

# Holistic Nature of Surya Namaskar for the Millennials, Reviewing and Investigating its Scientific Rationale



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## Abstract

**Background and Introduction:** Surya Namaskar is a popular yogic practice. It is mainly an outdoor activity done in front of the rising sun. It has many beneficial promotive health effects. In the present-day outdoor activity and sun exposure is limited; Surya Namaskar may mitigate the ill effects of modern lifestyle.

**Material and Methods:** Data bases of DOAJ, PubMed and Google Scholar were searched with a focused research question, “what is the rationale of Surya Namaskar based yoga practice for holistic promotive health for futuristic generations”? 16 Full texts and 18 abstracts were extracted for review purposes.

**Results and Conclusion:** Surya Namaskar is a holistic exercise that gives daily dose of Vitamin D, flexibility training to ligaments and muscles, cognitive boost, cardiopulmonary tuning, spinal adjustments, bone health, glucose metabolism and psychological well-being to all age groups and genders.

**Keywords:** Surya Namaskar; Yoga; Health; Sun

## Introduction

Surya Namaskar is an age old traditional and sequential set of sun prayer postures designed for holistic and good human health and societal well-being [1]. The benefits are diverse over a number of physical health systems and include psychological security as well through aerobic conditioning under the sun [2]; it is a classical requirement for future generations [3]. Need of the study - in the present and futuristic time the outdoor activity levels have reduced drastically. Individuals who exercise also prefer the indoor environment in a gym. This may produce a sun deficient population. In this scenario the holistic nature of Surya Namaskar may be very beneficial and may give a dose dependent daily boost for health. Aim was to review publications on Surya Namaskar and to investigate the findings for its holistic nature as applicable to millennials. The review question was “what is the rationale of Surya Namaskar based yoga practice for holistic promotive health for futuristic generations”?

## Methods

Databases Directory of Open Access Journals (DOAJ), PubMed and Google Scholar were used as search engines. Key words were Surya Namaskar and Yoga. 16 Full texts and 18 abstracts were extracted for review purposes based on their suitability for the research(review) question. Results & Analysis - DOAJ provided

2 full texts review articles, PubMed provided 10 articles (1 full text and 9 abstracts) were seen at PubMed with key terms “Surya Namaskar”, “Yoga”. Many articles described low energy requirements for Surya Namasakr. Google Scholar provided 2010 results of different nature and suitable a total of 36 articles based on research question were selected for review from the literature search.

## Discussion

Surya Namaskar shall be performed facing the Sun and it is sequence of 12 poses repeated one after the other in succession and interposed with pauses for slow breathing with focus on Sun God. It may also include chanting of mantras which give additional benefits. Based on review of the selected articles following areas of health were seen as a prominent focus for health for futuristic humans. Surya Namaskar as a daily dose of vitamin D - vitamin D is a fat-soluble vitamin that is directly produced by skin. Daily sun exposure during various asanas can increase the levels of vitamin D synthesis [4-6] and can work as a daily supplement, the asans may be performed at a suitable environment preferably during warm ambient sunlight in the morning [4-7]. Flexibility training - Surya Namaskar has been shown to increase dynamic flexibility of the chest wall [8,9]. It involves backwards and forward bending in the second and

third poses where hip flexors anterior trunk and hamstrings and upper back are addressed for flexibility, in the fourth and sixth pose gastrocnemius are addressed for flexibility. There is cobra pose in the concluding aspects which is also very good for this purpose [1,8,10].

## Weight Reduction

Many articles have given sound rationale for the applicability of the yoga mainly in the form of Surya Namaskar for reduction of Obesity, however it must be clinically determined which treatment approach is best for the given patient [11-13]. Cognitive boost - Surya Namaskar is a cognitive booster. Randomized controlled trial (RCT) has been reported in which Surya Namaskar has been shown to increase selective attention among orphan boys. Many other qualitative studies have confirmed sound rationale for improving cognition and mindfulness with the practice of Surya Namaskar [14-21]. During Surya Namaskar the focus is drawn internally and the thinking process is diverted towards the yogic exercise, there is coordinated movements with breathing control and sequential flexion and extension that helps to relieve stress, increase mindfulness and to develop a calm outlook.

## Cardiopulmonary Tuning

the energy requirement of Surya Namaskar is low, nevertheless it can be used very effectively for cardiopulmonary tuning. In the forward bending postures, it causes cardiopulmonary adjustments and leads to tuning of the reflexes which modulate the blood pressure and breathing drive. Sun light produces relaxation of blood vessels with the increase in nitric oxide. Many studies including school children, medical students etc. has confirmed its efficacy for cardiopulmonary tuning [22-30].

## Glucose Metabolism

Surya Namaskar increases the efficiency of body to metabolize glucose, the endocrinal boost usually comes with a better circulation and energy levels remain high [31-37]. Two reviews [32,33] and a randomized controlled trial has proven the effectiveness of yoga intervention for diabetes [37]. Cardio-metabolic risk I also decreased by it [38]. Spinal adjustments A systematic review and meta-analysis has recommended yoga for low back pain. The 12 exercises of the Surya Namaskar cover both extension and flexion postures for the spine and in case of asymptomatic individuals can be used as a promotive exercise intervention. In case of low back pain Surya Namaskar can lead to better spinal adjustments as it is a self-controlled spinal adjustment [39].

## Psychological well-being

During menopause various symptoms can be eased by regular practice of yoga as checked by RCT [40]. Surya Namaskar based yoga can improve the bone health as well. It can also increase physical performance before puberty [41], thus all age groups can benefit with its practice.

## Conclusion

based on the findings of this review it is concluded that Surya Namaskar is a holistic exercise that gives daily dose of Vitamin D, flexibility training, cognitive boost, cardiopulmonary tuning, spinal adjustments, glucose metabolism and psychological well-being.

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