



Contemporary Ergonomic Solutions and Yoga Techniques (Asanas and Pranayama) for Prenatal Care

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DOI:10.21760/jaims.10.2.18

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The workplace environment significantly impacts the physical and psychological well-being of pregnant employees. Pregnancy brings challenges such as postural problems, backache, and reduced coordination, affecting work performance. A specialized ergonomic assessment helps address these issues. This paper explores combining ergonomic solutions with holistic practices like Vihara, which includes Asana (Yoga postures) and Pranayama (breathing exercises), to improve prenatal care. These techniques enhance flexibility, reduce stress, and adapt to the mother's changing needs across all trimesters. They support both physiological and psychological well-being, ensuring comfort and health. Pregnancy-related changes, including pain, spinal curvature, gait, and balance, require careful attention. Workplace hazards such as exposure to harmful substances and musculoskeletal injuries pose risks to maternal and fetal health.[1] A comprehensive approach - covering work environment, scheduling, communication, clothing, footwear, and diet - promotes a safe pregnancy while maintaining employment. Yoga, integrated into Vihara-based ergonomics, offers benefits like physical ease and psychological resilience. It improves maternal health, enhances prenatal care satisfaction, and fosters a positive pregnancy experience. Conversely, poor workplace ergonomics can lead to complications, including infertility, miscarriage, preterm births, and low birth weight babies.[2] Regular practice of Asana and Pranayama throughout pregnancy supports a smoother labor and a healthier postpartum experience, with modifications tailored to each trimester for maximum benefits.

Keywords: Ergonomics, Prenatal Yoga, Prenatal care, Pregnant employee, Ergonomic solutions, labor, Asanas and Pranayama

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How to Cite this Article

Trishul Dev TA, Shivakumar, Contemporary Ergonomic Solutions and Yoga Techniques (Asanas and Pranayama) for Prenatal Care. J Ayu Int Med Sci. 2025;10(2):126-135.
Available From
<https://jaims.in/jaims/article/view/3975/>

To Browse



Manuscript Received
2025-01-16

Review Round 1
2025-01-27

Review Round 2
2025-02-07

Review Round 3
2025-02-17

Accepted
2025-02-27

Conflict of Interest
None

Funding
Nil

Ethical Approval
Not required

Plagiarism X-checker
12.96

Note



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Introduction

Ergonomics, the science of designing and arranging the workplace to fit the worker's needs.

Ergonomics refers to the study of factors likely to affect interactions between an individual and their working environment.[3] According to the International Ergonomics Association, ergonomics is defined as a "scientific discipline that applies theory, principles, data, and methods to optimise human well-being. It evaluates tasks, jobs, environments, and systems to make it compatible with the needs, abilities, and limitations of people".[4]

It has been discovered that implementing ergonomic principles at work reduces the risk of musculoskeletal problems and boosts worker productivity and job satisfaction.[5] Pregnancy either causes or exacerbates some ergonomic dangers..[6] Bad work environments, such as extended standing, heavy lifting, extended work hours, and psychological stress, have been connected to unfavourable pregnancy outcomes.[7]

Furthermore, bad ergonomic procedures can exacerbate pre-existing discomfort, which raises the rates of sick absence, work absenteeism, and low motivation among pregnant healthcare professionals..[8]

Therefore, in order to improve pregnant workers' comfort and assist them in managing both the inherent physical problems of pregnancy and work-related stress, appropriate accommodations must be made.[9] Traditional prenatal care primarily addresses medical and nutritional needs, but there is growing recognition of the importance of holistic approaches that incorporate physical, emotional, and psychological well-being. *Vihara*, a concept rooted in holistic wellness, emphasizes creating a balanced and supportive environment for pregnant individuals. One effective implementation of *Vihara* in prenatal care is through the incorporation of *Asana* and *Pranayama*. These ancient practices offer ergonomic solutions that address the unique physiological and psychological changes experienced during pregnancy. *Asanas* promote physical flexibility, strength, and relaxation, while *Pranayama*, or controlled breathing exercises; helps manage stress and improve respiratory efficiency. Together, they create a comprehensive approach to prenatal care that aligns with principles of *Vihara*.

Aims and Objectives

Aim

To evaluate the impact of modern ergonomic practices and *Yoga* techniques on improving prenatal comfort and health.

Objectives

1. To analyse the workplace challenges and assess the Impact of Ergonomic Hazards and recommended practices in Prenatal Care.
2. To explore the impact of *Asana* and *Pranayama* in prenatal comfort and health

Workplace challenges experienced by pregnant women

Pregnancy changes how a person interacts with their workplace because it changes the contour of their body. The possibility of damage is increased by hormonal changes that impact the ligaments. For the purpose of accommodating the expanding fetus, the joints in the spine become less stable and exhibit symptoms of separation and movement. According to studies, standing for extended periods of time increases the risk of pregnancy.

Pregnant employees' ability to work is impacted by conditions including restless legs, heartburn, and back pain that can impair their mood and cognitive function. A pregnant employee is more vulnerable to certain occupational hazards, such as radiation exposure (at >100 millirems), infectious bioagents, heavy lifting and prolonged working hours (>12 hours per shift), due to their impact on foetal development.[10]

Expectant mothers should therefore be protected from harmful working conditions, especially after the first trimester.[11] This includes ergonomic stressors related to various negative pregnancy outcomes such as spontaneous abortions, prematurity, low birth weight babies and stillbirths.

Sources of ionising radiation such as X-rays and gamma rays can cause infertility, miscarriage, birth defects, low birth weight babies and developmental disorders.[10] The risk of major fetal malformations was elevated among workers exposed to organic solvents.[12] Increased levels of the hormone's relaxin and oestrogen, joint laxity, hypermobility, & spinal curvature cause backache & waddling gait, which raises the risk of falls in pregnant women.

Certain symptoms go away in the second trimester, but other physiological changes persist.[13] Pregnant women who engage in physical over exertion, irregular work schedules, or heavy lifting are more likely to experience spontaneous abortions.[14] Lifting heavy weights (>10 kg) during pregnancy shifts the centre of gravity forward, affecting balance and potentially increasing the risk of falling. Moreover, lifting heavy loads also increases the risk of preterm birth.[15] Excessive or insufficient workloads, unclear tasks or instructions, poor support and rotating shifts adversely impacts both work quality and pregnancy outcomes. Low birth weight kids have been related to exhaustion, heavy lifting, extended workdays without breaks, and excessive noise levels (>85 dB) during pregnancy.[11]

Pregnancy-related occupational weariness is also thought to reduce energy levels and the ability to tolerate discomfort during vaginal delivery, which may have an impact on the choice to conduct a Caesarean section.[16] Every aspect of ergonomics is related to the others; for example, an inadequately constructed workstation can lead to stress, which can modify behaviour, which can then affect cognitive function and overall performance. [17] Although workplace ergonomics primarily focus on physical factors, employers should also consider workers' mental workload, creativity and productivity. In general, standard working conditions present little hazard to infant health; however, pregnancy may significantly impact maternal psychosocial wellbeing in the workplace. [18]

Material and Methods

Table 1: Impact of ergonomic stressors during pregnancy and recommended practices.[2]

Ergonomic stressor	Risk in pregnancy	Recommended practice for safety
1. Work shifts (evening/night shifts)	<ul style="list-style-type: none"> ■ Preterm delivery ■ SGA babies ■ Gestational HTN* 	<ul style="list-style-type: none"> ■ Avoid night shifts ■ Permit convenient shift changes
2. Prolonged working hours (≥40 hours/week)	<ul style="list-style-type: none"> ■ IUGR ■ Preterm delivery ■ Dehydration ■ Threatened miscarriage ■ Instrumental delivery due to maternal exhaustion 	<ul style="list-style-type: none"> ■ Reassign shifts ■ Reduce working hours to 6 hours per day
3. Body posture issues (repetitive jobs and awkward positions)	<ul style="list-style-type: none"> ■ Lower back pain ■ Pelvic girdle pain ■ Wrist pain ■ Muscle spasms ■ Sprains ■ Altered grip strength 	<ul style="list-style-type: none"> ■ Consider a reach distance of 38–50 cm in workstation layouts particularly in the third trimester ■ Alternate posture/position every 2 hours ■ Install concave desk boards for computers
4. Occupational fatigue	<ul style="list-style-type: none"> ■ PROM ■ Preterm delivery ■ Caesarean section delivery due to maternal exhaustion 	<ul style="list-style-type: none"> ■ Take a 10-minute break every hour ■ Provide comfortable rest rooms ■ Avoid night shifts
5. High noise exposure (>85 decibels)	<ul style="list-style-type: none"> ■ LBW babies 	<ul style="list-style-type: none"> ■ Avoid loud or noisy environments
6. Prolonged standing (≥3 hours) Overexertion (physically demanding work)	<ul style="list-style-type: none"> ■ Decreased fetal growth rate ■ Preterm delivery ■ LBW babies 	<ul style="list-style-type: none"> ■ Provide sit-stand ergonomic units or ergonomic chairs with footrests ■ Limit continuous standing to <3 hours ■ Ensure minimal physical strain
7. Prolonged bending	<ul style="list-style-type: none"> ■ Increased back pain 	<ul style="list-style-type: none"> ■ Provide a chair with minimal rocking facilities to alter the centre of gravity

8. Stress	<ul style="list-style-type: none"> ■ Decreased psychological wellbeing ■ Depression ■ Gestational HTN 	<ul style="list-style-type: none"> ■ Conduct routine psychological assessments and counselling sessions ■ Ensure a supportive work environment
9. Lifting, moving and transferring	<ul style="list-style-type: none"> ■ Musculoskeletal injuries ■ Maternal exhaustion ■ LBW babies 	<ul style="list-style-type: none"> ■ Provide additional staff support ■ Install hydraulic or power-operated mechanical lifts ■ Implement a no lifting policy
10. Work-related falls	<ul style="list-style-type: none"> ■ Placental separation ■ Uterine rupture ■ Fetal death ■ Fractures ■ Injuries 	<ul style="list-style-type: none"> ■ Conduct mandatory fall risk assessments ■ Install anti-slip flooring ■ Place caution boards near wet floors ■ Wear comfortable shoes
11. Exposure to biological and chemical agents	<ul style="list-style-type: none"> ■ Infertility ■ Birth defects ■ Decreased fetal growth rate ■ Preterm delivery ■ LBW babies ■ Miscarriage ■ Developmental disorders ■ Impaired fetal brain development 	<ul style="list-style-type: none"> ■ Implement mandatory universal precautions (i.e. handwashing, wearing PPE, etc.) ■ Minimise the possibility of work-to-home contamination
12. Exposure to ionising radiation	<ul style="list-style-type: none"> ■ Miscarriage ■ LBW babies ■ Preterm delivery ■ Birth defects 	<ul style="list-style-type: none"> ■ Wear appropriate PPE

SGA = small for gestational age; **HTN** = hypertension; **IUGR** = intrauterine growth restriction; **LBW** = low birth weight; **PROM**= premature rupture of Membrane: **PPE** = personal protective equipment

Table 2: Asana and Pranayama in Each Trimester of Pregnancy - In Brief

First Trimester	Second Trimester	Third Trimester
1. Utthitha Trikonasana	1.Vajrasana	1.Ardha Titaliasana
2. Baddha Konasana	2.Malasana	2. Chakkichalanasana
3. Virabhadrasana	3.Matsyakridasan	3.Utthanasan
4. Marjarasana	4.Bhadasana	4.Poorna Titaliasana
5.Nadi Shodhana	5.Nadi Shodhana	5.Nadi Shodhana
Pranayama	Pranayama	Pranayama
6. Bhramari Pranayama	6. Bhramari Pranayama	6.Bhramari Pranayama
7.Ujjayi Pranayama	7.Ujjayi Pranayama	7.Ujjayi Pranayama

Results and Discussion

Ergonomic solutions for pregnant women can be effectively addressed through Yoga.

Ergonomic solutions for pregnant women through yoga can significantly enhance comfort and well-being during pregnancy.

Combining *Asana* and *Pranayama* offers a holistic approach to ergonomics for pregnant women, addressing both physical and mental well-being. This integration can lead to a more comfortable pregnancy and potentially smoother labor and delivery. Prenatal *Yoga* teaches body awareness and proper alignment, which pregnant women can apply to their daily activities, such as sitting, standing, and lifting, to reduce strain and discomfort. Yoga promotes efficient body mechanics, which helps pregnant women conserve energy and avoid unnecessary fatigue during everyday tasks.

Prenatal yoga in each trimester of pregnancy is essential to effectively combat ergonomic-related issues and ensure an easier delivery.

Prenatal Yoga: Prenatal *Yoga* is a special part of Yogic *Asanas* designed and dedicated to the well-being of pregnant women.

Regular *Yoga* or your workout regime might get strenuous around your joints and pelvic areas. While the lack of physical activity is not exactly a huge downside, Prenatal *Yoga* is known to be ideal for expectant mothers. A prenatal *Yoga* includes Breathing techniques, Gentle stretches, Postures, and Relaxation process. Practicing them regularly enhances your overall labor and delivery experience.[19]

Prenatal *Yoga* is a type of *Yoga* designed for pregnant women. *Yoga* is intended to create a balance between emotional, mental, physical, and spiritual dimensions. Prenatal *Yoga* helps in preparing for childbirth by relaxing the body and focusing on safe techniques and poses in all stages of pregnancy.[20] Pregnancy in a woman is a condition in which woman changes both from inside as well as outside. These changes create obstacles or hurdles in the normal life of a pregnant woman and *Yoga* in pregnancy can help the women to cruise through these changes and challenges.[21]

Pregnancy *Yoga* offers a wide range of activities and several advantages to both the mother and the foetus. *Yoga* calms the mind, refocuses the energy, and gets a woman ready for labor both mentally and physically. Various breathing exercises serve to coordinate the uterine contraction and relaxation, as well as provide vital neuro-muscular control. Western exercises bring about what is known as phase contraction of the muscles.[21] *Yoga* can improve your physical and psychological health and not just for the duration of your pregnancy.

Benefits of Doing Prenatal *Yoga* Include

Reduces stress and symptoms of depression and anxiety: Integrated *Yoga* combined with meditation, deep relaxation and breathing exercises significantly decreased levels of depression in pregnant women. Slow, rhythmic breaths activate the nervous system and blocks cortisol, which, in high amounts, has been linked to depression.[20]

Improves blood flow: The stretching and movements in *Yoga* help increase blood flow to your heart. Improved blood flow means more oxygen-rich blood is going to your baby. This keeps your baby on track for healthy development.[20]

Betters your labor experience: Starting prenatal *Yoga* in any trimester can help you better relax and stay positive once you go into labor.

Meditation and breathing exercises have been shown to reduce pain and anxiety during labor. Being confident and building your coping abilities will also help you have a less painful labor experience.[20]

Helps you build a support system: Prenatal *Yoga* can also help your social life by connecting with other expectant mothers. A strong support system makes childbirth and postpartum easier. Anxiety about the delivery process can make labor worse. Being able to talk through your experience and hear others' stories can be comforting.[20]

Cutting the risk of preterm labor and other complications: High stress levels have been shown to increase miscarriage and preterm birth rates, and *yoga* is a great stress-reducer. Women who do *Yoga* including breathing exercises, posture positions and meditation for one hour a day have been shown to have a lower preterm labor rate, as well as lower risk of pregnancy-reduced hypertension, compared with women who spent the same amount of time walking.[22]

Improves sleep: During pregnancy, women cannot do many activities, due to which there is no loss of energy from their bodies. During prenatal *Yoga*, energy is expended, which induces sleep.[23]

Relief from back pain: Women continue to face the problem of body pain during pregnancy. But by practicing mild lunges and backbends, one gets relief from back pain and other physical pain.[23]

Yoga during pregnancy helps keep the body supple. They relieve tension around the cervix by opening up the pelvic region. This prepares the pregnant women for labor and delivery. *Pranayama's* can train you to breathe deeply and relax consciously, helping you face the demands of labor and childbirth. Pregnancy *Yoga* helps alleviate the effect of common symptoms such as morning sickness, painful leg cramps, swollen ankles, and constipation. *Yoga Asanas* also help pregnant women recover faster post-delivery.[24]

Yoga for Pregnant Women: *Yoga* involves a series of body positions (called postures or *Asanas*) and breathing exercises (called *Pranayama*). It aims to build strength and flexibility to improve mental and physical wellbeing. Here are some safe and simple *Yoga* postures (*Asanas*) for each trimester of pregnancy.

Yoga Postures (Asanas) for the First Trimester of pregnancy

Basic poses with a few modifications. Avoid inversions, closed twists and back bends that might compress the uterus or over stretch it which causes low blood circulation to uterus. Encourage a long relaxation phase after exercise.[25]

1. Utthitha Trikonasana: commonly known as the extended triangle pose is derived from three Sanskrit words, "Utthitha," meaning extended, "Tri" meaning three and "Kona" meaning angle. This translates to an extended triangle posture because this *Yoga* posture creates *Tri* (three) angles.[26] It strengthens the pelvic floor muscles, thighs and calf muscles. Increases the flexibility of spine and improves digestion.[25] Ease back discomfort and strengthens lower spine

2. Baddha Konasana:One of the sitting *Yoga* practices that helps open the hips and groin area is called Bound Angle practice, or *Baddha Konasana*. In order to ease discomfort and encourage relaxation, this mild posture might be very helpful during pregnancy. Practiced on a regular basis, it improves hip flexibility, stretches the groin and inner thighs, eases anxiety and tension, supports the digestive system, and gets the body ready for labor and delivery.[27]

A symmetrical pose is *Baddha Konasana*. Your hips flex and turn outward while your knees bend and move apart in a mirrored pattern as you strike this position. Consequently, the posture offers you the chance to identify and balance asymmetries, especially in your hips and pelvis, depending on the areas of your body that feel tight.[28]

Virabhadrasana: It stretches the groin area, strengthens the body and back muscles and tones up the lower body. Increases stamina and flexibility and relieves backache.[25] It also strengthens the spine and prepares it to carry the weight of the growing uterus.

This pose is excellent for pregnant women during the first and second trimesters to help build leg strength to support the growing baby.

Marjarasana:This position improves the flexibility of the neck, shoulders and spine and tones the female reproductive system.[29] Can be safely practiced during first 6 months of pregnancy.

This *Asana* increases the flexibility of neck, spine and shoulders muscles which are essential for bearing down efforts during labour.[29] If a woman experiences 'back pain' during her labour, this might help her ease the pain. It enhances blood flow ensuring proper nutrition for the reproductive organs.[30] Synchronising breath with the spinal movements has a meditative effect. It calms an agitated mind and relieves stress and anxiety. Releases Tension in Pelvic Floor.

Yoga Postures (Asanas) for the second Trimester of pregnancy

Avoid positions that overstretch your muscles, such as laying on your back, as this can lower blood flow to your uterus. During the second trimester, you should do all standing positions with your heel against the wall for support, as this is the time when your centre of gravity begins to move to the right. When twisting, move your shoulders and back rather than your waist to avoid placing too much strain on your abdomen.[21]

1. Vajrasana:Strengthens the thigh muscles. Enhances digestive functions and can be practiced directly after meals. Relieves stomach ailments like acid reflux a trouble often faced during pregnancy. Alters the blood flow and nervous impulses in the pelvic region and strengthens pelvic muscles. Assists women in labor.[31]

2. Malasana:This *Asana* helps to open up the hip joints, strengthen pelvic muscles and make ease labour. *Malasana* during pregnancy provide quite amazing stretch to the groin area, opening the hips, and making space for the baby to prepare for birth.

3. Matsyakridasana:It gives mental as well as physical relief during 2nd and 3rd trimester of pregnancy, stimulates digestion and relieves constipation. It relaxes the nerves of legs and this is an ideal asana for relaxed sleep. It improves blood circulation[21] This *Asana* is beneficial for alleviating symptoms of morning sickness, severe leg cramps, swollen ankles and constipation during pregnancy.

4. Bhadrasana:This *Asana* benefits the digestive system and helps in relieving various stomach ailments. It helps in toning the muscles of female pelvic region. Along with meditation, it relieves mental stress.[32] *Marjarasana* can also be done in second trimester of pregnancy.

Yoga Postures (Asanas) for the third Trimester of pregnancy

Practice only those *Asanas* which do not exert pressure on abdomen wall. Supine poses should be avoided.[21]

1. Ardha Titaliasana:Is an excellent *Asana* for loosening the hip joints, which can facilitate a faster and easier delivery by stimulating the legs and affecting the hip and knee joints.³² This helps ease pains and cramps experienced during pregnancy, leading to a more comfortable and less painful delivery.

2. Chakkichalanasan (Churning mill pose): Is an excellent *Asana* for toning the nerves and muscles of pelvis and abdomen and prepare them for delivery.[21]

3. Utthanasana (Squat and Rise pose): This *Asana* strengthens the muscles of back, uterus, thighs and ankles. It tones up the pelvic girdle and this *Asana* is equivalent to sweeping floor. Thus, enables fast and easy delivery.[21]

4. Poorna Titaliasan (Full butterfly): Tones up pelvic girdle. It relieves the tension from inner thigh muscles and removes the tiredness of legs. This *Asana* increases stretching ability of perineum.[32]

Pranayama

Pranayama, a gift from *Ayurveda* to humanity, is not only beneficial during pregnancy but also promotes long life. This practice of complete, prolonged, and slow breathing works on both the mind and soul by providing extra oxygen to every cell, energizing and rejuvenating them. Daily practice of *Pranayama* tones the nervous system, improves emotional stability, and helps eliminate anxiety, fears, and phobias. It enhances breathing capacity, stamina, and vitality, while also releasing negative emotions like anger and frustration, keeping the mind calm and relaxed.

Pranayama which can be done in all Trimester of Pregnancy:

Nadishodhana or Anuloma Viloma Pranayama (Alternate Nostril Breathing)

The main characteristic feature of this *Pranayama* is alternate breathing through the left and right nostrils without or with retention of breath (*Kumbhaka*).[33]

It strengthens the body physically and mentally. During labor, holding of breath for maximum duration may aid a great help for pushing baby. It increases oxygen level in the body so extra oxygen is transferred to the foetus. The main purpose of this *Pranayama* is to purify the principle channels of energy called *Nadi's*. Induces tranquillity and helps to improve concentration. Increases vitality and lowers the level of stress and anxiety.[33]

Bhramari Pranayama

Bhramari is derived from *Bhramara* which means black bee. During the practice of this *Pranayama*, the sound produced resembles the buzzing of a black bee. *Bhramari* relieves tension and aids in reducing anxiety, rage, and hyperactivity. Humming has a calming impact on the nervous system and psyche due to its resonance effect. It works well as a tranquilizer and is beneficial for treating illnesses linked to stress. It is an effective pranayama to practice before concentration and meditation.[34] Furthermore, it eases headaches and aids in blood pressure regulation. Helps the baby grow and increases the supply of oxygen. Because it regulates respiration during labor, it is incredibly helpful for expectant mothers as it makes the delivery process easier. A word of caution - Please avoid this practice in case of nose and ear infections

Ujjayi Pranayama

In this *Pranayama*, the left nostril is utilized for expulsion (*Rechaka*) and the other nostril is used for inhaling (*Puraka*). A partial closure of the glottis during breathing results in a slight sound. This technique is especially helpful during childbirth since it lessens the pain of labor, improves focus and strength, fortifies the nervous system, facilitates digestion, and enhances the quality of sleep. Learning a few breathing techniques during pregnancy can give you the confidence and peace of mind to approach delivery with ease.

Conclusion

Prenatal *Yoga* and proper posture techniques are important ways to address pregnancy ergonomics, which will improve comfort and lessen physical strain throughout pregnancy. Pregnant women can reduce common discomforts, enhance general wellbeing, and possibly even ease a more comfortable birth by concentrating on ergonomic principles.

Both the mother and the unborn child can benefit from a healthier, more pleasurable pregnancy experience when ergonomic solutions are incorporated into everyday routines and prenatal care. *Prana* literally translates to "life force" in Sanskrit, and it is via breathing that the mind and body are linked. Thus, during pregnancy, *Pranayama* and meditation can assist to ease headaches, relax the nervous system, calm the mind, regulate hormones, and soothe emotions. It also aids with high levels of stress, sleep difficulties, and improved digestion. Many women experience great stress during childbirth, particularly primigravida women. Yoga can improve a mother's comfort level, raise her pain threshold, and shorten the time that discomfort lasts during labor. As a result, it is a safe intervention for both the outcome of labor and the welfare of the fetus in pregnant women.

It is concluded that the awareness and knowledge of proper techniques, posture and style of *Yoga* can be helpful during labor and delivery and focusing on breathing techniques and *Asana* may be assist the women about increasing stamina, strength, reducing pain, depressive symptoms, anxiety, improve recovery time, encourage good posture, create space in growing uterus and preparing mind for labor. But the true implementations of the specific *Asana* during different stages of pregnancies can lead efficient delivery of the baby and serve a peaceful, healthy life and work without any hindrance.[35]

References

1. Yoo H, Shin D, Song C. Changes in spinal curvature, pain degree, balance ability, and gait ability during pregnancy. *J Phys Ther Sci*. 2015;27(3):279–84. Available from: [Article][Crossref][PubMed][Google Scholar]
2. Francis F, Johnsunderraj SE, Divya KY, et al. Ergonomic stressors among pregnant healthcare workers: impact on pregnancy outcomes and recommended safety practices. *Sultan Qaboos Univ Med J*. 2021;21(2):e172. Available from: [Article][Crossref][PubMed][Google Scholar]
3. Salvendy G, ed. *Handbook of Human Factors and Ergonomics*. 4th ed. Hoboken, NJ: Wiley; 2012. Available from: [Article][Crossref][PubMed][Google Scholar]
4. Karwowski W. Ergonomics and human factors: paradigms for human-compatible systems. *Ergonomics*. 2005;48(5):436–63. Available from: [Article][Crossref][PubMed][Google Scholar]
5. Buckle P. Ergonomics and musculoskeletal disorders: overview. *Occup Med (Lond)*. 2005;55(3):164–7. Available from: [Article][Crossref][PubMed][Google Scholar]
6. Adinma JI, Adinma ED, Umeononihu OS, et al. Prevalence, perception, and risk factors for musculoskeletal discomfort among pregnant women in Nigeria. *J Musculoskelet Disord Treat*. 2018;4:63. Available from: [Article][Crossref][PubMed][Google Scholar]
7. Tapp LM. The pregnant worker and ergonomics. In: *ASSE Professional Development Conference and Exposition*; 2001 Jun 10. ASSE. Available from: [Article][Crossref][PubMed][Google Scholar]
8. Rogers B, Buckheit K, Ostendorf J. Ergonomics and nursing in hospital environments. *Workplace Health Saf*. 2013;61(10):429–39. Available from: [Article][Crossref][PubMed][Google Scholar]
9. Cheng PL, Pantel M, Smith JT, et al. Back pain in working pregnant women: identification of associated occupational factors. *Appl Ergon*. 2009;40(3):419–23. Available from: [Article][Crossref][PubMed][Google Scholar]
10. Shaw P, Duncan A, Vouyouka A, Ozsvath K. Radiation exposure and pregnancy. *J Vasc Surg*. 2011;53(1 Suppl):28S–34S. Available from: [Article][Crossref][PubMed][Google Scholar]
11. Banerjee B. Physical hazards in employment and pregnancy outcome. *Indian J Community Med*. 2009;34(2):89–93. Available from: [Article][Crossref][PubMed][Google Scholar]
12. Zhu JL, Knudsen LE, Andersen AM, et al. Laboratory work and pregnancy outcomes: a study within the National Birth Cohort in Denmark. *Occup Environ Med*. 2006;63(1):53–8. Available from: [Article][Crossref][PubMed][Google Scholar]
13. Błaszczyk JW, Opala-Berdzik A, Plewa M. Adaptive changes in spatiotemporal gait characteristics in women during pregnancy. *Gait Posture*. 2016;43(1):160–4. Available from: [Article][Crossref][PubMed][Google Scholar]

14. Caruso CC. Reducing risks to women linked to shift work, long work hours, and workplace fatigue. *J Womens Health (Larchmt)*. 2015;24(10):789–94. Available from: [Article][Crossref][PubMed][Google Scholar]
15. Escribá-Agüir V, Perez-Hoyos S, Saurel-Cubizolles MJ. Physical load and psychological demand at work during pregnancy and preterm birth. *Int Arch Occup Environ Health*. 2001;74(8):583–8. Available from: [Article][Crossref][PubMed][Google Scholar]
16. Hung S, Morrison DR, Whittington LA, Fein SB. Prepartum work, job characteristics, and risk of Cesarean delivery. *Birth*. 2002;29(1):10–7. Available from: [Article][Crossref][PubMed][Google Scholar]
17. Tanja-Dijkstra K, Pieterse ME. The psychological effects of healthcare environments on personnel. *Cochrane Database Syst Rev*. 2011;(1):CD006210. Available from: [Article][Crossref][PubMed][Google Scholar]
18. Salihu HM, Myers J, August EM. Pregnancy in the workplace. *Occup Med (Lond)*. 2012;62(2):88–97. Available from: [Article][Crossref][PubMed][Google Scholar]
19. Bloom Prenatal Yoga. About prenatal yoga. Available from: <https://bloomprenatalyoga.in/about-prenatal-yoga/>. [Crossref][PubMed][Google Scholar]
20. WebMD. Benefits of yoga during pregnancy. Available from: <https://www.webmd.com/baby/benefits-yoga-during-pregnancy> [Crossref][PubMed][Google Scholar]
21. Thakur J. Yoga in pregnancy: A boon to motherhood. *J Ayurveda Holist Med (JAHM)*. 2016 Jan 12;3(6):121–9. Available from: [Article][Crossref][PubMed][Google Scholar]
22. What to Expect. Prenatal yoga: The perfect pregnancy exercise. Available from: <https://www.whattoexpect.com/pregnancy/prenatal-yoga/> [Crossref][PubMed][Google Scholar]
23. Kangaroo Kids. The benefits of prenatal yoga: All you need to know. Available from: <https://www.kangarookids.in/blog/the-benefits-of-prenatal-yoga-all-you-need-to-know/> [Crossref][PubMed][Google Scholar]
24. Art of Living. Pregnancy yoga | Yoga for pregnant women. Available from: <https://www.artofliving.org/in-en/yoga/yoga-sequences-for/yoga-for-pregnant-women> [Crossref][PubMed][Google Scholar]
25. Plakans B. Tools for teaching prenatal yoga: The first trimester. *Yoga J*. 2008 Mar 11. Available from: [Article][Crossref][PubMed][Google Scholar]
26. PharmEasy. Benefits of Utthita Trikonasana and how to do it. Available from: <https://pharmeasy.in/blog/health-fitness-benefits-of-utthita-trikonasana-and-how-to-do-it/>. [Crossref][PubMed][Google Scholar]
27. Body and Mind Yogi. Prenatal yoga poses for the first trimester of pregnancy. Available from: <https://bodyandmindyogi.com/prenatal-yoga-poses-for-first-trimester-of-pregnancy/>. [Crossref][PubMed][Google Scholar]
28. Yoga Journal. Bound angle pose: How to practice Baddha Konasana. Available from: <https://www.yogajournal.com/poses/bound-angle-pose-2/> [Crossref][PubMed][Google Scholar]
29. Chauhan S, Halli S, Pawar K, et al. Garbhasanskara: Boon for pregnant women. *J Ayurveda Integr Med Sci*. 2018 Oct 31;3(5):153–8. [Crossref][PubMed][Google Scholar]
30. Apollo Cradle. 5 effective yoga poses to try during pregnancy. Available from: <https://www.apollocradle.com/blog/pregnancy/5-effective-yoga-poses-to-try-during-pregnancy> [Crossref][PubMed][Google Scholar]
31. Art of Living. Pregnancy yoga poses for the second trimester. Available from: <https://www.artofliving.org/in-en/yoga/yoga-sequences-for/pregnancy-yoga-poses-for-the-second-trimester> [Crossref][PubMed][Google Scholar]
32. Health and Yoga. Health and Yoga info. Available from: <http://www.healthandyoga.com/html/pfirst.aspx> [Crossref][PubMed][Google Scholar]
33. AYUSH Ministry. Yoga for women of reproductive age. Available from: <https://yoga.ayush.gov.in/WHOC/Books3/Yoga%20for%20Women%20of%20%20Reproductive%20Age.pdf> [Crossref][PubMed][Google Scholar]

34. Vikaspedia. Pranayama – Wikipedia. Available from: <https://vikaspedia.in/health/ayush/yoga-1/pranayama>. *[Crossref][PubMed][Google Scholar]*

35. Academia. edu. Role of different asanas during prenatal and postnatal pregnancy. Available from: https://www.academia.edu/40092291/Role_of_Different_Asanas_during_Prenatal_and_Postnatal_Pregnancy

[Crossref][PubMed][Google Scholar]

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