Article ID: WMC005179 ISSN 2046-1690

Effect of Use of Sesame Seeds On Management Of Selective Symptoms Among Women In Different Age Groups

Peer review status:
No

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Article ID: WMC005179

Article Type: Original Articles

Submitted on:05-Sep-2016, 10:50:43 AM GMT **Published on:** 06-Sep-2016, 01:12:44 PM GMT

Article URL: http://www.webmedcentral.com/article_view/5179

Subject Categories:NURSING

Keywords: Sesame Seeds, Menopause, Sleep disorders

How to cite the article: Prince J, Prince D. Effect of Use of Sesame Seeds On Management Of Selective Symptoms Among Women In Different Age Groups. WebmedCentral NURSING 2016;7(9):WMC005179

Source(s) of Funding:

NONE

Competing Interests:

NONE

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Abstract

Background: Menopause can be exciting yet uncomfortable time in a woman's life with symptoms such as hot and cold flashes, night sweats, fatigue, menopausal sleep disorders, confusion and weight gain which are treatable through diet and natural supplements. One of the foods renowned for prevention and Intervention of menopausal symptoms is the sesame seeds. Materiels & Methods: Quasi experimental research design was used on a purposive sample of 50 women from neighbourhood, women working in Vijay Marie Hospital and Vijay Marie College of Nursing, Hyderabad. Data were collected using 3 questionnaires. Demographic data, assessment of practices of women on use of sesame seeds, assessment of sesame seeds effect on health. After obtaining official approval and consent Pre-test was administered followed by distribution of sesame seeds packets and instructed to take 1 teaspoon every day for one month in the evening at the same time. Post-test was administered after one month. Data were coded using (SPSS) version 16.0. Majority of women were below 40 years (34%), non-working (90%), and married (62%). Results: Pre and post intervention results reveal majority had poor sleep (52%), good sleep 60% post intervention (P=0.00); Joint pains (52% to 20%, P=0.00); Asthma attacks (22% to 12%, P=0.00); migraines (40% to 18%, P=0.00); tooth pain (44% to 12%, P=0.00). Chi Square showed significant relationship of 'rate of sleep' with occupation (P=0.00), marital status (P=0.00), number of family members (P=0.00), post intervention with sesame seeds. Chi Square also showed significant relationship of 'joint pains' with occupation (P=0.00), marital status (P=0.00), number of family members (P=0.00), post intervention with sesame seeds. Conclusion: Sesame seeds were found to be effective in relieving the symptoms such as insomnia, joint pains, asthma attacks and migraines. Thus sesame seeds were found to be very effective in relieving the post-menopausal symptoms and can be recommended.

Introduction

Menopause can be an exciting time in a woman's life. It marks a tremendous milestone of accomplishment as well as the entrance into the next phase of life. It can also be exceptionally uncomfortable. Common symptoms include both hot and cold flashes, night sweats, fatigue, menopausal sleep disorders, confusion, weight gain, and the list goes on. Most of these symptoms are actually treatable through diet and natural supplements, and one of the food items that is renowned for its ability to contribute toward the prevention and Intervention of menopausal symptoms is the sesame seed. Sesame seeds combat the seemingly unavoidable symptoms that accompany menopause such as osteoporosis, weight gain and increase in cholesterol.

Sesame seed is one of the oldest oilseed crops known, domesticated well over 3000 years ago. It was a major summer crop in the Middle East for thousands of years, as attested to by the discovery of many ancient presses for sesame oil in the region. Sesame is drought-tolerant and is able to grow where other crops fail. For thousands of years, sesame seeds have been a source of food and oil. Sesame seed Intervention tends to increase serum sex hormones (Wu WH, Kang YP.2006).1

Sesame seed contains very high levels (up to 2.5%) of furofuranlignans with beneficial physiological activities, mainly sesamin, sesamolin, and sesaminol glucosides. Reported activities of sesame seed lignans include antioxidant and vitamin E-sparing effects, hypotensive effects, improvement of liver functions in connection with alcohol metabolism, and antiaging effects (Kamal-Eldin A 2011).2

Sesame seed induced regression of established tumor size. A significant positive relationship was found between final tumor weight and bone strength parameters.3

Women, after menopause, face undesirable conditions associated with decline of estrogens. One is a greater

risk of silent myocardial infarction than in men. The prevalence of hypercholesterolemia (>6.21 mmol/L) is higher in women than men in the 45–64 y age group (24 vs. 12%) among Taiwanese . Furthermore, LDL peroxidation, associated with the risk of atherosclerosis, increases with aging.4 Therefore, the aim of the study was designed to study the effect of use of sesame seeds on management of selective symptoms among women in different age groups.

OBJECTIVES OF THE STUDY

1. To assess the effect of sesame seeds on selective symptoms of women.
2. To seek the association between post intervention with sesame seeds and selective symptoms of women.

Materials & Methods

This study used quasi experimental research design to investigate the 'Effect of use of sesame seeds on management of selective symptoms among women in different age groups'. Sample consisted of 50 women and were selected by purposive and convenient sampling technique. Inclusion criteria was women in post menopausal period for more than one year and working in Vijay Marie Hospital and College of Nursing, Hyderabad and who are willing to participate in the study. Exclusion criteria include women who are not willing to participate, who do not know to read and write English. Data was collected by structured knowledge questionnaire. Variables under study: In the present study the independent variable was effect of sesame seeds and dependent variable were post menopausal symptoms.

The present study was undertaken on women in neighbourhood and in the Vijay Marie Hospital and Vijay Marie College of Nursing, Hyderabad. Sample size and sampling technique: The sample study comprised of 50 women and were selected by purposive sampling technique. Inclusion criteria was women in the neighbourhood houses and women working in Vijay Marie Hospital and College of Nursing, Hyderabad and who are willing to participate in the study. Exclusion criteria include women who are not willing to participate, who do not know to read and write English. Data was collected by structured knowledge questionnaire.

Data collection tools and techniques: Based on the objectives three tools were developed to collect data for this study. The first tool was structured questionnaire sheet for socio demographic data as age, education, occupation, marital status, number of pregnancies, number of deliveries, duration of menopause, monthly family income, number of family members, type of family, medical history and family history of selected illnesses, height, weight, BMI, blood pressure and blood glucose which included16 items. The second tool was assessment of practices of women on use of sesame seeds included 6 items. The third tool was assessment of sesame seeds effect on health which included 15 items.

Validity of these tools were determined by expert colleagues who reviewed these instruments and judged it for adequacy and to ensure that these tools measure what it intended to be measured. The reliability of tools was established by using KR 20 formula and. Reliability was assessed by applying the tools on 5 women who were excluded from the study.

Ethical considerations: An official approval to conduct the study was obtained from the administrators of Vijay Marie Hospital and principal, College of Nursing, Hyderabad. Informed written consent was obtained from the participants who agreed to participate in the study. Anonymity was ensured by using identification codes on the questionnaires. No identifying information about the participants was collected. It was clearly stated that participation is voluntary and confidential and that the responses will only be used for the purposes of the current study, in addition, participants were assured about their right to withdraw from the study at any time.

Final data collection procedure: After obtaining consent Pre-test was administered to all women followed by distribution of sesame seeds packets and instructed to take 1 teaspoon every day for one month in the evening at the same time. The purpose of the study, effects of sesame seeds on health were explained to all participants. 53 participants received with much interest and enthusiasm. Only 50 participants completed the study. The aim of the study was to assess the effectiveness of sesame seeds on management of selective menopausal symptoms of women.

Statistical Analysis

The findings are presented according to the objectives set for the study. Data were analyzed using computer program SPSS statistical software package version 16. Descriptive and inferential statistics were used for data analysis. Frequency and percentage distribution was used to describe the sample characteristics.

Results

Table 1 describes frequency, percentage, mean and standard deviation of demographic characteristics of women. This table describes majority (34%) of women are below the age of 40 years mean of 48.4 years and SD of 1.04, (38%) educated only up to 10th class, (90%) not working, (60%) married, (40%) monthly family income more than Rs. 15,000, (56%) has less than three children, (50%) have nuclear and joint families.

Table 2 describes frequency and percentage of maternal history of women. This table shows majority (42%) of the women had 1-2 pregnancies and 1-2 deliveries, (40%) had more than 10 years of duration of menopause, (76%) had normal blood pressure, (76%) had normal fasting blood sugar.

Table 3 describes the frequency and percentage of practices of women on use of sesame seeds. This table shows before Intervention the women only (80%) women were taking the sesame seeds, whereas after Intervention (100%) of them were using sesame seeds. There was an increase in use of sesame seeds by women (16% to 100%) from pre to post Intervention.

Table 4 shows effect of sesame seeds on selective symptoms of women. This table shows majority of the women in the sample had poor sleep (poor 52% to good 60%, P=0.00) joint pains ((yes 52%) to (no 80%), P=0.00) asthma ((yes 22%) to (no 12%), P=0.00) getting migraines ((yes 40%) to (no 18%), P=0.000) had tooth pain ((yes 44% to (no 12%), P=0.00) post intervention with sesame seeds.

Table 5 describes chi-square value showing relationship between pre and post Intervention percentage scores and risk factors of women on use of sesame seeds with statistical significance. There was also statistical significance of do you use sesame seeds ((yes 80% to 100%), P=0.00) how often they used sesame seeds ((once a day 16% to everyday 100%), P=0.00),amount of sesame seeds consumed ((< 5 gms 90% to 5gms and above 100%), P=0.00).

Table 6 shows chi-square value showing relationship between post Intervention symptom scores (Rate of sleep and Joint pains) and selected demographic factors of women. The table shows there is a significant relationship between 'rate of sleep' and selected demographic characteristics such as, occupation (Chi=32, P Value, 0.00), marital status (Chi=45.6, P Value, 0.00) and number of family members (Chi=19.24, P Value, 0.00) and 'joint pains' and occupation (Chi=32, P Value, 0.00), marital status (Chi=45.68, P Value, 0.00) and number of family members (Chi=19.24, P Value, 0.00)

Discussion

Majority of women were below 40 years (34%), non-working (90%), married (62%). Marital history consists majority of women had less than 3 deliveries (74%), duration of menopause more than 10 years (40%), BMI underweight (64%). Before intervention majority were using rarely (44%) and (100%) were using every day post intervention with sesame seeds. Majority had poor sleep (52%) before intervention and (60%) had good sleep post intervention (P=0.00); Joint pains (52% to 20%, P=0.00) pre and post intervention; Asthma attacks (22% to 12%, P=0.00) pre and post intervention; migraines (40% to 18%, P=0.00) pre and post intervention; tooth pain (44% to 12%, P=0.00) pre and post intervention. Chi Square showed significant relationship of 'rate of sleep' with occupation (P=0.00), marital status (P=0.00), number of family members (P=0.00), post intervention with sesame seeds. Chi Square also showed significant relationship of 'joint pains' with occupation (P=0.00), marital status (P=0.00), number of family members (P=0.00), post intervention with sesame seeds.

Findings of the study revealed sesame seeds are very effective in enhancing the sleep among the women. It is estimated that greater than 6% of women and 4% of men suffer from sleep apneaTryptophan is found in the foods oats (steel cut unprocessed), bananas, dried dates, milk, yoghurt, cottage cheese, red meat, eggs, fish, poultry, sesame seed, chickpeas, sunflower seeds, pumpkin seeds, spirulina and peanuts. It may also be taken as an amino acid supplement, or tryptophan precursor 5HTP (extracted from griffonia seeds) may be taken to increase bioavailability in the brain which induces sleep.

Findings of the study also revealed that intervention with sesame seeds reduced some of the pain and swelling of rheumatoid arthritis. Current study findings are in consistent with Bina et al[5] divided patients with knee osteoarthritis into two groups of 25 patients. The first group received standard treatment that involved receiving two 500 mg doses of Tylenol twice a day along with 500 mg of glucosamine once a day and the second group received 40 grams of powdered sesame seeds a day during 2 months of the study along with

standard drug therapy. This study reveals there was a significant difference in pain intensity between the two groups after the treatment. The sesame group had the largest drop in pain after the treatment (from 9.5 to 3.5), whereas the control group had a modest drop (from 9 to 7) after the treatment.

Findings of the study revealed sesame seeds are very effective in reducing the attack of asthma among the women. Current findings are in consistent with a study 'Protective Effects of the Polyphenol Sesamin on Allergen-Induced TH2 Responses and Airway Inflammation in Mice'reveals that sesamin exhibited significant anti-inflammatory effects in ovalbumin (OVA)-induced murine asthma model. We found that treatments with sesamin after OVA sensitization and challenge significantly decreased expression levels of interleukin-4 (IL-4), IL-5, IL-13, and serum IgE. The numbers of total inflammatory cells and eosinophils in BALF were also reduced in the sesamin-treated animals. These data indicate that sesamin is effective in treating allergic asthma responses induced by OVA in mice.[6] (Ching-Huei Lin. et al.,2014).

In this study it is also seen that sesame seeds are highly effective in reducing the migraines. It is also seen that sesame seed oil was effective in reducing the tooth pain. The study results were in agreement with a study done by S. Asokan et al (2008).[7] The study group practiced oil pulling with sesame oil and the control group used chlorhexidine mouthwash for 10 min every day in the morning before brushing. Samples were collected from both groups after 24 h, 48 h, 1 week, and 2 weeks and the efficacy of oil pulling was compared with that of chlorhexidine mouthwash. The results revealed there was a reduction in the *S. mutans* count in the plaque and saliva samples of both the study and the control groups. The reduction in the *S. mutans* count in the plaque of the study group was statistically significant after 1 and 2 weeks (P = 0.01 and P = 0.008, respectively).

Conclusion

The conclusions drawn from the study are:
All women were found to be having different health problems.
Sesame seeds are found to be effective in relieving the postmenopausal symptoms with statistical significance at 0.05 level.

Recommendations

1. The study can be replicated on a large sample.
2. A study could be undertaken with a control group to prove research hypothesis.
3. A study could be conducted on effect of sesame seeds on hypertension and diabetes.
4. Comparative study can be done to see the effectiveness of sesame seeds on men,women

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Illustrations

Illustration 1

Pie Diagram Showing Percentage Distribution Of Women By ‘Demographic Characteristics

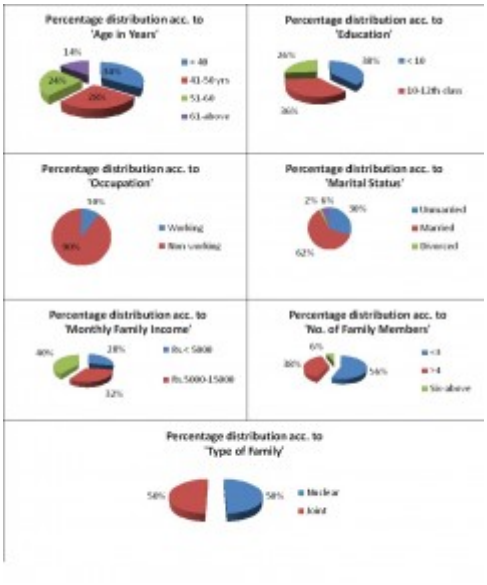

Illustration 2

Table 1: FREQUENCY, PERCENTAGE, MEAN AND STANDARD DEVIATION OF DEMOGRAPHIC CHARACTERISTICS OF WOMEN N = 50

Variable	No (50)	%
Age (Yrs)		
< 40	17	34
41-50 yrs	14	28
51-60	12	24
61-above	7	14
Mean	48.4	
SD	1.04	
Education		
< 10	19	38
10-12th class	18	36
Graduate and above	13	26
Occupation		
Working	5	10
Non working	45	90
Marital Status		
Unmarried	15	30
Married	31	62
Divorced	1	2
Widow	3	6
Monthly Family Income (Rs)		
< 5000	14	28
5000-15000	16	32
15000-above	20	40
No. of Family Members		
<3	28	56
3-5	19	38
Six-above	3	6
Type of Family		
Nuclear	25	50
Joint	25	50

Illustration 3

Table 2: FREQUENCY AND PERCENTAGE OF MATERNAL HISTORY OF WOMEN N = 50

Variable	No (50)	%
No. of pregnancies		
Nil	16	32
1-2	21	42
3-5	8	16
6-above	5	10
No. of deliveries		
Nil	16	32
1-2	21	42
3-5	8	16
> 6	5	10
Duration of menopause		
1-4 yrs	18	36
5-9 yrs	12	24
above 10 yrs	20	40
Blood Pressure		
Normal (120/80)	38	76
Moderate BP >(140/90)	8	16
Severe BP >(160/100)	4	8
Fasting Blood Glucose		
Normal (<80)	38	76
Abnormal (>100)	12	24

Illustration 4

Table 3: FREQUENCY AND PERCENTAGE OF PRACTICES OF WOMEN ON USE OF SESAME SEEDS BEFORE AND AFTER INTERVENTION

	Pre Intervention		Post Intervention	
Risk Factors	**FREQUENCY**	**%**	**FREQUENCY**	**%**
Do you use sesame seeds ?				
Yes	40	80	50	100
No	10	20	0	0
How often used ?				
Nil	5	10	0	0
Every day	8	16	50	100
Weekly	15	30	0	0
Rarely	22	44	0	0
How many times a day ?				
Nil	18	36	0	0
Once	27	54	50	100
Twice	5	10	0	0
Three times	0	0	0	0
How do you use?				
Cook	46	92	24	48
Eat raw	4	8	26	52
How many grams ?				
<5	45	90	25	50
5-10	3	6	14	28
10-15	2	4	7	14
How do you store?				
Closed container	50	100	42	84
Refrigerator	0	0	8	16

Illustration 5

Table 4:Effect of Sesame Seeds on selective symptoms of Women before and after intervention with sesame seeds

Variable	Pre Intervention		Post Intervention		P Value
	No (50)	%	No (50)	%	
How do you rate your sleep?					
Poor	26	52	2	4	0.00 Significant
Average	16	32	18	36	
Good	8	16	30	60	
How many hours do you sleep a day					1.00 Not Significant
< 6	31	62	25	50	
> 7	19	38	25	50	
Do you have joint pains?					0.00 Significant
Yes	26	52	10	20	
No	24	48	40	80	
Rate the severity of joint pains?					
Nil	24	48	39	78	0.00 Significant
Moderate	17	34	9	18	
Severe	9	18	2	4	
Do you have Asthma?					
Yes	11	22	6	12	0.00 Significant
No	39	78	44	88	
Rate the severity of Asthma?					
Nil	39	78	44	88	0.00 Significant
Moderate	10	20	4	8	
Severe	1	2	2	4	
Do you get migraines?					
Yes	20	40	9	18	0.00 Significant
No	30	60	41	82	
How often you get migraines?					
Nil	30	60	41	82	0.00 Significant
Once a day	11	22	4	8	
Once a week/month	9	18	5	10	
Rate the severity of migraines?					
Nil	30	60	41	82	0.00 Significant
Moderate	14	28	8	16	
Severe	6	12	1	2	
Do you have tooth pain?					
Yes	22	44	6	12	0.00 Significant
No	28	56	44	88	
Rate the severity of tooth pain?					
Nil	28	56	44	88	0.00 Significant
Moderate	17	34	6	12	
Severe	5	10	0	0	

Illustration 6

Table 5: CHI-SQUARE VALUE SHOWING RELATIONSHIP BETWEEN PRE AND POST INTERVENTION SCORES AND RISK FACTORS ON USE OF SESAMESEEDS

Risk Factors	Scores (%)		Chi Square	df	Significant/ not significant at 0.05 level (P Value)
	Pre Intervention	Post Intervention			
Do you use sesame seeds ?					
Yes	80	100	18.00	1	0.00 Significant
No	20	0			
How often used ?					
Nil	10	0			
Every day	16	100	13.84	3	0.003 Significant
Weekly	30	0			
Rarely	44	0			
How many times a day ?					
Nil	36	0	14.68	2	0.001 Significant
Once	54	100			
Twice	10	0			
Three times	0	0			
How do you use?					
Cook	92	48	0.08	1	0.77 Not Significant
Eat raw	8	52			
How many grams ?					
<5	90	58	15.16	2	0.001 Significant
5-10	6	28			
11-15	4	14			
How do you store?					
Closed container	100	84	23.12	1	0.00 Significant
refrigerator	0	16			

Illustration 7

Table 6: CHI-SQUARE VALUE SHOWING RELATIONSHIP BETWEEN POST INTERVENTION SYMPTOM SCORES (RATE OF SLEEP AND JOINT PAINS) AND SELECTED DEMOGRAPHIC FACTORS OF WOMEN

Variable	Rate of sleep			Joint Pains		
	Chi Square	Df	Significant/not significant at 0.05 level	Chi Square	df	Significant/not significant at 0.05 level
Age (Yrs)						
< 40						
41-50 yrs	29.92	26	0.27	29.92	2	0.21
51-60			Not significant			Not Significant
61-above						
Education						
< 10	1.2	2	0.53	1.24	2	
10-12th class			Not significant			0.53
iraduate and above						Not Significant
Occupation						
Working	32.0	1	0.00	32.0	1	0.00
Non working			Significant			Significant
Marital Status						
Unmarried			0.00	45.68	3	0.00
Married	45.6	3	Significant			Significant
Divorced						
Widow						
Monthly Family Income (Rs)						
< 5000	0.00	1	1.00	1.12	2	0.57
5000-15000			Not significant			Not Significant
15000-above						
No. of Family Members						
<3	19.24	2	0.00	19.24	2	0.00
3-5			Significant			Significant
Six-above						
Type of Family						
Nuclear	1.12	2	0.57	0.00	1	1.0
Joint			Not Significant			Not Significant