Health Promoting Lifestyle Behaviors Among Post-Menopausal Women

Fayrouz Said Ahmed Roshdy[1], Eman Shokry Abd–Allah[2], Naeima Mohammed Elsayed Ahmed[3]

[1]Clinical instructor of Gerontological Nursing in Faculty of Nursing at Zagazig University, Egypt.
[1]Professor of Community Health Nursing and Gerontological Nursing in Faculty of Nursing at Zagazig University, Egypt. [3] Assistant Professor of Obstetrics and Gynecological Nursing at Zagazig University, Egypt.

Corresponding author: Fayrouz Said Ahmed Roshdy

Email: Fayrouz Said 93@gmail.com **Telephone**; +201022930370

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Abstract

Background: Health promotion is particularly important for postmenopausal women, since healthy behaviors such as regular exercises and stress management can effectively reduce the severity of health problems and discomforts associated with postmenopausal. **Aim:** The present study aimed to assess health promoting lifestyle behaviors among post-menopausal women. **Design:** A descriptive design was utilized to conduct the present study. **Setting:** The study was conducted at Kafr Badran village in Sharqia Governorat **Sample:** A purposive sample composed of 120 postmenopausal women. **Tools:** two tools were used in the present study**. Tool I:** A structured interview questionnaire consisted of three parts; **Part one:** Demographic characteristics of the studied postmenopausal women**, Part two:** Menstrual, obstetrical, gynecological and contraceptive history of the woman**; Part three:** Women knowledge regarding menopause .**Tool II:** Health Promotion Lifestyle Profile**. Results:** the present study results revealed that 90% of studied postmenopausal women had unsatisfactory level of knowledge about the menopause, 55% of the postmenopausal women had moderate health promotion lifestyle profile level. **Conclusion:** there was a statistically significant positive correlation between knowledge and health promotion lifestyle profile. **Recommendations:** Designing awareness programs and counseling sessions for postmenopausal women aimed at empowering them to engage in health-promoting behaviors.

Keywords: Health Promoting, Lifestyle, Behaviors, Post-Menopausal, Women.

Introduction:

Elbahrawe et al. (2020) define post-menopause is a critical period due to a series of changes that are caused by the decline of production of estrogens by the ovaries that lead to low estrogen levels. The number of postmenopausal women has been increasing in recent years due to the increase of life expectancy. Nowadays, most women spend more than one-third of their life beyond their menopause

Zamaniyan et al. (2020) mentioned that the age of menopause significantly differs based on genetic background, ethnicity, region, and country. Moreover socio-economic level, environment, lifestyle, reproductive, or early childhood factors are related with menopausal. The average age at which women observe menopause falls under range of 42 to 51 years globally with mean age of 46.7 years, but changes from country to country**.**

Kang et al. (2021) stated that postmenopausal is associated with several symptoms that range in severity from mild to severe. These symptoms include motor symptoms such as hot flashes, night sweats, sleep disturbances, anxiety, depressive mood, irritability, and genital symptoms such as dysuria, dyspareunia, recurrent urinary tract infection, vaginal dryness, joint pain, and loss of sexual desire.

According to **Jalambadani et al. (2020**) Health promotion is also defined as "a basic health management strategy that means adopting patterns that support health to change behavior and increase people's quality of life .Health-promoting lifestyle is essential for empowering individuals to achieve optimal health, prevent illness, and healthy lifestyle.

Amiri et al., (**2019**) stated that health-promoting lifestyle has six dimensions of nutrition, physical activity, health responsibility, interpersonal relationships, spiritual growth, and stress management. The lifestyle of individuals is affected by various

factors such as gender, family structure, place of residence and socioeconomic conditions.

Gerontological nurse should also serve as an important role in motivating and promoting healthy behaviors for postmenopausal women to adopt healthier lifestyles by participating suitable exercise as walking, introducing weight loss initiatives, periodical physical and laboratory examination and stopping smoking. The gerontological nurse is in an ideal position to provide the necessary support for exploring solutions to embarrassing problems of postmenopausal women such as pain when having sex or urinary incontinence. She also assesses whether menopausal symptoms are being effectively controlled by the prescribed therapy and if there are any nuisance side effects for this therapy. **(Soliman&El-Zeftawy, 2021).**

Significance of the study;

In recent decades, a large number of women enter post- menopausal period daily due to the developments in medical science and an increase in life expectancy **(Neutzling et al., 2020)**. Globally, it is estimated that women will now spend one-third of their life span in postmenopausal stage and number of post-menopausal women will reach 1.1 billion by 2025. Therefore, menopause is currently an alarming subject to sustain and enrich women's health **(Zhang et al., 2020)**.

Managing the overall health, health related issues and promoting healthy lifestyle among women in post-menopausal phase has become the most important health concern **(Malik, et al., 2021).**

Aim of the Study

The current study aimed to assess health promoting lifestyle behaviors among post-menopausal women**.**

Research Questions:

1. What is the knowledge of post-menopausal women about menopause?
2. What are health promoting lifestyle behaviors among post-menopausal women

Research design: a descriptive design was utilized to conduct the present study. **Setting:** the study was conducted at Kafr Badran village in Minya El-Qamh district, Sharkia governorate, Egypt. **Subject:** a purposive sample of 120 postmenopausal women from the above-mentioned setting **who fulfilled the following criteria**: age: 55 -65 years, women who had natural menopause, free from any medical disorders as hypertension, diabetes mellitus and thyroid disease, able to communicate.

Tools for data collection:

Two tools were utilized to collect the required data:

Part 1: Demographic characteristics:

This part was used to assess demographic characteristics of the studied postmenopausal women; which included age, marital status, educational level, current working, monthly income and living condition, in addition to measure body mass index. **(Q1toQ7).**

Part 2: Menstrual, obstetrical, gynecological and contraceptive history of the woman:

It includes questions such as: (age at menopause, onset of menopause, length of menopause, number of parity, mode of delivery, contraceptive usage and contraceptive type. **(Q8toQ14).**

Part 3: Women knowledge regarding menopause:

This was intended to assess postmenopausal women's knowledge about menopause as (definition of menopause, causes of menopause, symptoms of menopause and the treatment for postmenopausal period, as well as women's previous information about menopause and the source of this information. It composed of 5 questions multiple choices and one open ended question (**Q15toQ20).**

Scoring system of postmenopausal women's knowledge

For knowledge items, a score (2) was given when the answer was completely correct, a score (1) was given when the answer was incompletely correct and a score (0) was given when the answer was wrong or don't know. The total knowledge score was ranged from 0-12. The knowledge scores were depending on the numbers of grades the participant obtained regarding all questions. The total grade was computed out of twelve (12) grades and knowledge was considered satisfactory if the percent score was 60% or more (≥ 6 grades) and unsatisfactory if less than 60% (< 6 grades).

Tool II: Health Promotion Lifestyle Profile:

This scale used for evaluation of health behaviors for post-menopausal women and adapted by **(Walker et al., 1996)**. Modified and supplemented by the researcher through expert validation (the modifications occurred in all domains throw changing and paraphrasing of some items to makes it more specific and understandable for Egyptian women) .It includes 38 items distributed on six sub-scales, nutrition (9 questions), physical activity (4 questions), health responsibility (7 questions), stress management (6 questions), interpersonal relationships (8 questions), and spiritual growth (4 questions). **(Q1toQ38).**

Scoring system for postmenopausal women's HPLP

The questionnaire consisted of 38 items. Each question has three possible answers on a 3-point Likert-type scale: never (1), sometimes (2), and always (3). The total score of the questionnaire is between 38 and 114, and the score of each section is based on the highest score of that particular section. To calculate a mean score, the scores of items were summed and then divided by the number of items. The total HPLP II score is further classified into four levels:

- Poor (scores 38-56)
- Moderate (scores 57-75)
- Good (scores 76-94)

- Excellent (scores 95-114)

Administrative design and Ethical considerations:

Official permission for data collection was obtained by submission of official letters issued from the Dean of the Faculty of Nursing at Zagazig University to the Mayor of the village. Moreover, the researcher visited the study setting, met with the mayor of the village, explained to him the study aims and the importance of the study and asked for his cooperation

Firstly, the study proposal was approved by the Research Ethics Committee (REC) and Postgraduate Committee of the Faculty of Nursing at Zagazig University (M.D Z U.NUR/184/13/6/2022). Then, verbal agreement for participation was obtained from each subject after full explanation of the aim of the study. Participants were given the opportunity to refuse participation, and they were notified that they could withdraw at any stage of filling the questionnaire. No names were included in the questionnaire sheet and anonymity of each woman was protected by the allocation of code number for each woman. They were assured that the information would be confidential and used for research purpose only firstly; the study proposal was approved by the research ethics committee (Rec) and postgraduate committee of the faculty of nursing at Zagazig University. Then, the women received a verbal description of the objectives of the study, and non-participation or withdrawal rights at any time without giving any explanations. The women were informed that their involvement in this study was voluntary. They were also assured that any information taken from them would be confidential and used only for research purposes.

Pilot study:

A pilot study was carried on 12 Postmenopausal women representing about 10% of the study subjects. The purposes of the pilot study were to test applicability, feasibility, practicability of the tools. It also, helped to estimate the time needed to complete the questionnaire sheet. According to the results of pilot study no modification made to the tools and those who shared in the pilot study were involved in the studied sample.

Validity and Reliability:

The tools was tested for content validity by Jury of three experts, one professor and one assistant professor of obstetrics and gynecological nursing department and one professor of community health nursing department. These experts assessed the tool for clarity, relevance, comprehensiveness and understandability. All recommended modifications in the tools were done.

Reliability of the items of the tools was assessed using cronbach's alpha test, it' s results was 0.80 for women knowledge about menopause , 0.89 about health promotion lifestyle profile and 0.70 sleep quality which indicate an accepted reliability of the tool.

Statistical analysis:

Data entry and statistical analysis were done using SPSS 22.0 statistical software package. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, and means and standard deviations and medians for quantitative variables. The Cronbach alpha coefficient was calculated to assess the reliability of the developed tools through their internal consistency. Qualitative categorical variables were compared using a chi-square test (X^2). Whenever the expected values in one or more of the cells in a 2x2 tables was less than 5, Fisher exact test was used instead. The Spearman rank correlation was used for assessment of the interrelationships among quantitative variables and ranked ones. In order to identify the independent predictors of the knowledge and HPLP scores multiple linear regression analysis was used after testing for normality, and homoscedasticity, and analysis of variance for the full regression models were done. Statistical significance was considered at p-value <0.05.

Result

Table (1) shows that, 55% of the postmenopausal women their age were from 60 to 65 years, with mean of age 60.24 ± 3.34 year. As regards to current work and marital status, it was obvious that 83.3% and 68.3% respectively of the women were housewife and married. Likewise, 90.8% of the women living with their families and 70.8% of them had sufficient income.

Figure (1) illustrates that, 36.7% of the studied women were illiterate and only 8.3 % were university.

Figure (2) displays that only 12.5% of the postmenopausal women were having normal weight, meanwhile 56.7% were obese**.**

Table (2) demonstrates that, 58, 3% of postmenopausal women their age of menopause were from 50 to 55 years, with mean of age 49.58 ±2.39 year. Also, 81.7% of them reported having gradual onset of menopause and 63.3% of the postmenopausal women their length of menopause were from 10 to 17 years, with mean of age 10.66 ±3.91year. As for the number of parity, it was found that 53.3% of the studied women were had 4-6 and 85.4% of them had normal vaginal delivery. Moreover, 75.8% of postmenopausal women were using a contraceptive method and IUD was the most common method in 54.9%.

Table (3) shows that, 71.7% of postmenopausal women had previous Information about menopause and the most commonly source of information were friends and relatives 42.5% followed by television 21.7%.

Figure (3) reveals that 90% of studied postmenopausal women had unsatisfactory level of knowledge about the menopause, while 10% of them had unsatisfactory level of knowledge about the menopause.

Table (4) shows that 2.5%, 3.3% and 2.5% respectively of the studied postmenopausal women had complete correct answers regarding the definition of menopause, causes of menopause and symptoms of menopause. Also, 89.2% of the postmenopausal women don't know the treatment for postmenopausal period. This finding shows a generally low knowledge of menopause among postmenopausal women in the study sample.

Figure (4) displays that, 55% of the postmenopausal women had moderate health promotion lifestyle profile level and only 3. 3 % had excellent health promotion lifestyle profile level**.**

Table (5) demonstrates that, there was statistically significant relation between total knowledge of postmenopausal women and their demographic characteristics as educational level and marital status at (P= < 0.05). While, there was no statistically significant relation with their age, current work, living condition, income and body mass index at (P= > 0.05).

Table (6) validates that, there was no significant relation between total knowledge of postmenopausal women and their menopausal, obstetric and contraceptive history at (p= >0.05).

Table (7) shows that, there was no significant relation between total health promotion lifestyle profile of postmenopausal women and their age and educational level, current work, living condition, income and body mass index at (p= >0.05). Meanwhile, there was statistically significant relation between total health promotion lifestyle profile of postmenopausal women and their marital status at (p= < 0.05).

Table (8) shows that, there was no significant relation between total health promotion lifestyle profile of postmenopausal women and their age of menopause, length of menopause and numbers of parity at (p= >0.05) .Meanwhile, there was statistically significant relation between total health promotion lifestyle profile of postmenopausal women and their onset of menopause and contraceptive usage at (p= < 0.05).

Table (9) illustrates that the independent positive predictor for knowledge score was educational level. Conversely, marital status (unmarried) was independent negative predictor for knowledge score.

Table (10) reveals that total knowledge score was the only statistically positive predictor of health promotion lifestyle profile score**.**

Discussion

Health promotion is particularly important for postmenopausal women, since healthy behaviors such as regular exercises and stress management can effectively reduce the severity of health problems and discomforts associated with postmenopausal. Health promoting lifestyle is not constant and possibly varies depending on the context, culture and language **(Rathnayake et al., 2020).**

Concerning the answer of research question regarding to the knowledge of postmenopausal women about menopause, the present study showed that nearly three quarter of postmenopausal women were aware regarding menopause. Friends and relatives was the most common source of information. Meanwhile a very small percentage of the women reported the use of internet as a source of information, which is quite expected in this rural community.

This result was consistent with previous studies carried by **Gebretatyos et al. (2020)** who found that the most of the study participants were aware of menstrual irregularity, symptom of menopause, weight gain during menopause and the prevention of osteoporosis during menopause through physical activity. A similar finding was reported in Srinagar by **Ismail et al. (2020)** who reported that the majority of studied postmenopausal women had source of information about menopause were mostly from family elders and friends

Although most women were aware regarding menopause, but their actual knowledge was deficient. In fact, the majority of studied postmenopausal women had total unsatisfactory of knowledge about the menopause. Which might be attributable to a variety of factors as the current study was carried out in a rural area where there is a lack of health education sources. Additionally, one-third of the studied postmenopausal women were illiterate

This result was consistent with previous studies carried by **Prajapati, (2020)** in the study of "Awareness regarding menopausal symptoms and effect on daily life of postmenopausal women" in Nepal and by **Beura et al. (2020)** in the study of "assessment of knowledge, attitude and practices towards menopause among postmenopausal women" in an urban slum of Eastern India. In the same way, the results of a study "women's knowledge of concept of menopause, severity, and climacteric stage among women in middle age", in Northwest Ethiopia" by **Ayenew et al. (2021)** who found that more than two third of postmenopausal women had inadequate knowledge about the menopause.

On the contrary to the results of the current study was reported in Madinah, Saudi Arabia by **Aljohani et al. (2020)** in the study of "Knowledge, attitude, and experiences of menopause in postmenopausal women" who found that the most of studied women had good knowledge and awareness about menopause, while only one- tenth had poor knowledge. These differences were related to cultural and socioeconomic differences.

Therefore, the first indicator of menopause knowledge was associated with education level. Education has an important part in one's health since it influences one's ability to make trustworthy and informed healthy choices. In support of this, the multivariate analysis in the current study demonstrated that the education level was a statistically significant positive predictor of the postmenopausal women's total knowledge. This meant low education level associated with low menopausal knowledge score, "illiterate women had unsatisfactory menopausal-related knowledge".

This result is in harmony with prospective cohort study conducted by **Alharthi et al. (2021)** in Riyadh, Saudi Arabia who presented that marital status, education and were significantly associated with knowledge about menopause .As well, study conducted by **Abdelwahed Shams-Eldin, (2018)**, in Cairo, Egypt, who found that women with high educational attainment had a good level knowledge about menopause.

Another indicator for knowledge was associated with marital status. In the current study, marital status was independent negative predictor for knowledge score. This mean that married women had more knowledge. As married women have better social relationships and family supports leading to more of information sharing about menopause.

It is agreed with **Perera& Goonewardena (2020)** in the Southern province of Sri Lanka who reported those who were married had better knowledge regarding menopause when compared to their counterparts. Those who had higher level of education had better knowledge regarding menopause and menopausal symptoms and this was statistically significant ($p<0.05$).

Concerning the answer of research question regarding to the health promoting lifestyle behaviors among postmenopausal women, the present study showed that more than half of studied postmenopausal women had moderate health promotion lifestyle profile level. This result may be may be to socio demographic factors, lifestyle and availability of health services.

This is in agreement with "**Abdelaziz et al. (2022)** in Sakaka-Jouf, Saudi Arabia in the study" health promoting lifestyle behaviors and sleep quality among Saudi postmenopausal women" and in Korea by **Park, (2020)** in the study" mediating effect of a health-promoting lifestyle in the relationship between menopausal symptoms, resilience, and depression in middle-aged women" who found the studied women had moderate health-promoting behavior.

On the contrary, the overall score for health-promoting lifestyle behaviors was at a low level as a recent study in Pakistan by **Malik et al. (2021)**, who studied" health promoting lifestyle behaviors and sleep quality among post-menopausal women in Pakistan", this is most likely due to cultural disparities in health behaviors among women from other nations. Policymakers and healthcare providers must pay more attention to promoting a healthy lifestyle, sleep quality, and overall quality of life.

Regarding health-promoting behavior subscales, it was observed that the highest mean scores were in interpersonal relationships and nutrition, a high score was reported for interpersonal relationships dimension may be affected by Egyptian culture, reflecting the fact that Egyptian family members have intimate relations through their efficient social network inside and among groups. Interpersonal relationships constitute one of the prerequisites for communication. Interpersonal relationships can enhance the physical and emotional health of individuals.

This result was consistent with previous studies carried by **Alizadeh et al. (2019)** in Iran and by **Abedi et al. (2018)** in Ahvaz, Iran who found that subscale scores showed that higher scores were reported for interpersonal relationships and nutrition.

An appropriate diet comprised of necessary macro and micronutrients is essential for post-menopausal women to prevent development of deficiencies and diseases. Women should take food rich in calcium, that is milk, yogurt, plums, cheese, etc., as well as vitamin D contained in salt water fish (**Rathnayake et al., 2020)**. The results of present study revealed that more than half of postmenopausal women sometimes choose a diet that is low in fat or saturated fat, limit use of sugars, eat one third cup of rice and eat 2-3 servings of milk, yogurt or cheese each day. On the contrary to the results of the study in Pakistan by **Malik et al. (2021)** reported that healthy dietary habits were poor among majority of the respondents. Most of them had a diet low in fats, saturated fats and cholesterol however there were moderate number of respondents taking breakfast including daily consumption of 2-3 servings of milk, yogurt or cheese, and 3-5 servings of vegetables. Moreover, only few of the women restricted use of sugar & sugar containing food.

Physical activities are important in all age groups, particularly in postmenopausal women, and insufficient physical exercise causes physical hazards. The present study revealed that physical activity among postmenopausal women was the lowest score among other subscales of health promotion. These findings were clear in Arab communities, as the physical activity did not perceive as part of a healthy lifestyle, also women may express a lack of positive attitude toward physical activity because of cultural or personal reasons also may be due to the fact that women had less awareness regarding benefits of physical activity on symptoms of menopause.

It is agreed with **Mirsamiyazdi et al. (2021)** in Dezful city, Iran who found that the highest score of health promoting behaviors was observed in nutrition dimension and the lowest score belonged to physical

activity dimension. Also in Turkey by **Güleç et al. (2020)** who found that younger groups engaged more in physical activity behaviors than did older group.

The recent study results revealed that educational level, current work and using contraceptive was an independent positive predictor for health promoting lifestyle profile. By mean that the postmenopausal women with high educational level, working state and using contraceptive methods were having a high health promoting lifestyle profile.

These findings might be attributed to the fact that educated people know the importance and benefits of engagement in health promoting lifestyle behaviors, and they have a better access to different health promotion resources. Also, educated people are more aware of the negative consequences of unhealthy lifestyle and behaviors on their health. Employed women had self-confidence and more awareness than housewives. Women with more children have less time to take care of themselves in comparison with those with fewer children that using contraceptive methods.

This result was consistent with previous studies carried by **Abo Ali et al. (2021)** in Tanta, Egypt , who found that there is a significant positive relation between better health promoting profile and being married, with lower number of offspring, higher educational levels, employed women.

On the other hand, the postmenopausal women's age and marital status were independent negative predictors for health promoting lifestyle profile, where younger and married postmenopausal women had more health promoting lifestyle practices score. In my opinion, this finding attributed to psychological and mental changes that occur with advancing age and feeling of hopelessness and graving these changes force elderly not to adhere to good lifestyle behaviors. Married women have better social relationships and family supports. Also, research indicates that married women have a higher quality of life at menopause than single women and widows. Post-menopausal women with a higher quality of life are more likely to learn, do exercise and physical activity, and have healthy nutrition and behaviors **(Namazi et al., 2019).**

On the contrary to the results of the current study, **Hossein Abbasi& Aghaamiri (2020)** in the city of Ahwaz, Iran showed that, there was no relationship between health promotion lifestyle and age, educational level and marital status.

Concerning the correlation result of the present study, it was found a statistically significant positive correlation between knowledge and health promotion lifestyle profile. This means that the more their knowledge is, the positive their healthy lifestyle is. Sufficient knowledge about menopause can help women prepare for menopause, with this knowledge can influence a woman's decision to behave in a healthy manner later. Knowledge can affect the level of readiness to face menopause which has implications for physical, psychological, and spiritual readiness in facing menopause **(Deby Anggraeni et al., 2022).**

This finding in agreement with the results reported by **Abd-Elaziz et al. (2021)** in Benha, Egypt who presented that there was highly statistical significant correlation between total knowledge and total health promotion lifestyle profile.

Conclusion

Based on the findings of the present study, it was concluded that most of the postmenopausal women had unsatisfactory level of knowledge about the menopause. Meanwhile, more than half of the postmenopausal women had moderate health promotion lifestyle profile level. Women's highest mean scores were in "interpersonal relationships" and lowest mean scores were in 'physical activity". Eventually, there was a statistically significant positive correlation between knowledge and health promotion lifestyle profile.

Recommendations

Educational sessions should be organized for postmenopausal women in order to prepare them for coping with their postmenopausal symptoms, and prevent the negative impact on their life.

Designing awareness programs and counseling sessions for postmenopausal women aimed at empowering them to engage in health-promoting behaviors.

Future studies on larger sample studies at different geographic regions in Egypt are recommended to obtain more comprehensive data on health-promoting behaviors in postmenopausal.

Table (1): Demographic Characteristics of Postmenopausal Women in the study sample (n=120)

Demographic characteristics	Frequency	Percent
Age (year)		
55-59	54	45.0
60-65	66	55.0
Mean±SD	**60.24 ± 3.34**	
Rang	**(55-65)**	

Current work:		
Housewife	100	83.3
Working	20	16.7
Marital status:		
Married	82	68.3
Un married [divorced, widow, single]	38	31.7
Living condition:		
With family	109	90.8
Alone	11	9.2
Income:		
Sufficient	85	70.8
Insufficient	21	17.5
Sufficient and save	14	11.7

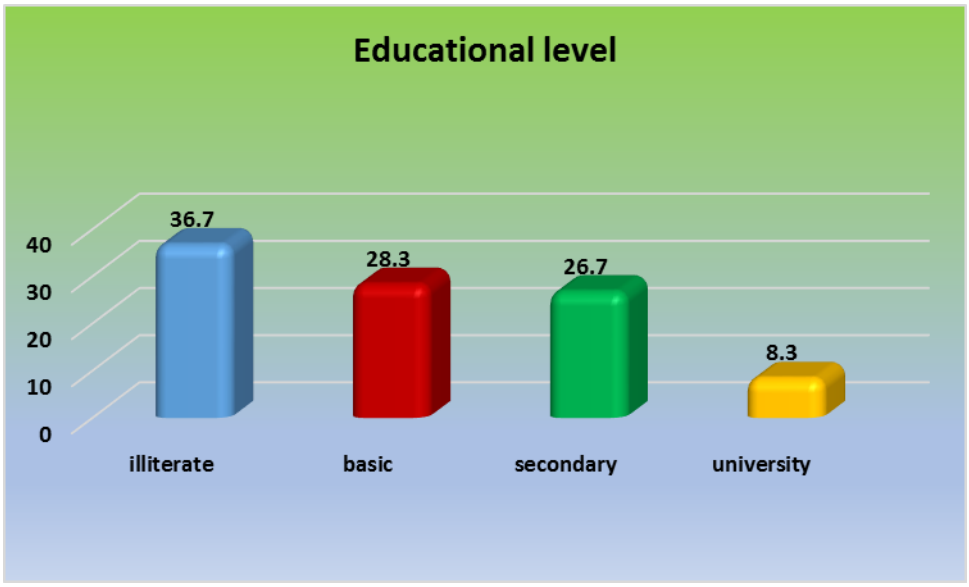

Figure (1): Educational Level of Postmenopausal Women in the Study Sample (n=120)

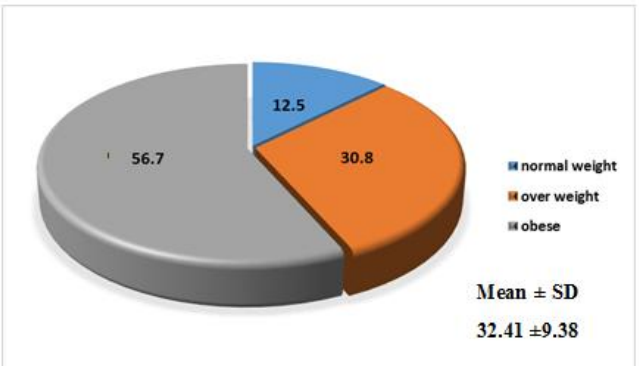

Figure (2): Body Mass Index of Postmenopausal Women in the Study Sample (n=120)

Table (2): Menopausal, Obstetric and Contraceptive History of Postmenopausal Women in the study sample (n=120).

History	Frequency	Percent
Menopausal History		
Age of Menopause (years)		
43-49	50	41.7
50-55	70	58.3
Mean±SD	49.58 ±2.39	
Onset of menopause		
Gradual	98	81.7
Suddenly	22	18.3
length of menopause(years)		
2- 9	44	36.7
10- 17	76	63.3
Mean±SD	10.66 ±3.91	
Obstetric history		
No. of parity:		
nulli para	3	2.5
1-3	45	37.5
4-6	64	53.3
≥ 7	8	6.7
Mean±SD	3.96± 1.72	
Mode of delivery (n=117)		
Normal Vaginal Delivery.	100	85.4
Cesarean section	14	11.9
Combined(NVD&C.S)	3	2.5
Contraceptive history		
Contraceptive usage:		
Yes	91	75.8
No	29	24.2
Contraceptive type(n=91)		
Pills	31	34.0
IUD	50	54.9
Injection	10	10.9

Table (3): Previous Information and Source of Information regarding Menopause among Postmenopausal Women in the study sample (n=120).

Items	Frequency	Percent
Previous Information about menopause:		
Yes	86	71.7
No	34	28.3
@Source of information:		
Reading.	18	15.0
Television.	26	21.7
Internet.	11	9.2

Friends and relatives.	51	42.5
Health care providers.	19	15.8

Table (4): Menopause Knowledge among Postmenopausal Women in the Study Sample (n=120)

Knowledge Items	**Frequency**	**Percent**
Definition of menopause:		
Complete correct answer	3	2.5
Incomplete correct answer	75	62.5
Don't know	42	35.0
Causes of menopause:		
Complete correct answer	4	3.3
Incomplete correct answer	77	64.2
Don't know	39	32.5
Symptoms of menopause:		
Complete correct answer	3	2.5
Incomplete correct answer	67	55.8
Don't know	50	41.7
Treatment for postmenopausal period:		
Yes	13	10.8
No	107	89.2
Type of treatment for postmenopausal period:		
Incomplete correct answer	13	10.8
Don't know	107	89.2

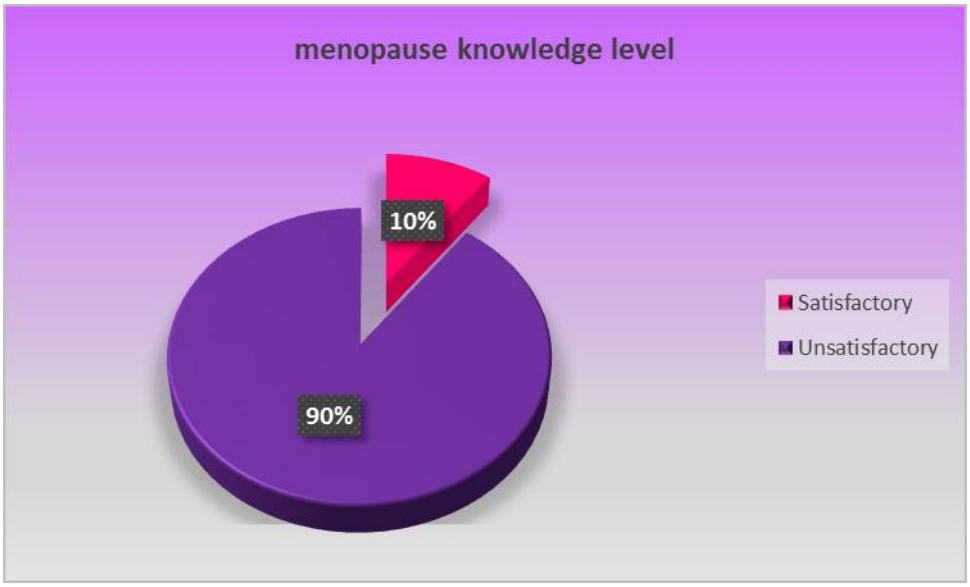

Figure (3): Total Knowledge Regarding Menopause of Postmenopausal Women in The Study Sample (n=120).

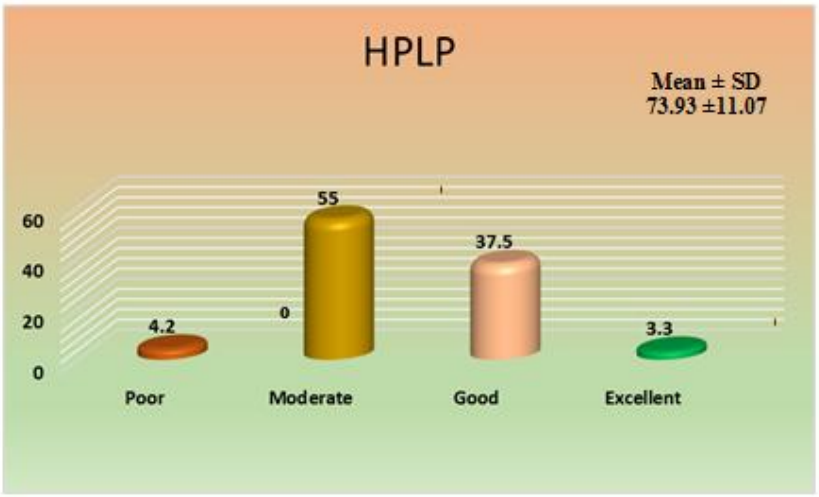

Figure (4): Total Score of Health Promotion Lifestyle Profile level among the Studied Postmenopausal Women (n=120).

Table (5): Relation between Total Knowledge of Postmenopausal Women and Their Demographic Characteristics

Demographic characteristics	Total knowledge				X^2 test	p-value
	Satisfactory (n=12)		Unsatisfactory (n=108)			
	No.	%	No.	%		
Age:						
55-59	6	11.1	48	88.9	Fisher	.766
60-65	6	9.1	60	90.9		
Education:						
Illiterate	0	0.0	44	100.0		
Basic education	3	8.8	31	91.2	12.11	**.007***
Secondary	6	18.8	26	81.3		
University	3	30.0	7	70.0		
Current work:						
House wife	10	10.0	90	90.0	Fisher	1.0

Working	2	10.0	18	90.0		
Marital status:						
Married	12	14.6	70	85.4		
Un married [divorced, widow, single]	0	0.0	38	100.0	6.18	**.013***
Living condition:						
With family	12	11.0	97	89.0	1.35	.246
Alone	0	0.0	11	100.0		
Income:						
Sufficient:	9	10.6	76	89.4		
Insufficient	1	4.8	20	95.2	.959	.619
Sufficient and save	2	14.3	12	85.7		
Body Mass Index:						
Normal Weight	0	0.0	15	100.0		
Over Weight	3	8.1	34	91.9	2.61	.272
Obese	9	13.2	59	86.8		

Table (6): Relation between Total Knowledge of Postmenopausal Women and Their Menopausal, Obstetric and Contraceptive History

Menopausal, Obstetric and Contraceptive History	**Total knowledge**				**X^2 test**	**p-value**
	Satisfactory (n=12)		**Unsatisfactory (n=108)**			
	No.	**%**	**No.**	**%**		
Menopausal history						
Age of Menopause :						
43-49	3	6.0	47	94.0	1.52	.217
50-55	9	12.9	61	87.1		
Onset of menopause:						
Gradual	9	9.2	89	90.8	Fisher	.459
Suddenly	3	13.6	19	86.4		
Length of menopause:						
2- 9 years	5	11.4	39	88.6	Fisher	.757
10- 17	7	9.2	69	90.8		
Obstetric history						
No. of parity:						
nulli para	1	33.3	2	66.7		
1-3	6	13.3	39	86.7	3.60	.308
4-6	5	7.8	59	92.2		
≥ 7	0	0.0	8	100.0		
Contraceptive history						
Contraceptive Usage:						
Yes	10	11.0	81	89.0	.409	.522
No	2	6.9	27	93.1		

Table (7): Relation between Total Health Promotion Lifestyle Profile of Postmenopausal Women and Their Demographic Characteristics

Demographic characteristics	**Total Health-Promoting Lifestyle Profile**								**X^2 test**	**p-value**
	Poor n=5		**Moderate n=66**		**Good n=45**		**Excellent n=4**			
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**		
Age(years):										
55-59	1	1.9	26	48.1	25	46.3	2	3.7	4.17	.244
60-65	4	6.1	40	60.6	20	30.3	2	3.0		

Education:										
Illiterate	3	6.8	31	70.5	9	20.5	1	2.3		
Basic education	1	2.9	19	55.9	13	38.2	1	2.9	16.28	.061
Secondary	0	0.0	11	34.4	19	59.4	2	6.3		
University	1	10.0	5	50.0	4	40.0	0	0.0		
Current work:										
House wife	5	5.0	59	59.0	33	33.0	3	3.0	6.18	.103
Working	0	0.0	7	35.0	12	60.0	1	5.0		
Marital status:										
Married	1	1.2	44	53.7	33	40.2	4	4.9		
Un married [divorced, widow, single]	4	10.5	22	57.9	12	31.6	0	0.0	7.86	**.049***
Living condition:										
With family	3	2.8	60	55.0	42	38.5	4	3.7	6.45	.092
Alone	2	18.2	6	54.5	3	27.3	0	0.0		
Income:										
Sufficient:	3	3.5	48	56.5	33	38.8	1	1.2		
Insufficient	2	9.5	10	47.6	8	38.1	1	4.8	9.06	.170
Sufficient and save	0	0.0	8	57.1	4	28.6	2	14.3		
Body Mass Index:										
Normal Weight	2	13.3	8	53.3	5	33.3	0	0.0		
Over Weight	1	2.7	18	48.6	17	45.9	1	2.7	5.72	.455
Obese	2	2.9	40	58.8	23	33.8	3	4.4		

Table (8): Relation between Total Health Promotion Lifestyle Profile of Postmenopausal Women and their Menopausal, Obstetric and Contraceptive History

Menopausal, Obstetric and Contraceptive History	Total Health-Promoting Lifestyle Profile								X^2 test	p-value
	Poor n=5		Moderate n=66		Good n=45		Excellent n=4			
	No.	%	No.	%	No.	%	No.	%		
menopausal history:										
Age of Menopause:										
43-49	2	4.0	27	54.0	19	38.0	2	4.0	.141	.986
50-55	3	4.3	39	55.7	26	37.1	2	2.9		
Onset of menopause:										
Gradual	4	4.1	60	61.2	31	31.6	3	3.1	8.80	**.032***
Suddenly	1	4.5	6	27.3	14	63.6	1	4.5		
Length of menopause:										
2- 9	2	4.5	20	45.5	21	47.7	1	2.3	3.35	.341
10- 17	3	3.9	46	60.5	24	31.6	3	3.9		
Obstetric history										
No. of parity:										
nulli para	0	0.0	3	100.0	0	0.0	0	0.0		
1-3	3	6.7	23	51.1	17	37.8	2	4.4	4.32	.889
4-6	2	3.1	35	54.7	25	39.1	2	3.1		
≥ 7	0	0.0	5	62.6	3	37.5	0	0.0		
Contraceptive history										
Contraceptive usage:										
Yes	2	2.2	45	49.5	40	44.0	4	4.4	11.07	**.011***
No	3	10.3	21	72.4	5	17.2	0	0.0		

Table (9): Best fitting multiple linear regression model for Postmenopausal Women's knowledge score

Items	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1(Constant)	-1.390	2.618		-.531	.596	-6.575	3.796
Age	.063	.042	.125	1.493	.138	-.021	.147
Educational level	.910	.141	.529	6.450	**.000**	.630	1.189
Marital status(unmarried)	-.688	.315	-.190	-2.182	**.031**	-1.313	-.063
Living condition	-.463	.490	-.079	-.945	.347	-1.434	.508
Income	.007	.189	.003	.038	.970	-.367	.381

Table (10): Best Fitting Multiple Linear Regression Model for Postmenopausal Women' Health Promotion Lifestyle Profile Score

Items	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1(Constant)	75.469	21.999		3.431	**.001**	31.880	119.058
Age	-.155	.333	-.047	-.464	.643	-.815	.505
Educational level	.295	1.275	.026	.231	.817	-2.231	2.821
Current work	4.032	2.967	.136	1.359	.177	-1.846	9.910
Marital status	-2.871	2.240	-.121	-1.282	.203	-7.309	1.567
Onset of menopause:	2.007	2.432	.070	.825	.411	-2.811	6.825
Using contraceptives	4.587	2.342	.178	1.959	.053	-.053	9.227
Total knowledge score	1.475	.687	.226	2.148	**.034**	.115	2.835

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