment of Relationship between Lifestyle Behaviors and Severity of Perimenopausal Symptoms among Women

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ABSTRACT

Background: Menopause is a stage of transition from a reproductive to a non-reproductive state in the life of a woman. The perimenopause transition is defined as the period immediately before the menopause. The most common symptoms of menopause can be broken down into vasomotor, physical, emotional, or sexual complaints. Lifestyle behaviors play a significant role in women's experiencing menopausal symptoms during the perimenopause. **Aims:** It aims to assess the relationship between women's lifestyle behaviors and the severity of perimenopausal symptoms. **Methods:** A descriptive correlational study of 120 perimenopausal women using a purposive sample was conducted at gynecology outpatient clinics and general medicine outpatient clinics at Assuit University hospitals from the first of January to the end of June 2023. Three tools were used for this study: a structured interview questionnaire, a modified menopausal rating scale, and a health promotion lifestyle profile. **Results:** This study reveals that 85.8% of perimenopausal women's lifestyle was poor. Also, 31.6% of perimenopausal women reported moderate perimenopausal symptoms. Somatic symptoms were the most prevalent symptoms on the menopausal rating scale, followed by psychological symptoms and, lastly, urogenital symptoms. There has been a highly statistically significant difference as regards the relationship between the severity of perimenopausal symptoms and women's lifestyle behaviors ($p>0.001$). **Conclusion:** There has been an intense negative correlation between women's lifestyle behaviors and the severity of perimenopausal symptoms. So, women need to get health education from the nurse specialists during perimenopause and nurses should plan and implement educational programs for the perimenopausal women about the healthy life style behaviors to reduce and manage their menopausal symptoms. Recommendation: Plan and implement a necessary educational program for perimenopausal women about healthy lifestyle behaviors to manage menopausal symptoms.

Keywords: Lifestyle Behaviors; Perimenopausal Symptoms; Relationship; Severity

INTRODUCTION

Menopause is a stage of transition from a reproductive to a non-reproductive state in the life of a woman, characterized by low secretion of female reproductive hormones (Karimi *et al.*, 2022). It is defined by the World Health Organization (WHO) as "the cessation of menstruation permanently caused by loss of ovarian function" (Armo & Sainik, 2020). Perimenopause occurs before menopause, which is characterized by intense hormonal fluctuations, irregular menstruation, and menopausal symptoms that can persist for several years (Okhai *et al.*, 2022). It is defined by the WHO as the period leading up to menopause during which clinical, biological, and endocrinological characteristics of menopause are present (El Hajj *et al.*, 2020). This period begins around the age of 40 to 55 years and lasts for at least 12 months of amenorrhea (Swain, Nanda, & Das, 2021).

The experience of perimenopausal symptoms differs widely from woman to woman. The most common symptoms of menopause can be broken down into vasomotor, physical, emotional, or sexual complaints (Li *et al.*, 2023). Vasomotor symptoms, including hot flashes and night sweats, are considered the most common symptoms of menopause (Khan *et al.*, 2023). Physical complaints include fatigue, sleep disturbances, vaginal dryness, irritability, loss of skin tone, and urinary incontinence (Misiker, Kashala, & Misker, 2023). Psychological complaints include mood swings, depression, irritability, difficulty concentrating, and anxiety

(Thorat, 2022).

In recent years, perimenopause and menopause have gained more attention due to an increase in life expectancy and population growth (Aljunaid *et al*., 2024). Lifestyle is an active part of life, including a wide variety of activities people engage in in their daily lives (Abdelaziz, Elsharkawy, & Mohamed, 2022). A healthy lifestyle comprises appropriate eating, exercise, safeguarding from accidents, early detection of diseases, control of emotions, and stress management (DePree *et al*., 2023). Lifestyle behaviors are defined as everyday activities that result from an individual's values, knowledge, and norms shaped by a broader cultural and socioeconomic context. These behaviors affect overall health and are influenced by a number of social characteristics (Barnard *et al*., 2023).

According to several studies, women in their middle years who exercise during the perimenopausal stage experience less intense and frequent hot flashes. Additionally, cigarette smoke speeds up the occurrence of hot flashes (Carcelén-Fraile *et al*., 2020). Nowadays, various practices, such as consistent physical activity and a healthy diet, are advised in order to reduce the complications associated with menopause (Baral & Kaphle, 2023). Health promotion is the art of healthy lifestyle modifications. Health education can be employed to improve women's knowledge about healthy lifestyle behaviors to improve menopausal symptoms and women's quality of life. Moreover, this can empower women to control their own lives (DePree *et al*., 2023).

Nurses are at the forefront of health care, and they encounter women going through menopause in all healthcare settings. The role of the nurse specialist in managing and supporting perimenopausal women has been defined (Currie, Abernethy & Hamoda, 2021). Nurses use the roles of consultant, educator, practitioner, researcher, and manager on the care of perimenopausal women. Health education during perimenopause is a key to being able to prepare, educate and support women effectively (Abdelaziz Elsharkawy, & Mohamed, 2022). All nurses should be aware of the symptoms, management and long-term effects of menopause on women's health and quality of life (Nash, Al-Wattar & Davies, 2022).

Nurses should provide education and counseling to women during perimenopause on healthy life style behaviors including regular balanced diet, adequate sleep and rest, regular physical activity, Kegel exercises and regular sexual intercourse to improve menopausal symptoms (Demirtaş & Kaybandıoğlu, 2022).

The Significance of the Study

Menopausal symptoms affect an estimated 1.5 million women worldwide every year (Fouad *et al*., 2021). As the world's population ages, it is estimated that by 2030, 1.2 billion females worldwide will have gone through menopause or perimenopause (Huang *et al*., 2023). 70–80% of women experience subjective symptoms that can negatively affect their quality of life in their personal, social, and professional lives (Giannini *et al*., 2021). Nearly 16% of Egyptian women experience symptoms of perimenopause between 35 and 40 years of age and reach menopause between 45 and 55 years of age, with an average age of 46.7 years (Abo-Ali & Oka, 2021).

Taking into consideration that women experience menopause for around a third of their lives, there are several factors that have a significant effect on the severity of perimenopausal symptoms, such as improper dietary choices, stress, and insufficient exercise (Barnard *et al*., 2023). So, lifestyle behaviors play an important role in women's experiencing menopausal symptoms during the perimenopause (Giannini *et al*., 2021).

There is a limited studies was conducted to assess relationship between women's lifestyle behaviors and severity of perimenopausal symptoms. Assessment studies provide a decision-making framework for nurses to develop and guide a plan of care for the women incorporating evidence-based practice concepts. So thus, this research was conducted to help nurses to assess women's need to be educated regarding the healthy lifestyle during perimenopause.

Aim of the Study

This study aims to assess the relationship between women's lifestyle behaviors and the severity of perimenopausal symptoms.

Research Question

Is there a correlation between women's lifestyle behaviors and the severity of perimenopausal symptoms?

METHODOLOGY

Research Design

The research utilized a descriptive-correlational study. This research was carried out at the gynecology outpatient clinic at Women's Health Hospital, Assuit University, and the general medicine outpatient clinic at Assuit University Hospital.

Participants

The participating women were selected by using a purposive sample. Based on previous similar studies and inclusion criteria for this research, a sample size of 120 perimenopausal women was chosen according to the following criteria: a) Women who experience menopausal symptoms between the ages of 40 and 55 and who were in perimenopause for up to a year following menopause; b) The occurrence of menopause naturally. The researcher excluded some women for the following criteria: 1. Women with chronic medical diseases that are not under control. 3. Women with abnormal gynecological disorders.

Tools of Data Collection

Tools of data collection consisted of three tools contained:

Tool (I) involved a structured interview questionnaire to gather socio-demographic data of participating women, including age, residence, occupation, educational level, marital status, weight, height, and body mass index (BMI).

Tool (II) involved the modified Menopausal Rating Scale (MRS). Heinemann, Potthoff, & Schneider (2003) developed this scale to determine the severity of menopause-related symptoms and complaints. It consists of 11 items, broken into three subscales, including the somatic domain (four items including hot flushes and sweating, heart discomfort, sleep problems, and muscles and joint problems), the psychological domain (four items including depression, irritability, anxiety, and physical and mental exhaustion), and the urogenital domain (three items including sexual problems, bladder problems, and dryness of the vagina.). A Likert scale of five responses was applied to score every item, starting from: (0 = not present), (1 = mild), (2 = moderate), (3 = severe), and (4 = extremely severe).

Tool (III) involved a health promotion lifestyle profile (HPLP). This is a standardized tool that was constructed on the Pender 2011 model for health promotion. It was applied to assess the frequency of an individual's lifestyle behaviors and included six subscales broken into 52 questions: Physical activity (Eight items), Nutrition (Nine items), Spiritual growth (Nine items), Health responsibility (Nine items), Interpersonal relations (Nine items) and Stress management (Eight items). Based on a four-point Likert scale with 4 replies, these questions were scored: 1 = never, 2 = (sometimes), 3 = (often), 4 = (routinely). The total HPLP results were < 50% poor, 50–< 75% fair, and > 75% good.

Validity and Reliability of Tools

After translation into Arabic, the study tools were introduced to five specialists in midwifery nursing to test their content validity: tool II (0.92) and tool III (0.88). Reliability was evaluated by quantifying internal consistency using the Alpha Cronbach's test, tool II ($r = 0.622$), and tool III ($r = 0.792$). Questionnaire items were found to be reliable.

Ethical Consideration

This research proposal was approved by the Faculty of Nursing's Ethical Committee at Assuit University, Egypt, with reference number 1120230498 on November 27th, 2022.

Procedure

After getting official permission to conduct the suggested study from hospital directors, a pilot study was executed on 10% of participants (12 women) to assess the clarity and understanding of the tools by women. There wasn't any modification to the tools, and the women who were tested in the pilot study were included in the main study sample.

The study was conducted over six months, from January to June 2023, through five days per week in the study setting with a maximum of three women per day. The researcher welcomed participating women. Written consent is obtained from every woman who took part in the study after the researcher describes the aim of this study. Each woman was interviewed separately through a face-to-face interview with the investigator to collect socio-demographic data. Then the investigator distributed the questionnaire to women to obtain data on the women's perimenopausal symptoms and lifestyle.

As for illiterate women, researchers helped them by reading each sentence and its answer options to the woman and recording exactly the woman's answer in the questionnaire. Each woman took about 20–30 minutes to fill out the questionnaire. Then, the researcher gave some advice about the healthy life style behaviors to the woman including nutrition, exercise, sleeping, stress management and measures of relieving the perimenopausal symptoms. Finally, the researcher thanked each woman for their participation in the study.

Statistical Analysis

The statistical package for social science programs (SPSS) version 26 was utilized to analyze the data that had been gathered. Frequency and percentages were applied to express qualitative variables, whereas frequency, percentage, mean, and standard deviation (SD) were applied to quantitative variables. The Pearson correlation coefficient was applied. A probability > 0.05 was deemed significant.

RESULTS

Table 1: Distribution of Studied Women According to Their Socio-Demographic Data (n=120)

Socio-Demographic Data	N	%
Age / Years:		
40 - 50 year	88	73.3
50 - 55 year	32	26.7
Mean ± SD	**48.10 ± 3.32**	
Educational Level:		
Illiterate	20	16.6
Read & write	37	30.9
Preparatory education	25	20.8
Secondary education	26	21.7
University education	12	10.0
Occupation:		
Worker	23	19.2
Housewife	97	80.8
Residence:		
Rural	73	60.8
Urban	47	39.2
Marital Status:		
Single	1	0.8
Married	96	80.0
Divorced	1	0.8
Widow	22	18.4
Weight: (Mean ± SD)	**85.52±15.54**	
Height: (Mean ± SD)	**164.59±4.46**	
Body Mass Index:		
Healthy weight	22	18.3
Overweight	34	28.4
Obese	64	53.3

Table 1 illustrates that the mean age of perimenopausal women was (48.10 ± 3.32) years old. 47.5% of them were illiterate, and others could read and write. 80.8% of women were housewives or married, and 60.8% live in rural areas. Also, 53.3% were obese with the mean score of weight was 85.52±15.5 kg.

Table 2: Distribution of Studied Women According to Their Perimenopausal Symptoms (n=120)

Symptoms	None 0		Mild 1		Moderate 2		Severe 3		Extremely severe 4		Total N% having Symptom
	N	%	N	%	N	%	N	%	N	%	
Hot flashes, sweating	0	0.0	3	2.5	32	26.6	74	61.7	11	9.2	**120 (100%)**
Mean ± SD	**2.78±.64**										
Joint and muscular discomfort	1	0.8	1	0.8	45	37.5	65	54.2	8	6.7	**119 (99.2%)**
Mean ± SD	**2.65±0.66**										
Sleep Problem	27	22.6	18	15.0	49	40.8	25	20.8	1	0.8	**93 (77.4%)**
Mean ± SD	**1.63±1.08**										
Heart Discomfort	25	20.8	29	24.2	52	43.3	14	11.7	0	0.0	**95 (79.2%)**
Mean ± SD	**1.46±0.95**										
Depressive Mood	42	35.0	5	4.2	37	30.8	34	28.3	2	1.7	**78 (65%)**
Mean ± SD	**1.58±1.28**										
Irritability	74	61.7	5	4.2	27	22.4	14	11.7	0	0.0	**46 (38.3%)**
Mean ± SD	**0.84±1.14**										
Anxiety	97	80.8	4	3.3	12	10.0	7	5.8	0	0.0	**23 (19.2%)**
Mean ± SD	**0.41± 0.89**										
Physical and mental exhaustion	2	1.7	2	1.7	59	49.2	57	47.5	0	0.0	**118 (98.3%)**
Mean ± SD	**2.42±0.62**										
Sexual Problems	68	56.6	20	16.7	27	22.5	5	4.2	0	0.0	**52 (43.4%)**
Mean ± SD	**0.74±0.95**										
Dryness of Vagina	32	26.7	19	15.8	53	44.2	16	13.3	0	0.0	**88 (73.3%)**
Mean ± SD	**1.44±1.03**										
Bladder problems	63	52.5	14	11.7	34	28.3	8	6.7	1	0.8	**57 (47.5%)**
Mean ± SD	**0.92±1.07**										
Total Symptoms	**39**	**32.5**	**11**	**9.2**	**38**	**31.6**	**30**	**25.0**	**2**	**1.7**	**81 (67.5%)**
Total Mean ± SD	**16.85±3.56**										

Table 2 indicated that all perimenopausal women had hot flushes and sweating. 61.7% of them had severe complaints. Nearly 99.2% of women had joint and muscular discomfort. About 77.4% of them had sleep problems. Also, 79.2% of them had heart discomfort. 65% of them had a depressive mood. About 98.3% of the studied women had physical and mental stress. Only 44.2% of them had a moderate complaint of dry vagina. The mean total menopausal rating score was 16.85±3.56.
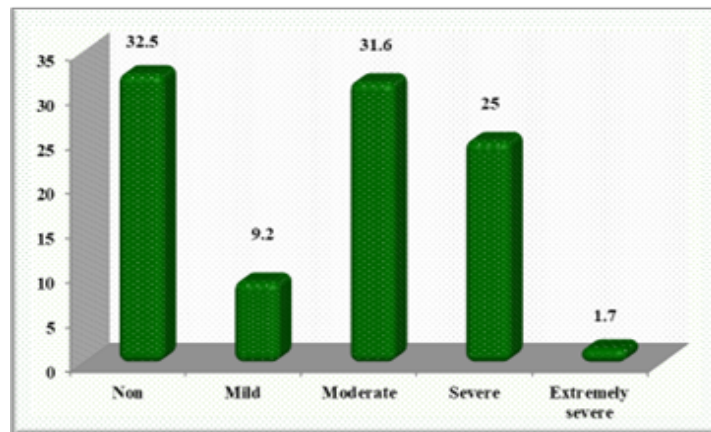

Figure 1: Distribution of Studied Women According to Their Total Degree of Severity of Perimenopausal Symptoms (n=120)

This figure revealed that 31.6% of participating women had a moderate complaint of one or more symptoms of menopause. Only 25% of them had severe complaints.

Table 3: Distribution of Studied Women According to Their Mean ± SD of Health- Promoting Lifestyle Profile (HPLP) (n=120)

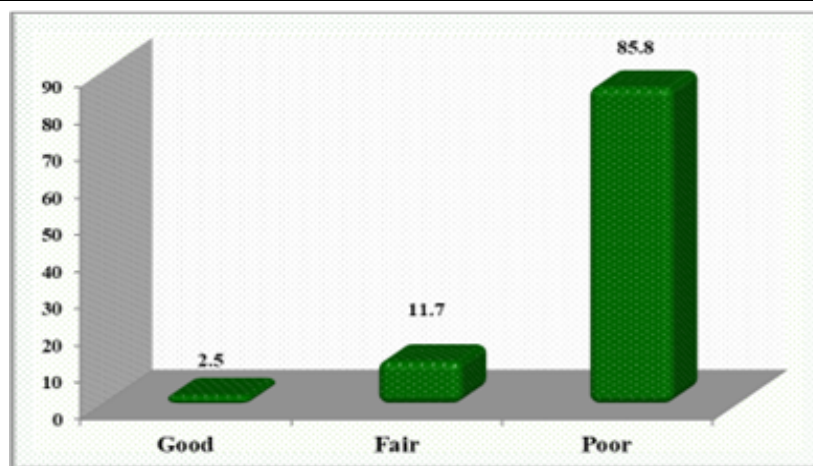| Items	N
Nutrition	21.93±3.64
Health responsibility	7.33±3.06
Physical activity	7.08±2.49
Spiritual growth	6.43±2.33
Interpersonal relations	6.33±2.58
Stress management	7.50±1.42
Total	**56.61±14.21**

Figure 2: Distribution of Studied Women According to Their Total Health-Promoting Lifestyle Profile Levels (n=120)

This figure displayed that 85.8% of studied women had poor healthy lifestyle behaviors, and the mean total HPLP score was 56.61±14.21.

Table 4: Correlation between the Studied Women Health-Promoting Lifestyle Profile and Perimenopausal Symptoms (n=120)

	Menopausal Symptoms	
	R	*P*-value
Health-Promoting Lifestyle Profile (HPLP)	0.243	0.008**

**Highly statistically significant difference

Table 4 clarifies that regarding the correlation between menopausal symptoms and lifestyle score, there was a highly statistically significant difference $P = 0.001$.

DISCUSSION

One of the most efficient strategies to reduce perimenopausal symptoms through adopting healthy lifestyle habits is to enhance lifestyle behaviors (Li *et al*., 2023). According to the results of the current study, the severity of perimenopausal symptoms and women's lifestyle behaviors are strongly negatively correlated. Concerning perimenopausal symptoms, this research stated that more than one third of perimenopausal women reported moderate severity of perimenopausal symptoms, as has been seen in the study of Olowokere *et al*. (2021). But these outcomes were in opposition to Farahat, El Esergy, and El Shopaky's (2019) research that demonstrated that severe perimenopausal symptoms were present in over fifty percent of the subjects.

Regarding vasomotor symptoms, including hot flushes and night sweating, all perimenopausal women had hot flushes and sweating, and about slightly less than two-thirds of them had severe complaints. This result agreed with the study of Misiker, Kashala, and Misker (2023), which observed that mild to moderate somatic complaints were seen in over two-thirds of women. This was due to the fact that nearly all perimenopausal women didn't know about hormone replacement therapy (HRT), which can reduce menopausal symptoms.

Regarding joint and muscular discomfort, heart discomfort, and sleep problems, the majority of studied women had joint and muscular discomfort. More than three-quarters of them had sleep problems and heart discomfort. This finding came in line with Aloufi and Hassanien (2022), who reported that the majority of women encounter joint and muscular discomfort. This agreement may be explained by the attitude of Arab women regarding high parity, which negatively affects their health of the musculoskeletal system.

Regarding psychological symptoms, more than two-thirds of women had a depressive mood, and only one-third of them had irritability. Also, the vast majority of the studied women had physical and mental exhaustion. This finding was supported by Abdelaziz, Elsharkawy, and Mohamed (2022), whose study revealed that more than half of them had psychological symptoms. But these findings disagreed with Aloufi & Hassanien (2022), where the study reported that more than three quarters of women had irritability. This may be due to an increase in daily household activities as a result of the increase in the number of children, their increasing needs, and the lack of spouse support for their wives in Egyptian families.

Concerning genital and urinary symptoms, the current study's findings demonstrated that slightly less than half of women had sexual and bladder problems. About 44.2 percent of them reported moderate vaginal dryness. This finding agreed with Yoshany *et al*. (2020), whose results displayed that over a third of women experienced severe urogenital symptoms, and also with the study of Misiker, Kashala, and Misker (2023), who reported that the most severe menopausal symptom was the sexual problem. The current study mentioned that the mean total menopausal rating score was 16.85±3.56. This finding was in contrast with the study of Baral and Kaphle (2023), which mentioned that the mean ±standard deviation of the total MRS track was found to be low (9.5±5.3).

One of the possible reasons for perimenopausal symptoms being more severe among women worldwide is due to differences in socio-demographic factors, culture, economic stressors, health conditions, and women's perceptions of menopause, as well as poor knowledge, which may be due to inadequate information sources

and low educational attainment.

As regards women's lifestyle behaviors, the study disclosed that a large percentage of women had poor lifestyle levels, with the mean total HPLP score being 56.61±14.21. This may be due to the difficult socioeconomic conditions that the country is going through as a result of the global economic crisis nowadays. Identical results appeared in the study of Yoshany *et al*. (2020). While this result is opposed to Abo-Ali and Oka (2021), where the investigated women's health-promoting lifestyle profile average score was moderate (120.38±16.63), This disagreement may be due to differences in the cultures and attitudes of the participating women in different societies.

In the current study, perimenopausal women have a low score for performing physical activity. This is comparable to the Barnard *et al*. (2023) study. This agreement was made because, particularly for women in traditional societies, they don't consider physical activity to be an essential component of a healthy lifestyle due to cultural or personal issues that may have an adverse effect on their health later in life. Regarding the correlation between the research variables, the current research demonstrated that there had been a highly statistically significant difference as regards the relationship between perimenopausal symptoms severity and lifestyle score. There was an intense negative correlation between MRS and HPLP. A similar result was shown in Abo-Ali and Oka (2021).

CONCLUSION

The study concluded that perimenopausal women's lifestyle status was poor. Also, most of the participating women reported moderate perimenopausal symptoms. So thus, there has been a highly statistically significant difference as regards the relationship between MRS and HPLP, and there was an intense negative correlation between menopausal symptoms severity and women's lifestyle behaviors. So thus, women need to get health education from the nurse specialists during perimenopause to be prepared to manage the menopausal symptoms. In the future researches, Nurses should plan and implement educational programs for the perimenopausal women about the healthy life style behaviors to reduce and manage menopausal symptoms.

Recommendation

The study recommended that perimenopausal women plan and implement an educational program about healthy lifestyle behaviors to manage menopausal symptoms.

Conflict of Interest

There is no conflict of interest corresponding to the authors.

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