

# **A Study on the Effect of Integrated Yoga on Labor Pain**

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## **Abstract:**

labor pain during pregnancy is totally different feeling for the pregnant women, whether they are pregnant for the first time or second or third. It is a time of increased vulnerability for the musculoskeletal system and urogenital dysfunction. This study investigates the impact of yogic package on labor pain.

In this study, involved 40 primigravida, belonged to urban area of Chhattisgarh and purposively selected, then subjects randomly divided in two groups, control group and experimental group. The control group did not take any package. They were instructed to just walk in the morning for 10 minutes. To assess their general health, the researcher has communicating time to time to the subjects. Then the experimental group was divided into Subgroups so that all subjects can be accessed. Each group had taken the yogic practices for 6 days in a week. The intervention time was 45 minutes for yogic package, included asana, pranayama, om chanting and yoga nidra. Results findings that labor pain significantly decrease in experimental group than control group at .01 level of confidence. That means yogic package which consists of asana, pranayama, om chanting and yoga nidra are effective for reduce duration of labor pain of the subjects

So it can be concluded that It will promote in different ways to create and spread awareness for yogic practices to the human society to achieve the desired goal i.e. Less labour pain. Yoga is safe during pregnancy and reduces the duration of labor pain through integrated yoga.

**Keywords:** integrated yoga, pregnant woman, labour pain.

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## **Introduction:**

A woman's pregnancy, starting from conception, up to delivery can be a stressful period due to various reasons such as physiological, psychological, and emotional conditions, coupled with superstitious beliefs, economic conditions, family traditions etc. Pregnancy is not a disease. It is an ideal environment to give

new life to the baby. At the time of pregnancy, the mother should be more positive and relaxed. (Anbu, 2015) Childbearing is not a disease that should need routine drugs, anesthetics or other medications. Although there are times when help is needed, most deliveries are normal and can be carried out free from distress. Nor is childbirth bound to be an

excruciatingly painful experience- it becomes painful only through our own fears and inadequate preparations. We must distinguish here between pain and natural, strenuous exertion which may be demanding, but also exhilarating (Muktananda, 2000). It is the most important stage of pregnancy.

A scientific definition of pain is ‘an unpleasant sensory and emotional experience associated with actual or potential tissue damage’. Acute pain such as labor pain has two dimensions: a sensory or physical dimension, with the transmission of information, the pain stimuli, to the brain, and an affective dimension due to interpretation of these stimuli through the interaction of a wide variety of emotional, social, cultural and cognitive variables unique to the individual. In the laboring patient, the two stages of labor correspond to different types of pain and routes of transmission.

**During dilatation** (first stage), visceral pain predominates, due to mechanical distention of the cervix and of the lower part of the uterus. These stimuli are transmitted to the spinal cord at the level of the tenth thoracic to the first lumbar root. Uterine contractions may be felt as back pain because the nerves that supply the uterus also supply the skin on the lower back or lumbosacral area.

**During the descent phase** (second stage), pain is also caused by distension and stretching of the pelvic floor and perineum. These stimuli are transmitted via the pudendal nerve to the second to fourth sacral nerves. Even though pain is a personal experience, it can be analyzed by means of quantitative pain measures.

Some factors are associated with increased pain: first delivery, history of dysmenorrhea (painful periods), fear of

pain, a religious practice. Some factors diminish pain: childbirth preparation classes, complications during pregnancy, wish to breast feed, high socio-economic status, older age. (Tournaire & Theau-Yonneau, 2007)

When we are talking about the severity of the problem, there is a need to find out the solution which can reduce the severity of the problem faced by women during pregnancy and delivery. We can cultivate good health in pregnant women in fetus to overcome all these problems. Yogic package would be use for such measures, without causing any side effects to the mother and child to be protected from pregnancy related problems until delivery, however it is also conditioned the fetus.

Yoga is considered a good form of exercise in pregnancy to help women keep fit during their pregnancy and prepare for the birth. But apart from the physical postures, yoga has plenty to offer. The breathing and meditation techniques keep pregnant mothers healthy and relaxed, and provide the mental focus to aid childbirth. (Thakur, Sharma, & Masand, 2015)

Some researches indicates the effects of yoga on labour pain such as a study by Chuntharapat, Petpichetchian, & Hatthakit, (2008) also suggested that increase the maternal comfort during labor and less subject evaluated labor pain through yogic practices. Found to have a shorter duration of the first stage of labor, as well as the total time of labor. Similar research indicate that women pregnant following IVF to reduce their stress, anxiety, and labor pain and to increase delivery confidence. (Shim & Lee, 2012)

A review by Stillman, (2016) showed that yoga is a comprehensive, holistic and long-term approach for reducing stress, pain and negative birth outcomes in high-

risk pregnancies. Another study by Beddoe, Paul Yang, Kennedy, Weiss, & Lee, (2009) also suggested that women who practicing mindful yoga in their second trimester reported significant reductions in physical pain. Women in their third trimester showed greater reductions in perceived stress and trait anxiety.

A study by Jiang, Wu, Dunlop, Chen, & Zhou, (2014) also suggested that yoga can be safely used for pregnant women who are depressed, at high-risk, or experienced lumbo-pelvic pain. Yoga is more effective exercise than walking or standard prenatal exercises. The findings suggest that yoga is a safe and more effective intervention during pregnancy. Another study by Praveen, Raj, & Kannan, (2014) concluded that an integrated approach of yoga during pregnancy is safe. Better labour outcomes with less pain during stage I and stage II of labour helped in promoting bonding between mother and child in the initial start of newborn life.

Yoga is the best way for management of complications for pregnancy and child birth. Yoga therapy is fast advancing as an effective tool in many physical and psychological disorders; the changes that take place in the human system at all levels by the practice of yoga and natural living has been investigated by many scientists over the past several decades and enough is available of the beneficial effects of yoga on the mind and body of the human beings. (narendran, nagrathan, & narendra, 2008) All the nerves connecting the different organs and limbs of the body pass through the neck. Therefore, the muscles of the neck and shoulders accumulate tension. grīvāsanchālana and skandhacakrāsana releases tension, heaviness and stiffness in the head, neck and shoulder region. (Saraswati, 2005) so,

pregnant woman doesn't feel painful situation during labor.

It is important for every pregnant woman because the muscles located in the area of vagina and rectum bear a great strain throughout pregnancy. Contract these muscles; in turn contract and release. Practicing pelvic floor exercises on a regular basis will strengthen muscles and ensure smooth labor and normal delivery. By doing this, pregnant woman will strengthen the muscles in and around vagina, uterus, bladder and rectum. This can make labor go more smoothly, reduce the chance of having hemorrhoids and speed up recovery time after delivery. (Bhuvaneshwari, Mohandasskurup, Vishwanathan, & Sridevi, 2013) these asanas Tones up the nerves and organs of the pelvis and abdomen, Regulates the menstrual cycle. (Saraswati, 2005) it reliving tension around cervix and birth canal (ravi shankar, 2016)

Sharma, (1998) suggests that Naḍi-śodhan prāṇāyāma is beneficial for labor and it is primarily aimed at clearing and purifying the subtle channels of the mind-body organism, while balancing its masculine and feminine aspects, Release toxics from the body, Increases vital energy, Increases blood circulation in the whole body, Infuses the body with oxygen, Reduces stress and anxiety, Calms and rejuvenates the nervous system, Helps to balance hormones, Fosters mental clarity and an alert mind, Enhances the ability to concentrate.

It helps to remove the metabolic waste from the mother's body and helps the relaxation of the nervous system. The rhythmic contraction and relaxation of the diaphragm is useful to improve the blood circulation and the breath holding process is helpful during child birth. (Dorle, 2016) and Omkar chanting helps to lower the

blood pressure, reduce mental tension and stress. It also helps to improve the function of the heart by gently massaging it. (Dorle, 2016)

Yoga nidra can help to direct mental attention around the body, bringing relaxation, restoration and healing to every cell. Yoga nidra uses relaxed awareness of the body to induce relaxation of the mind. This attitude of witnessing is also important during childbirth, for it breaks the mother's identification with her bodily pain and helps her to be more fully conscious of the events taking place. (Dinsmore-Tuli, 2010)

The mind becomes involved in the body movements. This focus allows the pregnant woman to tune out distracting forces around her during labor and to respond appropriately to the contractions. (Jordan, 1988) Through the use of yogic techniques, for some women childbirth is totally pain free. While most women experience half an hour or so of pain or great discomfort at the end of the first stage of labor, yogic methods can definitely minimize this discomfort, even if it is not eliminated absolutely. More importantly yoga enables us to remain fully aware during the delivery, responding spontaneously to the innate wisdom of the body profoundly manifest at this time. When a woman has been practicing yoga

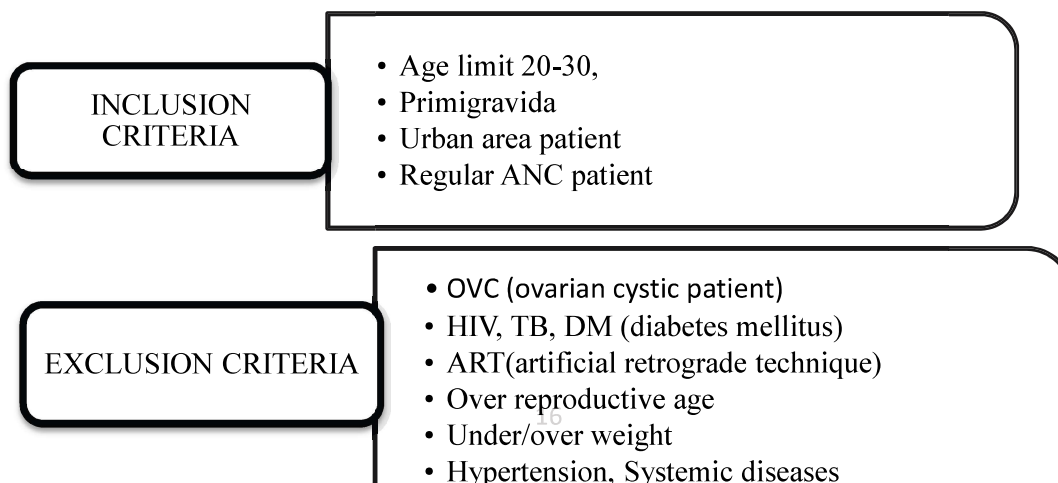
regularly, she will be able to translate her experience into a practical method of painless, conscious birthing. (Muktananda, 2000)

To cope up with physiological and emotional changes yoga will integrate the body, Mind and Spirit. It will create a positive thinking and reduce the severity of anxiety, improve their breathing capacity, helps to correct the posture and giving physical strength, endurance to the body and capability to give natural birth, pleasurable feeling throughout all three trimester and for easy painless labour. They bring harmony; develop a restful and positive attitude towards life. Create positively mental and physical development of the fetus, inside the womb of the herself, which ensure the baby's healthy growth. (bhuvaneshwari, mohandasskurup, vishwanathan, & sridevi, 2013)

#### **Method:**

Purposive sampling technique has been used in this study. The total sample pregnant woman covered for the purpose of the present study belongs to the urban area of Chhattisgarh state, dist. – Mahasamund. Which are between 20-30 yrs. of age group and the total population of sample are 80, and randomly divide into two groups 40 in control group and 40 in experimental group.

#### **Inclusion And Exclusion Criteria**



### Research Design:

In the study, control- experimental research design has been adopted because taken total 80 subjects, control group (n=40) we didn't give any intervention and experimental group (n=40) have taken 45 minutes yogic practices 6 days in a week during 2<sup>nd</sup> and 3<sup>rd</sup> trimester of pregnancy.

### Intervention

Researcher has initially selected the subjects from private and govt. Hospitals which have been fulfilled inclusion criteria of the study and selected samples have to receive antenatal check-ups per month and

Patients not selected who have followed exclusion criteria.

Then subjects randomly divided in two groups, control group and experimental group. The control group did not take any package. They were instructed to just walk in the morning for 10 minutes. To assess their general health, the researcher has communicating time to time to the subjects. Then the experimental group was divided into Subgroups so that all subjects can be accessed. Each group had taken the yogic practices for 6 days in a week. The intervention time was 45 minutes for yogic package, the Yogic practices are-

**Table: yoga practice chart-**

MODULE OF YOGA PRACTICES FOR PREGNANCY				
Practices	Rounds	Timing (Total minutes) 45	Trimester	
			2 <sup>nd</sup>	3 <sup>rd</sup>
grīvāsanchālana	8(in each stages)	5 minutes	✓	✓
Skandhacakrāsana	8 ( in each direction)	5 minutes	✓	✓
cakkī chālāsana	5 (in each direction)	5 minutes	✓	✗
tītālī asana	50-70	5 minutes	✓	✓
Naḍi-śodhan prānāyāma	8 rounds ratio 1:1:1	5 minutes	✓	✓
om chanting	25 rounds	5 minutes	✓	✓
Yognidrā	1 round	15 minutes	✓	✓
✓- To be practiced ✗- not to be practiced				

All the subjects in the experimental group practiced grīvāsanchālana, skandhacakrāsana, cakkī chālāsana, tītālī asana, Naḍi-śodhan prānāyāma, om chanting and Yognidrā during 4<sup>th</sup> to 6<sup>th</sup> month of pregnancy. They practiced yoga 6 days per week. cakkī chālāsana has stopped during 7<sup>th</sup> to 9<sup>th</sup> month because this asana was quite difficult to practiced during last 2 months. The time has reduces for yoga nidra because they felt difficulty in lying down for long time. Rest of the

practices kept continue up to the delivery (grīvāsanchālana, skandhacakrāsana, tītālī asana, Naḍi-śodhan prānāyāma, om chanting and Yognidrā). Then at the delivery timing, noted the duration of labor pain.

### CMI questionnaire-

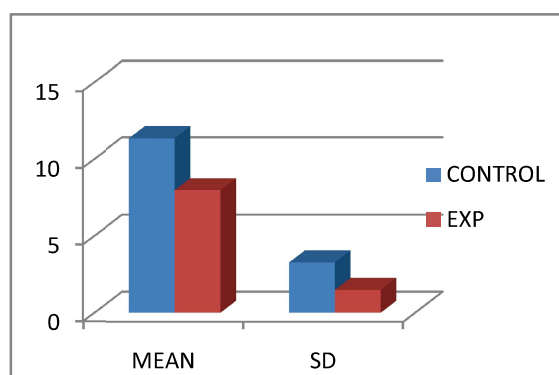
The Cornell medical index known as C.M.I. is a four page sheet. The term health questionnaire explains the nature and purpose of the form to the patient. It

contains 195 questions. It is prepared by Narendra Nath Singh, Dwarika Prasad and Santosh Kumar Verma. A to L section is called physical distress section (pages first to second of the test) and M to R section is called emotional or psychological distress section (page fourth of the test).

Discomfort in their experiences to properly form the subjects of English was difficult to understand. So into this research hindi translation of the CMI questionnaire form has been used.

### Pantograph-

It was in 1954 by Friedman. Partograph is graphic- representation of the events during delivery period. In this partograph has mainly graphic relationship between duration of labour and the descent of the head. The all related information of delivery is collected together on a sheet which tells us about the condition of mother and child. (Meena, 2016) The subjects were taken from hospitals by Researcher; therefore not used the Partograph.



**Result table: Duration of labor pain**

Groups	N	Mean	SD	SED	Df	t- value	Significant level
Control	40	11.28	3.2343	.5614	78	5.967	0.001
Experimental	40	7.93	1.4656				

The table shows that  $p < 5.967$ , significant at 0.001 significant level.

The result shows that directional hypothesis accepted. Hence yogic intervention significantly decreases the duration of labor pain in the experimental group as compare to control group.

### Discussion:

The aim of present study was to investigate the effect of yogic package on duration of labor pain. After the analysis of results it can be concluded that asana, pranayama, om chanting, yoga nidra are useful in bringing out significant changes on pregnancy outcomes of 20-30 age group of pregnant women in India.

Result table and graph Indicates that the hypothesis “The practice of yogic spiritual

package will Decrease the duration of labor pain of the subjects” has been accepted at .01 level of confidence. That means yogic package which consists of asana, pranayama, om chanting and yoga nidra are effective for reduce duration of labor pain of the subjects.

Subjects have practiced Butterfly pose and churning mile pose in second and third trimester. These practices played very effective role in their labor pain, the

muscles located in the area of vagina; uterus bladder and rectum bear a great strain throughout pregnancy. Contract these muscles; in turn contract and release. Due to which increased mobility of the joints, widening the pelvic diameters and improved circulation to the whole area and labour gone more smoothly and experienced less pain during child birth. It relaxed the pelvic floor muscles. The drugs consumed in P increased resistance to disease. So they were not suffered from any diseases during pregnancy. Increased vital energy through nadishodhan pranayama and also reduced tension, stress and anxiety through om chanting and yoga nidra. Because of these exercises experimental group feels reduced labor pains than control group.

The patients of control group got to see that feel pain the time of childbirth along labor pain. But also to see that reduce the duration of labour pain in intervention group (table 1). Chuntharapat, Petpichetchian, & Hatthakit, (2008) and Kawanishi, Hanley, Tabata, & Saijo, (2015) also suggested that yogic practices reduces labor pain. Found to have a shorter duration of the first stage of labor, as well as the total time of labor. Hawrelak, J., et al. (2009) also agreed on this point and they also said that if pregnant woman practices thirty minutes of yoga at least three times per week for the last 10-12 weeks of pregnancy and found to be effective means for facilitating maternal comfort during and after labour, decreasing pain during labour and shortening labour duration. Yoga-focused educational program be offered to every pregnant woman and reduce labor pain (Shim & Lee, 2012) (stillman, 2016). praveen, raj, & kannan, (2014) and they also said that an integrated approach of yoga during pregnancy is safe and it gives a better labour outcomes with less pain during stage I and stage II of labour.

Similarly Tournaire & Theau-Yonneau, (2007) suggested that yoga decreases labor pain and reduces the need for analgesic medication. Muktananda, (2000) said that “childbirth becomes painful only through our own fears and inadequate preparations.” Given the consolation by yoganidra and omchanting removes the fear of delivery because through the consolation, pregnant woman prepares herself for delivery and labor pain and yoga enables us to remain fully aware during the delivery, responding spontaneously to the innate wisdom of the body profoundly manifest at this time. When a woman has been practicing yoga regularly, she will be able to express her experience into a practical method of painless, conscious birthing.

### **Conclusion:**

Pregnancy is totally different feeling for the would-be-mothers, whether they are pregnant for the first time or second or third. It is a time of increased vulnerability for the musculoskeletal system and urogenital dysfunction. In this time, to cope up with physiological and emotional changes yoga will integrate body, Mind and Spirit. It will create a positive thinking and reduce the severity of anxiety, improve their breathing capacity, helps to correct posture and giving physical strength, endurance to the body and capability to have a natural, pleasurable feeling throughout all three trimester and for easy painless labour.

Regular yoga exercises and follow up had a positive impact on results regarding outcome improvement and reduced complication rate. Regular yoga exercises gives an opportunity to create a world for the baby that is healthy and peace full by coordinating movement, breath and awareness, addresses health and wellbeing on several levels: physical, emotional, psychological and spiritual. Because of its

many benefits, yoga is becoming increasingly accepted everywhere as part of self-care during pregnancy and preparation for childbirth and motherhood. (tejwani, roy, & mishra, 2013). Yoga is the best means towards a preparation for pregnancy and child birth.

So results can be concluded that if 20-30 age group of pregnant woman attends yogic practices consists asana

(greevasanchalana, skandhchakra, tatli asana, chakkichalasana), nadi shodhan pranayama, om chanting and yoga nidra for 45 minutes at least 6 days in a week during second and third trimester of pregnancy. They have a good health, comfortable pregnancy and labor, less labor pain experience, healthy baby and mental well-being.

## References-

1. Anbu, V. (2015). The effect of Cognitive Behavior Therapy and Yoga Therapy for Pregnant Women. *Journal Of Yoga & Physical Therapy*, 05(02). Retrieved from <http://dx.doi.org/10.4172/2157-7595.1000184>
2. Beddoe, A., Paul Yang, C., Kennedy, H., Weiss, S., & Lee, K. (2009). The Effects of Mindfulness-Based Yoga During Pregnancy on Maternal Psychological and Physical Distress. *Journal Of Obstetric, Gynecologic & Neonatal Nursing*, 38(3), 310-319.
3. Bhuvaneshwari, C., mohandasskurup, V., vishwanathan, s., & sridevi, v. (2013). garbh vidhya: we make brilliant child through proper training from foetus. *International Journal Of Biology, Pharmacy And Allied Sciences*, 2(10), 1942-1955. Retrieved from <http://ijbpas.com>
4. Chuntharapat, S., Petpichetchian, W., & Hatthakit, U. (2008). Effect of a Yoga Programme on maternal comfort during pregnancy. *Songklanagarind Medical Journal*, 26(2), 123-133.
5. Dinsmore-Tuli, U. (2010). *Yoga for pregnancy and birth*. London: Teach Yourself.
6. Dorle, P. (2016). *Yoga and Pregnancy*. *Yogapoint.com*. Retrieved 5 April 2016, from [http://www.yogapoint.com/articles/pregnancy\\_yoga.htm](http://www.yogapoint.com/articles/pregnancy_yoga.htm)
7. Hawrelak, J. & Stephen, M. (2009). yoga in pregnancy. *Journal Of Complementary Medicine*, 8(2), 59-60. Retrieved from <http://search.informit.com.au/documentSummary;dn=672755781271600;res=IELHEA>
8. Jiang, Q., Wu, Z., Dunlop, J., Chen, P., & Zhou, L. (2014). Effects of Yoga Intervention during Pregnancy: A Review for Current Status. *Amer J Perinatol*, 32(06), 503-514. <http://dx.doi.org/10.1055/s-0034-1396701>
9. Jordan, S. (1988). *Yoga for pregnancy*. New York: St. Martin's Press.
10. Kawanishi, Y., Hanley, S., Tabata, K., & Saijo, Y. (2015). Effects of prenatal yoga: a systematic review of randomized controlled trials. *Japanese Journal Of Public Health*, 65(5), 221-231. [http://dx.doi.org/DOI: 10.11236/jph.62.5\\_221](http://dx.doi.org/DOI: 10.11236/jph.62.5_221)
11. Meena, s. (2016). *obstetrics and gynaecology* (pp. 18.6-18.7). jaipur: vardhan publishers and distributor.
12. Muktananda, (2000). *navyogini tantra* (2nd ed., pp. 162,168,170,175). munger, bihar: yoga publication trust.
13. Narendran, s., nagarathna, r., & nagendra, h. (2008). *yoga for pregnancy* (pp. 11,27,30,32,40,124-125,138). banglore: swami vivekanand yoga prakashan.
14. Praveen, I., raj, j., & kannan, t. (2014). the influence of hatha yoga on birth outcomes of first time mothers. *European Academic Research*, 1(10), 3489.
15. Ravi shankar,. (2016). *Yoga and Pregnancy*. *Artofliving.org*. Retrieved 7 November 2015, from <http://www.artofliving.org/yoga/yoga-for-women/yoga-and-pregnancy>
16. Saraswati, s. (2005). *Asan pranayam mudra bandh* (pp. 41,42,43,44,63-64). Munger, Bihar: Yog publication trust.
17. Shim, C. & Lee, Y. (2012). Effects of a Yoga-focused Prenatal Program on Stress, Anxiety, Self Confidence and Labor Pain in Pregnant Women with In Vitro Fertilization Treatment. *Journal Of Korean Academy Of Nursing*, 42(3), 369. <http://dx.doi.org/10.4040/jkan.2012.42.3.369>



18. Stillman, s. (2016). *yoga as a treatment for reducing maternal stress and negative birth outcomes* (undergraduate theses). Columbia University Academic Commons.
19. Thakur, j., sharma, e., & masand, S. (2015). Yoga in pregnancy: a boon to motherhood. *Journal Of Ayurveda And Holistic Medicine*, 3(6), 121-129. Retrieved from [http://jahm.in/index.php/JAHM/article/.../417/pdf\\_161](http://jahm.in/index.php/JAHM/article/.../417/pdf_161)
20. Tournaire, M. & Theau-Yonneau, A. (2007). Complementary and Alternative Approaches to Pain Relief during Labor. *Evidence-Based Complementary And Alternative Medicine*, 4(4), 409-417. <http://dx.doi.org/10.1093/ecam/nem012>