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# Management of postmenopausal syndrome with a herbal extract: a pilot study

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**Background**: Menopause is characteried by rapid and progressive reduction in estradiol which brings about many changes in a woman's body. Hormone replacement therapy (HRT) is the most common preferred treatment option for the management of postmenopausal symptoms, but with HRT there is significant increased risk in conditions such as cardiovascular diseases, deep venous thrombosis and breast cancer. As a result there is a growing interest in alternative therapies produced from natural resources. This clinical trial is of herbs locally available that can be used for postmenopausal syndrome (PMS).

**Objective**: To evaluate the efficacy of a herbal extract for postmenopausal syndrome and aim to provide improved methods of treating, preventing or otherwise mitigating the symptoms associated with menopause.

**Methods**: Thirty women in the menopausal age were selected from the out patient department of the Regional Research Institute of Unani Medicine, Srinagar. The Blatt-Kupperman index for menopause was used to evaluate the efficacy of the herbal extract.

Two herbs, *Nepeta cataria* and *Cuscuta reflexa,* were used in the herbal extract. The extract was made by soaking the herbs overnight in warm water and then on the following morning the extract was given in the dosage of 100 mL twice daily.

**Results**: Thirty women with active menopausal symptoms were selected with average age of 44.4 years and average duration of symptoms of 23.6 months. The average Blatt-Kupperman index score was 41.2 at the entry level which was reduced to 6.43 (p-value of <0.0001) after 60 days of treatment which represents an 84.39% decrease in symptoms.

**Conclusion**: Our study demonstrated that this herbal extract decreased the symptoms of menopause significantly. Any change in hormonal level would need to be evaluated. As the sample size is very small the results need to be further evaluated on a larger sample of women.

Key words: menopause, estrogen, herbal extract, phytoestrogens

## Introduction

The proportion of women living past the age of menopause has tripled during the past century and is expected to increase steadily in the foreseeable future. While adulthood is defined as beginning at age 21 and the average age at menopause as 51, the average life expectancy has risen to 81 years.

Techniques for improving the health of postmenopausal women currently focus on reducing risk factors such as coronary heart disease, deep vein thrombosis, breast cancer and gallbladder problems, with which hormone replacement therapy may be associated (Pinkerton 2003). Menopause is the termination of the menstrual cycle and is caused by changes in hormone levels in women that occur naturally over time. Estrogen and progesterone are the key hormones involved in the changes but there may be other factors.

The onset of menopause is associated with many symptoms which vary among women, but generally include one or more of the following: hot flushes, numbness, tingling, insomnia, nervousness, depression, vertigo, fatigue, arthralgia, myalgia, headaches, palpitations and formication. Osteoporosis is another condition associated with the onset of menopause and leads to decreased bone density and an increase in fractures.

Menopausal symptoms are related primarily to the change in estrogen levels, and estrogen replacement therapy, either with or without progesterone, is a common method of providing some relief. Hormone replacement therapy however is associated with many adverse effects, leading to problems that are potentially more troublesome than the menopausal symptoms themselves.

Natural menopause is recognised after 12 months of amenorrhea that is not associated with a pathologic cause. The mean age of onset of the menopausal transition is 47.5 years, commonly lasts approximately 4 to 5 years and can vary normally between 40 and 58 years (www.menopause.org.). The menopausal transition often begins with variations in the menstrual cycle length in response to rising levels of follicle stimulating hormone (FSH).

## Participants and methods

Thirty participants took part in the study. Participants were eligible to participate in the study if they:

- were aged between 40 and 50 years of age
- had no other disease
- had no history of cervical cancer
- gave a written as well as verbal consent to participate in the study.

The women were enrolled from the outpatient

department of the Regional Research Institute of Unani Medicine, Srinagar, J&K, India, a constituent of the Central Council for Research in Unani Medicine, Department of AYUSH (Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy), Ministry of Health and Family Welfare, Govovenment of India. After obtaining the written informed consent the participants were subjected to pretreatment investigations such as liver function test and kidney function test, lipid profile and blood sugar levels to rule out any associated disorder. All participants agreed to be enrolled and there were no adverse effects seen during the study.

## Menopausal symptoms

The outcome measures were menopausal symptoms as obtained through Kupperman's 11-item menopausal index (Blatt 1953). The subjects were selected on the basis of the index for menopause as follows:

- Vasomotor symptoms: hot flushes, perspiration, cold hands and feet, shortening of breath.
- Parasthesia: tingling of extremities, numbness of extremities.
- Insomnia: difficulty in getting off to sleep, difficulty in staying asleep.
- Nervousness: excitability, nervousness.
- Melancholia: feeling depressed or blue.
- Vertigo: dizziness.
- Weakness/fatigue: fatigue.
- Arthralgia/myalgia: pain in joints, muscular pain and stiffness.
- Headache: headache.
- Palpitation: palpitation.
- Formication: insect crawling sensation on skin.

The remission in the symptoms was also measured by the Blatt-Kupperman index. Points of 0 to 3 were given on the basis of severity, with 0 for no symptoms, 1 for slight, 2 for moderate and 3 for the severe symptoms.

## Intervention

The two herbs namely *Nepeta cataria* and *Cuscuta reflexa* were used in the form of an extract (traditionally called *Khaisanda*) where the herbs were soaked overnight in warm water, just heated, some sweetener added in the morning and given orally at the dose of 100 mL twice daily. The herbs were procured locally as they are available in abundance in the region. The subjects were followed up at intervals of 15 days and the study was completed in 60 days time.

## Statistical analysis

The data was collected on the specially formulated case record form prepared for the study by the team of qualified researchers. The data collected was evaluated on Instat (Graphpad) software. All the outcome measures were compared using unpaired t-test for the comparison between the follow ups. This study was cleared by the Institutional Ethical Committee of Regional Research Institute of Unani Medicine, Srinagar.

## Results

Thirty-eight subjects were selected from the Institute of Unani Medicine. The anthropometric data of the subjects can be seen in Table 1.

From the results in Table 2 it is evident that the therapy has been effective right from the first follow up and the decrease in Blatt-Kupperman index (BKI) during the subsequent follow-ups was encouraging. The entry level mean (SD) BKI of 41.20 4.61) was reduced to 21.9(7.37) on first follow-up with p-value <0.0001, on second

**Table 1: Anthropometric data of the subjects**

| Parameters | Age (years) | Weight (kg) | Height (m) | BMI ($kg/m^2$) | Duration of symptoms (months) |
|---|---|---|---|---|---|
| Mean | 44.4 | 60.58 | 1.55 | 25.29 | 23.6 |
| SD | 3.36 | 6.86 | 0.07 | 4.03 | 10.31 |
| SEM | 0.61 | 1.27 | 0.01 | 0.74 | 1.88 |

**Table 2: Change in Blatt-Kupperman menopausal index (BKI) score from entry level and subsequent follow-ups until end of the study**

| Parameter | Entry level | First follow-up | Second follow-up | Third follow-up | End of the study (day 60) |
|---|---|---|---|---|---|
| Mean | 41.20 | 29.9 | 18.83 | 10.93 | 6.43 |
| SD | 4.61 | 7.37 | 4.21 | 4.47 | 3.27 |
| N | 30 | 30 | 30 | 30 | 30 |
| SEM | 0.84 | 1.34 | 0.76 | 0.81 | 0.59 |
| Min. | 32 | 17 | 10 | 00 | 00 |
| Max. | 50 | 43 | 28 | 18 | 11 |
| P-value | | <0.0001 | <0.0001 | <0.0001 | <0.0001 |

follow-up the BKI was 18.83(4.21), third follow-up BKI came down further to 10.93(4.47) with p-value <0.0001 and finally at the end of the study it was 6.43(3.27) with p-value <0.0001. The results were encouraging and the p-value proved that the difference between the means of entry level and the subsequent follow-ups has been significant. The treatment was given for 60 days and the medicine was stopped gradually by initially tapering the dose and then terminating it at the end of third month. The subjects remained symptom free in the subsequent follow-ups even after the completion of the study.

The different biochemical/pathological investigations were within normal limits before and after the treatment.

## Discussion

Ever since there have been reports of adverse effects of HRT, many different therapies have been tried for postmenopausal syndrome to avoid the use of hormones. Myung-Haeng Hur et al (2007) reported on the efficacy of aromatherapy in PMS.

Black cohosh (*Cimicifuga racemosa*) is a herb that has been promoted for treatment of menopausal symptoms. Trials have been published on black cohosh, most using the commercial product Remifemin® from the root and rhizome. Several of these studies however were either open label or did not include a placebo or inactive control. There are three randomised placebo controlled trials (Stoll 1987, Jacobson 2001, Wuttke 2003). In one of these trials, among 80 women using Remifemin® a significant improvement in the Kupperman index score was found with the black cohosh but there was no improvement in either the placebo group or an estrogen active treatment group (Stoll 1987).

Kupfersztain et al in 2003 examined a natural plant extract of *Angelica sinensis* and *Matricaria chamomilla* in 55 postmenopausal women for 12 weeks. The women, aged 45 to 65 years, had been experiencing at least three hot flushes per 24 hours. The study reported a 90% decline in hot flushes in the treatment group versus a 15% reduction in the placebo group, a statistically significant difference.

The herb *Cuscuta reflexa* has been shown to be useful externally for relief of menopausal itching and internally for treatment of fevers (Pal 2006). *Cuscuta reflexa* has been effective against hepatotoxicity induced by anti-tubercular medicine (Balakrishnan 2010). Studies conducted on *Nepeta persica* have demonstrated its anxiolytic effects (Rabbani 2008).

There were certain limitations to the study. The sample size was very small and was uncontrolled, thus a study on a larger sample size with controls is needed. We were not able to see the effect of the herbs on the estrogen or progesterone levels. Further studies to determine whether these two herbs contain phytoestrogens will be of value.

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