Effect of Nursing Intervention on Improving Coping Strategies Regarding Menopausal Symptoms and Sexual Dysfunction

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Abstract

Background: One of the most important occurrences in a woman's life is menopause. Due to its effects on the emotional, physical, and psychological health of menopausal women and their families, it is crucial to emphasize menopausal symptoms, sexual dysfunction, and its coping mechanisms. **Aim** of this study was to assess the effect of nursing intervention on improving coping strategies regarding menopausal symptoms and sexual dysfunction. **Research design:** A quasi-experimental research design with pretest and posttest was used. **Setting**: the present study was carried out at gynecological outpatient clinics at Zagazig University Hospitals in Sharqia Governorate, Egypt. **Sampling and Subject:** A purposive sample of 100 women was recruited for this study. **Tools of data collection**: Four tools were applied in the current study; **Tool I:** A structured interview sheet, **Tool II:** Assessment of menopausal symptoms sheet**, Tool III:** Female Sexual Function Index (FSFI) and **Tool IV:** Coping strategies questionnaire toward menopausal symptoms. **Results;** revealed a highly statistical significant improvement at score mean in somatic, psychological, urogenital and total menopausal symptoms mean score ($p = 0.0001$). Also a high statistical significant improvement in all domain of FDFI ($p = 0.0001$). Self-coping strategies (20.0%) were the most common coping strategies used against menopausal manifestation followed by medical coping strategies (17.0%) and alternative coping strategies (15.0%) among participants. **Conclusion** Implementation of the nursing intervention had highly statistically significant effect on improving copying strategies regarding to menopausal symptoms and sexual dysfunction. **Recommendations:** Implementation of nursing program with a learning booklet for nurses should be conducted in order to increase their level of knowledge and practice related to all types of copying strategies for menopausal symptoms and sexual dysfunction.

Keywords: Keywords: Nursing Intervention, Coping strategies, Menopausal symptoms, sexual dysfunction,

Introduction

One of the most important life transitions for women is menopause, which has a lasting impact on her health and can be influenced by a variety of coping mechanisms. The end of menstruation for a period of 12 months after the last menstrual cycle is known as natural menopause. It is brought on by a reduction in the amount of estrogen, progesterone, and testosterone produced by the ovary. ***(Sophia et al., 2022).*** WHO predicts that by 2030 there will be more than one billion women over the age of 50 ***(Rubinstein, 2013).***

Because distinct "socio cultural attitudes" concerning the menopause exist in various groups, Egyptian women are more likely than Western women to experience menopause-related symptoms. ***(Moustafa et al., 2015).***

Menopause-related hormonal changes can have negative effects on a woman's physical, mental, and sexual health. The list of physiological alterations also includes Breast tenderness, bloating, weight gain, skin and hair problems, anorexia nervosa, edema, swelling, pelvic pain, headaches or migraines, changes in bowel habits, and diminished coordination are some of the other symptoms. The risk of contracting certain chronic diseases, including osteoporosis and heart disease, is then assumed to be increased by these. ***(Sophia et al., 2022).***

Common psychological symptoms of menopause are described by ***Agarwal et al., (2018)*** mental stress, mood swings, panic

attacks, depression, irritability, crying fits, anxiety, sleep issues, concentration issues, a sensation of stress, exhaustion, confusion, poor judgement, impaired motor coordination, forgetfulness, insomnia, distractibility, restlessness, tension, and loneliness. Also mentioned were the behavioral modifications brought on by menopause, such as a decrease in productivity at work and a preference for being home and in bed.

The primary sexual issues during menopause are caused by female sexual dysfunction (FSD). FSD is classified by WHO as a public health issue, and they advise that it be looked into if there are any significant changes in quality of life. FSD is a condition that affects sexual arousal, orgasm, and painful conditions including dyspareunia and veganism ***Satake et al., (2018).***

By harmonizing hormonal levels, three degrees of approach can be thought of for dealing with menopause. These fall under the headings of lifestyle modifications, medications and alternative therapies, and surgery. Women should always start with the least dangerous method (changing their lifestyles) and go on to riskier methods (surgery/drugs) only if necessary ***(Bhore, 2015).***

By providing appropriate medical counselling, support, and/or care for their health requirements and concerns, the nurse can significantly improve menopausal symptoms and help patients cope with them. ***(Alavipour et al., 2020).*** In order to improve her quality of life, she should also provide women with all the information and coping mechanisms they require regarding menopausal symptoms. The nurse outlines the benefits and drawbacks of various therapeutic approaches for women and is knowledgeable about where to refer them for treatment. ***(Mahmoud et al., 2016).***

The societal stigma associated with women's sexuality persists in Egyptian culture. This causes women to shy away from or feel uncomfortable discussing their sexual health with their healthcare providers (HCPs). Women also tend to be ignorant of or have misunderstandings regarding diseases like hypoactive sexual drive disorder and genitourinary syndrome of menopause that may negatively affect their sexual lives. In this situation, A crucial part is played by the nurse in providing menopausal women with sexual health advice ***(Tiznobek et al., 2017).***

A woman now experiences menopause for roughly one-third of her life due to the increase in life expectancy. Menopause is a topical condition that is gaining more and more attention. Nursing strategies include training, rigorous assessment, and supporting viewpoints. As part of their educational responsibilities, nurses should inform and counsel women about premenopausal and postmenopausal symptoms. Women and healthcare professionals should be aware of the safest and most efficient complementary and alternative medicine therapies for menopause in order to eradicate or at least reduce its symptoms. ***(Özpinar and Çevik, 2016).***

Significance of the study: Due to the significant negative effects on the standard of living for women, self-esteem, and interpersonal connections, menopause is a crucial time in her life. According to the WHO, the average menopause age in Egypt was 46.7 years old, but women may experience menopause-related symptoms much sooner. ***(Hassan and Abd El-Ghany, 2022).*** Women who experience issues related to ageing may choose not to seek medical attention because menopause is a common occurrence. The majority of women are unaware of the complications and problems related to menopause. In this context, the current study evaluates menopausal symptoms and seeks to alleviate them by using coping mechanisms.

Aim of the study was to assess the effect of nursing intervention on improving coping strategies regarding menopausal symptoms and sexual dysfunction.

Research Hypothesis: Implementation of nursing intervention will be effective in improving coping strategies regarding menopausal symptoms and sexual dysfunction

Subjects and Methods:

The following four designs were used to explain the approach in order to achieve the

study's goal: technical, administrative, operational and statistical designs.

A) Technical Design: It provided a description of the study's setting, sample, and the research strategy and tools for data collection.

Research Design: The present research used a quasi-experimental design (pretest and posttest)**.**

Setting: The study was conducted at gynecological outpatient clinics at Zagazig University Hospitals in Sharqia Governorate, Egypt.

Sample size: Percent of menopausal women had good coping for menopausal symptom at pre intervention phase was (1.0%) and at post intervention phase was (15.0%) according to ***Parveen et al., (2012)*.** Confidence level is 95.0% with power of study 95.0%. Total sample size was calculated to be 100 women. Sample size calculated use the software programme Open-Epi 3.0.

Subjects: One hundred menopausal women were selected from the previously mentioned setting by using purposive sampling technique according to the following criteria:

Inclusion criteria:

1. Woman age: 45-65 years old.
2. Natural menopause.
3. Free from medical, psychological and gynecological disease.

Exclusion criteria:

1. Premature and surgical menopause.
2. Women whose spouses had premature ejaculation or sexual disabilities.
3. Women who lived away from their spouses at the time of the study.

- **Tools of data collection:** Four tools were used by the researchers based on the related recent literature to meet the purpose of the current study.

Tool I: A structured Interview questionnaire: It was designed in three parts which includes;

Part I: Demographic characteristics such as age, education, occupation…..etc.

Part II: Obstetrical history such as gravidity and parity.

Part III: Gynecological history such as history of dysmenorrhea, contraceptive use and duration of menopause.

Tool II: Assessment of menopausal symptoms sheet (Pretest and posttest): This self-administered questionnaire was created by ***Heinemann et al., (2003)*** and has been extensively utilized, validated, and used in several clinical and epidemiological studies. This tool contained 11 items, but following a pilot study and additional validation and updating, the researchers changed some of the items into the uro-genital and social domains to provide more specific symptoms. As a result, there became 43 items in the tool. Each of the forty three symptoms contained a scoring scale from "0" (no complaints) to "1" (present complaint). As a result, this study examined the frequency of menopausal symptoms rather than their intensity. The researchers classified the menopausal symptoms in the following four domains:

(1) Somatic domain: It included 20 questions about the presence of somatic symptoms as hot flushes, headache …..etc.

(2) Psychological domain: It included 12 questions about the presence of psychological symptoms as depressive mood…..etc.

(3) Urogenital domain: It included 9 questions about the presence of urogenital symptoms as pain/burning sensation in vulva/vagina…..etc.

(4) Social domain: It included 2 questions about the presence of social symptoms as feeling of isolation and loneliness.

Tool III: Female Sexual Function Index (FSFI): It was designed by ***Rosen et al., (2000)***. It composed of a brief 19-item in six separate dimensions namely desire (2 items), arousal (4 items), lubrication (4 items), orgasm (3 items), satisfaction (3 items) and sexual pain (3 items) during the last 4 weeks. The overall cut-off point of the questionnaire was 28. In

other words, scores higher than the cut-off point indicate good sexual function. The minimum score of this questionnaire is 2 and maximum score is 36.

Tool IV: Coping strategies questionnaire toward menopausal symptoms: The researchers prepared this tool after studying a substantial amount of relevant literature, including study by ***Özpinar and Çevik, (2016).*** It was composed of the following 15 menopausal symptoms, which were divided into three categories based on coping mechanisms: self-copying, medication, and alternatives. Each of the three coping strategy domains had a scoring scale ranging from "0" (do not use any coping mechanisms) to "1" (use coping mechanisms). Then the researchers asked each woman who used coping strategies about the type of coping strategies she used to deal with menopausal symptoms both before and after the intervention.

1. Hot flashes, sweating and night sweeting:

A. Self-coping strategy as uses of cooler environment...etc.

B. Medical strategy as vitamin B, E and oral contraceptives.

C. Alternative strategy as yoga, meditation and exercise.

2. Angina pectoris or palpitations:

A. Self-coping strategy as avoiding uncomfortable, stressful situations and events...etc.

B. Medical strategy as quitting the hormone therapy ...etc.

C. Alternative strategy as licorice tea ...etc.

3. Sleeping problems:

A. Self-coping strategy as a quiet environment….etc.

B. Medical strategy as hormonal therapy...etc.

C. Alternative strategy as sage tea ...etc.

4. State of malaise (feeling down, sad):

A. Self-coping strategy as calling beloved ones, cleaning the house and having a shower.

B. Medical strategy as hormonal therapy and visiting a psychologist.

5. Nervousness (irritability, tension and losing temper quickly):

A. Self-coping strategy as drinking something warm…etc.

B. Medical strategy as hormonal therapy, vitamin B, C and E…etc.

C. Alternative strategy as herbal teas.

6. Worry, anxiety, restlessness, panic and depression:

A. Self-coping strategy as trying to relax, sharing the problems with others…etc.

B. Medical strategy as hormonal therapy...etc.

C. Alternative strategy as black cohosh…etc.

7. Physical and mental fatigue (Fatigue and exhaustion):

A. Self-coping strategy as paying attention to diet…etc.

B. Medical strategy as hormonal replacement therapy.

C. Alternative strategy as yoga, meditation …etc.

8. Decrease in sexual desire, difficulty in having sexual intercourse and dyspareunia.

A. Self-coping strategy as talk to the spouse…etc.

B. Medical strategy as hormonal therapy …etc.

C. Alternative strategy as soya beans, ginger…etc.

9. Urinary problems (difficulty in urinating, frequent urination, urinary incontinence)

A. Self-coping strategy as consuming less diuretic beverages like tea and coffee.

B. Medical strategy as hormonal therapy, antibiotics …etc.

C. Alternative strategy as soya beans and parsley.

10. Vaginal symptoms (dryness, burning sensation in the vagina and dyspareunia):

A. Self-coping strategy as spending more time on foreplay ...etc.

B. Medical strategy as using hormone creams…etc.

C. Alternative strategy as cohosh….etc.

11. Joint and muscle disorders as bones pain

A. Self-coping strategy as observing one's diet (eating calcium-rich foods, etc.)...etc.

B. Medical strategy as hormonal therapy.

C. Alternative strategy as vitamin K, C, D, B6, Folic acid and calcium

12. Insomnia

A. Self-coping strategy as avoiding afternoon sleeping and fixed time to sleep.
B. Medical strategy as taking medication as ordered by the physician.

13. Skin dryness :
A. Self-coping strategy as drinking water.
B. Medical strategy as taking hormonal therapy and apply skin cream.

14. Headache
A. Self-coping strategy as drink cup of tea.
B. Medical strategy as taking medication as ordered by the physician.

15. Sense of loneliness
A. Self-coping strategy as visiting family and friends and watching TV …etc.

B) Administrative design: The study setting's accountable authorities were sent an official letter from the Faculty of Nursing Zagazig University granting their authorization to gather data.
C) Operational design: It includes preparatory phase, pilot study, validity, reliability, fieldwork and ethical consideration.

• **Preparatory phase:** To gain a thorough theoretical understanding of the several facets of the issue, the researchers reviewed historical and present literature that was pertinent to the study topic. Books, journals, textbooks, articles from scientific periodicals on the internet, newspapers, and magazines were used for this. This aided in choosing the instruments and validated data sets for collecting.

• **Pilot study** was carried out on 10.0% (10 menopausal women) whom the sample did not include. The main goals of the pilot study were to evaluate the forms' readability, viability, applicability, item arrangements, and item counts, as well as to calculate how long each form would take to complete.

• **Content validity and reliability:** The four tools and the nursing intervention program were examined for thoroughness. Five obstetrics and gynecologic nursing professionals as well as specialists in obstetric and gynecologic medicine judge the submissions for suitability and legibility. The panel verified the tools' legitimacy in terms of their appearance and substance. Small, necessary changes were made, primarily by rephrasing a few words and altering a few elements. Reliability of tool III (Female Sexual Function Index (FSFI)) was 0.735 based on statistical analysis**.**

• **Field work***:* Four stages of the study's execution were involved: assessment, planning, implementation and evaluation**.**

• **Assessment phase:** Pre-intervention data collection for baseline estimation was part of this step. The researchers first introduced themselves and briefly explained the purpose of the study to the manager of gynecological outpatient clinics at Zagazig University Hospitals at Sharqia Governorate, Egypt. The researchers attended the studied setting three days a week (Saturday, Monday and Wednesday), from 9 a.m. to 12 p.m. Data collection extended over a period of 6 months period from the 1st of November 2021 to the end of April 2022. When all the women were present, their verbal agreement to participate was gained. The researchers welcomed the women, introduced themselves to each study participant, gave each participant a questionnaire and provided any additional information they felt were necessary. The ladies themselves were given the pretest questionnaire, and once the intervention was put into action, the same questionnaire was used for the post evaluation (two months later). The researchers used telephone and social media as a method of communications to ensure women compliance to intervention from the time of the first interview until time of evaluation. Any explanation or any questions they needed during the two months from the first interview were answered by the researchers. Seventeen women who need medical copying strategies during the study were sent for consultant or specialist. The time used for answering the study questionnaires ranged from 20 minutes to 25 minutes.
• **Planning and implementation phase:** based on findings from the evaluation phase and a review of the literature. The nurse intervention program's sessions' content was created as a coloured lecture (power point). The

menopausal women received a handout (educational pamphlet) about Arabic copying techniques and menopause.

General objective: The general objective of the nursing intervention was to assess the effect of nursing intervention on improving coping strategies regarding menopausal symptoms and sexual dysfunction**.**

Specific objectives*:* By the end of the nursing intervention, the menopausal women should be able to

- Define menopause.
- List types of menopause.
- Identify natural characteristics of menopause.
- Recognize causes of menopause
- Identify symptoms of menopause.
- Recognize the complications and dangers of menopause.
- Perform different types of copying strategies for menopausal symptoms.
- Identify methods of management of menopause.

The researchers divided the participants into small groups of (3-5) women. Each group received the intervention for four interactive sessions (3 days/week), with each session lasting one hour. Women were offered health education courses in the form of lectures and group discussions utilizing audio-visual aids. The first meeting began with an orientation to the educational intervention, including the motivation, significance of the themes, materials, time, and place, in order to create the strongest connection possible. The first session examined the definition, kinds, causes, and natural aspects of menopause. Menopause symptoms, problems, and risks were covered in the second session.

The third session examined different types of copying tactics (self, medical, and alternative copying) for menopausal symptoms, while the fourth session covered management of menopause. Each session began with an overview of what had been taught in the prior one, followed by the objectives of the following one, to make sure the women understood the subject. A 15-minute open discussion on this subject with the women was also scheduled for the session's conclusion. Women received an educational Arabic pamphlet with a summary of the menopause and its copying techniques after the workshop.

- **Evaluation phase:** Each lady underwent two evaluations, the first of which served as baseline data at the beginning of the study (pre-test). After the second month since the pretest, the second evaluation (posttest) was administered. During the initial and posttest assessments, the same assessment tools were employed.

- **Limitations of the study:** The researchers didn't participate women's husband in the study.

- **Ethical consideration:** All ethical issues were taken into account during the entire study. The researchers introduced themselves to the women while maintaining the subjects' confidentiality and identity. Before their presence, we gave each lady a brief explanation of the study's purpose and scope. Following the oral agreement process, women were willingly enrolled in the study. Menopausal women were also made aware that their participation in the study was completely voluntary and that all information acquired was confidential and would only be utilized for research.

D) Statistical design: Using IBM Corp., all information was gathered, collated, and statistically examined. 2015 release Windows version 23.0 of IBM SPSS Statistics IBM Corp. Armonk, NY Both qualitative and quantitative data were expressed as number & and the mean SD, respectively (percentage). Comparing paired variables of normally distributed variables was done using the paired t test. The Wilcoxon sign rank test was employed to compare paired variables that were not regularly distributed. Pairs of category variables were compared using the Mcnemar test. Every test has a second side. P-values of 0.05 and higher were regarded as statistically significant, whereas those of 0.001 and lower were regarded as statistically insignificant.

Results:

Data analysis in **table 1** revealed that the mean age of menopausal women who were participate in the study was 51.2±2.2 years old, nearly two thirds (38.0%) of them were primary and preparatory school graduates,

almost half (51.0%) of them were live in rural areas, 56.0 % of them were house wife and 57.0 % met their life expenses meanwhile more than one third (37.0%) of them hadn't have sufficient income.

According to sexual pattern among the studied women **table 2** illustrates that almost two thirds (68.0%) of them practice sexual relation once or twice monthly ,92.0% were married for one time, meanwhile more than two thirds of them were unsatisfied regarding sexual relation with their couples.

As regard knowledge about menopause **figure 1** shows that more than half of them didn't recognize characteristics of menopause and how to deal with its manifestations.

According to source of knowledge about menopause **figure 2** reveals that more than half (52.7%) of women had received knowledge from their friends meanwhile 25.5% receive knowledge from health care giver.

Regarding obstetrics history among menopausal women **table 3** shows that more than two fifth (42.0%) of them were multipara had more than 3 deliveries, two thirds (67.0%) had regular menstrual cycle and 78.0% weren't suffered from dysmenorrhea in addition to 83.0% were used contraceptive methods during reproductive period. According to physical activity, nearly half (49.0%) of them had normal activity.

Table 4 represents somatic, urogenital and social menopausal symptoms at Pretest intervention and posttest. There is a high statistical significant improvement among menopausal women at post intervention in somatic symptoms as hot flushes , headache, leg cramps, lumbago, reduced strength, sweating, tenderness and dry skin ($p = 0.0001^*$). Also urovaginal and social symptoms were significantly improved as observed in posttest as valval pain ($p= 0.006^*$), vaginal dryness ($p=0.0001^*$), burn micturition ($p= 0.009^*$), isolation ($p= 0.002^*$) and feel loneliness ($p = 0.009^*$).

Figure 3 illustrates that there is statistical significant improvement in all menopausal symptoms among participants at posttest according skin change, coughing, lack of energy, stamina, bloated, facial hair (42.0%, 37.0%, 36.0%,35.0%,31.0%respedtively).

Psychological symptoms among women in pretest and posttest in **figure 4** shows statistical significant improvement specially sleep problems, crying, depressive mood, irritability, anxiety, nervous and loss of memory (62.0%, 58.0%, 47, 0%, 42.0%, 40. 0%, 39.0% and 38.0% respectively).

According to menopausal symptoms score mean among participants at pretest and posttest in **table 5** , there is a high statistical significant improvement at score mean in somatic, psychological, urogenital and total menopausal symptoms mean score ($p = 0.0001^*$).

Table 6 includes domains of Female Sexual Function Index (FSFI) at pretest intervention and posttest mean score which reveals a high statistical significant improvement in desire, arousal, lubrication, orgasm, satisfaction and pain score ($p = 0.0001^*$).

According to coping strategies utilization in pre and post intervention **table 7** illustrates that one fifth (20.0%) of women hadn't used coping strategies in pre intervention .Meanwhile all women were used coping strategies in post intervention. As regards the types of coping strategies used, there is a considerable shifting to self-coping strategy in post intervention (20.0%) compared with pre intervention (6.25%) with a statistical significant difference ($p = 0.0001^*$).

Regarding coping strategies at posttest of participants related to sexual desire , **table 8** findings reveals that spouse was the most preferred self-coping strategy among participants (54.0%) , regional cream was used as a medical coping strategy among 49.0% of participants and beans was the optimal alternative coping strategy among 33.0% of women.as regards vaginal symptoms ,more than half (52.0%) of women choose drinking of water as a self-coping strategies, 50.0% of them used hormonal therapy as a medical coping strategies and the black cohosh was preferred among 46.0% of women as an alternative coping strategies.

Figure 5 represents self-coping strategies regarding hot flushes which were used by participants at post intervention, wearing cotton, taking shower and drinking cold was the most followed self-coping strategies which preferred by women (54.0%, 52.0%and 48.0% respectively).

According coping strategies used among participants at posttest **figure 6** shows that self-coping strategies were the most common used against menopausal manifestation followed by alternative coping strategies and finally medical coping strategies were the least useable among participants.

Table (1): Distribution of the studied women according to their demographic characteristics (n =100):

Demographic characteristics			
Age per years	Mean ±SD	51.2±2.2	
Husband age per years	Mean ±SD	60.5±3.5	
		No.	**%**
Education	Illiterate	3	3.0
	Primary and preparatory school	38	38.0
	Secondary school	31	31.0
	University	28	28.0
Residence	Rural	51	51.0
	Urban	49	49.0
Occupation	Employed	44	44.0
	Housewife	56	56.0
Income	In dept	6	6.0
	Just meets their life expenses	57	57.0
	In sufficient	37	37.0

Table 2: Distribution of the menopausal women according to their sexual pattern (n =100):

Sexual pattern		**No.**	**%**
Frequency of sex	1–2 per month	68	68.0
	1–2 per week	24	24.0
	3–4 per week	5	5.0
	> 4 per week	3	3.0
Number of marriage	1	92	92.0
	2	7	7.0
	3	1	1.0
Husband marriage	1	89	89.0
	2	7	7.0
	3	3	3.0
	4	1	1.0
Satisfaction	Yes	31	31.0
	No	69	69.0

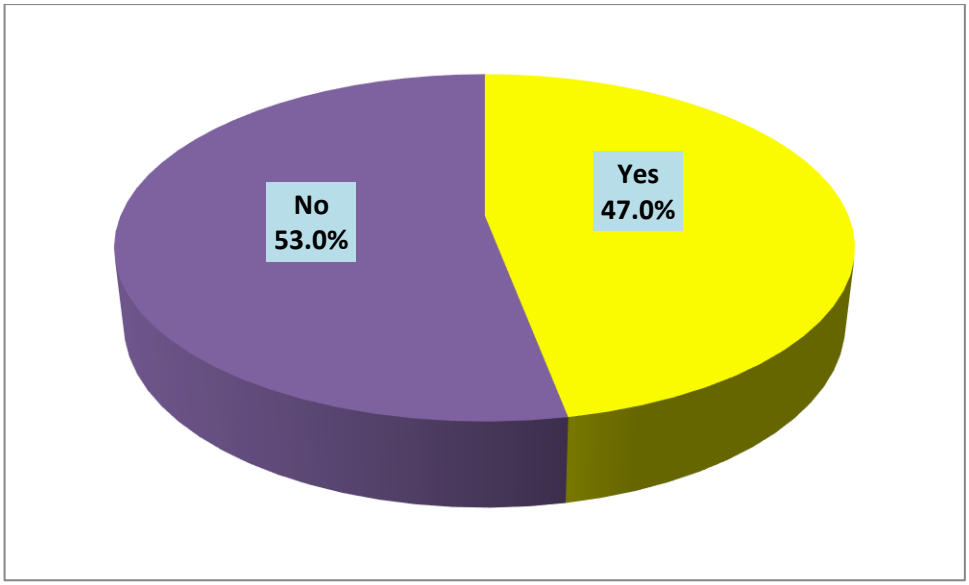

Figure (1): Percent distribution of the studied women according to their knowledge about menopause (n =100)

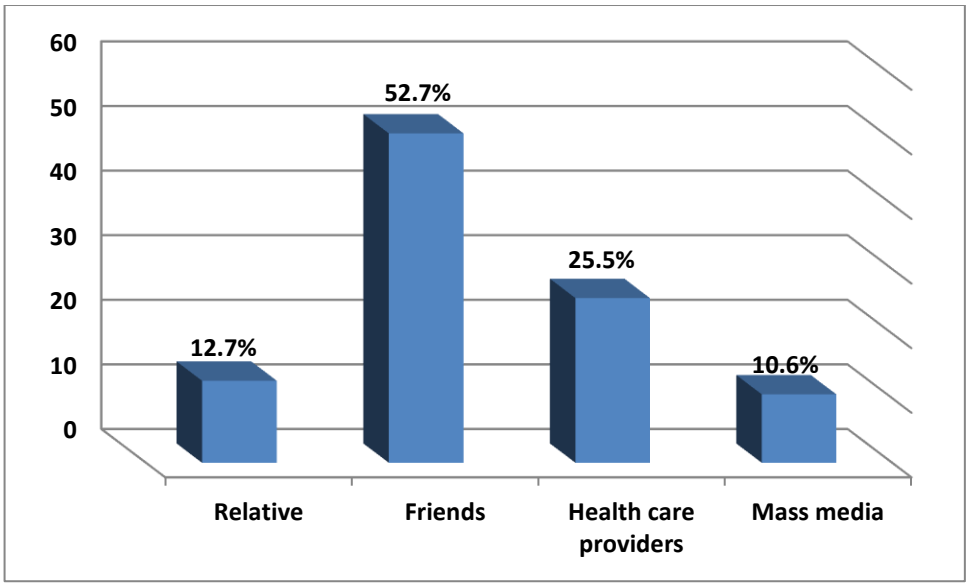

Figure (2): Percent distribution of the studied women according to their source of knowledge (n =100)

Table 3: Distribution of the menopausal women according to their obstetric history (n =100):

Obstetric history		No.	%
Parity	≤3	58	58.0
	>3	42	42.0
Menstrual cycle	Regular	67	67.0
	Irregular	33	33.0
Dysmenorrhea	No	78	78.0
	Yes	22	22.0
Contraception	No	17	17.0
	Yes	83	83.0
Physical activity	Sedentary	9	9.0
	Irregularly active	38	38.0
	Active	49	49.0
	Very active	4	4.0

Table 4: Distribution of the somatic, urogenital and social symptoms among the menopausal women at pre and post intervention (n =100):

Menopausal symptoms		Pre intervention		Post intervention		P
		No.	%	No.	%	
Somatic symptoms	Hot flush	82	82.0	29	29.0	.0001
	headache	76	76.0	39	39.0	.0001
	Leg cramp	46	46.0	20	20.0	.0001
	Lumbago	53	53.0	21	21.0	.0001
	Reduced strength	54	54.0	23	23.0	.0001
	Night sweat	29	29.0	25	25.0	.626
	Sweating	83	83.0	39	39.0	.0001
	Tenderness	76	76.0	30	30.0	.0001
	Discomfort	28	28.0	20	20.0	.243
	Dry skin	50	50.0	18	18.0	.0001
Urogenital symptoms	Vulva pain	50	50.0	34	34.0	.006
	Reduce libido	36	36.0	24	24.0	.082
	Vaginal dryness	57	57.0	15	15.0	.0001
	Avoidance timate	71	71.0	47	47.0	.002
	Burn micturition	37	37.0	20	20.0	.009
	Dyspareunia	28	28.0	20	20.0	.243
	Incontinence	36	36.0	24	24.0	.082
	Frequent micturition	29	29.0	25	25.0	.607
Social symptoms	Isolation	44	44.0	30	30.0	.002
	Feel loneliness	37	37.0	20	20.0	.009

P-value < 0.05 statistically significant, p-value < 0.001 statistically highly significant, p-value ≥ 0.05 statistically insignificant.

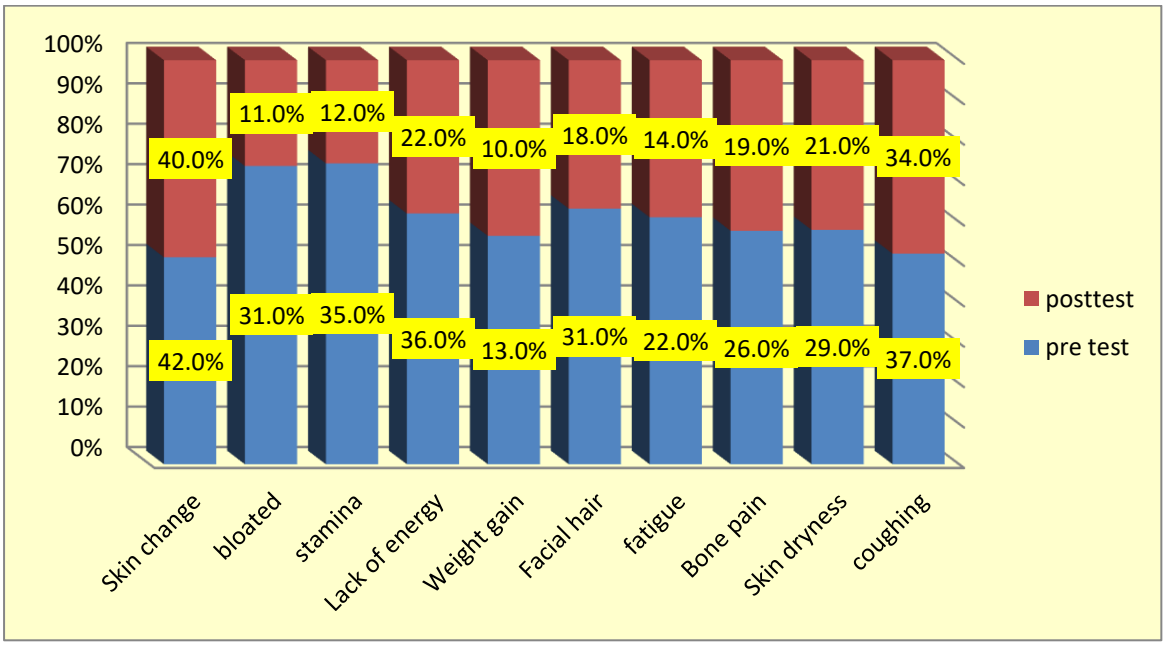

Figure (3): Percent distribution of some somatic symptoms among menopausal women in pre and post intervention (n =100).

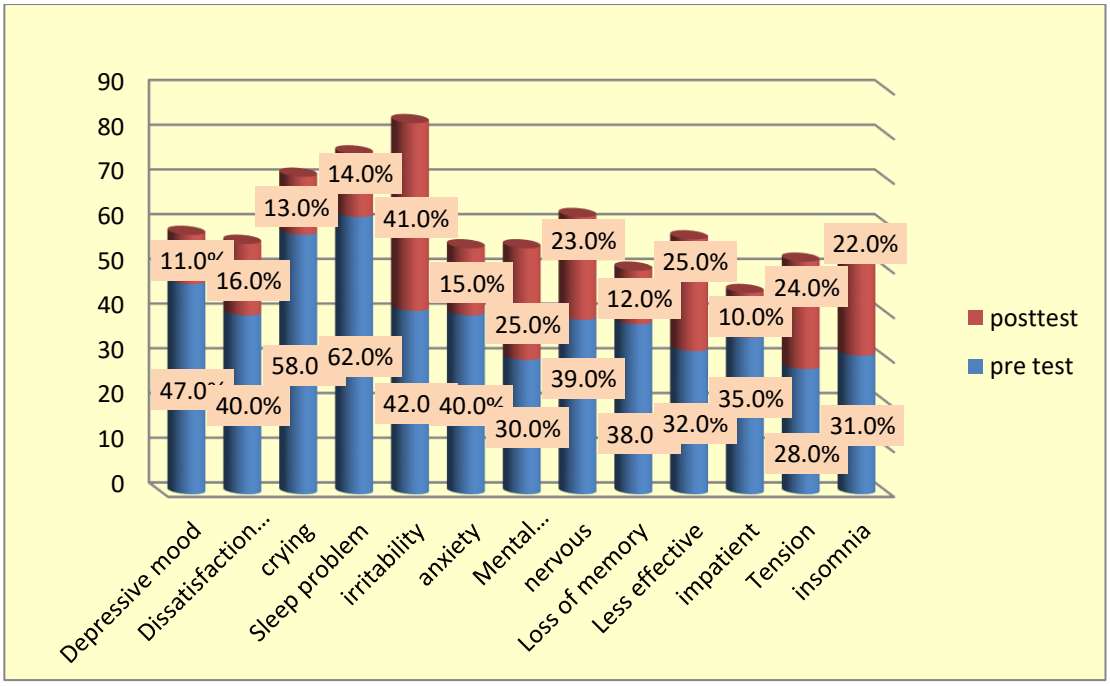

Figure (4): Percent distribution of some psychological symptoms among menopausal women in pre and post intervention (n =100).

Table 5: Mean menopausal symptoms domain among menopausal women in pre and post intervention (n =100).

Menopausal symptoms	Pre intervention Mean ±SD	Post intervention Mean ±SD	w	p
Somatic score	8.68±2.8	4.76±1.7	8.242	0.0001
Psychological score	5.21±2	2.56±2	7.054	0.0001
Urogenital score	3.45±1.3	2.36±1.7	4.59	0.0001
Social score	0.81±0.71	0.68±0.69	1.074	0.283
Total menopausal symptom score	18.15±4.1	10.36±3.4	8.645	0.0001

Table 6: Mean scores of female sexual function index (FSFI) in pre and post intervention (n =100):

Domains of FSFI	Pre intervention Mean ±SD	Post intervention Mean ±SD	Paired t	p
Desire score	2.63±0.78	3.99±0.76	12.87	0.0001
Arousal score	1.62±0.69	4.02±0.56	25.4	0.0001
Lubrication score	1.48±0.64	4.23±0.56	29	0.0001
Orgasm score	1.53±0.63	4.34±0.66	31.1	0.0001
Satisfy score	1.56±0.59	4.24±0.56	33.4	0.0001
Pain score	1.59±0.64	4.29±0.77	24.7	0.0001
FSFI score	10.42±1.8	25.1±1.57	29.6	0.0001

P-value < 0.001 statistically highly significant.

Table 7: Distribution of the menopausal women according to their coping strategies utilization in pre and post intervention (n =100).

Copying strategies	Pre intervention		Post intervention		P
	No.	%	No.	%	
No copying	20	20.0	0	0.0	
*Type of copying strategies used	n = 80		n = 100		
Self	5	6.25	20	20.0	0.0001
Medical	10	12.5	17	17.0	0.32
Alternative	7	8.75	15	15.0	0.035
Self and medical	15	18.75	14	14.0	0.49
Medical and alternative	17	21.25	14	14.0	0.031
Self and Alternative	20	25.0	12	12.0	0.001
All copying strategies	6	7.5	8	8.0	0.99

P-value < 0.05 statistically significant, p-value < 0.001 statistically highly significant, p-value ≥ 0.05 statistically insignificant.
(*) Select more answer.

Table 8: Coping Strategies of the menopausal women with sexual desire and vaginal symptoms at post intervention (n=100):

Coping strategies at post intervention		No.	(%)
Sex desire	**Self coping**		
	Spouse	54	54.0
	Try new sings	44	44.0
	Medical		
	Hormone	44	44.0
	Regional cream	49	49.0
	psychological	46	46.0
	Libido enhance	40	40.0
	Alternative		
	beans	33	33.0
	ginger	26	26.0
	fennel	22	22.0
	cloves	20	20.0
	licorice	18	18.0
	arugula	17	17.0
Vagina symptom	**Self-coping**		
	foreplay	51	51.0
	Drink water	52	52.0
	Personal hygiene	48	48.0
	Medical		
	Hormone cream	43	43.0
	Hormone therapy	50	50.0
	Lubricant gel	47	47.0
	Alternative		
	Black cohsh	46	46.0
	Apple	43	43.0

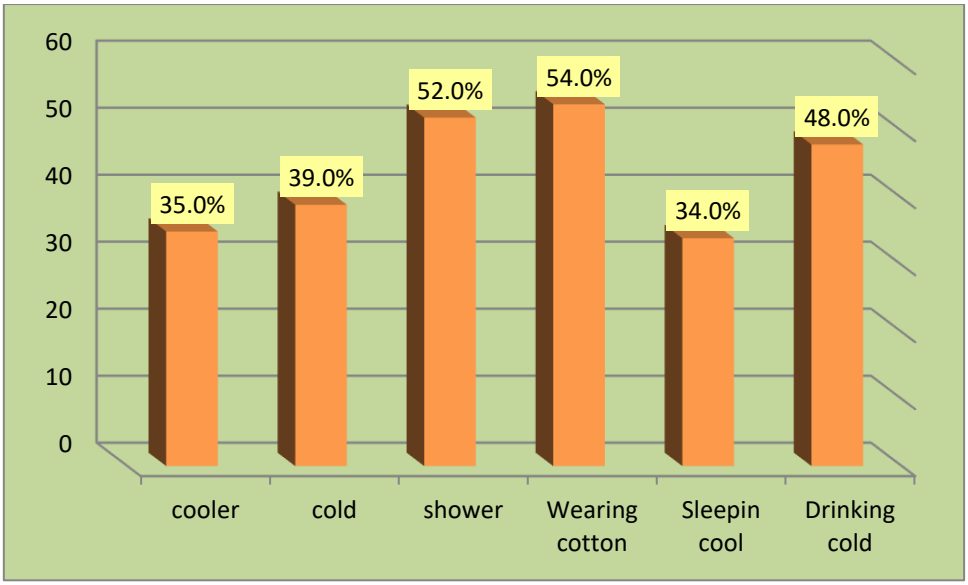

Figure (5): Self-coping strategies regarding hot flushes utilized by menopausal women at post intervention (n =100).

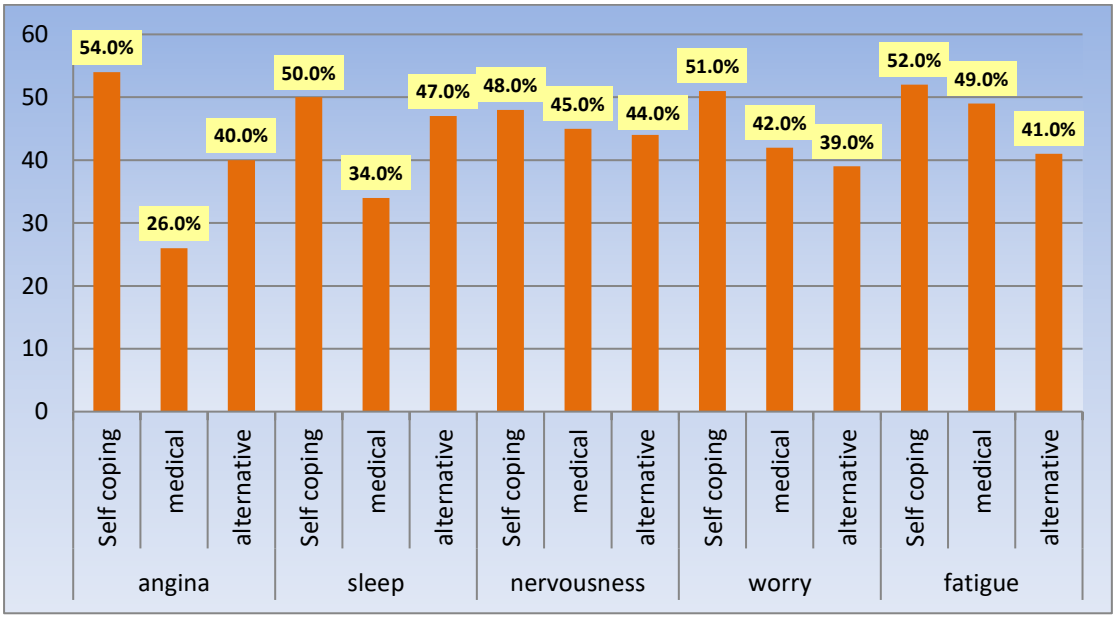

Figure (6): Coping strategies regarding some menopausal symptoms among women at post intervention (n =100).

Discussion

Menopausal women's usage of complementary and alternative therapies as coping mechanisms for menopause symptoms has grown in popularity in recent years. The degree of education, age, occupation, economic independence, income level, social class, marital adjustment, marital status, interest in other activities, size of the family, knowledge of this time period, and role reversal of women are all factor and the value placed on women by society all have an impact on menopausal symptoms. Menopausal women who have received the proper, well-rounded training in coping mechanisms can see an improvement in their physical and mental well-being ***(Ozpinar and Cevik, 2016).***

The findings of this study indicate that the mean age of menopausal women who were participate in the study was 51.2±2.2 years old, nearly two thirds (38.0%) of them were Primary and preparatory school graduates, almost half (51.0%) of them were live in rural areas, 56.0% of them were house wife and 57.0% met their life expenses meanwhile more than one third (37.0%) of them hadn't have sufficient income. These finding are in accordance with ***Sophia et al., (2022***) study in india about Menopausal ladies in a particular hospital in Mangaluru discuss their symptoms and coping mechanisms showed that among the study's female participants, 45.0% of the menopausal women were between the ages of 51 and 55, with a mean age of 51.47 4.11 years. 32.0% of women had completed primary school, while 35.0% had completed secondary education. Among menopausal women, 20.0% were illiterate; 95.0% were married.

This also fits very well with the study done by ***Nateri et al., (2017)*** on coping mechanisms and sexual dysfunction, which showed that the study's participants were women between the ages of 42 and 62 (mean, 53 (3.51) years). Children ranged in age from 1 to 11 (mean = 3.87; SD 1.63); women were menopausal from 41 to 60 (mean = 50; SD 3.23); 14.60% were illiterate; 38.61% held elementary education degrees; 20.60% had guidance school degrees; 19.73% held diplomas; and 6.41% held advanced degrees. 25 of them were employed, and 202 of them were housewives.

Finally these findings are in partial agreement with ***Mahmoud et al., (2016)*** study about coping strategies to the problems associated with the postmenopausal women in Assuite who stated that the participants' ages varied from 45 to 55 years, with a mean age of 50.0 years and a range of 36.0% to 64.0% between 45 and 49 years and 50 to 55 years, respectively. While the remaining percentage was split among people with different educational levels, 72.0% of them were illiterate. By the time of the research, just 3.0% of the women were employed. Additionally, 79.0% of the women lived in rural areas, while just 21.0% did so in urban suburbs. According to the table, 70% of the women were still in committed relationships at that point, while 30% were widows or divorcees.

According to sexual pattern among studied women results shows that almost two thirds (68.0%) of them practice sexual relation once or twice monthly ,92.0% were married for one time, meanwhile more than two thirds of them were unsatisfied regarding sexual relation with their couples. As regard knowledge about menopause, more than half of them didn't recognize characteristics of menopause and how to deal with its manifestations and more than half (52.7%) of women had received knowledge from their friends meanwhile 25.5% receive knowledge from health care giver. Also ***Yurdakul et al., (2007)*** revealed that of the women who took part in their study, 61.4% did not receive any information on the menopausal period, and 72.3% did not receive any health services. The findings of this investigation are consistent with those found in the literature. In addition to ***Ozpinar and Cevik, (2016)*** study who found that 50.6% of respondents were aware of the menopausal transition, 41.4% said they learned about it via friends or other nearby individuals.

Because these women had more knowledge about menopause, were more open to learning, and were better equipped to apply coping mechanisms, it is thought that there was a decrease in menopausal complaints as a result of higher levels of education.

Data analysis of the current study represents somatic, urogenital and social menopausal symptoms at Pretest intervention & posttest. There is a high statistical significant improvement among menopausal women at posttest in somatic symptoms as hot flushes , headache, leg cramps, lumbago, reduced strength, sweating, tenderness and dry skin (p = 0.0001). Also urovaginal and social symptoms were significantly improved as observed in the follow up period as valval pain (p= 0.006), vaginal dryness (p = 0.0001), burn micturition (p= 0.009), isolation (p= 0.002) and feel loneliness (p = 0.009). According to menopausal symptoms score mean among participants at pretest and follow up , there is a high statistical significant improvement at score mean in somatic, psychological, urogenital and total menopausal mean score (p = 0.0001).

These findings were congruent with ***Agarwal et al., (2018)*** study on women's menopausal symptoms and coping strategies found that 49.0% of women had very bad muscle and joint pain. Under psychological symptoms, 30.0% of women reported moderate physical and mental tiredness, and 32.0% of women reported a moderate bladder issue under urogenital symptoms. In a related study, middle-aged women from North Central India were evaluated for menopausal symptoms and coping mechanisms. According to the findings, 70.6% of them had joint and muscular pain, 61.3% experienced physical and mental tiredness, and 38.6% experienced a hot flush and perspiration.

The most prevalent menopausal symptoms reported by the study sample, according to ***Kişk et al., (2020)*** were physical and mental weariness (84.0%), hot flushes (82.2%), and agitation and anxiousness (82.2%). There were 78 (46.2%) women who had severe urogenital symptoms, 46 (27.2%) women who had severe somatic symptoms, and 79 (46.7%) women who had severe psychological symptoms.

Regarding domains of Female Sexual Function Index (FSFI) in the present study at pretest intervention and posttest mean score which reveals a high statistical significant improvement in desire, arousal, lubrication, orgasm, satisfaction and pain score (p = 0.0001)with total mean score 25.1±1.57. These findings are in agreement with the results of previous studies as ***Carranza and Núñez, (2018)*** and ***Chang et al., (2019).*** The mean± standard deviation for the FSFI total score was 18.22 ± 10.60, which is similar to reports made by ***Jamali et al.,(2016)*** for postmenopausal Iranian women (60.10 ± 6.89 years), and by ***Gozuyesil et al., (2018)*** (18.8 ± 8.7). We must keep in mind, nevertheless, that the latter study only evaluated sexual function in Turkish women between the ages of 40 and 60.

However, in other studies involving individuals with a comparable mean age, such as those by ***Carranza-Lira and Núñez, (2018)*** (with a score of 22) or ***Zhang et al., (2017)*** (21.52 ±2.85), after evaluating Mexican and Chinese women, respectively, the mean FSFI total score was higher. The participants' average age or the particular culture may be to blame for the disparities. In any event, research has revealed that menopause has similar impacts to physical, mental, and emotional changes brought on by ageing that may also affect sexual function (***Nazarpour et al., 2018***).

According to coping strategies utilization in pre and post intervention tone fifth (20.0%) of women hadn't used coping strategies in pre intervention. As regards the types of coping strategies used, there is a considerable shifting to self-coping strategy in post intervention (20.0%) compared with pre intervention (6.25%) with a statistical significant difference (p = 0.0001*).

This correspond well with ***İkiışık et al., (2020)*** participants stated that going to the doctor, attempting to eat a healthy diet, utilizing homemade herbal medicines, exercising, and spending more time with family members were the most frequently employed measures. This finding is compatible with ***Im et al., (2012).*** Some researchers have noted the obtaining of guidance from sources other than health care providers ***(Dietz et al., 2018)***.

The current study represent coping strategies applied at posttest among participants, there was an observable shifting to

self-coping strategies against menopausal symptoms at post intervention (20.0%,17.0%) were directed to medical coping strategies and 15.0% of them preferred alternative coping strategies .In addition to sexual desire the table findings reveals that spouse was the most preferred self-coping strategy among participants (54.0%) , Regional cream was used as a medical coping strategy among 49.0% of participants and beans was the optimal alternative coping strategy among 33.0% of women.as regards vaginal symptoms ,more than half (52.0%) of women choose drinking of water as a self-coping strategies,50.0% of them used hormonal therapy as a medical coping strategies and the black cohosh was preferred among 46.0% of women as an alternative coping strategies. Finally, self-coping strategies were the most common used against menopausal manifestation followed by alternative coping strategies and finally medical coping strategies were the least useable among participants.

These finding correspond well with the study by ***Im et al.,(2012)*** who, based on MRS subscale and overall scores, affirm that the use of pharmaceuticals on hand was more prevalent among the women with severe symptoms than it was among those without severe symptoms. According to higher somatic and psychological subscale scores as well as total MRS scores, women with severe symptoms were more likely to use homemade herbal treatments as a coping mechanism. Also reported is the usage of complementary and alternative medicines during menopause. Wearing cotton, taking a shower, and drinking cool beverages were the most popular self-coping strategies utilised by participants at the posttest, with women preferring them the most (54.0%, 52.0%, and 48.0%, respectively).

These findings were consistent with ***Sophia et al., (2022)*** who noted that 54.0% of women use a calmer, cooler environment to deal with hot flashes and sweating, 55.0% of women sit comfortably to relieve heart discomfort, 47.0% of women drink milk at night to manage their sleeping problems, and 60.0% of women use hot water to deal with joint and muscular pain. These results aligned with those of an earlier study by ***Ozpinar and Cevik, (2016)*** on the complaints and coping mechanisms related to the menopause in women.. According to the findings, 79.1% of the women used a cooler atmosphere to reduce hot flashes, 43.5% drank milk before bed to promote sleep, and 55.6% had paid attention to their diets to treat joint and muscle pain.

Conclusions:

The finding of the study concludes that: Implementation of the nursing intervention had highly statistically significant effect on improving copying strategies regarding menopausal symptoms and sexual dysfunction**.**

Recommendations:

Based on the results of the present study, the researchers suggested the following recommendations:

- Implementation of nursing program with a learning booklet for nurses should be conducted in order to increase their level of knowledge and practice related to all types of copying strategies for menopausal symptoms and sexual dysfunction.
- Further studies can be replicated on a larger sample size for popularize the findings**.**
- Further experimental studies must be conducted on diet, iron, calcium supplements could be given and their efficacy in reducing menopausal symptoms should be evaluated.

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