



## Yoga in Pregnancy

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### ABSTRACT

In Siddha system of medicine, Yogam (Yoga) forms an important part. Among the Siddhars dealt with yogam, Thirumoolar is notable. Siddhars have advised Yogam for all categories of people. Siddhars have strong knowledge in embryological growth and foetal development. They have advised do's and don'ts of pregnant women. The Yogam mentioned by Siddhars are all beneficial among pregnant women. This paper reviews about the types of Asanas beneficial for women in all the stages of pregnancy.

**Keywords:** *Yogam, Asanas, Pregnancy, Attangayogam, Stress, Pregnancy problems.*

### 1. INTRODUCTION

In Siddha System of Medicine, Yogam (Yoga) forms an important part. Among the Siddhars dealt with yogam Thirumoolar is notable. He details nicely the Attangayogam i.e. the eight steps or eight stages of yogam in his work 'Thirumanthiram'. The term 'Yogam' means 'union'. Siddhars have defined yoga as an art which controls the mind by preventing it from distracting through sense and sense organs and unite it with the divinity after realizing the true entity of eternal bliss. Yoga is defined simply as "A perfect scientific art that unites the mind with the God or the Truth".

Yoga was defined as a mind-body practice that originated in India and is becoming increasingly recognized and used in developed nations as a health practice for a variety of immunological, neuromuscular, psychological, and pain conditions [1, 2]. Yoga includes traditional physical postures and

may incorporate other components, such as breathing exercises and meditation.

Yoga impacts on nervous system regulation and physiological system functioning (e.g., immune, endocrine, neurotransmitter, and cardiovascular) and improve psychological wellbeing (e.g., frequency of positive mood states and optimism) and physical fitness (e.g., strength, flexibility, and endurance) [2].

#### 1.1. Stress

In the modern society with fast moving vehicles, industrialization and sophisticated living styles, there could be hundreds of situations, which produce stress in mind and body. A woman who is trying to live a successful life as per the expectations and norms of the society today is continually challenged with rapidly accumulating stresses. In her attempt, to reach the expected standards of living, she cares for others and end up in morbidity which she doesn't care

unknowingly she is geared up to this great stress physically and mentally. This stress has moved further on to intractable levels of emotional sensitivity. The increasing number of divorces (1.1%) and aggressions are example of this highly sensitized and greatly excitable stage of human personality today. Such emotional stresses can greatly upset the physiological balance. Highly sensitized emotions which are suppressed in today's fast pace of life are recognized as the most important factors in the causation of stress-related health problems, infertility and increasing incidence of instrumental devices.

### **1.2. Is Pregnancy a Stress?**

Pregnancy is a special time for a women and her family. It is a time of many changes in a pregnant woman's body, in her emotions and in the life of her family. These changes often add a new stresses to the lives of pregnant woman (who already faces many demands at home and at work) when stress builds up to uncomfortable levels, it can be harmful for the pregnant woman and the fetus.

Pregnancy is a condition in which women will undergo distinct physiological changes and stress and is accompanied by unique physical and psychological demands. So, they are in need to manage these various physical, emotional, mental, and pain that arise throughout the stages of pregnancy and labour. The wellbeing and quality of life of the mother is critical for optimal pregnancy outcomes; self-soothing techniques, psychoeducation, and relaxation are particularly important in this transitional and meaningful time [3]. In addition to this, prenatal maternal stress and anxiety may be risk factors for potential negative consequences for children later in life, such as the development of attention deficit, hyperactivity disorder or lowered performance on aspects of executive function [4,5].

There are many short term and long term effects of excessive stress.

**Short term effects:** Fatigue, insomnia, anxiety, Anorexia or overeating, headache and backache.

**Long term effects:** Lowered resistance to infectious diseases, High BP and Heart diseases.

**Pregnancy related problems:** High levels of stress may post special risks during pregnancy, such as uncontrolled Nausea, extreme fatigue, frequent urination, swelling, backache and mood swings.

Many pregnant woman and their partners worry about the health of their baby, their ability to cope up with labor and deliver, and their ability to become

good parents. Added Financial responsibilities are another common source of stress. All of these worries can be magnified in to a high risk of pregnancy. A new research suggests that adult illnesses like Diabetes, Obesity, Asthma, Hypertension etc., may have their roots before birth. It may be termed as Gestational Conditioning.

Woman who are experiencing high levels of stress may not follow good health habits. They may not eat properly, or they may react to stress by reaching Cigarettes, alcohol or illicit drugs, all of which have been linked to low birth weight. Therefore, it is important to everyone to regulate maternal stress and provide expecting mothers with coping strategies for the inevitable stresses and changes that occur during pregnancy to increase quality of life and to maximize infant health and development. Physical exercise can be helpful in the management of stress and other associated conditions or symptoms accompanying pregnancy, such as edema, gestational hypertension or diabetes, mood instability, musculoskeletal discomfort, aches, and weight gain [6]. Engaging in physical exercise during pregnancy was once regarded as a risky behaviour, although it is increasingly recognized as safe and is encouraged in routine prenatal care. It conclude that regular physical exercise has maternal and foetal advantages that outweigh risks and recommend at least 30 minutes of exercise, most days of the week for the prevention and treatment of conditions associated with inactivity, such as gestational diabetes and hypertension.

Mind-body practices that cultivate general health, diminish distress, and increase self-awareness, such as tai chi or yoga, maybe be particularly effective in addressing both the physical and psycho emotional aspects of pregnancy and labour [6]. Other related practices, including biofeedback, meditation, and imagery, have been found to reduce anxiety and endocrine measures, such as cortisol, in women during labour [8, 9]. Relaxation therapies for pain management in labour have also become popular as women are seeking alternatives to traditional treatment approaches, including analgesics and anaesthesia, which can be invasive and are sometimes associated with negative side effects for both the mother and infant [10]. Labour pain is a subjective and multidimensional experience that varies according to each woman's individual perceptions of and reactions to nociceptive information during labour and is influenced by psychosocial, cognitive, and physiological factors [11]. It is suggested that practitioners use a multidisciplinary approach to pain management in

labour and incorporate both pharmacological and non-pharmacological approaches that can be tailored to individual preferences and needs [12]. Confidence, self-efficacy, and coping ability are considered important for a positive labour experience, and maternal prenatal anxiety is negatively associated with pre labour self-efficacy for childbirth and labour pain [13]. Other psychological factors, such as pain catastrophizing, have been associated with greater lumbo-pelvic pain during pregnancy and with decreased postpartum physical ability [14] and can also predict the request for pain relief during labour [15].

## 2. MATERIALS AND METHODS

Literature searches were conducted to identify all review papers of yoga and pregnancy. The following databases were used: CINAHL, Pubmed, Medline, Proquest, and “Evidence Based Medicine Reviews: Cochrane DSR, ACP Journal Club, DARE, and CCTR”. The two terms “yoga” and “pregnancy” were linked together using the Boolean operator “AND” in order to search articles containing both terms. In addition, a search containing the terms “yoga AND [post-natal OR postpartum]” was conducted. The reference lists of located articles were also searched for possible publications.

### 2.1. How does YOGA provide the answer to stress reduction in pregnancy?

- Yoga is defined as a tool for achieving positive health. Yoga practiced by pregnant woman seems to reflect this positive health on the Fetus in uterus.
- Yoga helps to prevent and cure many chronic ailments.
- Yogic practices integrate the body, mind and spirit. They bring harmony and positive attitude.
- Yogic practices will help pregnant woman to have correct posture flexibility of spine, improve their breathing capacity, to manage stress.
- It helps to build immunity, inner strength, improve control over body and mind.
- Yoga exercises relieve edema (fluid retention) and cramping which are more common in the last months.
- They influence the position of the baby and turn it in advance if needed. They strengthen the abdomen, which helps stimulate bowel action and appetite.
- Yoga helps to reduce Nausea, morning sickness and mood swings.

They focus on relieving tension around the cervix and birth canal.

- They focus on opening the pelvis to make labour easier and quicker. (Normal delivery)
- Raising the level of energy while also helping in slowing the metabolism to restore calm and focus.

### 2.2. Yoga can help in post-natal period

Restoring the uterus, abdomen and the Pelvic Floor

- Relieving upper back tension
  - Relieving breast discomfort.
- Thus Yoga brings about stress reduction and helps to maintain Antenatal, Post-natal Care and reducing occurrence of complications, through a balanced effective blood flow in the Uterus-placenta circulation.

Yoga restore balance at all levels physical, mental, emotional & intellectual. Thus Yoga provides total answer to the challenge of stress.

### 2.3. During Delivery

1<sup>st</sup> Stage : Deep abdominal Breathing A.U.M. Chanting

2<sup>nd</sup> Stage : Bear down with Anthra Kumbhaka, Intense Dharana, Co-ordinated channelization of all prana in the direction of Apana, Mental chanting of A.U.M.

3<sup>rd</sup> Stage: When the baby is born quick relaxation method, deep breathing, chanting, anthara kumbhaka till placenta is delivered.

### 2.4. Post – Natal Asanas

Start with leg raising exercises from 5<sup>th</sup> Day

Hastha padangusthasana

Konasana

Hastha Padasana

Parvathasana

Paschimottanasana

Sarvangasana

Halasana

Shalabhasana

Makarasana

According to the National Health and Nutrition Examination Survey [16], among the nine exercises commonly done during pregnancy, walking was the most popular (41%) and yoga was ranked fourth, being practiced by only 7%.

	Practices	Breathing Practices	Loosening Practices	ASANAS	
				STANDING	SITTING
FIRST TRIMESTER	Prayer	Hands in and out breathing Hands stretch breathing Tiger breathing	Forward bending Backward bending Side bending Twisting	Tadasana Ardha – Kati cakrasana (Lateral Arc Posture) Padha hastasana (forward-bend posture)	Dandasana Vajrasana (Thunderbolt pose) ardha-Matsyendrasana Ardha Badha konasana (Half butterfly pose) Badha Konasana (Full butterfly pose) Upavista Konasana (Sitting with legs wide) Squatting (Malasana – Garland pose) Sasankasana (Moon Posture) Siddhasana Chakki Chalan asana (Churning the milk pose) Savasana (Left Lateral position) Yoga Nidra (Matsya Kridasan) In addition Pranayama and Meditation
SECOND TRIMESTER	Prayer	Hands stretch Hands in and out Loosening fingers Loosening wrist Ankle stretch Tiger breathing Neck exercise	Forward bending Backward bending Side bending Shoulder rotation Twisting	Tadasana Ardha – Kati cakrasana (Lateral Arc Posture) Sitting Dandasana Vajrasana Ardhamatsyendrasana Badha Konasana Upavista Konasana Siddhasana Bhadrasana (GraciousPose)	SUPINE POSITION  Meru Akarshanasana (Spinal bending pose) Viparita Karani with wall support Savasana (Left Lateral position) Pranayama & Meditation
THIRD TRIMESTER	Prayer	Hands stretch Hands in and out Loosening fingers Loosening wrist Ankle stretch Neck exercise		Tadasana Ardha – Kati cakrasana (Lateral Arc Posture) Sitting Dandasana Vajrasana Siddhasana	SUPINE POSITION  Viparita Karani with wall support Pranayama & Meditation Don't strain yourself at any point of time Prone Asanas should avoid during Pregnancy Cautions and Contra-indications at different trimesters. In between the group of Asanas we have to do some relaxations process such as quick relaxation, instant relaxation and deep relaxation. (Relaxations are more important during Asanas)

The limitations of the review include the following, women who were middle to upper class and were otherwise healthy, educated, and married [17 – 21]. Thus, the results may not be applicable to other socioeconomic groups and those with pregnancy complications. No adverse events were reported, suggesting that yoga is safe during pregnancy. However, this was not specifically reported in these trials, which may represent an underreporting of adverse events. Further prospective controlled studies should collect data on adverse events. The effects of yoga on prenatal and postnatal weight gain or loss has not been evaluated, but may be an important alternative exercise to investigate. In addition to evaluating the effects of yoga on maternal experiences throughout pregnancy, Sun et al. [22] also examined the effects of a 12–14 week yoga program during weeks 26th–28th to 38th–40th weeks on pregnancy-related discomfort.

A dismantling design may provide valuable information regarding the ways that different components of yoga may alter maternal nervous system functioning and in turn influence fetal neurophysiology or behaviour. For instance, breathing exercises, which might be comparable to a yogic breath practice (pranayama), have been shown to be associated with acute changes in fetal heart rate in response to uterine stimulation [23]. In addition, fetuses of mothers who had received an intervention consisting of relaxation techniques, such as progressive muscle relaxation and guided imagery, had higher long-term heart rate variability than controls, and women who had received progressive muscle relaxation had significantly more uterine activity than the guided imagery or control groups [24]. It is possible that elements commonly included in a yoga practice, such as breathing exercises or deep relaxation, may affect both foetal heart rate and foetal movement.

### 3. CONCLUSION

In conclusion, the present paper suggests that a prenatal yoga program results in benefits during pregnancy as well as throughout labour and on birth outcomes. This budding body of work suggests that improvements were observed on psychological domains during pregnancy and labour (e.g., quality of life and self-efficacy), on physical and pain measures during labour (e.g., discomfort and pain), and on birth variables (e.g., birth weight and number of preterm births). The only adverse health outcome that was reported was uterine contractions, which can be monitored with a modified approach and appropriate activity reduction. Overall, the evidence that yoga is

well suited to pregnancy is positive, but methodological analysis with the published literature and a general insufficient wealth of published trials make it impossible to draw any firm conclusion. Our recommendations above will allow researchers to work alongside yoga practitioners to craft potent, standardized programs that are also amenable to evidence-based evaluation in a research environment.

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