



## To study the effectiveness of prenatal yoga to improve the sleep quality in pregnant women during second trimester

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### **Abstract:** -

**Background:** - Sleep disturbance or sleep disorders are common complaints during pregnancy, which can disturb the daily activities of pregnant woman. During Pregnancy this type of disorder overcome non pharmacologically. Prenatal yoga is one of the best nonpharmacological tool for improvement of sleep quality.

**Objective:** - To Examine the effect of prenatal yoga practice on quality of sleep during second trimester of pregnancy.

**Subjects & Method:** - The study took place in Department of obstetrics & Gynaecology of GEMERS Medical Collage & Civil Hospital, Ahmedabad, from august – November 2021. Total 120 pregnant women during second trimester inmates were randomized to two groups of sixty each. Group A (Yoga Group) received training of prenatal yoga while Group B (Control Group) did not. Sleep Quality was measured before and after study period using PSQI Questionnaire.

**Intervention:** - The Group A (Yoga Group) Participated in 12 Week of Classes, held four time in one week, incorporating Yoga Postures, Pranayama, Yoga Nidra and Meditation and remaining days home practice for the same.

**Limitations:** - It is limited by smaller sample size and single centre. Future multicentric studies with large population can deepen understanding.

**Results:** - The Result shows that  $P < 39.658$  and significance at 0.05 level. Hence Prenatal yoga significantly improve the quality of sleep-in pregnant woman.

**Conclusion:** - Prenatal Yoga training can enhance quality of sleep during second trimester of pregnant women.

**Key Words:** - Pregnancy, Sleep Quality, Prenatal Yoga

### 1. INTRODUCTION:

Gestation is that the state of fertilization and development for one or additional animate being inside a woman's uterus.<sup>1</sup> Gestation is vulnerable and pleasurable part of woman's life. Gestation isn't a disorder or not an illness. Incubation is most unforgettable event in each woman's life, if the pregnant woman will relish all the physiological changes done naturally. There are unit tremendous changes occur in woman's life, that isn't solely physiological however psychological too.<sup>2</sup> Physical health is basic need of woman for her maternal health and foetus additionally. As per written Ayurveda, Ahara, Nidra and Brahmacharya are three basic pillars of everyone.<sup>3</sup>

Sleep is important for overall health and eudaimonia of everyone's life. Sleep is like tranquil throughout physiological state as acceptable quality and amount of sleep will rejuvenate woman's body and ready the woman body for biological time and natural delivery. Various complaints of pregnant women, throughout physiological state, shortness of breath, lower back pain, sleep disturbance, pain within the girdle space, dizziness, leg cramps etc. One basic complain of pregnant woman is sleep disturbance or disorder, albeit the physiological state is traditional. Nausea and physiological reaction throughout physiological state because of poor life quality of pregnant ladies, experienced by 70 % pregnant women worldwide. Concerning 76% of pregnant woman experienced poor sleep quality and 57.3% of pregnant woman experienced sleep disorder through all trimesters.<sup>4</sup>

There are several studies, during which sleep disturbance is correlated with the redoubled risk of preterm birth, development of depressive symptoms, emergency caesarean, physiological state high blood pressure and physiological state polygenic disease etc.<sup>5</sup> Supported this study, I believed that the development in sleep quality may presumptively



lead to higher maternity outcomes. Good quality of sleep could improve the maternal health and infants' health conjointly.<sup>6</sup>

Yoga is understood as mind & body medication. Antenatal yoga observe throughout pregnancy is one capsule for all issues of pregnant women. Antenatal yoga includes Loosening exercise, Asana, Pranayama, Meditation, that is complete protocol for maternal stress reduction<sup>7</sup> Mother will get pleasure from her time and connect with her baby with no anxiety of future. The intensity of the antenatal yoga is supported to be terribly robust for pregnant woman even during this 21<sup>st</sup> century wherever everything is controlled by science and technology.<sup>8</sup> Pregnant woman is tackled each pathological state through medical aid medication. Gestation is vulnerable amount for mother; thus, mother has got to interdict some medicine treatment. Here antenatal yoga is nonpharmacological treatment for improvement of sleep quality.

Research analysed that day-by-day additional pregnant woman square measure turning to non-pharmacological and natural types of health care of treatment of sleep problems like sleep disturbance, quality of sleep & sleep disorder.<sup>9</sup> The aim of this study was, to look at the impact of antepartum yoga on quality of sleep throughout trimester. One of the activity necessary for pregnant woman is relaxation like yoga, music, medical care, swimming, deep respiration, and walking (Yuliarti 2010). Antepartum yoga combines complicated activity contains stretching, movement, meditation, breathing, balance, endurance, and appreciation.<sup>10</sup> The aim of antepartum yoga is to arrange pregnant woman physically, mentally, showing emotion for labour. With this preparation the pregnant woman become additional assured to travel through labour swimmingly and well.<sup>11</sup>

According to Lebang (2013) yoga exercises are given to pregnant women as per the physical conditions of pregnant women. Yoga exercises with slow movements may be combined with controlled respiration exercises and a series of contraction stretching and restful muscle teams.<sup>12</sup> Yoga exercises will stimulate the relief response each physically and psychologically, wherever the response stimulates the activity of the parasympathetic involuntary systema nervosum, that is found below the neural structure and medulla, which ends in an exceedingly decrease in body metabolism, heart rate, pulse, pressure, and rate and a rise in 5-hydroxytryptamine so the body becomes additional relaxed and might improve sleep.<sup>13</sup>

According to Sun et al. (2010), yoga conjointly reduces feeling and eliminates some discomfort in physiological condition, will increase muscle strength that is particularly helpful in preventing back pain, will facilitate pregnant ladies feel additional agile and nimble and balance changes in weight, and facilitate changes in gravity vogue throughout physiological condition.<sup>14</sup>

**Objective:** - To evaluate the effect of yoga on sleep quality during second trimester.

**Hypothesis:** - The practice of prenatal yoga will enhance the sleep quality of pregnant women during third trimester.

## **2. METHODOLOGY: -**

The type of research used is control and experimental group design. Respondents were divided in two groups: The control group was pregnant women who did routine antenatal check-ups as usual, and the intervention group was pregnant women who were given prenatal yoga four times in weeks & rest three days of week they were doing practice by their self. Pre-Test and Post Test is done for both the groups. The sample in this study was 120 second trimester, 60 samples in the control group & 60 Samples in the experimental group. The Inclusion criteria include single pregnancy, gestational age  $\leq$  16-18 weeks, willingness to take yoga practice, and no high-risk pregnancy. This research was conducted using a questionnaire instrument related to the characteristics of respondents and sleep quality measurement using PSQI (Pittsburgh Sleep Quality Index).

### **Place & time of Research: -**

This research was conducted in the department of GEMERS medical college in august – November 2021.

### **Method of Collecting data: -**

Data collection was carried out by the researcher using pre- post tested questionnaire before the intervention and measured again after the administration of the intervention. Data collection was carried out of both groups – control & experimental.

### **Intervention: -**

Firstly, Researcher has selected the sample from GMERS Medical college and hospital, which was fulfilled inclusion and exclusion criteria of the study and selected samples received antenatal check-up per month. Researcher gave the



PSQI questionnaire for both control and experimental group. After collection of pre-tests, researcher started yogic practice to experimental group.

<b>Yoga Module for Pregnancy<sup>15</sup></b>		
<b>Practice</b>	<b>Timing</b>	<b>Gestation Age</b>
Om Chanting	10 mins	14-27 weeks
Loosening Exercise	10 mins	14-27 weeks
Yoga Asanas like Tadasana, Vrikshasana, Ardha Kati chakrasana, Trikonasana, Baddha Konasana, Vajrasana, Upavista Konasana , Savasana.	15 -20 mins ( Each Yoga asana for 10 -20 sec or as per capacity)	14-27 weeks
Pranayama like Nadi shodhan, Bharmari pranayama	12-15 min	14-27 weeks
Meditation like Nadanusandhan, Omkar	5-10 mins	14-27 weeks

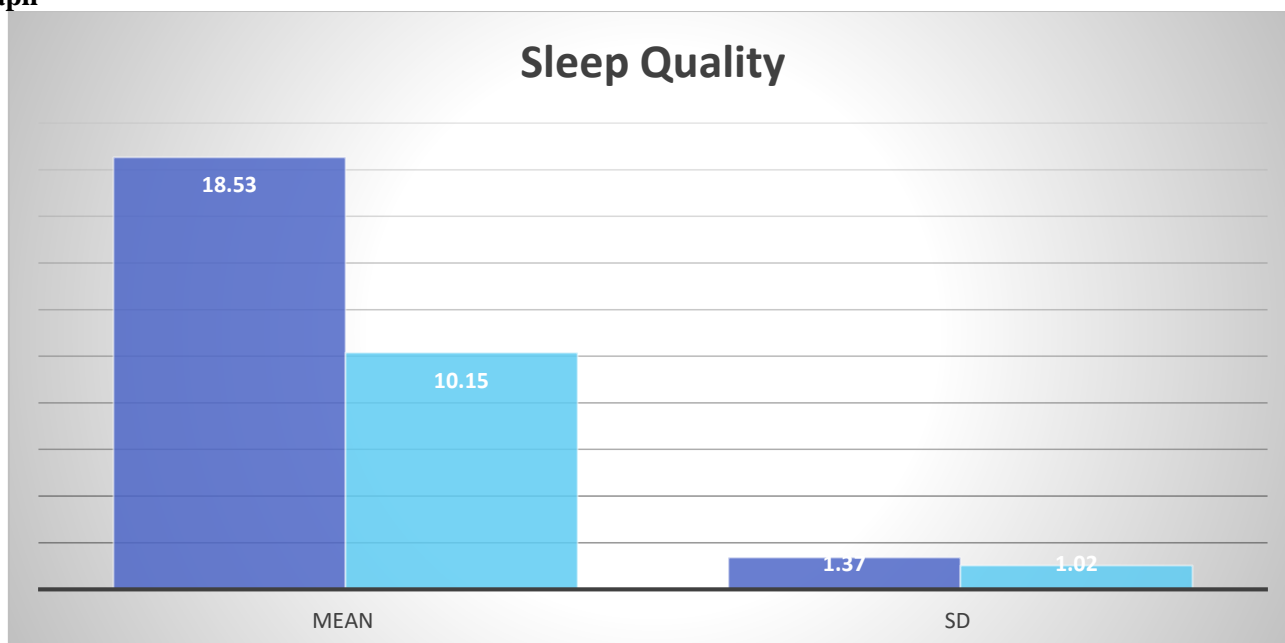
After the completed of yogic intervention for three months, fulfilled the PSQI for seen post quality of sleep of both groups.

### 3. RESULT: -

Group	Number of Participants	Mean	Sd	SED	r	df	T Value	Significance Level
Group A	60	18.53	1.37	0.211	0.087	59	39.658	0.005
Group B	60	10.15	1.02					

This table shows that P is less than 39.658 and significant at 0.005.

### Graph



The results and graph show that directional hypothesis is accepted. Hence Yogic Intervention improve the level of sleep quality as compared to pre - test and control group.

### 4. DISCUSSION: -

After the analysis of it has been observed that yogic practices are useful in bringing out significant changes in sleep quality of pregnant women (18 – 35 yrs age) of this study.



As a result of the standard of sleep-in pregnant ladies is primarily influenced by complaints felt by pregnant women, therefore with yoga exercises, variations felt by the trimester pregnant ladies will occur. Analysis by Harahap (2017) states that yoga effectively affects the standard of sleep of pregnant women because of the yoga movement will management respiration and therefore the mind. The important advantages of yoga are often felt from yoga follow, the reduced melting of the mind, and emotions become calm.<sup>16</sup> In line with Jiang's analysis (2015), same prenatal yoga interventions square measure effective in relieving pain for pregnant women, UN agency expertise back pain and reducing leg pain; improved health of the prenatal yoga program discovered throughout maternity is a lot of useful than walking and normal prenatal exercises that yoga is extremely appropriate for maternity.<sup>17</sup> Bodde AE et al (2010), Studied that the mindful yoga improvement in sleep quality during second trimester of pregnancy.<sup>18</sup> One of the study done by, Azward H, Ramadhany S et al(2121) indicates the effect of prenatal yoga exercises on sleep quality in third-trimester pregnant women.<sup>19</sup> Another study done by , Aflahiyah S, Tamtono GD, Prasetya H (2020) shows that the Effectiveness of sleep quality and anxiety reduction during pregnancy after regular practicing of yoga.<sup>20</sup>

The research analysis result proves that yoga practices can have positive influence, especially on the sleep quality of the pregnant women. This is because yoga exercises are an exercise in pregnant women that aims to help the abdominal wall muscles become elastic during uterine enlargement, improve the physical balance of pregnant women, help improve the correct position of the mother during pregnancy, and improve maternal blood circulation, thereby increasing maternal comfort during pregnancy (Ministry of Health, RI, 2010). Yoga stimulates production of endorphins and reinforces the feeling of happiness during the day and improves sleep quality during the night.

## 5. CONCLUSION:

The result of data analysis in the intervention group showed difference in sleep quality improvement for second trimester pregnant women after being given prenatal yoga practices.

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