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RESEARCH ARTICLE

FROM ORIGIN TO APPLICATION OF INDIAN KNOWLEDGE SYSTEMS: THE EFFECT OF SURYA NAMASKARON MENTAL HEALTH IN WOMEN COHORT

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Abstract

The present study aims to carry out a review of the existing literature on the impact of Surya Namaskaron women's mental health. It is based on and guided by the application of Indian Knowledge Systems and Vedic scriptures to modern day existence.The methodology encompass ed reviewing articles published from 2005 to 2025in peer-reviewed journals in the Google Scholar database. Keywords included Surya Namaskar, women, mental health, well-being, stress and anxiety. From the analysis of these articles, it may be gathered that regular Surya Namaskar, as part of a yoga-based intervention, improved women's mental well beingand reduced perceived stress, anxiety and psychologi cal distress.Both physical and psychological parametersacross age grou ps showed a significant positive effect, with no major negative effects reported.Long-term effects may be further studied, especially through multicenter trials.

Introduction:-

Background and Rationale: -

Every day, the sunrise makes life on Earth possible for human beings.The Sun God is worshipped all over the world with different names, especially in India, with the name Surya since the Vedic period. Since time immemorial, our Indian Knowledge Systems have propagated worshipping the Sun God as a path to prosperity and gaining intellect. Our Vedic scriptures bear testimony to celebrating the blessings of the Sun God and always chanting the glory of Suryain various forms (Swami, 2009). In today's times, Surya Namaskar is not only a good physical exercise but also a way to connect spiritually with God. The practice of Surya Namaskar facilitates the development and improvement of both the individual's physical and mental health. The Krishna Yajur Veda has mentioned 132 verses in a chapter titled "Surya Namaskar". The sanctity of this worship originated, was first introduced and then propagated by the King of Aundh, Late Shrimant Balasaheb Pant, in the 1920s, and later by Shri K. V. Iyer and Sri Krishnamacharya (Venkatesh and Vandhana, 2022).

Literature Context: -

The grandeur of the Sun God and the energy are extremely advantageous for humanity. Solar energy reaps both physiological and psychological benefits for the human species. The practice of Surya Namaskar enhancesjoint movements (Mullarpatan et al., 2019), activates muscles through different patterns(Ni et al., 2014) andimproves

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muscle strength (Bhavanani et al., 2011). Further, performing the various asanas of Surya Namaskar brings about balance in mental health (Ramaswami and Krishnamacharya, 2005). Hence, worshipping the Sun God is a comprehensive remedy for the whole body and mind. This context aligns with the topic to be explored further.

Theoretical Framework: -

This review of literature is based on Indian Knowledge Systems and observations from the Vedas:-

Though Surya Namaskar originated more than a century ago in India, it is stillpractisedtodaytohave energy throughout the day. Surya Namaskar practice involves12 postures and 24 steps in a particular round. These include Pranamasana, Hasta Utthanasana, Padahastasana, Ashwa Sanchalanasana, Parvatasana, Ashtanga Namaskara, Bhujangasana, Parvatasana, Ashwa Sanchalanasana, Padahastasana, Hasta UtthanasanaandPranamasana.

Research Objectives: -

The main aim of this literature reviewis to organise, assimilate and analyse existing research on the effects of Surya Namaskar onwomen's well-being and mental wellness, with a special focus on the Indian context, and to study its progress and application globally. Hence, this review aims to:

1. Examine the impact of Surya Namaskar on women's well-being through a review of existing research.
2. Identify the key impact variables of well-beingaffected by Surya Namaskar.

Methodology: -

Research design and Search Strategy: -

The study conducted a literature review using a template framework by Brooks et al. (2015). The inclusion criteria were articles published in English, in peer-reviewed journals, primary research studies and articles published in the last 20 years. Exclusion criteria were non-English articles, articles in non-peer-reviewed journals and opinion articles. Google Scholar was the database searched. Figure 1 depicts the search strategy. After assessing the articles for quality, findings were analysed and inferences drawn as stated in Table 1.

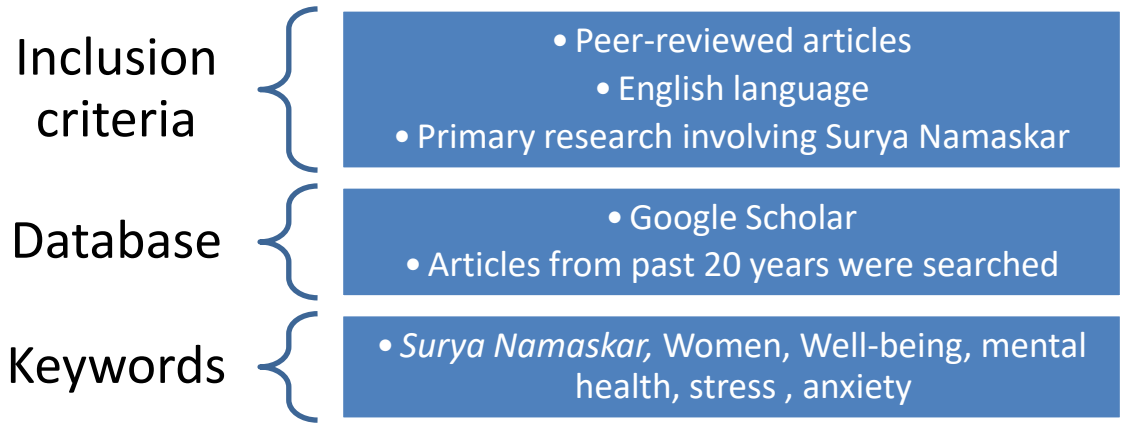

Figure 1 – Search strategy and keywords

Results:-

Table 1 – Studies on keywords related to "Surya Namaskar" PLUS "mental health" PLUS "Women"

STUDY	SAMPLE SIZE	OBSERVATION	REMARKS
Chattha et al. (2008)	120 Indian women from Bangalore aged 40to55, half in the control group and the other half in the intervention group.	The randomised control design was used. The study lasted for 2 months. Inthe control group, participants performed simple physical exercises,	Constriction and dilation of blood vessels became better in the experimental group, but only a slight improvement in psychological

		whereas the experimental group was given yoga therapy with Surya Namaskar, including 12 postures.	parameters was observed.
Cramer et al. (2016)	60 European women with abdominal obesity were assigned randomly to two-thirds and one-third groups.	40 women were exposed to yoga interventions for 3 months to analyse their effects, using randomised controlled trials and the waist circumference was measured.	No negative effects were reported. Medium differences were observed between the intervention-exposed and the control group in body weight, waist-hip ratio, stress and physical and mental well-being.
Chhugani et al. (2018)	30 Indian professional female caregivers of older adults suffering from Alzheimer's disease. The participants' ages ranged between 20 and 50 years and were from Bangalore. 17 Participants were exposed to the experimental condition performing Surya Namaskar in 2 to 5 cycles, and the remaining 13 participants were kept in the control condition.	Participants in the experimental condition learnt asanas and other meditation and relaxation techniques for 1 month, whereas the control group did routine daily activities.	Stress, depression, anxiety and quality of sleep improved from baseline behaviour after the interventions.
Ghaffarilaleh et al. (2019)	62 West Asian women were equally distributed in the control and experimental groups.	A randomised clinical trial was conducted over 3 months.	It was noted that sleep disturbances reduced and increased the efficacy of sleep.
Kumaravelu and Das (2020)	40 Indian employed women from the Tiruppur region experiencing insomnia, in the age range of 30 to 45 years. They were randomly divided equally into 20 each in two conditions:the control and experimental group.	The experimental group was exposed to yogic practices such as Surya Namaskar and Tadasanaevery evening for 1.5 months, 6 days a week, for 1 hour.	The participants in the experimental group were found to have lower stress and depression.
Ghosh et al. (2025)	90 Indian mothers of adolescent children from Tamil Nadu, divided into 3 conditions of 30 participants each.	Mothers with adolescent children were measured on the relationship between anxiety and yogic interventions for 3 months.Data were collected by dividing participants into 3 groups: 2 experimental	A significant positive result of anxiety and stressreduction among women who were exposed to yoga, along with Neuro-Linguistic Programming, was witnessed.

		groups and a control group. The control group participants received active rest. One experimental group was exposed to Neuro-Linguistic Programming (NLP) along with Surya Namaskar,and the other group received onlyyoga therapy.	
Pandiyan et al. (2025)	60 Indian (Chennai) women with hypothyroidism in their early adult stage, from 20 to 39 years of age, with 30 participants in each group.	The intervention lasted 16 weeks. A randomisedcontrolled single-blind design was used. This involved parallel groups.	The readings indicated that self-esteem was enhanced and depression and anxiety were reduced because of the interventions.
Preethi and Saroja (2025)	60 voluntary participant women from Tamil Nadu, India.	The data was collected in a combination of control and experimental groups.	The groups receiving yoga interventions depicted prominent stress reduction.
Singh et al. (2025)	21 healthy Indian females from Kolkata (18-25 years).	A quasi pre- and post-experimental design was used.	Cardio-respiratory and neuro-cognitive parameters of the participant females largely improved due to the direct positive influence of Surya Namaskar.
Sucharita et al. (2025)	120 Indian girls from Vijayawada, Andhra Pradesh, were studied for half a year, in control and experimental groups.	The efficacy of yoga as a complementary therapy for stress reduction was examined among college students suffering from the PolycysticOvarian Syndrome (PCOS). A randomised controlled design was employed for this purpose.	It was found that Surya Namaskar reduced stress levels among the college participants and enhanced their overall well-being.

Discussion:-

The yogic intervention in the form of Surya Namaskar predominantly depicted strong positive results in several physiological and psychological parameters such as improvement in vasomotor movements, abdominal obesity, self-esteem, neurocognitive and cardiorespiratory functions and reduction in stress, depression, anxiety and sleep quality, across various cohorts of PCOS, diabetics, hypothyroidism and Alzheimer's disease, and across the globe.Similar results to those obtained by Sucharita et al. (2025) were also depicted by Panjrath et al. (2025) on women with PCOS. Neuro-Linguistic Programming was found to complement yogic practices well. Psychological parameters like depression, anxiety, and stress showed a significant positive impact. No negative effects were reported. Surya Namaskar, as part of a yogic intervention, was also combined with physical activity, and a positive mental effect was reported, leading to improved self-esteem (Cramer et al., 2016). These positive effects were reported across the different population groups considered by the researchers, such as college students (Sucharita et al., 2025) and mothers of adolescents (Ghosh et al., 2025).

Studies were designed as either a pre-post study (Singh et al, 2025),a controlled pilot study (Chhugani et al, 2018) or a randomised controlled trial (Cramer et al, 2016; Ghaffarilelah et al., 2019; Chattha et al, 2008; Ghosh et al, 2025; Pandian et al, 2025; Sucharita et al, 2025). Various tools were used in the studies analysed, including Perceived Stress Scale and Greene Climacteric Scale (Chattha et al., 2008), Body awareness, Perceived Stress, Quality of Life, Self-esteem and Body responsiveness (Cramer et al., 2016), Pittsburgh Sleep Quality Index (PSQI) and DASS-21 questionnaires (Chhugani et al., 2018), Pittsburgh Sleep Quality Index Questionnaire (Ghaffarilelah et al., 2019), the Stress and Depression Questionnaire (Kumaravelu and Das, 2020), Hamilton Anxiety Scale (Ghosh et al., 2025),Depression, Anxiety and Stress Scale DASS(Pandiyan et al., 2025),Stroop test and Digit Span test (Singh et al., 2025),measurement on various anthropometric variables and BMI (Sucharita et al., 2025) and Everly's and Girnado's Psychological Stress Scale (Preethi and Saroja, 2025). The diversity of tools used indicated that researchers evaluated multiple aspects of well-being, including stress, anxiety, quality of life, and sleep quality.

The studies witnessed certain limitations – participants were aware of the interventions to be applied and could not be blinded towards them (Cramer et al., 2016), bias in responses (Ghaffarilaleh et al., 2019), small sample size and restricted data from a particular single district (Kumaravelu and Das, 2020), only a small sample size with one subgroup of women (Chhugani et al., 2018; Ghosh et al., 2025), a smaller sample size leading to careful and restricted generalisation of the findings (Pandiyan et al., 2025), small sample size of only young adult females over a short span of time makes their impact unknown over a longer period of time(Singh et al., 2025) and again single centric with women included from database of those suffering from PCOS (Sucharita et al., 2025). Thus, in future, multicenter Randomised Controlled Trials may be able to establish the role of Surya Namaskar in women's well-being with greater evidence.

Theoretical Implications:-

The analysis of results reveals that yogic practices and interventions such as Surya Namaskar have been found to have beneficial effects in reducing stress and depression in employed women suffering from insomnia,a better quality of life and positive mental health among participants with abdominal obesity, improved sleep quality in women with premenstrual syndrome, and reduced symptoms and perceived stress among perimenopausal women. Additionally, yogic practices with Surya Namaskar in combination with Neuro-Linguistic Programming have been found to successfully decreasestress and anxiety and help reduce comorbidities among women with early adulthood hypothyroidism and improve long-term quality of life. Surya Namaskar has been found to benefit both physiological and psychological well-being. Moreover, yogic interventions enhance sleep quality among professional caregivers. A major finding of Surya Namaskar is that it can increase metabolic activity and respiratory efficiency for a similar cardiac output, thereby limiting additional cardiac stress. Yogic applications are also an efficient way to reduce Body Mass Index (BMI). Thus, incorporating Surya Namaskar may improve mental and physical well-being and reflect improvement in disease pathologies.

Conclusion:-

Surya Namaskar is a gift of blessings for maintaining positive physical, physiological, and mental health, even for individuals who cannot set aside much time for yogic practicesevery day. Considering that no adverse effects were reported, it is indeed a boon that must be cherished and incorporated into day-to-day life. Current research indicates significant mental and physical benefits apart from symptomatic improvement in a few illnesses. However, future research needs to examine thelong-term effects via multicentric trials and ways to maximise its benefits. Incorporating Surya Namaskar, as an isolated practice or as part of a yogic intervention, is reported to improve well-being.

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