

Effect of Integrated Approach of Yoga Therapy on the Vasomotor, Cognitive And Psychological Symptoms on Climacteric Syndrome

By

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Abstract

Background

STUDY – 1

The standardized menopause-specific instruments which measure symptoms of the climacteric need to have sound psychometric properties and must demonstrate construct validity for different populations of women. The elucidation of the internal structure of the Menopause Rating Scale (MRS) through factor analysis has been largely for western populations so far. The only study for an Asian population seems to be a study for women in Indonesia. This paper presents a factor analysis of the MRS for menopausal women in India.

The development of the Greene Climacteric Scale (GCS), a scale of 21 items, was motivated by the examination of seven separate studies in which the number of items on the scale to assess the climacteric varied considerably (from 17 to 36). Greene initially conducted a factor analysis on a list of 30 symptoms reported by women aged 40-55 using a 30 item questionnaire in the United Kingdom. He identified three symptom clusters and labeled them as vasomotor, somatic and psychological. This was followed by an analysis on an Indian population by Indira and Murthy who also used the same 30 item questionnaire and found eight factors. Other studies found between four and seven factors. The composite scale of Greene's 21 items is the one that is studied in this paper. The goal of this paper is to explore the factor structure of the 21 item Greene Climacteric Scale in Indian women.

STUDY – 2

Climacteric is a physiologic transition characterized by depletion of the ovarian follicles, loss of the menstrual cycle, decreased estradiol production and typical symptoms. The ovarian failure could influence the mental neurotransmission of menopausal women; female menopausal brain could suffer of a negative homeostasis in the absence of estrogen, affecting the cognition and daily behavior. The biologic and psychosocial events accompanying menopause which can be classified as stressors and "facilitators", and for the predisposed women, are likely to cause psychiatric disorders. Hormone replacement therapy (HRT) no doubt reverts the cognitive, vasomotor, psychological and autonomic impairments but also holds a risk of breast cancer, 3-fold risk of venous thromboembolism and inducing feelings of fear. HRT could not bring any change in coping strategies in healthy postmenopausal women as the stress coping is an individual propensity and not dependant on specific hormonal status during menopause. Due to the serious adverse effects of HRT, there has been gap in the management of menopausal symptoms emphasizing the need to develop and explore the efficacy of alternative therapeutic avenues that have recently demonstrated promise in alleviating menopausal symptoms. Yoga aims at relaxation and mental awareness is known to alter the perceptions, and mental responses to both external and internal stimuli, slow down reactivity and responses to stressful stimuli. Several studies on applied relaxation, relaxation response showed reduction in hot flushes intensity, anxiety and depression in menopausal women. Hence, the present hypothesis expects that yoga may decrease the clinical symptoms of climacteric, cognitive dysfunction and psychological symptoms in perimenopausal women.

Aims

STUDY – 1

The study aimed to do a factor analysis of Menopause Rating Scale and the Greene Climacteric Scale for a population of Indian perimenopausal women.

STUDY – 2

This study aimed at assessing the vasomotor, cognitive and psychological functions in 108 perimenopausal women between 40-55 years after eight weeks of integrated approach of yoga therapy (IAYT).

Methods

STUDY – 1

A sample of 518 perimenopausal women aged between 45 and 55 were asked to fill in the Menopause Rating Scale and Greene Climacteric Scale.

STUDY – 2

This was a prospective randomized controlled trial wherein 108 participants (married or single) who satisfied the inclusion criteria of (a) age between 40 to 55 years, (b) serum follicle stimulating hormone (FSH) level equal to or higher than 15mIU/ml (by Electro chemiluminescence method using Roche Elecsys 2010 FSH kit) were randomly divided equally into two groups; one group practiced integrated approach of yoga therapy (IAYT) and the other practiced a set of physical exercises. Participants were recruited from gynecological outpatient clinics in different areas of Bangalore. Participants were assessed for the cognitive tests through Six-Letter Cancellation Test (SLCT), Punit Govil Intelligence Memory Scale (PGIMS), psychological assessments through Eysenck's Personality Inventory (EPI), Perceived Stress Scale (PSS) and vasomotor scale symptom checklists through Menopause Rating Scale (MRS) and Greene Climacteric Scale (GCS) before and after the 8 weeks of intervention. Both experimental and control groups practiced IAYT and physical exercise respectively for one hour per day, 5 days per week for 8 weeks.

Results and Discussion:

STUDY – 1

The mean age of the women was 48.03 ± 3.40 . For MRS, three factors, psychological, urogenital and somatic were extracted. The item on sleep problems reported by previous factor analyses to be part of the somatic group was found to be part of the psychological group in this study. The rest of the groupings agree with studies on other populations. The urogenital symptoms account for a slightly larger amount of variance compared to the somatic group, in contrast to previous studies. The mean and standard deviations of the three subscales are as follows: Psychological: 5.59 ± 4.14 , Urogenital: 1.78 ± 2.1 , Somatic: 2.96 ± 2.30 . The factor analysis of the GCS data using an

oblique rotation yielded three distinct factors with loadings more than 0.4. The breakup of the psychological factor into an anxiety and a depression factor which has been hypothesized earlier could only be verified using varimax rotation. The last item, "Loss of sexual interest" is shown to be part of the vasomotor factor. The means of the scores on the three factors are: Psychological: 8.28 ± 5.87 , Somatic: 4.64 ± 3.73 , Vasomotor: 2.39 ± 2.10 . These are much lower than the values given by Greene, but are in consonance with values published in two earlier studies for different populations.

STUDY – 2

There was a significant difference ($p < 0.05$) between groups in the vasomotor factor, a marginally significant difference ($p = 0.06$) in psychological and no change in somatic component. Within group analysis showed significant improvement in all three factors in yoga group ($p < 0.001$) and in only psychological factor ($p < 0.05$) in control group. There was a highly significant ($p < 0.001$) difference in SLCT and 8/10 sub-tests of PGIMS (remote memory, mental balance, attention concentration, delayed recall, immediate recall, verbal retention (ii), visual retention and recognition test) between the two groups. The effect sizes were higher in yoga group in SLCT and 7 subtests of PGIMS except one (verbal retention of dissimilar pairs) where the control group had higher effect size. There was a highly significant difference between the groups in perceived stress level ($p < 0.001$) and significant change in extroversion and neuroticism scores ($p < 0.05$) between the two groups. Also, stress and neurotic behavior showed highly significant ($p < 0.001$) change within yoga group whereas stress levels alone show a significant change ($p < 0.05$) in the control group after the 8 weeks intervention.

Conclusions

The MRS scores compared with an Indonesian population shows that the latter have lower scores and that the scores in this study are comparable to the scores for Latin Americans. The factor analysis on GCS study reports the prevalence of symptoms in Indian perimenopausal women and constructed symptom groupings from reported symptoms. The findings of this factor analysis may be used as normative data for future studies. Integrated approach of yoga therapy can improve vasomotor symptoms and the cognitive functions

in perimenopausal women. It helps them to recognize the stressors in their lives, calm down, alleviate the stress and cope with their physiological and psychological symptoms of menopause better than those who practiced physical exercises.

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