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The Efficacy of Holistic Health Education in Managing Menopausal Symptoms. An Experimental Study

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Abstract:

Background: Menopause brings about major physical, mental, and psychological changes in women, making it an important time to pay attention to their health throughout this phase of life. Women may encounter various symptoms and health issues when their oestrogen levels drop, which may have an adverse effect on their quality of life.

Objective: The study aims to find the impact of holistic health education on managing the menopausal symptoms severity.

Methods: The experimental study conducted on 88 premenopausal women in rural area above the age 35 years at Coimbatore. In the experimental group women receive holistic health education which includes nutrition, physical activity, stress management and yoga in managing the menopausal symptoms. The pre-intervention and post-intervention was developed and data were collected with 6 month duration.

Results: The result reveals that the economic factor of the participants had association (Regression t=-2.15, P=<0.05) with their menopausal symptoms score. In addition, there was a non-significant difference (P>0.05) in the pre-assessment data between the experimental group and the control group. The study shown that holistic approaches towards menopause symptoms shown a significant (P<0.01) improvement in BMI, nutrient intake, haemoglobin level by practicing wellness enhancing habits and significantly (P<0.01) lower the stress score, physiological and psychological symptoms score in the experimental group.

Conclusion: The study's findings suggest that the lifestyle-focused, holistic health education successfully improved menopausal symptoms and promoted healthier lifestyle habits among menopausal women.

Keywords: Holistic health education, Menopausal symptoms, Nutrition, Premenopausal women

I. INTRODUCTION

The menstrual cycle of women ends with the menopause, a natural event that marks the end of their reproductive years. This happens through loss of ovarian follicular function which means ovaries stops releasing the egg for fertilization. It occurs between the ages 45 to 55 years, although it vary among the individuals. The age of menarche, smoking habits, and reproductive history are some of the factors that influence the age at menopause (Wang et al, 2018). During menopause the reproductive hormones estrogen and progesterone gets gradually decline. These decline and cessation of secretion leads to various health issues in women's life such as osteoporosis, cardiovascular disease and stroke (Harlow et al, 2012). There are three stages of menopause premenopause, perimenopause and postmenopause. The premenopause stage is prior to onset of menopause and marked by regular menstrual cycle with balanced levels of reproductive hormonal levels with various symptoms associated with menopause. Postmenopause is an end of reproductive year and during this phase menopausal symptoms continues and gradually decrease in severity. However, the decline in hormone in this phase leads to increased risk of health conditions.

Premenopausal women mainly experience symptoms related to their menstrual cycles, while perimenopausal women encounter a combination of these and vasomotor symptoms, such as hot flashes and night sweats. In postmenopausal women, vasomotor symptoms, particularly night sweats, are most common. Fatigue, headaches, anxiety, and cognitive issues are frequent across all stages (Aras et al, 2023). However, symptom experiences vary greatly between individuals, influenced by factors like ethnicity, socioeconomic status, and health habits, highlighting the importance of personalized strategies in managing menopausal symptoms (Kaur et al, 2022).



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The symptoms were measured using a standardized tool Menopausal Rating Scale (MRS) consists of 11 items and each items were rated with five point scale of severity (Vadugu et al, 2015). Women spends half of their life in postmenopausal stage (Puri et al, 2008). And there is lack of awareness about the changes and symptoms bought by menopause due to their elder age category. India currently lacks a national health program specifically designed to address the unique health needs of postmenopausal women. Additionally, there has been limited research in rural areas to explore this issue in depth (Armo et al, 2020).

Maintaining a healthy lifestyle can help reduce menopausal difficulties and provide peri and postmenopausal women with a sense of independence. Such a healthy lifestyle includes exercise, nutrition and stress management (Sorour et al, 2014). These healthy lifestyle in peri and postmenopausal women would be possible if the health education initiated in premenopausal stage. One of the effective method for influencing women's behaviour about the consumption of nutritious foods and physical activity is health education.

Educational programs focused on menopause have been shown to improve women's understanding, reduce symptoms, and enhance their overall quality of life. This suggests that similar initiatives in India could greatly benefit the health of menopausal women by raising awareness and offering effective management strategies to cope with the physical and emotional changes during this phase of life. By increasing knowledge, these programs can empower women to make informed health decisions, potentially leading to better long-term outcomes and improved well-being (McFeeters et al, 2024) (Keye et al, 2023). Hence the study aims to find the impact of holistic health education on nutrition, yoga and stress management which helps them to manage the menopausal symptoms severity.

II. METHODOLOGY

Sample size and technique used

A simple random sampling method was used to select the samples. An experimental study consisting of participants from rural community in Vedapatti located in Thondamuthur Narasipuram Road, Kurumbapalayam, Coimbatore district (Tamilnadu) were selected. The study was carried out from January 2021 to December 2023. Community workers assisted in the data collection process, which involved using a validated questionnaire. The 100 questionnaires were completed through in-person interviews. Following data interpretation, 88 respondents met the study's inclusion criteria and were chosen for the study; the other respondents did not match the study's requirements and they are excluded.

Selection criteria

Inclusion criteria

The study participants above the age 35 years in rural area. Women in premenopausal stage and underwent family planning. Women willing to participant in the study were included.

Exclusion criteria

Women below 35 years, resident in urban area, having severe chronic disease conditions and disabilities. Women in postmenopausal stage, underwent hysterectomy and participant not interested to take part in the study were excluded.

Ethics Approval Statement

The Institutional Human Ethics Committee (IHEC) of the PSG IMSR, Coimbatore, provided ethical approval for the current investigation. On November 26, 2021, the research was authorised, with proposal number 21/307.

Validated questionnaire

Demographic information questionnaire

This includes the information regarding the socio-demographic details (age, educational level, socio-economic status and physical activity), anthropometric measures (BMI-Body mass index, WHR-Waist-hip ratio), biochemical parameters (Hb-Haemoglobin), dietary intake (24'h recall).

Structured questionnaire

The severity of menopausal symptoms was evaluated with the help of Menopausal Problem Rating Scale (MRS), developed by Heinemann et al. in 2003. The participant's stress level was evaluated using the Cohen.S Perceived Stress Scale, developed in 1994. There are 11 items on the Menopausal Rating Scale, divided into three categories. Symptoms include hot flashes, heart palpitations or pain, sleep difficulties, and problems with muscles or joints occur within the somatic domain. Complaints related to depression, irritation, anxiety, and physical or mental exhaustion come under the psychological category. Last but not least, the urogenital area deals with concerns like dry vagina, bladder troubles, and sexual difficulties. Each item has a score that ranges from 0 (no complaint) to 4 (extremely serious complaint). The intensity of menopausal symptoms is indicated by a rising score, which varies from 0 to 44. The perceived stress scale contains 10 items and each item has a score and the questions 4, 5, 7 and 8 had reverse scores.



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Intervention programme

The intervention programme was conducted using power point presentations on overview of menopausal symptoms and problems, 15 min visual learning by healthcare professional and experts on nutrition, stress management and yoga. The pamphlets on holistic approaches towards symptoms management to the experimental group were also provided. Preassessment data was collected face to face by investigator. Then the education aids were sent to the participants what's up number and made them practice the stress management technique, healthy food intake and yoga regularly for 6 month. Each month follow up was done by the investigator. Finally post-assessment data was collected and interpreted.

Statistical data analysis

SPSS version 27 and Microsoft Excel 2013 were used for the data analysis. To summarise the data, descriptive statistics were applied, including mean, standard deviation, and percentages. The significant differences between the groups were identified using a post-hoc test. Socio-demographic variables associated with menopausal symptoms were found by regression analysis. The impact of dietary education on controlling menopausal symptoms was assessed by comparing before and after intervention data using a paired sample t-test.

III. RESULTS AND DISCUSSION

There are many studies to address the prevalence of severe menopausal symptoms in peri and postmenopausal women. Hence the present study assessed the efficacy of holistic health education in managing the severe menopausal symptoms in rural premenopausal women. Similarly some studies suggest that menopausal symptoms worsen during perimenopause and decrease in postmenopause, with the exception of somatic symptoms, which are more common after menopause (Binfa et al, 2004) (Blümel et al, 2004). However, other studies indicate that postmenopausal women may experience more severe symptoms compared to those in perimenopause (Yisma et al, 2017).

In rural areas with 88 premenopausal women participated the study was conducted. The mean and standard deviation of the scores for several socio-demographic factors related to menopausal symptoms for the experimental group and the control group are shown in Table 1. The pre-assessment data results no statistically significant difference (P>0.05) between the experimental and control groups. Among the rural women in the experimental group, regression statistical analysis reveals a relationship between menopausal symptoms and economic status (t value: -2.15, P<0.05). There are many studies resulting that the socio-demographic factors influence the severity of menopausal symptoms, such as age, marital status, education level, socioeconomic status, and contraceptive use. Studies show that women with lower education and socioeconomic status tend to experience more severe menopausal symptoms (Akhila et al, 2023).

Characteristics	Mean score of Menopausal symptoms					
	Experimental group	Control group	p-value	Regression t-		
	(n =44)	(n=44)		value		
Age group						
35-40	1.37 ± 2.04^{a}	1.14 ± 2.97^{a}	0.077^{NS}	1.28		
41-45	3.11 ± 2.98^{a}	2.00 ± 2.96^{a}				
46-50	2.12 ± 1.73^{a}	$1.14{\pm}1.07^{a}$				
Education						
Uneducated	2.50±0.71ª	3±0.01 ^a	0.451 ^{NS}	-1.04		
Primary	2.40 ± 2.55^{a}	1.64 ± 2.33^{a}				
Secondary	1.32 ± 2.24^{a}	1.15 ± 2.16^{a}				
Higher secondary	2.50 ± 2.66^{a}	0.40±0.89ª				
Diploma	2.75 ± 2.36^{a}	1±0.01 ^a				
Graduate	0.67 ± 0.58^{a}	1.25 ± 1.26^{a}				
Socio-economic status						
(Using Kuppusamy's						
scale)						
Upper lower	2.90 ± 2.38^{a}	1.88 ± 2.75^{a}	0.103 ^{NS}	-2.15*		
Lower middle	1.59 ± 2.15^{a}	$1.37{\pm}1.88^{a}$				
Upper middle	1.40 ± 2.61^{a}	0.33±0.52ª				
Physical activity						
Yes	1.88±2.3ª	1.28 ± 0.17^{a}	0.737 ^{NS}	0.34		
No	1.50 ± 2.12^{a}	3±0.01 ^a				

Table-1: Mean score of Menopausal symptoms between socio-demographic characteristics of respondents



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Note: ^{NS} Non-significant between experimental group and control group of various socio-demographic factors (P>0.05). The same superscript letter in row indicates that their means are not significantly different. DMRT: Duncan's Multiple Range Test. Regression was performed to found the socio-demographic factors associated with menopausal symptoms. * Significant at 5%.

Table-2 reported that the mean body weight has reduced by 2.5 kg in the experimental group after intervention and increased by 0.13 kg in the control group. Hence the BMI and WHR shows a significant difference (P<0.001) and (P<0.05) in the experimental group between initial and final value respectively. A similar study found a strong link between BMI and menopausal symptoms, particularly depressive mood and irritability, with significant p-values of 0.001 and 0.019, respectively (Lavanya et al, 2023). A survey found that postmenopausal women who engaged in light activities generally had a normal BMI compared to sedentary lifestyle women (Ranasinghe et al, 2017).

An early study on the impact of yoga on obese individuals in midlife showed a statistically significant reduction in weight (P < 0.05), suggesting that regular yoga practice can lead to better sleep and reduced stress (Tikhe et al, 2015). Additionally, a study by Jayabharathi and Judie (2014) supported these findings, demonstrating the positive effects of yoga on the quality of life for menopausal women. The heamoglobin level of experimental group was significantly improved from 10.95 ± 1.82 to 12.28 ± 1.39 after intervention but in control group it further get decreased. And within the experimental group the mean intake of energy, fat get decreased and protein, calcium, iron, fiber intake increased (all P<0.001) in final value after intervention. Nutritional education can greatly enhance dietary habits in menopausal women, lowering disease risk factors and promoting overall health by focusing on key nutrients like vitamin D, calcium, and protein (Erdelyi et al, 2023).

Category	Experimental group (n=44)			Control group (n=44)			
	Initial value	Final value	p-value	Initial value	Final value	p- value	
Anthropometric							
measures							
Weight (kg)	63.58 ± 10.7^{a}	61.04±4.7 ^b	< 0.001	63.78±9.7 ^a	63.91±9.63ª	0.035	
BMI* (kg/m ²)	26.89 ± 0.07^{a}	25.82±3.8 ^b	< 0.001	26.68±3.85 ^a	26.73±3.82 ^a	0.50	
WHR**	0.89 ± 0.07^{a}	0.88 ± 0.06^{b}	0.039	0.92 ± 0.05^{a}	0.93 ± 0.05^{a}	0.08	
Biochemical parameters Heamoglobin (g/dl)	10.95±1.82 ^b	12.28±1.39ª	<0.001	11.17±1.6ª	10.99±1.5ª	0.02	
<i>Nutrient intake</i> Energy (kcal)	1982±221.25ª	1867±133.73 ^b	< 0.001	1969±222.91ª	1976±216.8ª	0.81	
Protein (g)	43.15±3.76 ^b	53.44±6.06 ^a	< 0.001	43.29±2.42 ^a	43.09±2.78 ^a	0.46	
Fat (g)	65.68±17.03 ^a	47.12±10.97 ^b	< 0.001	65.91±16.12 ^a	65.19±13.85 ^a	0.38	
Calcium (mg)	674.35±133.43 b	792.06±127.01 a	< 0.001	699.84±126.79ª	686.12±132.06 a	0.03	
Iron (mg)	9.66±1.53 ^b	16.07±3.34 ^a	< 0.001	9.87±1.39 ^b	10.79±2.13 ^a	0.001	
Fiber (g)	25.24±4.38 ^b	29.28±4.68ª	< 0.001	26.95 ± 5.65^{a}	25.42±5.99 ^b	0.007	

Table-2: Results of variables following 6 month of intervention

* (WHO, 2024); ** (WHO, 2008). The superscript letters in row indicates the significant difference within the group.

The paired sample t-test was performed within the groups to measure the impact of intervention on stress level and menopausal symptoms level. The mean stress level in the experimental group was significantly (P<0.01) reduced from 17.98 ± 5 to 13.68 ± 1.96 after 6 month intervention. The influence of education could be observed in menopausal symptoms scores in the experimental group. The physical and psychological symptoms scores showed significant improvement (P<0.01) in the pre-test and post-test comparison. However the control group reported that there was a significant change (P<0.05) in physical and psychological symptoms by increasing the score as shown in table-3.



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Table-3: The changes in mean score of stress level and menopausal symptoms following 6 month intervention

Attributes	Experimental g	group (n=44)	Control group (n=44)		
	Pre-test	Post-test	Pre-test	Post-test	
Stress level	17.98±5	13.68±1.96**	16.86±2.65	16.36±2.19	
Somaticl symptoms	0.55±1.09	0.20±0.46**	0.25±0.75	0.32±0.95*	
Psychological symptoms	0.82±1.12	0.43±0.69**	0.52±0.7	0.67±0.82*	
Urogenital symptoms	0.50±1.02	0.48±0.95	0.55±1.07	0.59±0.87	

Note: **Significant at 1%, * Significant at 5%

These results were supported by Malik E, et al. conducted an experimental study in 2018 on 103 menopausal women aged 40 to 60. They found that the women in the experimental group participated in a lifestyle modification program, their menopausal symptoms were significantly reduced compared to the women in the comparison group. The difference in symptom scores between the two groups was statistically significant (with a P value of less than 0.05), meaning that the lifestyle program likely had a beneficial impact on reducing menopausal symptoms.

In another study by Kavitha, et al. in 2017 looked at 60 postmenopausal women to assess the impact of relaxation, exercise, and dietary interventions on menopausal symptoms. They found that the women in the experimental group, who followed the intervention programme had significantly lower menopausal symptoms score compared to the control group. Similar findings were published in a 2019 research by Rathnayake N, et al. that investigated the impact of a lifestyle-modification-focused educational intervention on health management of postmenopausal women. The experimental group saw a substantial improvement (P < 0.001) in menopausal symptoms after a 6-month follow-up, but there were no significant changes seen in the control group.

IV. CONCLUSION

The study found that lack of knowledge towards menopause and poor lifestyle practice in premenopausal stage results the menopausal symptoms to very severe in postmenopausal stage. The result showed that holistic approaches towards menopause symptoms shown a significant (P<0.001) improvement in BMI, nutrient intake, haemoglobin level by practicing wellness enhancing habits and significantly (P<0.01) lower the stress score, physiological and psychological symptoms score in the experimental group. Hence present study findings suggest that the lifestyle-focused, holistic health education successfully improved menopausal symptoms and promoted healthier lifestyle habits among menopausal women. However, further research with larger groups and longer observation periods is needed to evaluate the long-term impact of this approach.

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Conflicts of interest

There are no conflicts of interest

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