



## Importance of Aerobic Exercise during Pregnancy

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### ABSTRACT

*Exercise is a vital part of a healthy lifestyle and should be encouraged by obstetrician-gynecologists and other providers of obstetric care. Exercise is defined as physical activity consisting of planned, structured, and repetitive bodily movements performed to improve one or more components of physical fitness. Women who were physically active prior to becoming pregnant or who regularly engaged in vigorous-intensity aerobic activity are able to continue doing so during pregnancy and the postpartum period. Pregnant women who exercise demonstrate advantages such as a reduction in gestational diabetes, caesarean and operative vaginal births, and postpartum recovery time. In the postpartum period, women's depressive disorders can be prevented in part by physical activity. Although some alterations to exercise regimens may be required due to typical anatomical and physiological changes and foetal requirements, physical activity and exercise in pregnancy are associated with little hazards and have been found to benefit the majority of women.*

**Keywords:** Aerobic exercise, pregnant women, Depression, physical activity, Physiotherapy.

### INTRODUCTION

Exercise is a vital part of a healthy lifestyle and should be encouraged by obstetrician-gynecologists and other providers of obstetric care. Exercise is defined as physical activity consisting of planned, structured, and repetitive bodily movements performed to improve one or more components of physical fitness. Women who were physically active prior to becoming pregnant or who regularly engaged in vigorous-intensity aerobic activity are able to continue doing so during pregnancy and the postpartum period. Pregnant women who exercise demonstrate advantages such as a reduction in gestational diabetes, caesarean and operative vaginal births, and postpartum recovery time. In the postpartum period, women's depressive disorders can be prevented in part by physical activity. Although some alterations to exercise regimens may be required due to typical anatomical and physiological changes and foetal requirements, physical activity and exercise in pregnancy are associated with little hazards and have been found to benefit the majority of women. Aerobic exercise during pregnancy has not yet been adequately studied for its acute and long-term (training) effects. Particularly, only recently has research on the impact of gestational age, maternal activity level, and type, duration, and intensity of exercise on mother cardiovascular response begun. During pregnancy, there are several physical changes as well as emotional disturbances. Some mental health issues, like as depression and psychosis, also greatly rise throughout pregnancy and in the first few weeks after delivery in addition to the external physical changes. Even if a pregnancy is healthy, subtle changes can diminish a woman's capacity to do her usual duties and may impair her quality of life. Subjects with depression and pregnant stress are more likely to experience pre- and postnatal issues such early labor, low birth weight, poor self-care, reduced mother-child bonding, and longer hospital stays. An earlier study found that symptoms in many women with postpartum depression began during pregnancy, and antenatal sadness is a significant predictor of postnatal depression. Antidepressants, psychotherapy, exercise, and other therapies are all effective prenatal depression treatments. Many doctors and patients prefer alternatives to medicine during pregnancy because the fetus indirectly receives the mother's treatment. Although severe MDD patients can get medication during pregnancy, a number of studies have questioned the safety of taking psychiatric medications while pregnant. Although psychotherapy is a viable option for treatment, it is neglected for a number of reasons. Therefore, prenatal depression requires an alternate therapy that is secure and available. Exercise has been shown in the past to lessen the symptoms of MDD, and it is typically the first

advised lifestyle change to lower morbidity and mortality. Regular exercise may lessen prenatal depression, according to our hypothesis.

### **Health advantages of exercise during pregnancy**

Pregnancy exercise has numerous psychological and physical advantages. While managing some pregnancy symptoms, exercise can also help you feel better because it benefits both you and your unborn child. Understanding the factors that influence pregnant women's physical activity is crucial because exercise during pregnancy has positive effects on both mental and physical health.

1. Lowers back ache, relieving constipation
2. Reduces the possibility of developing gestational diabetes, preeclampsia, and caesarean delivery.
3. Encourages pregnancy weight gain that is good.
4. Strengthens your heart and blood vessels and increases general fitness after your baby is born, it helps you shed the baby weight.

What exercises need to I avoid when pregnant? During pregnancy, should I stay away?

Avoid engaging in any activities that enhance your risk of injury while pregnant, such as the following:

1. Sports involving contact and the potential for abdominal hits, such as ice hockey, boxing, soccer, and basketball.
2. Skydiving.
3. Sports include downhill skiing, water skiing, surfing, off-road cycling, gymnastics, and horseback riding that can cause falls.
4. Hot Pilates or "hot yoga," which could make you overheat
5. PADI diving.
6. Actions taken over 6,000 feet (if you do not already live at a high altitude). Regular aerobic exercise is a great addition to the doctor's recommendation to stop smoking, in part because of its psychological advantages.

This positive outcome is most likely the result of a confluence of the following elements: a more positive perception of oneself, relief from stress and depression, giving up a harmful habit in favor of a generally healthier way of living, and the incompatibility of smoking with the desire to achieve maximum fitness.

### **Exercise during pregnancy is affected by body changes**

Your body goes through a lot of changes while you are pregnant. First, due to the hormones that induce some muscles to relax during pregnancy, joints are more flexible. The extra weight in the front and your moving hips cause a shift in your Centre of gravity or equilibrium.

As the due date approaches, this may have an impact on your balance. Your body will have to work harder than it did before to becoming pregnant because of the additional weight.

These elements could all have an impact on your fitness routine and exercise choices. Remember, it's always advised to talk to your doctor about the best activities for your particular situation.

### **Physiologic Changes of Pregnancy**

#### **Musculoskeletal**

The woman's physique changes throughout pregnancy, which is one of the most noticeable alterations. The woman's center of gravity shifts as a result of mechanical changes brought on by the weight of her expanding breasts, uterus, and fetus, as well as by an increase in lumbar lordosis and potential balance issues. Additionally, the increased vertical impact pressures that occur during pregnancy—which are often twice as great as an individual's body weight. Make weight bearing exercise a bigger worry. Sudden movements could make these mechanical issues worse and make injuries more likely

#### **Maternal and fetal temperature**

Both activity and pregnancy result in an increase in metabolic rate, which boosts heat production. The increased heat produced by foetal placental metabolism keeps foetal temperature at 0.5 to 1.0°C (0.9 to 1.8°F) above maternal levels. Theoretically, a rise in maternal core temperature could lessen foetal heat transfer to the mother during activity and pregnancy.

#### **Hemodynamic**

Pregnancy and exercise together increase heart rate, stroke volume, and cardiac output. However, blood is diverted from the uterus and other abdominal viscera to nourish exercising muscle during exercise. The reduction in splanchnic blood flow, which might be as much as 50%, gives rise to theoretical worries regarding foetal hypoxemia.

#### **Oxygen demands**

Both pregnancy and exercise cause the pulmonary system to adapt. Both pregnant and non-pregnant women have the same respiratory frequency while at rest. Pregnant women do, however, show moderate increases in tidal volume and oxygen intake, likely as an adaptive reaction to the baby's increased need for oxygen.

**Energy demands**

A high energy demand is linked to both activity and pregnancy. It is advised to consume 150 extra calories per day during the first two trimesters, and 300 extra calories per day during the third trimester. Exercise raises caloric demands even further, however no research have specifically looked at the precise amounts. The competing energy requirements of the pregnant mother who is exercising and the developing fetus give rise to the theoretical worry that too much exercise can be harmful to foetal development.