



## Postmenopausal Health Maintenance Among Zagazig University Employees; Gap Between Reality and Expectation

Amira E Abdelsalam, MD; Maha S Eltwansy, MD

Public Health Department, Faculty of Medicine, Zagazig University, Zagazig, Egypt

### ABSTRACT

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Postmenopausal, women, barriers, healthy lifestyle, Egypt

**Background:** Postmenopausal women experience many physical, psychological and social problems that affect their quality of life. **Objective:** to identify the most common postmenopausal symptoms, to assess the actions taken by women to maintain their postmenopausal health and to examine the barriers against maintaining postmenopausal health. **Method:** A cross sectional study was conducted from March to May 2023. Two hundred thirty-eight postmenopausal females were included in the study. Menopause rating scale and a structured questionnaire were used to identify the most common health problems, healthy actions, and barriers against adopting them. **Results:** The most common health disorders reported by the examined women were joint and muscular discomfort (97.1%), followed by physical and mental exhaustion (95%) and sleep problems (93.7%). The severity of symptoms ranged between severe to very severe in more than half of the sample. The main actions taken to maintain a healthy postmenopausal life were measuring blood pressure (78.2%), followed by diabetes mellitus follow up (77.7%) and measuring lipid profile (75.6%). Regular influenza vaccination was received by 33% of participants. Cancer screening was done by approximately one third of the participants, mainly breast cancer screening. The main barriers reported were low income (71%), unavailability of health services (67.6%) and lack of knowledge (67.2%). **Conclusions:** Most postmenopausal women complain of joint and muscle pain, physical and mental exhaustion and sleep problems. Most of the recommended preventive practices were not followed. There is a need for increasing women awareness and providing accessible services.

### INTRODUCTION

Post menopause is cessation of menstrual cycle for 12 months after the last cycle. It usually starts at the age of 45, in Egypt the average age is 46.7 years. Increased life expectancy in addition to unchanged age of menopause make women spend many years in this stage of life.<sup>1</sup> The most common reported symptoms are; hot flashes and night sweats, vaginal dryness and sexual discomfort, depression, changes in sex drive, insomnia, dry skin, weight changes, hair loss and urinary incontinence. In addition to increased probability of developing chronic diseases.<sup>2</sup>

Many practices were recommended to live this stage as a healthy one, it includes; healthy lifestyle, preventing cardiovascular disease (CVD), reducing the risks of osteoporosis and osteoarthritis, reducing cognitive decline, screening of cancer and regular vaccination.<sup>3</sup> Nevertheless, most postmenopausal women fail to maintain their overall well-being. Many factors have been linked to this failure. The main factor was unawareness; as many women are unaware about the importance of regular screening and healthy lifestyle.<sup>4</sup> The aim of this study was improving women's

**Corresponding Author:** Maha Elsayed Eltwansy, Public Health and Community Medicine Department, Faculty of Medicine, Zagazig University, Zagazig, Egypt. Email: mahaeltwansy@gmail.com

**Table 1: Distribution of the Participants according to the Frequency of Menopausal Symptoms Assessed by Menopause Rating Scale**

	None N (%)	Mild N (%)	Moderate N (%)	Severe N (%)	Very Severe N (%)
<b>Somatic</b>					
Hot flushes, sweating	23 (9.7)	48 (20.2)	53 (22.3)	62 (26.1)	52 (21.8)
Heart discomfort	58 (24.4)	72 (30.3)	51 (21.4)	14 (5.9)	43 (18.1)
Sleep problems	15 (6.3)	33 (13.9)	43 (18.1)	61 (25.6)	86 (36.1)
Joint and muscular discomfort	7 (2.9)	44 (18.5)	48 (20.2)	72 (30.3)	67 (28.2)
<b>Psychological</b>					
Depressive mood	28 (11.8)	36 (15.1)	45 (18.9)	55 (23.1)	74 (31.1)
Irritability	24 (10.1)	46 (19.3)	38 (16.0)	64 (26.9)	66 (27.7)
Anxiety	21 (3.8)	30 (12.6)	40 (16.8)	70 (29.4)	77 (32.4)
Physical and mental exhaustion	12 (5.0)	51 (21.4)	66 (27.7)	54 (22.7)	55 (23.1)
<b>Urogenital</b>					
Sexual problems	32 (13.4)	47 (19.7)	54 (22.7)	60 (25.2)	45 (18.9)
Bladder problems	36 (15.1)	36 (15.1)	53 (22.3)	62 (26.1)	51 (21.4)
Dryness of vagina	35 (14.7)	45 (18.9)	55 (23.1)	65 (27.3)	38 (16.0)

health in postmenopausal stage and enhancing their quality of life. The life expectancy increased markedly with increased number of women in menopausal stage. Numerous health problems that are facing females in this stage of life. Understanding health problems and barriers to take the healthy actions may be the key of controlling these problems. The objectives of the current study were to identify the most common postmenopausal symptoms, to assess the actions taken by women to maintain their postmenopausal health and to examine the barriers against maintaining postmenopausal health.

## METHODS

A cross sectional study was conducted at Zagazig University from March to May 2023.

The study was conducted among female employees (workers and employees) at Zagazig University. The study included females who passed 3 years after the last menstrual cycle (the researchers determined 3 years as a sufficient period to start assessing of the routine checkup according to the chosen guidelines). Choosing employees based upon that this group of females having the variation that represents all other females that may make it possible to generalize the results. The study excluded females who refused to share, having hormonal replacement therapy and

those having cancer or receiving chemotherapy or radiotherapy.

The sample size was determined by the Open Epi-info system with the following assumptions: 95% significance level, power of 80%, prevalence of hot flashes (the most common postmenopausal symptom) is 80%,<sup>5</sup> and a total number of female workers of 6666, The sample size was determined to be 238.

The participants were selected randomly by multi-stage random technique method. To make the choosing of participants easy, the faculties were divided into practical and theoretical then random selection of one faculty of each category was done. Finally, a random selection of participants was made. At each selected faculty the researchers reached the offices of employees and places of workers. They explained to them the aim of the study and the confidentiality of the obtained data. Then the females who met the inclusion criteria were recruited in the study.

*Data collection tools:* The data was collected using two tools. Menopause Rating Scale <sup>5</sup> is eleven-items of the most common postmenopausal symptoms that are grouped into three categories; somatic, psychological, and urogenital. The items are divided into a 5-point Likert scale, starting from no symptoms (0) to very severe (5). The Arabic version was validated by Sweed

**Table 2: Distribution of the Participants according to Main Actions Taken for a Healthy Postmenopausal Life.**

	Frequency	Percent
Measuring blood pressure	186	78.2
Measuring for diabetes	185	77.7
Measuring lipid profile	180	75.6
Eating healthy diet	103	43.3
Watching weight	103	43.3
Physical activity	94	39.5
Monitoring osteoporosis	86	36.1
Taking aspirin	85	35.7
Influenza vaccine	79	33.2
Psychiatric help	71	29.8
Breast cancer screening	61	25.6
Cervical cancer screening	17	7.1
Colorectal cancer screening	13	5.5
Total score		
Mean ± SD	5.3 ± 2.2	
Range	0 - 11	

et al.<sup>6</sup> Structured Questionnaire which consists of three types of data.<sup>7,8</sup> Socio-demographic data such as age, level of education, job, medical history, and body mass index (BMI). The main actions taken for a healthy postmenopausal life, according to North American Menopause Society (NAMS), including 8 main actions: Healthy diet, watching weight, physical activity, measuring (Blood pressure, Lipid profile, Diabetes mellitus and Osteoporosis), taking aspirin, cancer screening: Breast (breast self-examination monthly and mammography every 2 years), Cervix (Pap smears every 3 years), Colorectal (fecal occult blood test [FOBT] every year), vaccination (Annual influenza vaccine) and psychiatric help. Barriers against maintaining good postmenopausal health such as lack of knowledge, Perception of menopause as a stage doesn't need help, lack of time, high cost, low income, un-availability of health services and unawareness about the available services. The validity of the questionnaire was measured in a pilot study (10% of the sample and was not included in the final results). The reliability for the main actions taken was calculated (Cronbach alpha = 0.7)

**Table 3: Distribution of the Participants according to Barriers Against Maintaining Good Postmenopausal Health.**

	Frequency	Percent
Low income	169	71.0
Un-availability of health services	161	67.6
Lack of knowledge	160	67.2
High cost	156	65.5
Lack of time	153	64.3
Perception of menopause as a stage doesn't need help	150	63.0
Unawareness about the available services.	139	58.4

The primary outcome of this study was to identify the most common postmenopausal health problems, the main healthy actions taken by women to maintain a healthy postmenopausal stage. In addition to barriers against taking healthy actions.

**Statistical analysis:** Collected data were presented, tabulated analyzed and interpreted statistically using SPSS version 25. Categorical data were presented in frequency and percentage. Continuous data was presented as mean and standard deviation. Chi square was the used test of significance. P value less than or equal to 0.05 was considered significant.

## RESULTS

A total of 238 postmenopausal women were responded to the present study. Around 43% of the sample aged between 50-54 years and 44.5% were of low social class. Most of the participants were employers and had medical history (62.6% and 73.5% respectively). More than half of the sample was of low education and obese (59.2% and 52.1% respectively). The most common health disorders occur in the postmenopausal women were joint and muscular discomfort (97.1%) followed by physical and mental exhaustion (95%) then sleep problems (93.7%). The least reported symptom by the participants was heart discomfort (75.6%). More than half of the sample suffered severe or very severe symptoms of joint and muscular discomfort and sleep problems (58.5% and 61.7%, respectively, Table 1). The main actions taken for a healthy postmenopausal life by the participants were measuring blood pressure (78.2%) followed by measuring diabetes mellitus (77.7%) and lipid profile (75.6%). On the other hand, the least actions reported by the participants were screening for colorectal

**Table 4: Relationship between Demographic Characteristics and Some Actions Taken for a Healthy Postmenopausal Life**

	Healthy diet N (%)	Measuring blood pressure N (%)	Breast cancer screening N (%)	Influenza vaccine N (%)	Psychiatric help N (%)
<b>Age in years:</b>					
45-49	44 (65.7)	53 (79.1)	16 (23.9)	18 (26.9)	16 (23.9)
50-54	45 (44.1)	82 (80.4)	24 (23.5)	32 (31.4)	26 (23.9)
55-59	14 (20.3)	51 (73.9)	21 (30.4)	29 (42.0)	29 (42.0)
P value	0.000*	0.588	0.554	0.15	0.031*
<b>Education:</b>					
Low education	59 (41.8)	108 (76.6)	36 (25.5)	49 (34.8)	46 (32.6)
High education	44 (45.4)	78 (80.4)	25 (25.8)	30 (30.9)	25 (25.8)
P value	0.591	0.484	0.967	0.538	0.256
<b>Job:</b>					
Employer	68 (45.6)	119 (79.9)	41 (27.5)	44 (29.5)	38 (25.5)
Worker	35 (39.3)	67 (75.3)	20 (22.5)	35 (39.3)	33 (37.1)
P value	0.342	0.408	0.388	0.12	0.059
<b>Social class:</b>					
Low	44 (41.5)	80 (75.5)	23 (21.7)	39 (36.8)	37 (34.9)
Middle	35 (44.9)	62 (79.5)	23 (29.5)	28 (35.9)	23 (29.5)
High	24 (44.4)	44 (81.5)	15 (27.8)	12 (22.2)	11 (20.4)
P value	0.884	0.645	0.45	0.149	0.164
<b>Medical history:</b>					
No	29 (46.0)	11 (17.5)	18 (28.6)	31 (49.2)	29 (46.0)
Yes	74 (42.3)	175 (100.0)	43 (24.6)	48 (27.4)	42 (24.0)
P value	0.607	0.000*	0.533	0.002*	0.001*
<b>BMI:</b>					
Normal	19 (47.5)	29 (72.5)	11 (27.5)	11 (27.5)	8 (20.0)
Over	34 (45.9)	58 (78.4)	17 (23.0)	32 (43.2)	27 (36.5)
Obese	50 (40.3)	99 (79.8)	33 (26.6)	36 (29.0)	36 (29.0)
P value	0.623	0.62	0.815	0.085	0.178
<b>Post-menopausal symptoms:</b>					
Some	63 (45.7)	108 (78.3)	25 (18.1)	50 (36.2)	45 (32.6)
All	40 (40.0)	78 (78.0)	36 (36.0)	29 (29.0)	26 (26.0)
P value	0.385	0.962	0.002*	0.242	0.271

\*Statistically significant difference ( $p \leq 0.05$ )

cancer and cervical cancer (5.5% and 7.1% respectively). The mean score for the total actions taken was  $5.3 \pm 2.2$  (Table 2). The main barriers against maintaining good post-menopausal health were low income (71%), unavailability of health services (67.6%) and lack of knowledge (67.2%) as displayed in Table 3. There was a statistically significant

difference between eating healthy diet, seeking psychiatric help and the age of the participants ( $p=0.000$  and  $p=0.031$  respectively). Among those aged 45-49 years 65.7% was eating healthy diet, whereas 42% was seeking psychiatric help among participants aged 55-59 years. measuring blood pressure, taking Influenza vaccine, and seeking

**Table 5: Relationship Between Demographic Characteristics and Highest Barriers Reported Against Marinating Good Post-menopausal Health**

	Low income N (%)	Unavailability of health services N (%)	Lack of knowledge N (%)
<b>Age in years:</b>			
45-49	46 (68.7)	44 (65.7)	42 (62.7)
50-54	80 (78.4)	75 (73.5)	75 (73.5)
55-59	43 (62.3)	42 (60.9)	43 (62.3)
P value	0.066	0.204	0.2
<b>Education:</b>			
Low education	114 (80.9)	106 (75.2)	106 (75.2)
High education	55 (56.7)	55 (56.7)	54 (55.7)
P value	0.000*	0.003*	0.002*
<b>Job:</b>			
Employer	106 (71.1)	103 (69.1)	102 (68.5)
Worker	63 (70.8)	58 (65.2)	58 (65.2)
P value	0.954	0.528	0.601
<b>Social class:</b>			
Low	72 (67.9)	67 (63.2)	67 (63.2)
Middle	43 (55.1)	42 (53.8)	42 (53.8)
High	54 (100.0)	52 (96.3)	51 (94.4)
P value	0.000*	0.000*	0.000*
<b>Medical history:</b>			
No	42 (66.7)	42 (66.7)	40 (63.5)
Yes	127 (72.6)	119 (68.0)	120 (68.6)
P value	0.376	0.846	0.461
<b>BMI:</b>			
Normal	31(77.5)	29 (72.5)	29 (72.5)
Over	48 (64.9)	46 (62.2)	46 (62.2)
Obese	90 (72.6)	86 (69.4)	85 (68.5)
P value	0.313	0.446	0.481
<b>Post-menopausal symptoms:</b>			
Some	98 (71.0)	92 (66.7)	93 (67.4)
All	71 (71.0)	69 (69.0)	67 (67.0)
P value	0.998	0.704	0.949

\*Statistically significant difference ( $p \leq 0.05$ )

psychiatric help were significantly associated with the medical histories of the respondents ( $p \leq 0.05$ ); all the participants of those with medical histories were watching their blood pressure, while 27.4% take Influenza vaccine. Among the respondents with medical history, 24% were seeking psychiatric help (Table 4). There was statistically significant difference between educational level and social class and the highest three reported barriers which are low income,

unavailability of health services and lack of knowledge ( $p \leq 0.05$ ) as shown in Table 5.

## DISCUSSION

Menopause is one of life's realities and is considered an unavoidable phenomenon. It is associated with multiple symptoms due to hormonal changes. Some lifestyle changes and other actions may enhance this stage of life if taken or impair it if left. The main complaints of the study participants were joint and

muscle discomfort, followed by physical, mental exhaustion and sleep disorders. Most of these symptoms ranged from severe to very severe. Most of the recommended actions (according to guidelines) were not followed by the participants, except measuring for blood pressure, diabetes and lipid profile. Low income, unavailability of health services and lack of knowledge were the commonest barriers against following the recommended postmenopausal actions. These barriers were mostly reported by females with low social class and low level of education.

Joint and muscle discomfort was the commonest complaint that may be referred to hormonal changes, obesity (52% of study participants were obese) and not following a healthy diet (56.7% didn't follow healthy diet). These results were consistent with those of Abdel-Salam et al 2021.<sup>9</sup> In another study it was found that physical and mental exhaustion were the commonest symptom.<sup>10</sup> In a study done among females attending PHC in Cairo, Egypt, they found that joint pain, hot flushes and heart discomfort was significantly higher.<sup>11</sup> In Bahrain a study; they found more frequent urogenital symptoms (lack of sexual desire and bladder disorders) among participants.<sup>12</sup> Another study mentioned psychological symptoms as the commonest.<sup>13</sup> This clear variation of symptoms between different studies may be referred to "difference in perception of symptoms" among participants. Moreover, some symptoms as urogenital and sexual problems in certain cultures are not freely expressed so it can be addressed as physical or psychological symptoms. The severity of symptoms may be explained by increased BMI, unhealthy lifestyle and presence of chronic health conditions. Consistently, Derya and Nezihe noted that half of their participants had severe menopausal symptoms.<sup>14</sup>

It was noticed that participants and apart from all recommended actions only regularly measure hypertension, diabetes, and lipid profile. Most of them perform these actions not for the sake of menopause but as they already have such chronic conditions. Accordingly, the U.S. Preventive Services Task Force has strongly recommended routinely screening women 45 and older for lipid. In addition to screening for diabetes in women with risk factors for CHD.<sup>15</sup>

Healthy lifestyle wasn't followed by most of participants may be due to the nature of their work that depends on sedentary work environment or due

to absence of the culture of lifestyle change for health.; Alberto et al 2022 clarified that menopausal symptoms can be minimized if women adopt healthy lifestyle as exercise; nutrition, stress management self-responsibility, and interpersonal relationships.<sup>16</sup> Juliana et al identified only physical activity as the cornerstone for preventing most of postmenopausal problems specially cardiovascular diseases and cancer. They recommended the practicing of physical activity for more than 3 times/ week as it can increase endorphins, which help to improve mood, sleeping, and cognitive functions and decrease vasomotor manifestations.<sup>17</sup> The least actions followed were screening of cervical and colorectal culture that may be referred to absence of awareness, or lack of available health services. Jaime et al (2021) focused on the great importance of cytological examination for cervical cancer every 3 years for postmenopausal women.<sup>18</sup> Karla et al (2010) recommended mammogram annually for women ages 45 to 54 years.<sup>19</sup> As a result of declined immunity in post menopause; annual influenza, pneumonia vaccinations and if emerging disease appears should be a priority for postmenopausal women.<sup>20</sup>

The barriers against following the recommended health tips may raise attention of the health providers to increase the provided services that is directed to this stage that is preferred to be free or of low budget in addition to more awareness campaigns. Consistently, Ray found that lack of awareness, increasing cost and unavailability of the medical and social support systems as the most important barriers against following healthy postmenopausal guidelines.<sup>21</sup>

Since 2009, the International Menopause Society (IMS) and World Health Organization (WHO), has designated October as World Menopause Awareness Month and October 18 as World Menopause Awareness Day. early education of females about the physiology of menopause and coping strategies is very important step.<sup>22</sup> Laila and Gamalat noted the positive impact of awareness that focus on lifestyle management in improving different postmenopausal symptoms.<sup>23</sup> Nadrian et al highlighted that females sharing in educational programs had positive attitude, and they feel more powerful, confident and valuable. Therefore, they pass menopause peacefully.<sup>24</sup> Lack of knowledge was not the problems of females only but also a problem among health care providers. For that, Barbara and Naomi recommended urgent need for

menopause to be included in education across health professions' education for better care.<sup>25</sup>

Due to unavailability of health services and lack of awareness about it, Irene et al focused on the need for expanding accessibility to treatment options, and updating clinical services.<sup>26</sup> Age and having chronic medical conditions were the only determinants make females taking a healthy action. Age was significantly associated with eating healthy diet and seeking psychiatric help. Females aged from 45-49 years significantly followed a healthy diet. This may be due to they still in the beginning of this new stage of life and still need to keep their body shapes. Participants from 55-59 years were significantly more likely to seek psychiatric help. Females with medical history significantly watch their blood pressure, take annual influenza vaccine and seek for psychiatric help. That makes sense because they are more susceptible, so it's logical to seek medical advice more than others. Also, it may be explained by exaggerating effects of the chronic disease with the aging process that may all force women to healthy actions.

Lee et al mentioned that culture is the only predictor for taking or not taking a healthy action.<sup>27</sup> Lan et al noticed that females living in urban areas and due to availability and accessibility of health services, usually follow a healthy postmenopausal lifestyle.<sup>28</sup> El Hajj et al found that high education and high social classes usually are more aware, having access to health services.<sup>29</sup> The presence of more frequent barriers among females in low social class and low level of education should raise attention to the role of the health care system to provide affordable, available and accessible health services with equity for all social classes. In addition to more awareness about the available services. Magda et al noticed that more than two thirds of their study participants use alternative and complementary medicine to manage postmenopausal symptoms due to lack of medical services.<sup>30</sup> Based on the current study results, it was clear that there still many recommended actions that are not followed by most of participants. That was may be relate to low income, unavailability of health services and lack of knowledge.

## CONCLUSIONS

The most common postmenopausal symptoms were joint and muscle pain, physical and mental exhaustion, and sleep problems. Most of symptoms ranged

between severe to very severe. Watching blood pressure, diabetes and lipid profile were the healthy actions followed by participants. Low income, unavailability of services and lack of knowledge were the most reported barriers against taking healthy actions. Age and having chronic medical conditions were the most important predictors of taking healthy actions. Finally educational level and social class were the only determinants of the most reported barriers.

**Study limitations:** This cross-sectional study did not put in consideration the confounding effect of the natural aging process that may affect the reported symptoms. Resistance of participants to share in the study. Many symptoms were not easy to be reported by the participants especially urogenital.

**Recommendations:** Increasing awareness of females about the most common health problems they may face. Providing health services that can manage the most common problems, such as screening services. As most of participants complained of muscle and joint pain, targeting them with lifestyle modifications as healthy diet and physical activity could be beneficial. There is a need for providing low-cost accessible preventive services for women in this age group.

**Ethical Approval:** An informed consent was taken from participants. An official written administrative permission was taken from the University's president. Permission from Institutional Review Board (IRB) for medical research ethics, Zagazig University, Faculty of medicine. (ZU-IRB#10466/14-3-2023).

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