RESEARCH ARTICLE

EFFECTIVENESS OF SOY ON SELECTED MENOPAUSAL PROBLEMS AMONG WOMEN IN SELECTED RURAL AREAS OF DISTRICT, FARIDKOT

[1]Kaur Robinpreet
[2]Kaur Bhupinder

[1] Registered Nurse
Halton Health Care
Brampton, Ontario, Canada
[2] Professor,
University College of Nursing,
Faridkot.

ABSTRACT

INTRODUCTION: Menopause is accompanied by a bunch of like somato-vegetative, urogenital and psychological that prove to be intolerable to certain women. For years Complementary and Alternate medicine has proved to be a boon to address these problems as shown by various studies done on effecivenesss of soya, black cohosh etc. A number of studies have highlighted the effect of soy on hot flashes, memory, vaginal dryness etc.

AIM: Study aimed to assess the effectiveness of soy on reduction of selected menopausal problems among women in selected rural areas of district, Faridkot.

MATERIAL AND METHODS: The research design was experimental and was conducted from 31 Dec 2012 to 10 Feb 2013 enrolling 60 subjects (30 for experimental and 30 for control group) of rural areas Bajakhana and Machaki, Faridkot, Punjab. Intervention in experimental group was administration of soya 42g (1.5 oz) for 42 days (6 weeks) and sample subjects in control group were not administered anything. The socio- demographic sheet which was semi-structured interview schedule was filled by investigator. Menopausal problems of the women were assessed by using Menopausal Rating Scale. Pre-intervention and post-intervention assessment (at 0 and 43 days) was done for both the groups.

RESULTS: The results of the study revealed that the subjects in the experimental group had a slightly higher score in somato-vegetative and psychological domain. The difference in urogenital, somato-vegetative, psychological domain and total score of experimental group was found to be statistically highly significant at p value <0.05. The difference in the post-intervention scores of 60 post menopausal women in experimental and control group has been found to be significant at p value<0.05.

CONCLUSION: It is concluded that the administration of 1.5 oz soy for 6 weeks was sufficient to mitigate the menopausal problems of the experimental group.

KEYWORDS: Menopausal problems, soy, women

Address for correspondence
Ms. ROBINPREET KAUR
Registered Nurse,
Halton Health Care
Brampton, Ontario, Canada
Mob: 002897529365
Email: bhupinderkaursandhu79@gmail.com

INTRODUCTION & BACKGROUND OF THE STUDY

Menopause is transition in a woman's life when the cycle of menstruation eventually ceases. Menopause happens because the ovaries stop releasing eggs.[1-2] The ovaries also produce hormones, so a change in the ovaries affects the balance of hormones in the body. This can cause a variety of symptoms, and it can take the body a while to adjust to the changing hormones.[3]

Evidence suggests that many perimenopausal and early postmenopausal women will experience menopause symptoms, like hot flushes, night sweats, etc. So, in order to curb these symptoms, many alternatives have been sought.[4-5] Out of these non-estrogenic alternatives are prominent and have been found to be sufficiently adequate for the treatment of climacteric symptoms. When given in adequate doses to postmenopausal women, soy that contains isoflavone improves menopausal symptoms and related quality of life.[6-7]

Phytoestrogens administration is an efficient method of relieving postmenopausal symptoms, facilitating the difficult menopausal period and keeping good health condition.[8-9]

OBJECTIVES OF THE STUDY

1. To assess the baseline level of selected menopausal problems among menopausal women in the experimental group and control group.
2. To assess the level of selected menopausal problems among menopausal women after giving intervention (1.5 oz roasted soy mixed with jaggery).
3. To evaluate the effectiveness of soy in reducing selected menopausal problems among menopausal women.

MATERIAL AND METHODS

Research approach & design: An experimental research approach with Pre-test, post-test control group design was used to assess the effectiveness of soy on selected menopausal problems among women in selected rural areas of district, Faridkot.

Sample and sampling technique : Simple random sampling was used to select the sample of postmenopausal women in selected rural areas of district, Faridkot who had attained menopause for 12 months and willing to participate in the study.

60 subjects (30 for experimental and 30 for control group)

Description of tool : The tool consists of two parts:

Part-1*: Socio-demographic profile:* Socio-demographic profile was a semi-structured interview schedule. Each question had options which was answered by the sample subjects during interview schedule. It comprised of demographic profile constituting of age, educational status, religion, occupation, income, marital status, type of family, number of children and presence of medical illness.

Part-2*: Symptom profile* (Menopause Rating Scale): Symptom profile was a standardized tool which helped to throw light on the various symptoms for their presence or absence and intensity. Menopause Rating Scale (developed by Berlin Center For Epidemiology And Health Research) was used to assess the symptoms experienced in menopause. Formal permission was seeked from Klaas Heinemann, Managing Director at ZEG Berlin Center For Epidemiology And Health Research, Germany.[10-11]

Procedure of data collection : The data collection for the study was carried out from 31 Dec 2012 to 10 Feb 2013 enrolling 60 subjects. Before commencing the task of data collection survey was conducted on postmenopausal women who were found to have the problems, in both Village Machaki and Village Bajakhana. Formal permission was also taken from Civil Surgeon, Faridkot. Followed by this, randomization was done by simple random sampling. Study procedure was explained to study subjects prior to data collection and their willingness to participate in the study regarding consumption of soya was ensured. Study subjects fulfilling the inclusion criteria were assigned to experimental and control group. Score on the MRS was obtained as a part of pre-test in both the groups. In experimental group 1.5 oz soya *laddoo* was administered in the morning after meals with water for a period of 42 days.

Followed by 6 weeks of soya administration, MRS scores were obtained again for both the groups by home visiting and conducting interview schedule. The results thus obtained were analyzed to evaluate the effectiveness of soya.

ETHICAL CONSIDERATIONS

Ethical committee of University College of Nursing, Faridkot.gave ethical approval for the study to be conducted. Apart from this, written informed consent was taken from each study subject and permission was taken from authorities of the respective area to collect the data. Confidentiality & privacy of the study subjects was also taken care of.

RESULTS

Table 1

Comparison of the Effect of Soy on Selected Menopausal Problems in Experimental Group and Control Group.

N= 60

Domain of Menopausal rating scale	**Experimental group.**	**Control Group**	t	df	p-value
	Mean+/- SD	Mean+/- SD			
Urogenital domain	3.07+/- 1.574	3.60+/-1.329	1.418	58	0.162 NS
Somato-Vegetative domain	5.37+/- 2.157	7.133+/-2.675	2.816		0.007**
Psychological domain	6.47+/- 2.488	7.53+/-2.980	1.505		0.138 NS
Total	14.90+/- 4.708	18.27+/-4.792	2.745		0.008**

**significant at $p<0.05$

NS - Not Significant at $p>0.05$

Table 1 shows the difference of scores of uro-genital domain and psychological domain were found to be statistically non-significant at p value <0.05 and that of somato-vegetative domain and total scores were statistically significant at p value <0.05. Thus, it can be concluded that the soya intervention lead to reduction in the overall score of MRS, particularly the somato-vegetative domain of MRS.

The table 1 reveals the post-intervention uro-genital domain, somato-vegetative and psychological domain and total scores of experimental group are 3.07+/- 1.574, 5.37+/- 2.157, 6.47+/- 2.488 and 14.90+/-4.70 respectively. While the uro-genital domain, somato-vegetative and psychological domain and total scores of control group are 3.60+/-1.329, 7.133+/-2.675, 7.53+/-2.980 and 18.27+/-4.792 respectively.

The difference of scores of uro-genital domain and psychological domain were found to be statistically non-significant at p value <0.05 and that of somato-vegetative domain and total scores were statistically significant at p value <0.05. Thus, it can be concluded that the soya intervention lead to reduction in the overall score of MRS, particularly the somato-vegetative domain of MRS.

Table 2

Level of Selected Menopausal Problems Among Menopausal Women in the Experimental Group

N=30

Domain of Menopausal rating scale	**Experimental Group**				
	Pre-intervention Mean+/- SD	*Post-intervention* Mean+/- SD	t	df	p-value
Urogenital domain	3.57+/- 1.654	3.07+/- 1.574	3.340	29	0.02**
Somato-Vegetative domain	8.23+/- 2.192	5.37+/- 2.157	11.564		0.00**
Psychological domain	8.70+/- 2.680	6.47+/- 2.488	8.409		0.00**
Total	20.50+/4.869	14.90+/- 4.708	10.548		0.00**

**significant at p<0.05

Table 2 reveals the mean value of the various domains of Menopausal rating scale and the total score. The mean pre-intervention and post-intervention scores for urogenital domain were 3.57+/- 1.654 and 3.07+/- 1.574 , somato-vegetative domain were 8.23+/- 2.192 and 5.37+/- 2.157, psychological domain were 8.70+/- 2.680 and 6.47+/- 2.488 and total were 20.50+/- 4.869 and14.90+/- 4.708 respectively

DISCUSSION

The findings suggest that, the urogenital symptoms improved after the administration of soy. The mean pre-intervention and post-intervention scores of urogenital domain were 3.57+/- 1.654 and 3.07+/- 1.574 respectively. The difference in both scores was found to be statistically highly significant at p value <0.05. This is supported by a study conducted by Chedraui P, San Miguel Get al (2011)[15], which found statistically significant improvement in somatic symptoms (hot flashes and muscle pain) in the users of Hormonal Therapy (-45.6%) and dietary soy supplementation (-49.8%). Urogenital symptoms (vaginal dryness) improved significantly in Hormonal Therapy users (-38.6%) and in users of the dietary soy supplementation (-31.2%). It was concluded that dietary soy supplementation may constitute an effective alternative therapy. Taking the somato-vegetative domain into consideration,the mean preintervention and post-intervention

scores of somato-vegetative domain in experimental group were 8.23+/- 2.192 and5.37+/- 2.157. The difference in somatovegetative domain was found to be statistically highly significant at p value <0.05.

Previous studies have also claimed a positive effect of soy on hot flashes which are an important constituent of somato-vegetative symptoms. A Meta-analysis from PubMed and The Cochrane Controlled Clinical Trials Register Database study conducted by Taku K, Melby MK et al (2012)[14]revealed that ingestion of soy isoflavones (54 mg) for 6 weeks to 12 months significantly reduced the frequency of hot flashes by 20.6% compared with placebo. Meta-analysis also revealed that isoflavones significantly reduced hot flash severity by 26.2% (P = 0.001) compared with placebo. It was concluded that soy isoflavone supplements, derived by extraction or chemical synthesis, are significantly more effective than placebo in reducing the frequency and severity of hot flashes.

This study also reported an improvement in psychological problems of menopause. The mean pre-intervention and post-intervention scores of psychological domain in experimental group were 8.70+/- 2.680 and 6.47+/- 2.488 respectively. The difference in psychological domain was found to be statistically highly significant at p value <0.05. This was supported by a study conducted by many studies[16-18] which found that after 3 months of soy isoflavone supplementation hot flushes significantly decreased in percentage, number and severity (p < 0.001). MRS scores (total and for subscales) reflecting general menopausal symptoms also significantly decreased compared to baseline. Regarding mood, after three months total HDRS scores (Hamilton Depression Rating Scale)and the rate of women presenting depressed mood (scores >/= 8) significantly decreased (p < 0.05). In this high risk climacteric population, soy derived isoflavone treatment improved mood as well as vasomotor and general menopausal symptoms.

So, it was observed that soy proved to be an effective alternative for menopausal problems other than HRT provided it was given in adequate doses and for certain duration.

CONCLUSION

It can be concluded that 1.5 oz soy administered for 6 weeks reduced the problem intensity of post menopausal women in experimental group. Study is limited on 60 subjects and intervention could be done for a longer duration. The study was restricted to menopausal women of rural areas of district Faridkot, so the findings might have socio-demographic implications.

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