

## A COMPARATIVE CLINICAL EVALUATION OF YOGA ASANA WITH OR WITHOUT MUSIC ON LABOUR AND NEONATAL OUTCOME –A REVIEW ARTICLE

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### ABSTRACT

Pregnancy and childbirth are the most important, but stressful events of a woman's life. Human embryo according to Ayurvedic literature is not mere a physical mass but having metaphysical factors like manas, budhi, ahamkara, atma etc. The term Yoga is derived from the Sanskrit word 'yuja' which means 'to combine'. Yoga combines soul and mind with the body. Yoga Asana and music together compose an ideal form of therapeutic modality encouraging physical as well as mental fitness of mother and foetus. This study presents a comparative clinical evaluation of Yoga Asana with or without music on labour and neonatal outcome.

**Key words:** Yoga, Asana, condition reflex, auditory reflex, Bishop's score, APGAR score

### INTRODUCTION

Acharya Charaka first physician of India dreams about *ShreyasiPrajā* which is a result of both pre-conceptional and prenatal care.<sup>1</sup>

This concept glorifies the physical, psychological, intellectual, emotional and spiritual development of the baby at different strata.

The exposure to voice, music, and meaningful sounds within utero is needed for the fine tuning of the hair cells and their neuron connection to the spiral ganglion and cochlear nuclei. All speech, music, and meaningful sounds from the environment are not only created as memory circuits in the auditory and language areas of the cortex but have direct neuron connections to the limbic system (emotional memories). Pleasure, joy, fear, sadness, anxiety, or other parts of emotional memory are recorded and stored as part of auditory memories but in the limbic system.<sup>2</sup>

Indian culture respects the mother as the 'First God', even before 'Father' and 'Guru'. It may be said that motherhood is the ultimate Yoga Sadhana. Yoga as a way of life is an excellent tool to help the expectant mother dwell deep within herself and develop this spiritual awareness of her strengths with the realization of her blessings.<sup>3</sup> Yoga is not merely a preparation for pregnancy and childbirth; it forms a foundation for spiritual and intellectual discipline in foetus for its whole life.

Yoga and Music may be effective in the reduction of negative symptoms associated with pregnancy and birth. The primary purpose of the present study is to systematically evaluate the evidence for the use of yoga and music during pregnancy, labour and its neonatal outcome and to make recommendations for the direction of future research.

### OBJECTIVES OF THE STUDY

1. Conceptual study on effect of yoga with special reference to yoga asana and music on maternal physiology and neurological development of fetus.
2. To assess the effect of yoga asana and music upon maternal physiology and labor.
3. To assess the effect of yoga asana and music upon fetus.
4. To compare the study of above two groups.

## MATERIALS AND METHODS

### SOURCE OF DATA

A minimum of 45 patients diagnosed as normal pregnancy were selected from IPD&OPD of SDM Ayurvedic hospital, Udupi, for the study.

### METHODS

It is a randomized comparative study and selected patients were divided into three groups of 15 each.

### INTERVENTION

The selected patients were divided into three groups of 15 each.

#### 1) Group A

- Patients were administered with routine antenatal care.

#### 2) Group B

- Patients were administered with routine antenatal care and taught certain yoga asana (Bhadrasana, Padmasana and Sidhasana) and were made to practice them throughout antenatal period.

#### 3) Group C

- Patients were administered with routine antenatal care and taught yoga asana (Bhadrasana, Padmasana and Sidhasana) and exposed to music (Garbha-sanrakshaka-tantroktamantra and AtmaSanskaraShatkam followed by instrumental) throughout antenatal period.<sup>4</sup> Source of music was at 25 centimeter distance for 30 minutes either morning or evening preferably in Sukhasana.



**Bhadrasana**



**Padmasana**



**Sidhasana**

### OBSERVATION

After obtaining a complete history as per the special Performa, observations

were made with regard to age, religion, occupation, dietary habits, prakruti, mood, sleep, anxiety, Bishop's scoring etc.

<b>Hindu</b>	<b>75.55%</b>	<b>Madhyamasara</b>	<b>100%</b>
<b>Vegetarian</b>	53.33%	Madhyamasatwa	100%
<b>Occupation</b>	80% housewife	Samhananamadhyama	100%
<b>p/v Bleeding</b>	100% absent	Pramanamadhyama	100%

<b>p/v discharge</b>	100% absent	Madhyamasatmaya	100%
<b>Edema</b>	91.11% absent	Vyayamashaktimadhyama	73.33%
<b>Vomiting</b>	75.55% absent	Aharashaktimadhyama	86.66%
<b>Pain</b>	73.33% absent	Vayamadhyama	100%

**1 Incidence of Age:-**Age wise distribution of 45 patients shows that 28.88% patients were belonging to the age group 18-22 years, 55.55% patients were belonging to

age group of 23-27 years and 15.55% of patients were from 28-32 years, as shown in table no.1

**Table no:1**

Age	Group A	Group B	Group C	Total	%
<b>18-22</b>	4	5	4	13	<b>28.8888</b>
<b>23-27</b>	10	9	6	25	<b>55.5555</b>
<b>28-32</b>	1	1	5	7	<b>15.5555</b>

**2.Incidence of prakriti**

Distribution of incidence of prakriti in the groups, 33.33% of women had Vatta-Pitta, 37.77% of women had Pitta-Kapha, and

28.88% of women had Vatta-Kaphaprakriti. The same is shown in the table no.2

**Table no:2**

Prakriti	Group A	Group B	Group C	Total	%
<b>VP</b>	2	8	5	15	<b>33.3333</b>
<b>PK</b>	8	5	4	17	<b>37.7777</b>
<b>VK</b>	5	2	6	13	<b>28.8888</b>

**3. Incidence according to APGAR score**

The incidence of APGAR score of fetus after delivery is 2.22% of fetus had low value, 80% of fetus had normal and

17.78% had good APGAR Score. Table no 3

**Table no:3**

APGAR Score	Group A	Group B	Group C	Total	%
<b>5-6</b>	0	0	1	1	<b>2.222</b>
<b>7-8</b>	15	10	11	36	<b>80</b>
<b>9-10</b>	0	5	3	8	<b>17.778</b>

**4. Incidence according to Foetal birth weight**

Table no 4 shows the incidence of fetal birth weight that 2.22% of newborns were of 1.5-2kg weight, 28.89% of newborns

were of 2.1-2.5kg weight, 35.56% of newborns were of 2.6-3.1kg weight and 33.33% of newborns were of 3.1-3.5kg weight.

**Table no:4**

Foetal Birth Weight	Group A	Group B	Group C	Total	%
<b>1.5-2kg</b>	0	0	1	1	<b>2.22</b>
<b>2.1-2.5kg</b>	8	3	2	13	<b>28.89</b>
<b>2.6-3kg</b>	3	5	8	16	<b>35.56</b>
<b>3.1-3.5kg</b>	4	7	4	15	<b>33.33</b>

## RESULT

1. **MOOD**- Group C patients had good mood in comparison to Group B & Group A.

Music given to patients has specific ragas. This causes the person to reach a state of thoughtless awareness and has a tremendous impact on mood.

2. **ANXIETY** - Group C had no anxiety symptoms. It can be said that music had a good impact in reducing the anxiety. The Raga Bhup given to the patients helps relieve tensions, anger and mental fatigue.<sup>5</sup>

3. **BISHOP SCORE** -Group B & C have positive impact in increasing the Bishop score.

Bhadrasana strengthens the perineal muscles, especially the levatorani, which bears most of the strain during the second stage of labour, when head is on perineum.

4. **BREATHING DURING LABOUR** - Both Group B and Group C patients had proper breathing during labor. Music even has been found to produce a relaxed mood and stress reduction, making it a plausible way to accommodate coping with pain and anxiety.

5. **FETAL BIRTH WEIGHT & APGAR SCORE**- Group B & C have positive impact. The yoga asanas improve the blood circulation thus ensures adequate nutrition to the fetus.

6. **SUCKING REFLEX & MORO'S REFLEX** - It was good in Group C neonates.

7. **CROSSED EXTENSION REFLEX & RESPONSE TO CATHETER IN NOSTRIL** - Good in both Group C and Group B neonates.

8. **RESPOND TO MUSIC AFTER DELIVERY & RESPOND TO AU-**

**DITORY STIMULI** - Group C neonates who were made to hear music in utero had good response.

9. **RESPOND TO VISUAL- STARING** - Group C neonates have good staring response.

## DISCUSSION

Present version of antenatal care which focuses only on physical health of mother and growth of foetus is not complete. Future generation probably may face more stress from different aspects like education, workplace and environmental hazards so it is necessary to make them psychologically and emotionally stable. To compensate the work overload in pregnancy and labour maternal physiology undergoes so many adaptations to make the pregnancy and labour smooth and uneventful.

Foetus after acquiring the auditory efficiency when subjected to music, the vibration with specific phonetic expression causes a balance and rejuvenation on the foetal physiology specifically on the central nervous system. Foetus starts learning by condition reflex when it is exposed regularly to auditory reflex like specific notes and ragas or music. It stimulates the brain development and its ability to reason, through the establishment of network of neurons that allows the brain to function better. It stimulates the brain development and its ability to reason, through the establishment of network of neurons that allows the brain to function better.

Yoga asana recondition body and mind to bring about the highest possible muscular tone, mental health and organic vigour. It helps to ease the physical and mental stress of pregnancy period, both antenatal and during labour. Intranatally, its effect is seen on Bishop score, coping skills such as relaxation, positioning and

breathing awareness which will provide the pregnant with the practical means of managing labor. Yoga teaches pregnant women to listen to their body and reduce stress and anxiety and to quiet the mind.

## CONCLUSION

Yoga asanas can help the pregnant woman to adapt to the physical changes in her body during the antenatal period. They will help her to ease the minor aches and pain during pregnancy. Maternal exposure to music during pregnancy can beneficially influence neonatal behavior. Music can open the mind and increases the Sattvic nature which elevates the mother's consciousness thus helping to create an uplifting psycho-mental-spiritual inner environment developing the inherent potential of the child in a wonderful manner.

As said by Dr. Tomatis "sound is food for the fetal brain"<sup>6</sup> so thus Group C neonates had the impact of music given during pregnancy were well versed with cognitive function thus that group showed better result in comparison to other groups.

## REFERENCES

1. Agnivesha, Charaka Samhita, by Acharya Yadavji Trivikramji, 5th edition, Chaukambha Publication, Varanasi, 2001. Pp; 738, page no. 340.
2. Stanley N. Graven, MD and Joy V. Browne, Auditory Development in the Fetus and Infant, Published by Elsevier Inc. 2008,  
<http://www.wonderbabiesco.org/UserFiles/File/Graven and Browne Auditory 2008.pdf>
3. Patanjali, Patanjali Yoga sutra with Vyasa commentary, translated by Rama Prasada, 3rd edition, Oriental books Reprint Corporation, New Delhi, 1982. Pp; 315, page no. 5.

4. <http://ayurveda-foryou.com/women/garbhaskar.html>.
5. <http://www.hindu.com/thehindu/mp/2002/08/05/stories/2002080501000200.htm>.
6. Bill Osmer, Raga Chikitsa and Raga Ragini Vidya, An exploration into the use of Music for the purpose of Healing, December, 2006.  
[https://www.yogasangeeta.org/index.php?option=com\\_content&view=article&id:article-raga-ragini-bil-wa&catid:ragaragini&Itemid&directory](https://www.yogasangeeta.org/index.php?option=com_content&view=article&id:article-raga-ragini-bil-wa&catid:ragaragini&Itemid&directory).

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