

## How & Why to Exercise during Pregnancy? Advice for Indian Mothers

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### Abstract:

Exercise or physical activity is essential for a healthy life. It is considered good for everybody of all age groups due to its beneficial effects. Similarly it applies for pregnancy too. In India pregnancy is generally considered to be a period where the mother is advised to be less active and rarely gets involved in any physical activity like exercises. Being physically active during pregnancy is beneficial and its effects are both short term and long term eventually leading to a healthy body and better life. It is important to care for the expecting mother during this special phase of life but making her sedentary and less physically active is not the solution.

Pregnancy is not a disease. It is a special time in any woman's life which should be enjoyed and cherished for life. Even women who are not physically active earlier could be encouraged to be physically active by positive behavioral intervention during this period. During this time even an expecting mother is more willing to adapt to a healthy lifestyle for the sake of her baby. Therefore it is of utmost importance to know 'How' and 'Why' to exercise during this phase of life. Exercises during this period need to be done with utmost caution. Most preferably under the guidance of an exercise expert specializing in this field so that any unwanted harm to the mother or the fetus could be avoided.

**Keywords:** exercise, pregnancy, precautions, indications

### Introduction

Pregnancy is a time when a female receives maximum attention and is taken care of in all possible ways. Generally in India she is not allowed to move much and is usually instructed to do least possible exertion or work of any kind. This is done for safeguarding her and her baby from any harm and allowing her to be more relaxed and stress free from normal daily activities that require her to be physically involved. A recent ICMR study measuring physical activity levels of Indians showed that 54.4% of Indians are inactive (1). In this finding it is the women who are less active as compared to men. Also a 2015 ICMR study on prevalence of obesity done in four different states in India shows that women are more obese than men and also the prevalence of abdominal obesity is more than generalized obesity all over India. Chandigarh showed maximum abdominal obesity as compared to Tamil nadu, Maharastra and Jharkhand (2).

This emerging pattern of inactivity combined with obesity is a dangerous build up for any nation's future health status. Physical inactivity is the fourth leading risk factor for early mortality worldwide (3). Physical activity is advisable for every person for a better health. Owing to this view pregnancy is not an exception too. Prolonged period of inactivity combined with increased weight gain during pregnancy is also seen as a risk factor for maternal obesity and various related pregnancy complications (4-5). Pregnancy is no longer considered a time or a condition to be less active or to be confined. In fact it is seen as a unique time to even motivate the expecting mothers who were sedentary earlier to start being more active for it could affect her health for the rest of her life. This type of encouragement is termed as behavioral modification, which allows her to actually change from her routine stereotype habits of being less active to a healthier and more active lifestyle. Pregnancy is considered as the best time period to enforce for a behavioral

modification. It is also very important to know how to exercise, and how much to exercise during this time. A proper care should be taken of the type of exercises to be done in this period, knowing all the indications and contraindications along with the intensity and durations so as to not let the expectant mother overexert, eventually leading to more harm than good. Through this review it has been tried to show how to exercise safely during pregnancy especially keeping in mind the Indian women.

### **Who can exercise?**

Though any healthy woman with uncomplicated pregnancy irrespective of whether she was previously active or sedentary can start exercise anytime during her pregnancy. But there are certain cases which need to be taken care of while advising or starting exercise for a pregnant woman (6).

Most of the women during pregnancy generally remain less active and sedentary as a precautionary measure to avoid any mishappening like miscarriage, preterm birth and so on. But, women going for such prolonged bed rest or inactivity are at increased risk of venous thromboembolism, reduced bone density and weak muscles due to deconditioning. India is the third most obese nation in the world (WHO 2015) (7). Also the females are more obese than the males, and pregnancy is the major reason which leads to obesity in majority of these women (2). This obesity is the major cause of many of the pregnancy complications and also future risks of obesity both for the mother and the child. A 2016 review comparing the pregnancy complications between India, Asian and the western countries by their BMI status shows Indian women at equal or even higher risk of having various pregnancy complications as compared to their western counterparts (8). Owing to these reasons it is very important to introduce the concept of being physically active or exercise during pregnancy in India. Most of the research work in this special group comes from the western countries. There women are encouraged to be physically active and it has shown its benefiting effects

on the delivery outcomes and post partum weight retention in mothers (9). The American College of Obstetricians and Gynecologists has also given special guidelines for the expecting mothers on how much to work out during pregnancy (10, 11). There the expectant mother is routinely monitored by the concerned gynecologist or healthcare provider for any of the above contraindications. But in India, many women do not have a regular access to a gynecologist and hence exercising without correct guidelines or ignoring any of the above contraindications can be fatal. Apart from above the contraindications, there are also few warning signs for stopping exercise immediately if any of them are seen (11).

In India there are no such recommended guidelines given for physical activity during pregnancy. The national health portal has given some points to take care of during pregnancy regarding physical activity (12). Also many of the gynecologists do not encourage the concept of exercise during pregnancy. Many believe that physical activity during pregnancy can lead to miscarriage, reduced baby weight, or even premature delivery. But if there is an uncomplicated pregnancy then there is not much to worry about. One has to keep in mind all the contraindications and risk factors that do not allow for exercise during this phase.

### **Starting exercises**

It is recommended to start exercise properly in second trimester. It is avoided in the first trimester due to the complexity associated with the first trimester in the form of morning sickness, vomiting, fatigue, lightheadedness etc (13). Also the chances of miscarriage are highest in the first 16 weeks of pregnancy. A five-city study was published in The Journal of Obstetrics and Gynecology of India in December 2015 it reported 32% of the 2,400-odd participants had suffered spontaneous miscarriage. Miscarriage or spontaneous abortion without medical means to terminate a pregnancy has so far been presumed to be 10% across the globe. Also the main finding of the study was that recurrent

spontaneous miscarriage was as high as 7.46% among Indian women. It also stated that globally recurrent pregnancy losses were pegged at 0.8-1.4% of all pregnancies (14). Doctors say that spontaneous first trimester miscarriages are very common and occur because of random genetic errors in the embryo. Hence it is best to start the exercise in the second trimester of pregnancy. Though a daily walking schedule of 20-30 minutes even during the first trimester is safe and can be followed easily. It is recommended to start exercise for 15 minutes daily if one is sedentary earlier and increase by 5 min each week to reach up to 30 minutes (11).

**Type of exercise**

Exercising here does not mean some vigorous or heavy weight training but simple physical activities like brisk walking, swimming, stationary cycling, yoga etc. Recreational physical activity is encouraged and has been shown to improve general wellbeing and pregnancy outcomes. (15). These type of activity helps keep the circulatory system healthy, increases endurance, helps maintain a healthy weight by burning calories and speeds up the metabolism and improves the way one feels. Also they improve the mother’s mood and are beneficial for her mental health as well (15). Every exercise should be started with a warm up and ended with a cool down regimen too (16).

**Table 01**

Shows some of the conditions in which any exercise program is not recommended and, are considered as contraindications for the same.

<b>Table 01</b> CONTRAINDICATIONS TO EXERCISE IN PREGNANCY	
<b>Absolute Contraindications</b>	
<ol style="list-style-type: none"> <li>1. Haemodynamically significant heart disease</li> <li>2. Restrictive lung disease</li> <li>3. Incompetent cervix/cerclage</li> <li>4. Multiple gestation at risk for premature labour</li> <li>5. Persistent second or third trimester bleeding</li> <li>6. Placenta praevia after 26 weeks gestation</li> <li>7. Premature labour during the current pregnancy</li> <li>8. Ruptured membranes</li> <li>9. Preeclampsia or Pregnancy induced hypertension</li> <li>10. Severe anemia</li> </ol>	
<b>Relative Contraindications</b>	
<ol style="list-style-type: none"> <li>1. Severe anaemia</li> <li>2. Unevaluated maternal cardiac arrhythmia</li> <li>3. Chronic bronchitis</li> <li>4. Poorly controlled type I diabetes</li> <li>5. Extreme morbid obesity</li> <li>6. Extreme underweight (body mass index &lt;12)</li> <li>7. History of extremely sedentary lifestyle</li> <li>8. Intrauterine growth restriction in current pregnancy</li> <li>9. Poorly controlled hypertension/preeclampsia</li> <li>10. Orthopaedic limitations</li> <li>11. Poorly controlled seizure disorder</li> <li>12. Poorly controlled thyroid disease</li> <li>13. Heavy smoker</li> </ol>	

\*(According to ACOG guidelines 2015)

**Table 2: Shows the warning signs for discontinuing exercise during pregnancy**

\*(According to ACOG guidelines 2015)

<ol style="list-style-type: none"> <li>1. Vaginal bleeding</li> <li>2. Dyspnoea before exertion</li> <li>3. Regular painful contractions</li> <li>4. Dizziness</li> <li>5. Headache</li> <li>6. Chest pain</li> <li>7. Muscle weakness affecting balance</li> <li>8. Calf pain or swelling (need to rule out thrombophlebitis)</li> <li>9. Amniotic fluid leakage</li> </ol>
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**How much is enough**

How to judge about what exercise intensity to work is being reported by few of the studies which give certain methods to measure the exercise intensity which could be best for the expecting mother. These are:

**1. Heart rate monitoring**

These guidelines show (Table 3) how much should be the maximum heart rate as per the age of the woman who is exercising (17).

**2. Perceived exertion scale**

It is a visual scale from 6-20 showing the perceived exertion score Table 4. Since moderate intensity exercise is recommended in pregnancy the Borg scale of perceived exertion is used to measure the same and the appropriate reading on it should be 13-14 (i.e. somewhat hard). It is reported that the

use of ratings of perceived exertion are more effective way to monitor exercise intensity during pregnancy than the heart rate method. The woman is asked to mark the point which best describes her level of activity exertion (10).

**3. Talk test**

Other measure of exercise intensity includes the “talk test”. As the term “talk test” implies, the woman is said to be exercising at a comfortable intensity if she is able to maintain a conversation during exercise, and should reduce the exercise intensity if this is not possible. If anytime she feels breathless or keeps breaking her talk in order to gasp for breath then she is over exerting herself and should reduce her pace of exercise and slow down (10).

<b>Table 03</b>	
<b>MODIFIED HEART RATE TARGET ZONES FOR AEROBIC EXERCISE IN PREGNANCY</b>	
<b>Maternal Age</b>	<b>Heart Rate Target Zone (beats/min)</b>
Less than 20	140–155
20-29	135-150
30-39	130-145
40 or greater	125-140

(\*Canadian Society for Exercise Physiology)

<b>Table 04 : BORG’S RATING OF PERCEIVED EXERTION</b>	
6	
7	very, very light
8	
9	somewhat light

10	
11	fairly light
12	
13	somewhat hard
14	
15	hard
16	
17	very hard
18	
19	very, very hard
20	

### **Conclusion**

Pregnancy being a special time women should be encouraged to adopt a healthy and active lifestyle in order to avoid any complications and have a healthy baby. As per the ICMR study Indian women are less physically active than men and pregnancy adds to this view even more. This results in excessive gestational weight gain and weight retention, eventually leading to obesity and its associated co morbidities like diabetes, hypertension, thyroid etc. These mothers have an increased chance of their babies being overweight or obese and their chances to develop lifestyle diseases increases in mid life. In order to avoid any of these problems all expecting mothers should be advised for a regular dose of physical activity in some form or the other. Also pregnancy is a special time when a woman is more willing to adopt a healthy lifestyle for the sake of her baby. Even women who are sedentary earlier could be encouraged to be active and hence more aware about her health. It is very important to tell her the benefits of exercise and how it can lead to a healthy and fit future both for her and her baby. Hence, pregnancy is an apt time to encourage her for behavioral modification towards a more healthy life for herself and her baby.

### **Important Points to Remember:**

- Every healthy pregnant woman without any specified contraindications should do regular mild to moderate exercise.
- It is always safe to consult a trained antenatal physiotherapist or a yoga

instructor specializing in antenatal care before starting the exercise regime.

- Do not exercise in very hot or cold environment.
- Start with walking, 15 minutes first then progress to 20-30 minutes daily exercise.
- Let your body decide how much it can handle and do not over exert.
- Pregnancy does not mean that one have to start a rigorous exercise regimen.
- Main aim should be to have a good health throughout pregnancy and not to achieve peak or fitness levels of an athlete.
- Always take caution to prevent falls, sudden jerks and over stretching while exercising.
- Careful selection of type of exercise is done to fit individual women.
- Mild to moderate intensity regular exercises do not harm the fetus in any way.
- Exercise reduces the chances of complications in pre and post pregnancy period.
- Previously sedentary women should progress slowly.
- It does not have any adverse effect on lactation or baby health.

### **Conflict of Interests:**

The authors declare that there is no conflict of interests regarding the publication of this paper.

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