OPEN ACCESS
Saudi Journal of Nursing and Health Care
Abbreviated Key Title: Saudi J Nurs Health Care
ISSN 2616-7921 (Print) |ISSN 2616-6186 (Online)
Scholars Middle East Publishers, Dubai, United Arab Emirates
Journal homepage: https://scholarsmepub.com/sjnhc/

Original Research Article

Coping Patterns for Menopausal Women Working at Zagazig University Hospitals

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DOI:10.21276/sjnhc.2019.2.6.2 | **Received:** 15.06.2019 | **Accepted:** 24.06.2019 | **Published:** 30.06.2019

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Abstract

Background: Menopause is an important transitional phase in women's life and needs active coping. **Aim of study** was to: Describe the coping patterns among menopausal women working at Zagazig University Hospitals. ***Subjects and methods:*** ***Research design:*** A descriptive study design was used. ***Setting:*** The study was conducted in the emergency departments of Zagazig University Hospitals (four hospitals). ***Sample:*** A purposive sample composed of 240 menopausal age fulltime employees at the setting. ***Tools of data collection***: Two tools were used, ***Tool I:*** A self-administrated questionnaire composed of 3 parts. Part one: Covering respondents demographic**.** ***Part 2*:** This was for the details of women's obstetrical history, menopausal characteristics' and various menopausal symptoms .Part3: Intended to assess woman' knowledge about menopause. ***Tool II:*** Various women coping strategies to deal with menopause. ***Results:*** The duration of menopause among the study sample was less than five years in 65.0% with a mean of 3.8 ± 2.7 and 62.1% had moderate/ severe menopausal symptoms, in additions to 79.6% of the study sample had total satisfactory knowledge. The cognitive coping strategy was the most commonly used 74.2% and only 15.4% &12.1% respectively of the study sample were using the re-interpretation and catastrophizing strategies. ***Conclusion:*** A high proportion of the menopausal women suffer moderate to severe menopausal symptoms, their knowledge about menopause was high, and they mostly use the cognitive coping strategy. ***Recommendations:*** The study recommended educational programs to improve women' knowledge and coping regarding menopause.

Keywords: Menopausal Symptoms, Knowledge, Coping Patterns, working women.

INTRODUCTION

Menopause is a normal physiological new phase in women's life cycle characterized by several symptoms brought about by decreased hormonal activity in the body system. It indicates the end stage of a natural transition in a woman's reproductive life when ovaries stop producing ova and a woman is no longer able to get pregnant [1]. It may be associated with physical and psychological disorders and low health perception negatively affecting woman's quality of life [2, 3].

Menopausal symptoms can be demoralizing, hot flushes, night sweats; vaginal dryness and urinary problems are directly caused by the decline in estrogen levels. But many women report myriad other symptoms, including weight gain, loss of libido, low energy, mood swings and forgetfulness [4]. The psychological or psychosomatic symptoms (including insomnia, depression, irritability, dizziness, nervousness) are sometimes grouped together as the menopausal syndrome .It is also known that many postmenopausal women obtain inadequate sleep and sleep problems [5].

The term coping generally refers to adaptive (constructive) coping strategies that reduce stress. Skills and coping strategies with stress have a broad concept of multiple cognitive and behavioral components. This strategy is described as an attempt to increase individual adaptation to the environment or efforts to avoid negative consequences of stressful conditions [6].

There are three coping styles that women use to cope with the menopause. Women using the *inventive coping style* will respond to novel circumstances of menopause in a harmonious and effective manner and they will find opportunities within their experiences. Women using a *troubled coping style* will respond to

new and challenging circumstances associated with menopause with increased conflict and levels of anxiety. The last coping style is *reactive coping*, women who use this coping style response varied according to the circumstances from inventive coping to troubled coping [7].

The women's inability to cope with the symptoms of menopause, especially vasomotor, is the most common cause of referral to health centers. Several cases of menopause symptoms are so severe that interfere with their daily life and negatively affect their Quality of Life. However, fear of side effects of hormone therapy, as well as indirect relation between the drop in ovarian hormones and menopause symptoms, in additions the effects of sociocultural and psychological factors on menopausal signs and menopausal body image issues may increase females' willingness to use alternative strategies [8, 9].

Management should be patient-centered, tailored to the patient's specific symptoms and risk profile. It may include hormonal and non-hormonal pharmacologic therapies and various non-pharmacologic approaches. Every registered nurse should have some understanding of the impact of the menopause on women and must be able to provide menopausal women with sound updated information about this complex phase and the various management modalities [10].

Significance of the Study

Menopause constitutes a major transition point in women's reproductive and psychological life. While its reproductive significance is clear, its emotional implications are confusing, with adverse effects on women' quality of life. Coping is essential in dealing with this critical period of women's lifetime. There is a dearth of information concerning coping of menopausal women in the study settings. Hence, this study is an attempt to fill this gap of knowledge.

Aim of the Study

The aim of this study was to: Describe the coping patterns for menopausal women working at Zagazig University Hospitals.

This Aim Was Accomplished Through the Following Objectives

- Identify the knowledge of menopause among women working at Zagazig University Hospitals.
- Recognize coping patterns utilized by menopausal women working at Zagazig University Hospitals.

Research question

- What is the knowledge of menopause among women working at Zagazig University Hospitals?
- What are the coping patterns utilized by menopausal women working at Zagazig University Hospitals?

SUBJECTS AND METHOD

Research design

A descriptive design was used to achieve the aim of the study.

Study setting

The study was conducted in the emergency departments of Zagazig University Hospitals. These included four hospitals, namely the New Surgery Hospital, the Emergency Hospital, the Delivery and Premature Hospital, and the Internal Medicine Hospital, the previously mentioned setting were selected because of the high rate of employ.

Sample Size

The sample size was calculated to estimate a prevalence of 20% or higher of any coping strategy among women with 5% absolute precision at 95% level of confidence. Using the Open-Epi software program for sample size calculation for a single proportion and finite population correction, the required sample size turned to be 218. This was increased to 240 to account for an expected non-response rate of about 10%.

Study Subjects

A purposive sampling composed of 240women working in the above mentioned settings according to the following criteria: Being menopausal (not having had a period for 12 months), at menopausal age (45 years or older) and fulltime employee at the setting.

Tools of data collection:

Two tools were used to collect the necessary data

Tool I: A self- administrated questionnaire developed by the investigator after reviewing the related literature. It composed of the following parts:-

- ***Part 1*:** This was for respondent's demographic characteristics such as age, education, job position, residence, income, and crowding index.
- ***Part 2*:** This was for the details of women's obstetrical history and menopausal characteristics'. It involved questions about women's parity, age at menopause, its duration, and the use of hormonal replacement therapy (HRT) with its types, forms, and outcome. Furthermore, this part also includes questions assessing various menopausal symptoms**.** It asked about the presence of various symptoms as follows:
  - **Physical symptoms** (13 items) such as hot flushes, weight gain, myalgia,
  - **Psychological symptoms** (5 items) such as depression, lack of concentration.
  - **Social symptoms** (6 items) such as change in husband behavior, feeling neglected by others.
  - **Sexual symptoms** (5 items) such as decreased libido, dyspareunia.

Scoring System for Menopausal Symptoms

Each symptom checked to be present was scored "1" and the absent "0" and the symptom score was

calculated in the range of (0- 29). The scores of each category of symptoms and for the total score were summed-up and converted into percent scores. A woman having a percent score 60% or higher was considered as having moderate/severe symptoms, while a score less than 60% was considered mild symptoms.

- ***Part 3*:** This was intended to assess woman' knowledge about menopause. It consisted of a set of 40 True/False questions covering various areas such as definition of menopause (3 questions), age (3 questions), etiology (8 questions), risk factors (4 questions), manifestations (6 questions), risk of osteoporosis (4 questions), management (5 questions), and hormonal replacement therapy (5 questions), and its hazards (2 questions).

Scoring System for Knowledge Part

Each question correctly answered was scored "1" and the incorrect "0" and the total score was 40. The scores of each area of knowledge and for the total score were summed-up and converted into percent scores. A woman attaining a percent score 60% or higher was considered as having satisfactory knowledge, while a score less than 60% was considered unsatisfactory.

Tool II: It was a self-administered questionnaire was aimed to assessing woman's use of various coping strategies. It was developed by the researcher based on previous tools aimed at assessment of coping strategies [11-14]. It consisted of 23 items on a 3-point Likert scale: "Never/ambivalent/always."

They are categorized into four coping strategies as follows.

- Catastrophizing strategy (6 items) such as "It is terrible and I feel it is never going to get any better."
- Diversion strategy (6 items) such as "I replay in my mind pleasant experiences in the past."
- Reinterpreting strategy (6 items) such as "I try not to think of it as my body, but rather as something separate from me."
- Cognitive strategy (5 items) such as "I see it as a challenge and don't let it bother me.

Scoring System

Each item was scored from "2" to "0" for the responses from always to never and the total score was ranged from (0-69). The scores of each coping strategy were summed-up and converted into percent scores. A woman having a percent score of 60% or higher was considered as having high use of the corresponding coping strategy and low use if the score was less than 60%.

Content Validity and Reliability

Once prepared in its initial form, the tool was presented to a panel of five experts in the field of community and obstetrics health nursing for face and content validation. They assessed the tool for clarify, relevance, comprehensiveness, and applicability. The tool was modified according to their comments and suggestions. The reliability of scales of the tool was tested by measuring their internal consistency by using Cronbach's Alpha; they demonstrated high levels of reliability. As for symptoms scale it was 0.91, and for coping scales it was 0.76 for a catastrophizing coping, 0.87 for diversion coping, 0.78 for Re-interpretation and 0.77for cognitive coping.

Fieldwork

Once permission was granted to proceed with study, the researcher started to prepare a schedule for collection the data. The researcher met with the women individually to explain the aim of the study and to brief the woman with her rights. Then, the eligible women were recruited in the sample after providing their verbal informed consent. The questionnaire was handed to participants who were asked to fill it out while on duty in their shifts. The researcher provided the necessary instructions for completing the form. Women were allowed to keep the questionnaire until they find some free time during their shift. This provided them with enough time to read the questions carefully and to avoid hurrying-up in responding to questions or missing data. The researched collected data over a period of around six months. The data were collected during the morning and afternoon shifts. The time taken to fill out the questionnaire ranged from 30 to 40 minutes. The fieldwork was started in February and ended in July 2018.

Pilot Study

A pilot study was carried out on 24 menopausal women (10% of the study sample) prior to the initiation of the fieldwork. This was done to ensure the clarity of the items and to determine the length of time required to complete the questionnaire. The necessary modifications were done according to the answers and comments made by menopausal women. The women who shared in the pilot study were not included in the main study sample.

Ethical Considerations & Administrative Design

The research protocol was approved by the research ethics commits (REC) at the Faculty of Nursing, Zagazig University. A verbal informed consent to participate was obtained from each woman after full explanation of the aim of the study and of their rights. They were given the opportunity to refuse participation, or to withdraw at any time. They were also reassured that any information obtained would be confidential and used for the research purpose only**.** An official permission was obtained from the administration of Zagazig University based on a letter issued from the Faculty of Nursing at Zagazig University explaining the aim of the study and the nature of the work**.**

Statistical Design

Data entry and statistical analysis were done using SPSS 20.0 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. Cronbach alpha coefficient was calculated to assess the reliability of the tool scales through their internal consistency. Qualitative categorical variables were compared using chi-square test. 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. In larger than 2x2 cross-tables, no test could be applied whenever the expected value in 10% or more of the cells was less than 5. Spearman rank correlation was used for assessment of the inter-relationships among quantitative variables and ranked ones. In order to identify the independent predictors of knowledge and coping scores, multiple linear regression analysis was used and analysis of variance for the full regression models done. Statistical significance was considered at p-value <0.05.

RESULTS

The study sample consisted of 240 women whose age ranged between 45 and 58 years, with a mean of 50.7±8.8 years as shown in Table-1. Concerning study sample education, and marital status it was obvious that 71.7% & 85.0 %, respectively were having basic education and married and with nursing jobs 86.7%. Additionally, 61.7% of the study sample considered their income as sufficient.

Table-2 clarifies that the age of menopause for the study sample was ranged between 40 and 54 years and the duration of menopause among them was 65.0% of less than five years, with a mean of 3.8 ± 2.7. Moreover, only 10.4 % of the studied women were using hormonal replacement therapy (HRT), mostly estrogen 48.0% and in the form of tablets 80.0%. In the 80.0%, the symptoms were improved by HRT.

Regarding menopausal symptoms among the women in the study sample, Table-3, shows that the highest percentages of physical symptoms reported were bodies flushing 90.0%, headache 83.3%, and myalgia 81.3%, while the lowest were tachycardia 45.0% and skin creases 43.3%. The psychological symptoms ranged between 34.2% for low self-confidence to 88.3% for nervousness. As for the social symptoms, the highest was the high burden from children 72.9% whereas the lowest was the high burden from parents at home 25.8%. Lastly, the sexual symptoms ranged between 35.4% for difficult orgasm and 83.8% for decreased libido.

As displayed in Figure-1, 62.1% of the women in the study sample were having total moderate/severe menopausal symptoms. These ranged between 51.3% for sexual symptoms and 66.7% for social symptoms.

In total, Figure-2 illustrates that 79.6% of the women in the study sample were having total satisfactory knowledge of menopause.

As regards the coping strategies among the women in the study sample, Table 4 indicates that the cognitive strategy was the most commonly used as reported by 74.2% of them. At the other extreme, only 15.4% &12.1% respectively of women in the study sample were using the re-interpretation and catastrophizing strategies.

Table-5 displays a statistically significant small positive correlation between women' scores of knowledge and the number of symptoms (r=0.344). Moreover, the number of symptoms had statistically significant small positive correlations with their scores of catastrophizing and cognitive coping. Their knowledge score had statistically significant small positive correlations with their scores of diversion and cognitive coping. Meanwhile, the diversion coping had a statistically significant moderate positive correlation with the cognitive coping (r=0.502), and a small negative correlation with the catastrophizing coping score (r=-0.244).

Regarding women' cognitive coping score, Table-6 illustrates that its statistically significant independent positive predictor was the knowledge score. On the other hand, the woman's age at menopause was a negative predictor. The model explains 16% of the variation in women's cognitive coping score.

As for women' diversion coping score, Table-7 shows that its statistically significant independent positive predictors were the women's income and knowledge score. The model explains 6% of the variation in the women's diversion coping score.

Table-1: Demographic Characteristics of Women in the Study Sample (n=240)

Demographic Characteristics	Frequency	Percent
Age:		
<50	97	40.4
50+	143	59.6
Range	45.0-58.0	
Mean±SD	50.7±8.8	
Median	50.00	
Education:		
Basic	172	71.7
Intermediate	54	22.5
University	14	5.8
Have nursing job:		
No	32	13.3
Yes (nurses, specialists, technicians)	208	86.7
Marital status		
Unmarried (divorced/widow)	36	15.0
Married	204	85.0
Income:		
Insufficient	92	38.3
Sufficient	148	61.7

Table-2: Obstetrical History and Menopausal Characteristics of Women in the Study Sample (n=240)

Items	Frequency	Percent
Parity:		
Nulipara	7	2.9
Multiparous	233	97.1
Mean±SD	3.4±1.4	
Age at menopause:		
<45	34	14.2
45+	206	85.8
Range	40.0-54.0	
Mean±SD	46.3±4.8	
Median	47.0	
Duration of menopause (years):		
<5	156	65.0
5+	84	35.0
Range	<1.0-15.0	
Mean±SD	3.8±2.7	
Median	3.0	
Use of hormonal therapy (HRT)	25	10.4
Type:		
• Estrogen	12	48.0
• Progesterone	3	12.0
• Combined	10	40.0
Form:		
• Tablets	20	80.0
• Injections	5	20.0
Improved symptoms	20	80.0

Table-3: Menopausal symptoms reported by women in the study sample (n=240)

[@]Menopausal symptoms	Frequency	Percent
Physical:		
• Hot flushes	156	65.0
• Night sweating	184	76.7
• Body flushing	216	90.0
• Vaginal dryness	136	56.7
• Headache	200	83.3
• Weight gain	141	58.8
• Tachycardia	108	45.0
• Dyspnea	110	45.8
• Tingling/numbness	133	55.4
• Skin creases	104	43.3
• Myalgia	195	81.3
• Urinary incontinence	122	50.8
• Inability to sleep	126	52.5
Psychological:		
• Depression	106	44.2
• Lack of concentration	147	61.3
• Nervousness	212	88.3
• Low self-confidence	82	34.2
• Low mood	186	77.5
Social:		
• High burden from children	175	72.9
• Feeling isolation	165	68.8
• Change in husband behavior	162	67.5
• Feeling neglected by others	137	57.1
• High burden from parents at home	62	25.8
• Inability to work	132	55.0
Sexual:		
• Decreased libido	201	83.8
• Difficult intercourse	141	58.8
• Feeling no love during sexual relation	105	43.8
• Difficult orgasm	85	35.4
• Dyspareunia	131	54.6

(@) Not mutually exclusive

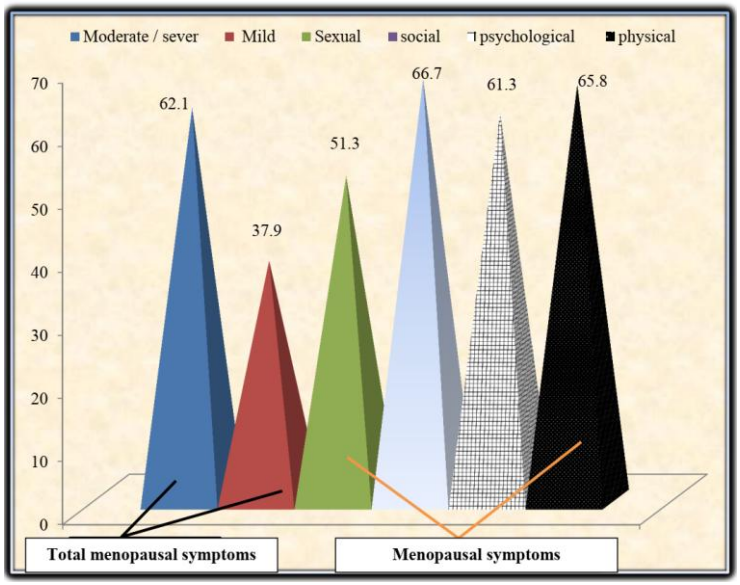

Fig-1: Symptoms and total symptoms of menopause among women in the study sample (n=240)

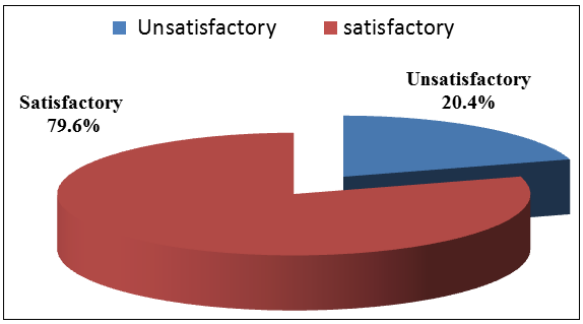

Fig-2: Total knowledge about menopause among women in the study sample (n=240)

Table-4: Coping strategies among women in the study sample (n=240)

Coping strategies	Frequency	Percent
Catastrophizing:		
• High	29	12.1
• Low	211	87.9
Diversion:		
• High	141	58.8
• Low	99	41.3
Re-interpretation:		
• High	37	15.4
• Low	203	84.6
Cognitive:		
• High	178	74.2
• Low	62	25.8

Table-5: Correlation matrix of women's number of menopausal symptoms, knowledge, and coping scale domains scores

Variables	Spearman's rank correlation coefficient					
	No. of Symptoms	Knowledge Score	Coping			
			Catastro-phizing	Diversion	Re-inter-pretation	cognitive
No. of symptoms						
Knowledge score	.344**					
Coping:						
Catastrophizing	.193**	0.04				
Diversion	-0.03	.178**	-.244**			
Re-interpretation	0.00	-0.01	-0.12	0.05		
Cognitive	.134*	.377**	-0.11	.502**	0.08	

(*) Statistically significant at p<0.05 *(**) Statistically significant at p<0.01*

Table-6: Best fitting multiple linear regression model for the cognitive coping score

Items	Unstandardized Coefficients		Standardized Coefficients	t-test	p-value	95% Confidence Interval for B	
	B	Std. Error				Lower	Upper
Constant	30.70	18.58		1.652	0.100	-5.91	67.31
Age at menopause	-0.76	0.32	-0.14	2.368	0.019	-1.38	-0.13
Knowledge score	1.01	0.16	0.37	6.174	<0.001	0.69	1.33

r-square=0.16
Model ANOVA: F=15.68, p<0.001

Variables entered and excluded: age, residence, education, marital status, job, income, parity, age at menarche

Table-7: Best fitting multiple linear regression model for the diversion coping score

Items	Unstandardized Coefficients		Standardized Coefficients	t-test	p-value	95% Confidence Interval for B	
	B	Std. Error				Lower	Upper
Constant	20.18	16.23		1.243	0.215	-11.80	52.15
Income	22.34	8.73	0.16	2.560	0.011	5.15	39.54
Knowledge score	0.55	0.21	0.17	2.634	0.009	0.14	0.96

r-square=0.06
Model ANOVA: F=5.98, p<0.001

Variables entered and excluded: age, residence, education, marital status, job, age at menopause and duration

DISCUSSION

Menopause is a physiological event in which ovarian failure due to loss of ovarian follicular function accompanied by estrogen deficiency resulting in permanent cessation of menstruation and loss of reproductive function. It's also a stage when menstrual cycle stops for longer than 12 months [15].

The present study sample consisted of women mostly in the fifth decade of their life, with median 50 years. This is very close to the age at menopause, which was found to have a median of 47 years. This is slightly earlier compared with the age at menopause among Swedish women as reported by [16] where it was 49.3 years. On the other hand, the age at menopause in the present study was higher compared to the age reported among Indian women, which was 44.9 years as reported by [3]. The differences are attributed to a number of environmental and lifestyle factors including dietary habits as shown by [17] in a study in the Netherlands.

The duration of menopause among the women in the present study had a very wide variation, with a range of around 15 years. This was important to represent the various phases of the menopausal process, and the effect of long duration on the associated symptoms and signs, as well as the ability of the women to cope with. In line with this [18] in a study in the United Kingdom revealed that the circulating metabolic biomarkers demonstrate changes throughout menopausal phases, and these are associated with variations of the different vasomotor symptoms.

Approximately two-thirds of the women in the current study were suffering from menopausal symptoms at moderate to severe levels. The majority reported having the well-known physical symptoms of body flushing, headache, and muscle pains. The findings are in congruence with those of [19 whose study in the United States demonstrated that the vasomotor symptoms were the most commonly reported menopausal symptoms, and they occurred among around 80% of studied women. Similar findings were also reported by [20] in a study in Japan.

Most women in the current study have also reported suffering from menopausal psychological symptoms. These were mainly in terms of nervousness, low mood, and lack of concentration. Similar symptoms were demonstrated among menopausal women in Iran, in addition to symptoms of anxiety and depression; they were also linked to sexual dysfunction among them [21].

As regards the social menopausal symptoms, the most commonly reported by the women in the present study were those of feeling isolated, change of husband high burden from children behavior, and. This might be attributed to the feeling of change of role in the family. Similar findings were also revealed among menopausal women in China, and the authors emphasized the importance of family and social support for the relief of such symptoms [22].

The sexual menopausal symptoms were the least reported by the women in the present study. The most frequent symptoms were decreased libido, difficult intercourse, and dyspareunia. These are certainly related to the hormonal changes leading to vaginal dryness, and the associated higher vulnerability to infections. In agreement with this [23], in a study in Canada, found that vulvo-vaginal atrophy was common among postmenopausal women; it led many genito-urinary problems, which in turn had a negative impact on their quality of life. Similar findings were also reported by [24] in a study in the United Kingdom.

Despite the high prevalence of menopausal symptoms among the women in the current study, only a small minority of them reported having used hormonal replacement therapy (HRT). This could be due to fears and concerns regarding the intake of hormones and related misconceptions. It could also be due to reluctance of physicians to prescribe this kind of treatment. This misconception has to be changed given the effectiveness of HRT in reducing menopausal symptoms. In agreement with this [25] in a study in the United States reported that most women as well as health care professionals have misconceptions regarding the hormonal treatment of menopausal symptoms.

The HRT most reported to be used by the women in the present study was estrogen tablets. The majority of the women confirmed that the menopausal symptoms were improved by this treatment modality. In congruence with this, a study in China came to the

conclusion that HRT was effective in improving the quality of life of menopausal women through reducing the numbers and severity of their menopausal symptoms [26]. The merits of HRT were also put into evidence in a recent systematic review by [27].

Concerning the answer of study research question regarding menopausal women's knowledge of menopause. The findings of the present study revealed that the majority were having satisfactory total knowledge. The highest knowledge was related to the etiology, risk factors, and hazards of HRT, as well as the risk of osteoporosis. This high level of knowledge might be attributed to the fact that the majority of the sample were working in nursing, and the setting itself being a healthcare setting. On the contrary, a lower level of knowledge of menopause was shown among menopausal women in a study in Latin America [28]. The difference might be explained by the fact that the present study was carried out in a healthcare setting, which could have a positive impact on participants' knowledge and awareness.

A surprising finding in the present study was that the majority of the women were having satisfactory knowledge of the hazards of HRT, yet a small percentage of them had satisfactory knowledge of the HRT itself. This reflects the fears and concerns regarding this treatment modality, which is not based on sound knowledge and information about it. In agreement with this finding, a study in Australia revealed that the use of HRT in the management of menopausal symptoms was extremely low [29].

A main objective of the current study was to assess the coping strategies most used by menopausal women. The study results revealed that the cognitive coping strategy was the most commonly used. This active type of coping has shown effectiveness in dealing with many chronic conditions and diseases such as the fear of flying [30], chronic fatigue syndrome [31], and obsessive compulsive disorders [32].

The use of the cognitive coping strategy by women in the present study was had a negative association with the age at menopause, meaning that it is more used among those who had their menopause at a younger age. Similar relationships between women's menstrual history and the severity of the menopausal symptoms they experience in a study in the United States [33].

The present study has also demonstrated that the knowledge score is a positive predictor of the cognitive coping score among menopausal women. This indicates the importance of improving these women's knowledge and of providing them with sound information about menopause in order to be able to cope effectively through using the cognitive coping strategy. In congruence with this, a study in the United States demonstrated that women with sound knowledge of menopause are less susceptible to the negative impact of this phase on their life [34].

The diversion coping strategy was the second most commonly used by the menopausal women in the current study. This is a kind of positive active type of coping that helps one stop thinking about the situation that leads to emotional distress. Although it does not lead to solving the problem, it helps the person to be free of stress for some time until a permanent solution is found [35].

The multivariate analysis of the present study identified income and knowledge score as the positive predictors of the score of this diversion coping strategy. The findings demonstrate the positive effect of good information on helpful coping. Additionally, a woman with sufficient income may be more psychologically stable, which makes coping easier to her. In line with this, a study in Pakistan demonstrated the positive effect of good knowledge and sound information on this type of coping [36].

The present study has additionally demonstrated that the catastrophizing and re-interpretation coping strategies were the least used by the menopausal women in the study sample. In agreement with these current study findings, a study carried out by [37] in Poland demonstrated that the catastrophizing coping strategy was the least used.

Concerning the correlates of various coping strategies by the menopausal women in the present study, the results revealed that their knowledge score had positive correlations with the scores of diversion and cognitive coping. This implies that the women with better knowledge are able to utilize these two rather positive types of coping strategies. In agreement with this, a study in the United States revealed that the use of the passive catastrophizing coping strategy was significantly higher among the participants who were less informed and who had lower readiness to change [38].

Moreover, the present study findings revealed that the diversion coping had a positive correlation with cognitive coping. Conversely, it had a negative correlation with the catastrophizing coping. This further confirms that the inverse relationship between positive strategies as the cognitive and diversion and the negative ones such as the catastrophizing strategy. In line with these findings, a study in Canada demonstrated a negative association between cognitive and catastrophizing coping strategies [39]. Similarly, a study in Denmark [40] demonstrated that improving patients' cognitive coping was associated with significant decreases in their use of catastrophizing coping.

CONCLUSION

The results of the current study lead to the conclusion that a high proportion of the menopausal women in the study setting suffer moderate to severe menopausal symptoms, mainly flushing, headache, nervousness, high burden from children, and decreased libido. However, only a few of them use hormonal replacement therapy (HRT). Their knowledge about menopause was high and they mostly use the cognitive coping strategy. On the other hand, their knowledge score positively predict their diversion and cognitive coping scores

RECOMMENDATIONS

The study recommends the following based on its main findings.

- Educational programs are urgently needed and should be targeted to women at premenopausal age to prepare them for this critical phase , to improve their knowledge and to correct any related misconceptions
- The educational programs should incorporate training in coping, and in how to select active rather than passive coping strategies.
- Health education materials should be prepared in simple Arabic language, with illustrations and should be made available in healthcare settings as well as in workplaces with high female density.
- Further research is proposed to assess the effectiveness of training interventions in coping on menopausal women's symptoms and consequently on their quality of life.

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