



Effectiveness of Flax Seeds Supplementation on Health Related QOL and Symptom Experience among Post Menopausal Women at B.V.V. Sangha's Akkanabalaga, Bagalkot

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KEYWORDS

Post-menopause, symptoms, Flaxseed supplementation, women's health.

ABSTRACT:

Women's health has been a global concern for many decades. The focus of women's health researchers and health policy planners has also shifted towards postmenopausal women since recent trends suggest an increase in their number and life expectancy. Postmenopausal women have to face a lot of problems, both physically and psychologically. They have to cope with these changes and accept their new role in the society and family. The earlier the age of menarche, the earlier menopause tends to occur. Women need health teaching to learn the normal parameters of menopause so they may continue to monitor their own health during this time. The age at which natural menopausal period occurs in between the ages of 40 -55 for women worldwide. In 1990, 25 million women worldwide reached the menopause, this number is expected to double by late 2020. An average growth rate of 2-3.5% in the number of women aged over 50 is projected for the developing regions between 1990&2030. In the United States, 1.3 million women reach menopause annually. Although most women transition to menopause without experiencing psychiatric problems, an estimated 20% have depression at some point during menopause. Insomnia occurs in 40-50% of women during the menopausal transition, and problems with sleep may or may not be connected to mood disorders. Women with insomnia are more likely than others to report problems such as anxiety, stress, tension, irritation and depressive symptoms.

Methods: A True Experimental pre test post test research design, was used for present study. The samples of 50 post menopausal women were selected by simple random sampling technique method data was collected by self-structured questionnaires, The data analysis done by using descriptive and inferential statistics.

Result: The comparison of pre-test and post-test, the quality of life of post menopausal women shows that the mean post test score of symptom experience is significantly lower than the mean pre-test score ($t=12.730$, $p<0.001$). and the mean post-test score is significantly higher than the mean pre-test score ($t=9.973$, $p<0.001$). There is no significant association **between socio** demographic variables for both symptom experience and QOL scores of postmenopausal women.

Conclusion: The study found that the implementation of flaxseed supplementation intervention beneficial strategy for managing post-menopausal symptoms.

1. Introduction

India has a large population – which has already crossed the 1 billion mark with 71 million people over 60 years of age and the number of menopausal women about 43 million. A total of 130 million Indian women are expected to live beyond menopause by 2015. Average age of menopause is 47 years in Indian women with average life expectancy of 71 years. Therefore Indian women are likely to spend almost 23.5 years that is one third of their total lives in menopause¹. Under current demographic trends, menopausal and postmenopausal health has emerged as an important public health concern

in India owing to improved economic conditions, rapid lifestyle changes, and increased longevity². Generally, women have more complex and stressful aging process as men do, as a consequence of hormonal changes that occur during menopausal transition³. The onset of this physiological development not only marks the end of women' reproductive function but makes them more vulnerable to a new set of health problems including cardiovascular diseases, osteoporosis, psychological problems and so on⁴. The year 2011 of Indian menopause society is dedicated to peri and post menopausal women



who had been suffering in silence; the theme is “Helping her breeze through menopause” (Srivastava Saroj, 2011)⁵

2. Materials and Methods

This study used quantitative evaluative approach with a pre-test (O1) and post-test (O2) design.

Fifty post-menopausal women were selected for the study, and the sample for this study was determined using the non-probability based random selection method.

Study Design: Pretest posttest control group design with longitudinal measurement of outcome variables will be used for the present study

Intervention: In this study Flax seeds supplementation will be given to post menopausal women 40gm for every consecutive day with food for two months (60days) for the postmenopausal women who have symptom experience.

O1: Pretest conducted to assess the symptom experience among post menopausal women of both experimental and control group.

X: Flax seeds supplementation for every consecutive day up to 60 days for the postmenopausal women of experimental group. Where as Flax seeds was not administered to control group postmenopausal women.

O2 – O31: Intervention assessment of symptom experience among post menopausal women of experimental group and control group for every alternative day's up to day 60 (30 times).

O32- O60: Post intervention assessment of symptom experience among post menopausal women of experimental group and control group up to day 90.

Setting of the Study: The environment in which data collection occurs is called the setting. The study was conducted in BVVS Sangha's Akkanbalaga Bagalkot, India

Participants: In this study, participants were postmenopausal women. Total sample consisted of 50 post menopausal women by purposive sampling technique.

Data Collection Procedures: Data collection instruments are the procedures or tools used by the researcher to observe or measure the critical variables of

the research problem. The researcher used standardised menopausal rating scale and HRQOL scale for post menopausal women.

Tool was Comprised of Three Parts:

Part 1: Socio-demographic data included information on post-menopausal women such as age, religion, educational status, occupation, family monthly income, marital status, Physical activity, parity, Body build, Time period after menopause.

Part 2: Consist items of post menopausal symptoms to assess the symptom experience of post-menopausal women.

Part 3: Consists of the WHO'S BRIEF scale to assess HRQOL in post-menopausal women, consisting of 26 items

Scoring Scheme: Total 23 positive items Briefs HRQOL scale for assessing HRQOL in post menopausal women which consist of 26 items (items 1,2,5,6,7,8,9,10,11,12, 13,14,15,16,17,18,19,20,21,22,23,24,25,) which are scored as follows.

5 - very good or extremely much or entirely or very satisfied or always.

4 - good or very much or mostly or satisfied or very often

3 - neither bad nor good or moderately or neither satisfied nor dissatisfied or often abandoned.

2 - poor or a little dissatisfied or rarely

1 - very poor or not at all or very dissatisfied

The letter scale of WHO contain 3 negative items (items 3,4,26) rated as follows (with reversed valence);

5 - very poor or not at all or very dissatisfied

4 - bad or a little dissatisfied or rarely

3 - neither bad nor good or moderately or neither satisfied nor dissatisfied or often.

2 - good or very much or mostly or satisfied or very often

1 - very good or extremely much or entirely or very satisfied or always.

Thus the total depression score ranges from 0- 60 for 20 items.



Statistical Analysis: The information was analysed using SPSS 18. Data were entered into MS – Excel spread sheet and then transferred into SPSS. Data were organised and explained using descriptive and inferential analysis to determine the association between variables.

Variable Under Study: Study variables for the present study were the socio demo graphic and symptoms experienced by the postmenopausal women.

Ethical Clearance: The ethical clearance was obtained from the B.V.V.S Sajjalshree Institute of Nursing Science, Bagalkote, India. Written informed consent was obtained from each participants.

3. Organization of Findings

The collected information was organized and presented in 4 sections as follows:

Section I: Description of socio-demographic characteristics of sample.

Section II: Assessment of symptom experience among post menopausal women.

Part-I: Comparison of knowledge level of women in pre-test and post-test.

Part-II: Area wise effectiveness of flax seeds on postmenopausal women.

Part-III: Testing of Hypothesis.

4. Results

The purpose of analysis is to reduce the data to intelligible and interpretable forms so that the relation of problems can be studied and tested. The interpretation of tabulated data can bring to light these real meaning of the finding of the study. Socio-demographic characteristics of post-menopausal women-Percentage-wise distribution of postmenopausal women according to their age groups (44%) were 51-56 years old. Most post-menopausal women in the sample (42%) were Hindu. Most post-menopausal women (50%) in the sample had primary education. Most post-menopausal women in the sample (52%) were homemakers. Most post-menopausal women in the sample (32%) had their family monthly income between 20000-30000rs. Most of the post-menopausal women in the sample (64%) were leading the sedentary life style. Most post-menopausal women (74%) in the sample were endomorphic body built. Most post-menopausal women (42%) in the sample, 0-2 year children. Most post-menopausal women (54%) in the sample had periods after menopause between 0-2 years. (Table 1).

Table 1. Socio demographic characteristics of post menopausal women

S. No	Socio-demographic and Clinical variables	Character	Frequency	Percentage (%)
1	Age	40-45Y	4	8
		46-50Y	8	16
		51-55Y	22	44
		56-60Y	16	32
2	Religion	Hindu	31	62
		Muslim	8	16
		Christian	5	10
		Others	6	12
3	Educationalstatus	No formal education	14	28
		Primary education	25	50
		Secondary education	6	12
		Graduation and above	5	10
4	Occupation	Homemaker	26	52
		Employed	7	14



S. No	Socio-demographic and Clinical variables	Character	Frequency	Percentage (%)
		Self employed	2	4
		Coolie	15	30
5	Family monthly income	10,000-20,000	13	26
		21,000-30,000	16	32
		31,000-40,000	10	20
		41,000 and above	11	22
6	Marital status	Married	35	70
		Unmarried	05	10
		Divorced / widow	10	20
7	Physical activity	Sedentary	32	64
		Moderate	10	20
		Heavy	08	16
8	Body build	Endomorphic	37	74
		Mesomorphic	07	14
		Ectomorphic	06	12
9	Parity	0-2	24	48
		3-4	21	42
		5-6	05	10
10	Time period of menopause	0-2 year	27	54
		2-4 year	19	38
		4-6 year	03	06
		6-8year	01	02

Table 2 and 3: Assessment of pre test and post test symptom experience before and after intervention among post menopausal women.

Pre-test symptom assessment before intervention among post-menopausal women- The results of the comparison of pre-test and post-test symptom experience in postmenopausal women show that in the pre-test, the majority (34%) of post-menopausal women had

extremely severe joint pain, majority (40%) of post-menopausal women had moderate mood swings, majority (28%) of post-menopausal women had moderate fatigue, majority (56%) of post-menopausal women had extremely insomnia, majority (40%) of post-menopausal women had extremely severe heart palpitation, majority (40%) of post-menopausal women had mild parathesia, majority (40%) of post-menopausal women had severe night sweats.(Table 2).

Table 2. Frequency Distribution

N=50

Menopausal symptoms	No symptoms		Mild		Moderate		Severe		Extremely severe	
	Number of respondents	%	Number of respondents	%	Number of respondents	%	Number of respondents	%	Number of respondents	%



Joint pain	5	10	5	10	10	20	13	26	17	34
Mood swings	0	0	5	10	20	40	15	30	10	20
Fatigue	8	16	12	24	14	28	10	20	6	12
Insomnia	0	0	5	10	5	10	12	24	28	56
Heart palpitation	5	10	7	14	8	16	10	20	20	40
Par aesthesia	10	20	20	40	10	20	7	14	3	6
Night sweats	2	4	8	16	12	24	20	40	8	16
Vaginal dryness	5	10	12	24	15	30	10	20	8	16

Post -test symptom assessment after intervention among post-menopausal women- The results of the comparison of pre-test and post-test symptom experience in postmenopausal women show that in the pre-test, the majority (36%) of post-menopausal women had mild, majority (38%) of post-menopausal women had mild mood swings, majority (42%) of post-menopausal women had mild fatigue, majority (64%) of post-

menopausal women had mild insomnia, majority (62%) of post-menopausal women had mild severe heart palpitation, majority (66%) of post-menopausal women had mild parasthesia, majority (68%) of post-menopausal women had severe night sweats. majority (56%) of post-menopausal women had mild vaginal dryness. (Table 3).

Table 3. Frequency Distribution N =50

Menopausal symptoms	No symptoms		Mild		Moderate		Severe		Extremely severe	
	Number of respondents	%	Number of respondents	%	Number of respondents	%	Number of respondents	%	Number of respondents	%
Joint pain	8	16	18	36	11	22	11	22	5	10
Mood swings	0	0	19	38	15	30	10	20	6	12
Fatigue	15	30	21	42	11	22	03	06	0	0
Insomnia	0	0	32	64	11	22	05	10	3	06
Heart palpitation	8	16	31	62	9	18	02	04	0	0
Paraesthesia	13	26	33	66	4	8	00	0	00	0
Night sweats	06	12	34	68	06	12	04	8	00	0
Vaginal dryness	10	20	28	56	11	22	01	2	00	0

The Analysis of the mean, SD, and mean percentage of health-related quality of life in pre-test and post-test post-menopausal women showed that the mean overall percentage of health related quality of life before the test

was 55.50 percent, with a mean and SD of 71.85,7.372. with a mean SD of 77.22,60.56, the overall percentage of post- test HRQOL score was 60.56.(table 4)

**Table 4.** Comparison pre test and post test level of symptom experience

Domain of QOL	Max	Pre-test scores			Post-test scores		
	Score	Mean	SD	Mean (%)	Mean	SD	Mean (%)
Over all QOL	10	2.54	0.503	25.4	9.38	0.490	93.8
Physical QOL	35	19.10	2.880	56.95	20.80	2.030	59.42
Psychological QOL	30	17.82	2.265	56.06	16.54	1.432	51.8
Social relationship	15	9.60	1.429	64	10.98	0.795	73.2
Environmental health	40	22.79	3.209	57.95	20.74	2.554	52.85
Grand Total	130	71.85	73.72	55.50	77.22	3.688	60.56

Comparison of Pre-test and post-test symptom that the mean post test scores symptom experience is significantly lower than the mean post **experience among postmenopausal women**- findings related to the comparison of pre-test and post-test symptom experience and QOL scores postmenopausal women shows test scores symptom experience at a significance level of 0.001($t=12.730$, $p<0.001$), similarly, the mean post-test

QOL score is significantly higher than the mean pre-test QOU life scores at a significance level of 0.001($t=4.973$, $p<0.001$) thus the mean pre-test QOL value is less than the mean pre-test QOL value symptom experience significance level of 0.001. similarly the mean post-test QOL score insignificantly higher than mean pre-test QOL score at a significant level of 0.001 (Table 5). core at post menopausal women.

Table 5. Comparison of pre-test and post-test symptom experience and QOL s

Variables	Mean difference	Differential SD	t-paired value	P- value (2 tailed)
Symptom experience	89.40	13.747	12.730	0.000***
Quality of life	64.96	7.372	4.973	0.000***

Association between post-test symptom experience score among postmenopausal women and their socio-demographic variables there is no significant association between the post menopausal symptoms of post-

menopausal women and their socio-demographic variables. Therefore, H_2 is rejected for the socio-demographic variables (Table 6).

Table 6. Association between the post-test symptom experience scores of post-menopausal women and their sociodemographic characteristics

Socio-demographic variables	Level of significance	Chi-square value	p-value
Age	0.05	0.402	0.525
Religion	0.05	0.277	0.598
Educational status	0.05	0.541	0.459
Occupation	0.05	0.415	0.705
Family monthly income	0.05	0.001	0.995
Marital status	0.05	0.981	0.322
Parity	0.05	0.591	0.44
No of children	0.05	0.592	0.44



Socio-demographic variables	Level of significance	Chi-square value	p-value
Body build	0.05	0.098	0.854
Time period after menopause	0.05	0.571	0.449

Df. Degree of freedom= 1,**p<0.001;NS-Not significance

5. Discussion

The present study was conducted to investigate the effectiveness of flaxseed supplementation on HRQOL and symptom experience among post-menopausal women in BVVS Sangha's Akkanbalaga Bagalkot. A true-experimental one-group pre-test-post test research design was adopted to achieve the study's objectives. A sample of 50 post-menopausal women was selected using a non-probability sampling technique. The percentage distribution of post-menopausal women according to their age group shows that most post menopausal women (44%) were 40-60. years old. The study results are supported and conducted by Borker et al. [6]. The study randomly enrolled 106 post menopausal women for more than six months. The results show that the mean age at menopause was 48.26 years. The percentage distribution of post-menopausal women according to their religion showed that most of them (62%) were Hindus. Percentage distribution of post-menopausal women The percentage distribution of post-menopausal women according to their educational status the majority of post-menopausal women (50%) had primary education. The results of the present study do not agree with the survey conducted by Veenadevi et al. [7], according to which there is a significant relationship between the level of education and the level of knowledge of the respondents at the level of 0.05 with a chi-square value (20.87). The study concluded that women should be better prepared for the changes to minimize the risk. The most(52%)of the menopausal women are home maker. Most post-menopausal women (32.%) had a monthly family income of Rs. 21,000-30,000. according to marital shows that most post menopausal women (48%) had two children. The study is supplemented by a retrospective population study by Marthe et al. of 310147 women in Norway between 50-69 years at the time of data collection. Results showed that women with three births had the highest mean age at menopause (51.36 years; 95% CI: 51.33-51.40 years), The most (54%) had 0-2 year time period of menopause[8]. The results of the comparison of pre-test

and post-test symptom experience in postmenopausal women show that in the post-test, the majority (22%) of post-menopausal women had mild joint pain, michell E. the study supported to joint pain during the stages of menopausal transition stages and early post menopause Factors associated with joint pain included age ($p < 0.0001$)^[9],majority (38%) of post-menopausal women had mild mood swings, majority (42%) of post-menopausal Kravitz H. the study supported that the menopausal transition or menopause suffer from sleep disturbance or insomnia, ranging from 35% to 60%, and a significant number of women experience severe symptoms that impair daytime functioning^[10] majority (62%) of post-menopausal women had mild severe heart palpitation, majority (66%) of post-menopausal women had mild parasthesia, samruddhi H. The study supported that the total scores were greater in the GTDA comparing with the CG (22.6 vs. 13.7). Paresthesia and melancholia were significantly more severe in the GTDA^[11] majority (68%) of post-menopausal women had severe night sweats. Ayers B, 77% had visited their doctor about menopausal symptoms; 28% were past and 3%., poor QoL was associated with having problematic hot flushes ^[12], majority (56%) of post-menopausal women had mild vaginal dryness. Waetjen, L.study supported that The prevalence of vaginal dryness increased from 19.4% among all women at baseline (ages 42-53 years) to 34.0%^[13]. The findings related to the comparison of pre-test and post-test symptom experience and QOL scores postmenopausal women shows that the mean post test scores symptom experience is significantly lower than the mean post test scores symptom experience at a significance level of 0.001($t=12.730$, $p<0.001$), similarly, the mean post-test QOL score is significantly higher than the mean pre-test QOU life scores at a significance level of 0.001($t=4.973$, $p<0.001$) thus the mean pre-test QOL value is less than the mean pre-test QOL value symptom experience significance level of 0.001.similarly the mean post-test qoL score is significantly higher than mean pre-test QOL score at a significant level of 0.001 the Comparison of Pre-test and post-test symptom



experience among postmenopausal women- Analysis of the mean, SD, and mean percentage of health-related quality of life in pre-test and post-test post-menopausal women showed that the mean overall percentage of health related quality of life before the test was 55.50 percent, with a mean and SD of 71.85,7.372.with a mean SD of 77.22,60.56, the overall percentage of post- test HRQOL score was 60.56. LewisA comparative study was conducted to assess the effects of daily ingestion of soy flour (S), ground flaxseed (F), or wheat flour (W) muffins, on quality of life and hot flash frequency and severity in postmenopausal women. The sample of the study ninety-nine women 1to8 yrs after menopause were randomly selected^[14]. Association between post-test symptom experience score among postmenopausal women and their socio-demographic variables there is no significant association between the post menopausal symptoms of post-menopausal women and their socio-demographic variables. Therefore, H₂ is rejected for the socio-demographic variables. The study concluded that women with the symptom experience before intervention(flax seed supplementation) and after (flax seed supplementation) interventions the women reduced to suffering with post menopausal symptoms Dodin the study supported that the 40 g flaxseed/d (n = 101) or wheat germ placebo (n = 98) for 12 months Flaxseed reduced serum total (-0.20 ± 0.51 mmol/liter; P = 0.012) and high-density lipoprotein (-0.08 ± 0.24 mmol/liter; P = 0.031) Both flaxseed and wheat germ reduced (P < 0.0001) the severity scores of menopausal symptoms^[15] there were statistically significant differences between the control and intervention groups in promoting QOL and improving health-promoting behaviours before and after the nursing intervention. The study concluded that healthy lifestyle modifications improved the QOL scores of post-menopausal women immediately and two months after the nursing intervention. Therefore, these modifications can be used by all post-menopausal women to improve their health and quality of life. wanti Through this descriptive review, several key factors were identified as influential in shaping postmenopausal QoL. Hormonal changes, education level, lifestyle choices, attitudes towards menopause, self-perceived efficacy. The efficacy of flax seed supplementation in reducing menopausal symptoms among peri menopausal women in Coimbatore. The results of the study are as follows paired 't' test was used to evaluate the efficacy of

symptom experience in reducing the symptoms of menopause in perimenopausal women, obtained "t" value 12.673 was significant at p<0.05. The Kupperman index values at the beginning and end of the treatments were analyzed using the paired t-test. Both the flaxseed extract (P=.007) and the flaxseed meal (P=.005) were effective in reducing the menopausal symptoms when compared with the placebo control (P=.082). In this case, no significant differences were found (P=.084)^[16] The study concluded that flaxseed supplementation can lessen the severity of menopausal symptoms. The results of comparing the mean percentage of HRQOL of post-menopausal women in the pre-test and post-test show a decrease of 5.07 percent in the mean HRQOL of post-menopausal women after applying for the flax seed supplementation intervention programme. The results of the present study are consistent with a similar experimental study conducted by cetisli The empirical research was conducted in an obstetrics and gynecology outpatient department of a university hospital and involved 140 menopausal women who were divided into 4 groups. The menopausal symptoms decreased and the quality of life increased among the women who used flaxseed for 3 months^[17].

The results related to the association between symptom experience levels of post-menopausal women and their selected socio demographic variables show that no significant association was found between symptom experience levels of post-menopausal women and their selected socio demographic variables. Therefore, 'H₃' is rejected. The results related to the association between the pre-test HRQOL scores of post-menopausal women and their selected socio-demographic variables show that no significant association was found between the HRQOL scores of post-menopausal women and their selected socio-demographic variables. Therefore, 'H₃' is rejected.

6. Conclusion

The study proves that the intervention package (flax seed supplementation) on symptom experience and the quality of life of socio demographic women is an effective, scientific, logical, and cost-effective strategy for to reduce symptom experience and improve the quality of life of post-menopausal women.



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