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## The effectiveness of yoga therapy to improve the well-being of pregnant women

**P Vijayalakshmi, R Subashini and Ramani Rajendran**

### Abstract

The present article highlights the effect of yoga therapy for pregnant women by understanding the current scenario of Indian health system. The sample was a group of primi gravidas (women undergoing first pregnancy) from third month till the date of delivery. A scale to measure the pregnancy wellbeing was constructed for the study by the investigator. In that study there were 72 items related to the pregnant women's Wellbeing. The reliability of the scale was Cronbach's alpha reliability  $r=0.59$ , by parallel method of reliability  $r=0.61$  and using split-half method reliability is  $r=0.62$ . In the Tamil version the reliability was found to be 0.81. Hence purposive sampling method was adopted. Of the 140 pregnant women who attended the counseling session and answered the scale 76 had a high score in perceived the well-being and 64 pregnant women scored low. Out of 64, 48 pregnant women gave willingness and they formed the "experimental and control group," during the intervention program. Out of 48, 36 pregnant women were attended all session. In control group, there were 18 samples for yoga therapy. The same number of samples in the respective group was taken as experimental group. The intervention programs include the introduction about yoga therapy, 15 sessions consisting of chanting, pranayama, dhyana, yoga nidra and dynamic breathing exercises were conducted. Results showed that there was a significant difference between pre-post experimental groups in their perceived level of wellbeing in pregnant women.

**Keywords:** Pregnant women, yoga therapy, well-being, Yoga nidra, asana, Pranayama, Dhyana

### Introduction

Child birth is surely the greatest act performed by women. It can be a great emotional experience. The physical and psychological aspects cannot be separated. For most women, labour is a time of apprehension, of fear and agony. But, with proper antenatal preparation the majority of women can have a labour that is easy and painless or almost painless and some can actually enjoy the labour and experience a sense of fulfillment.

During the years between puberty and pregnancy, a girl gathers information on pregnancy, symptoms associated with pregnancy and complications at child birth from many sources: her schoolmates, her elder sisters and neighbours. She overhears the gossip about pregnancies and births. She reads about the subject in news papers and magazines. She watches television. The information is absorbed by her brain and that conditions her mind. At times, the information may be favorable description of happy and normal births. On the other hand, it may be of tragedies, of sickness in pregnancy, of long difficult labours, of still births and deaths and fetal abnormalities and above all, of pain. The word 'labour' itself conveys an impression of unpleasantness. A woman's attitude to pregnancy is moulded as a result of the experience of those near and dear to her and the environment during years before her pregnancy, during her ante-natal period.

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. In addition, yoga therapy helps to relax the mind, as well as strengthen the body.

Swami satyananda saraswathi (1969) [9] in his book "Asana Pranayama Mudra Bandha", states that yoga is not an ancient myth buried in oblivion. It is the most valuable inheritance of the present. It is the essential need of today and the culture of tomorrow and also he explained Yoga as the science of right living and, as such, is intended to be incorporated in daily life.

Yoga always emphasizes on precepts like, Accept life as it is, put in the best efforts wherever it is possible and then let the positive spirits overtake from the mind and it is the mind which makes or breaks a situation. The essence of harmoniously handling a glorious pregnancy lies in the ability to gain complete control over the mind, and then the body follows willingly. During the last few decades, research in yoga has proved beyond doubts that yoga helps to prevent and cure many chronic ailments. Yogic practices integrate the body, mind and spirit. They bring harmony and develop a restful and positive attitude towards life. A comprehensive programme of yogic practices designed for pregnant women will help them to have correct posture, flexibility of spine, improve their breathing capacity and to manage stress. It helps to build immunity, inner strength, improve control over body and emotions. In short it is the best preventive and curative therapy for many ailments that can occur during pregnancy. It will also ensure the baby's healthy growth.

Sage Patanjali (from 200 bc) [7] in his book "hatha yoga pradipika (1:17)", exposes a concise definition of yogasanas: "sthiram sukham aasanam", meaning "that position which is comfortable and steady. While selecting asanas a special effort is made to consider the phenomenal changes in anatomy, physiology and endocrine systems and the restrictions in physical activities due to pregnancy.

Practicing yoga during pregnancy is one of the healthiest ways to

nurture the pregnant woman and the baby. It helps the pregnant woman to be more patient and gentle with our self and gain confidence. During pregnancy, everyday changes and growth is happen to the pregnant woman. Wood C. (1993) [12] Seventy-one normal volunteers were taught three different procedures in order to study differences in perceptions of physical and mental energy and positive and negative mood states in this controlled clinical trial.

Schell *et al.* (1994) [8] This randomized controlled trial compared the effects of yoga on heart rate, blood pressure, the hormones cortisol, prolactin and growth hormone, and certain psychological parameters with a control group who read in a comfortable position during the experimental period. The yoga group had a significant decrease in heart rate during yoga practice. Narendran S *et al.* (2005) [4] In this study,

335 pregnant women were enrolled between 18 and 20 weeks of pregnancy in a prospective, matched, observational study. 169 women were placed in the yoga group and 166 women in the control group. Yoga practices, including physical postures, breathing, and meditation were practiced by the yoga group for one hour daily. The control group walked 30 minutes twice a day (standard obstetric advice). The number of babies with birth weight greater than or equal to 2500 grams was significantly higher in the yoga group. Pre-term labor was significantly lower in the yoga group. Michalsen *et al.* (2005) [3] this controlled, prospective, non-randomized study included 24 self-referred female subjects who perceived themselves as emotionally distressed. Subjects were offered participation in one of two subsequent 3-month yoga programs. 16 women participated in the first class, and 8 women served as a waiting list control. During the yoga course, subjects attended two-weekly 90-min Iyengar yoga classes. The practice of yoga during pregnancy improved birth weight and reduce prematurity and overall complications, Dr. Shamanthakamani Narendran *et al.*, (2005) [4] studied 169 pregnant women trained in the integrated approach to yoga and in 166 "controls" who received routine prenatal care were involved. The yoga training included

various loosening exercises, postures ("asanas"), relaxation, deep breathing exercises ("pranayamas"), and meditation, which was practiced for 1 hour daily.

Yoga during pregnancy its effects on maternal comfort, labor pain and birth outcomes was conducted by Songporn Chuntharapat *et al.* (2008) [13] this study examined the effects of a yoga program during pregnancy, on maternal comfort, labor pain, and birth outcomes. A randomized trial was conducted using 74-primigravid Thai women who were equally divided into two groups (experimental and control). A variety of instruments were used to assess maternal comfort, labor pain and birth outcomes. The experimental group was found to have higher levels of maternal comfort during labor and 2 hour post-labor, and experienced less subject evaluated labor pain than the control group. The experimental group was found to have a shorter duration of the first stage of labor, as well as the total time of labor.

### Methodology

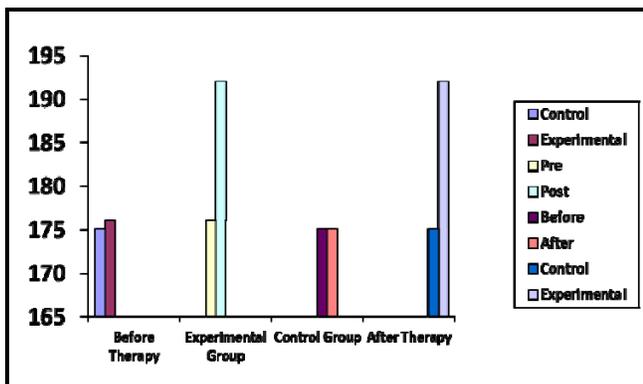
The aim of the study was to evaluate the effectiveness of yoga therapy to improve the well-being of pregnant women. The investigation adopted an experimental design, described as "Pre- Post Experimental design with Control Group". Women undergoing first pregnancy (primi gravida) from third month till the date of delivery were selected as the sample. Of the 140 pregnant women who attended the counselling session, 64 fall under the category of low score in measure the well-being of pregnant women. 76 fall under the category of high score in measure the well-being of pregnant women. So, the investigator selected only a low score in measure the well-being of pregnant women. The investigator personally approached the participant for willingness to participate undergo the intervention programme and as well as the type of therapy, through the written statement. Out of 64, 48 pregnant women are given willingness and they are the group of "experimental and control group," during the intervention programme. A scale to measure the perceived Well-being of pregnant woman was constructed by the researcher for the fulfillment of objectives of the study. The face validity was done by the investigator, whereas Content validity was established with the opinion of experts in the field of investigation. Cronbach's alpha reliability = $r=0.59$ , parallel form method of reliability = $r=0.61$  split-half method reliability is= $r=0.62$ . Both English and Tamil version of questionnaire were administered. Correlation of coefficient was found to be 0.81. The value indicates the suitability of both Tamil and English questionnaire for further phase of main study.

The meeting held with the gynecologists and administration of the concerned hospital marked the initial procedures, in which the therapist presented the significance and necessity of the intervention programme. The gynecologist and management showed clear interest in the area and granted permission to conduct the yoga programme for pregnant women. Only women with normal, healthy conditions, undergoing first pregnancy (primi gravida) were selected by the gynecologist for the intervention. The yoga therapy for pregnant women was devised for an eight month period, every week five sessions of two hours was held. The programme was carried out in group in the auditorium depending upon the nature of the application requirements of the activity. Individual counseling sessions were administered only to those who had problems or required face to face counselling. The questionnaire on pregnant well being was given to both control and experimental group at the beginning of the

programme and after the therapy. Based on an intensive review of scientifically supported yoga therapy for pregnant women the following pedagogical elements for developing and implementing an effective yoga therapy were identified Chanting, Pranayama, Dynamic breathing exercises, Dhayana and Yoga Nidra. The data was tabulated and statistically analysed using SPSS-17 version. The hypotheses were tested using statistical analysis of the sample “t” test, paired sample “T” tests, one way ANOVA, percentage analysis, multiple regression analysis.

**Table 1:** Shows the yoga therapy in day-wise

Day	Description
1	Introduction about yoga, pranayama
2	Correction of pranayama, sitting exercises
3	Effect of pranayama, correction in sitting exercises
4	Sitting with leg stretched exercises, effect of sitting exercises
5	Correction of sitting with leg stretched exercises, introduction about dhyana
6	Effect of sitting with leg stretched exercises, guidelines to dhyana
7	Cat posture exercises, effect of dhyana
8	Correction of cat posture exercises, lying exercises
9	Effect of cat posture exercises, correction of lying exercises
10	Effect of lying exercises, yoga nidra
11	Guidelines to yoga nidra, standing exercises
12	Correction of standing exercises, effect of yoga nidra
13	Effect of standing exercises, breathing techniques during delivery
14	Practicing the breathing techniques, full syllabus
15	Full syllabus discussion



**Fig 1:** Effect of YT for pregnant women

**Table 2:** Shows the significant mean difference between experimental group and control group pre –test scores in yoga therapy.

Groups	N	Mean	S.D	M.D	S.E	‘t’ - value
Control	18	175.06	13.922	1.833	3.289	0.393
Experimental	18	176.89	14.062			(NS)

NS- not significant

The obtained t value is found to be 0.393. This indicates that there is no significant difference between experimental group and control group pre-test scores of perceived Well-being of pregnant women among the yoga therapy.

**Table 3:** Shows the significant mean difference between pre-test and post test scores of experimental group in yoga therapy.

Groups	N	Mean	S.D	M.D	S.E	‘t’ - value
Pre-test	18	176.89	14.062			
Post test	18	192.92	16.723	16.03	6.100	2.67**

\*\* Significant at 0.01 level

A paired sample t-test was conducted to compare scores pre-test and post-test intervention. There was a significant difference in the scores for the pre test (M=176.89 S.D=14.062) and post test (M=192.92 S.D=16.723) conditions.

From the above table it can be see that a significant difference was found with the pregnant women scoring higher on well-being in the post test compared to the pre test of experimental group with the t score=2.67, being significant at the 0.01 level. This result suggest the when the group was subjected to intervention programme their scores on well-being improved.

**Table 4:** Shows the significant mean difference between pre-test and post test scores of control group in yoga therapy.

Groups	N	Mean	S.D	M.D	S.E	‘t’ - value
Pre- test	18	175.06	13.922			0.024
Post-test	18	175.17	13.639	0.111	3.281	(NS)

NS- not significant

The obtained t value is found to be 0.024. This indicates that there was no significance difference pre-test and post-test scores of control group of perceived Well-being of pregnant women among the yoga therapy.

**Table 5:** Shows the significant mean difference between control group and experimental group post test scores in yoga therapy.

Groups	N	Mean	S.D	M.D	S.E	‘t’ - value
Control	18	175.17	13.639			2.943**
Experimental	18	192.92	16.723	17.57	6.027	(Sig)

0.01 level \*\*Significant at 0.01 level

A paired sample t-test was conducted to compare scores experimental and control group post-test scores intervention. There was a significant difference in the scores for the control group-III (M=175.17 S.D=13.639) and experimental group-III (M=192.92 S.D=16.723) post-test intervention. From the above table, a significant difference was found with the pregnant women scoring higher on well-being in the experimental group compared to the control group after intervention, with the t score=2.943, was significant at the 0.01 level.

**Discussion**

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. All cultures emphasise the fact that the expectant mothers well-being is an absolutely necessary condition for the well-being of the baby. She needs to be enlightened about her fears, encouraged to adopt the right perspective and emboldened to face pregnancy. At the time of pregnancy, the mother should be more positive and relaxed. Yoga therapy will helps to relax the mind, as well as strengthen the body.

The yoga therapy was divided into major five spheres, namely: chanting, pranayama, dynamic breathing exercises-asanas, dhyana, yoga nidra. Chanting was helped to focus the mind to start the yogic practice. Pranayama induces tranquility, relaxation and a feeling of well-being. It tunes up the nervous system, improve emotional stability. It also helps to eliminate anxiety, fear and phobias. Enhances efficiency of C.N.S and thereby bring relief from ailments like, insomnia, high blood pressure and breathlessness. It improves breathing capacity and also increases stamina and vitality. Most important of all, it helps greatly in promoting an easy delivery with minimum distress and fatigue during labor. Performing asanas regularly will boost the confidence of the pregnant woman. They make spine strong and flexible, ensures correct posture and establish balance between sympathetic and parasympathetic system. Regular practice of asanas improves blood circulation, tones up the muscles of spine, abdomen and pelvis which helps to support the added weight of uterus, prevents common ailments like backache, leg cramps, breathlessness, oedema feet, etc. Also regular practice of asanas will hasten the post-partum recovery. A very special feature of Yoga-nidra is 'Sankalpa' which means a 'resolve'. The relaxed body and mind are ideal soil for making a resolve. The 'Sankalpa' is affirmation of a statement, short, positive, precise about what one wants to achieve. The statement may be something like autosuggestion. It should be easy to memorise and recite e.g. "I am becoming happier, healthier and more relaxed." "I and my baby are experiencing immense joy and happiness". However these auto suggestions can be recited any time during the day. Repeated recitation of auto suggestions, especially when, the mind is relaxed sinks easily into the subconscious mind and directs the conscious mind to transform the positive thought into reality. The best time to repeat autosuggestion is in the morning or at bed time when body and mind are relaxed and receptive. Regular practice of Yoga-nidra helps to create the most favorable conditions for fetal growth and development.

### Results

The following result were found

- No significant difference was found between experimental group and control group pre-test scores of perceived Well-being of pregnant women among the yoga therapy.
- A significant difference was found between pre-test and post-test scores of perceived Well-being of pregnant woman among the experimental group.
- No significant difference was found between pre-test and post-test scores of perceived Well-being of pregnant women among the yoga therapy with the control group.
- A significant difference between was found experimental group and control group post-test scores of perceived well-being of pregnant women.

### Conclusion

In the western countries the pregnant woman, attends counselling sessions along with her husband attends and gains knowledge regarding the physiological, psychological and emotional changes, the special attention needed the economic commitment and tension free delivery which required for a healthy baby. They are well equipped for a normal labour with proper safety. Whereas, the scenario is entirely different in our country the factors like People's fears, superstitious beliefs and lack of knowledge causes enormous stress for the pregnant women. In order to manage or reduce their physical

or mental imbalance, yoga therapy can helps to alleviate accumulated fears and prepare them for the healthy and safe labour.

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