

## Review Article

# Inactivity during Pregnancy (Physical and Psychosocial Effects of Inactivity/Bed Rest during Pregnancy)

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**Abstract:** Research reveals that bed rest during pregnancy causes several adverse physical and psychosocial effects on pregnant women. This article provides an overview of the evolution of physical inactivity or bed rest, need for bed rest during pregnancy, physical, physiological and psychosocial effects of bed rest during pregnancy, research carried on the side effects of bed rest and nursing implications.

**Keywords:** Pregnancy, Physical and Psychosocial.

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## INTRODUCTION

Physical inactivity means literally resting in bed at home, partly restricting the activity, or being monitored in the hospital. Pregnancy is a normal part of life of women. Approximately 7,00,000 pregnant women are advised every year about the bed rest therapy for prolonged periods despite the lack of evidence of its effectiveness (Enkin, 1995; Goldenberg, 1994; Maloni *et al.*, 1993; Maloni, Tomasi, & Johnson, 2001). According to the healthcare experts, physical activity is an important key factor in the prevention of premature deaths, type 2 diabetes, obesity, heart diseases, infertility, osteoporosis, anxiety, and depression for both genders (American College of Obstetricians & Gynecologists, 2015).

### Evolution of Bed rest

Patients were given bed rest for at least two months after a heart attack by Doctors during the period between 1900 to 1940. First study in 1950 reported that the men who were given bed rest after heart attack were

more likely to die than those who were active (American Heart Journal, 1951). Therefore the duration of bed rest was reduced from two months to two weeks.

Today, most of the heart attack victims are discharged within a week, and they go back to work and resume all of their normal activities in two weeks to three months.

### Need for bed rest during pregnancy

- Premature Labor
- High blood pressure, such as preeclampsia or Eclampsia.
- Cervical changes, such as incompetent cervix or cervical effacement.
- Vaginal bleeding.
- History of pregnancy loss, stillbirth, or premature birth.
- Poor fetal development
- Gestational diabetes
- Placenta complications, such as placental abruption, placenta Previa, and placenta accrete

**Questions to be asked when bed rest is recommended during pregnancy**

S. No	Activity	
1	Timing	Why do I need it? When will it begin? Will the restrictions be lifted if my symptoms improve
2	Position	Is it OK to sit up? For how long? Can I climb the stairs? When I lie, do i want to use a particular position? What am i able to do to assist prevent blood clots?
3.	Personal hygiene	Is it okay to rise up to use the rest room, take a shower or wash my hair?
4.	Activity	Is it OK to eat dinner at the table? Can I fold laundry or do other light chores? Can I drive a car? Is it okay to do gentle stretching or other sorts of exercise?
5	Sex	Is it OK to have sex? What about oral sex? Masturbation? Orgasms?

**Physical and Physiological effects of Bed rest during pregnancy**

- Fatigue
- Soreness of back muscle
- Dry skin
- Alterations in circadian rhythms and in cardiopulmonary system, immune ,hormonal and musculoskeletal systems (Fortney,1996; Rubin, 1986; Sandler, 1986)
- Insulin resistance in the muscle and liver. Muscle contraction initiates glucose uptake. Thus, whole body glucose homeostasis may be altered by bed rest (Ryder, 2001; Blanc S, 2000).
- Deterioration in the musculoskeletal system begins rapidly within 6 hours of bed rest.
- Absolute loss of muscle mass and protein peaks during 3 to 7 days (Gogia, 1988).
- After five weeks of bed rest, there is a 27% loss of strength in the plantar flexor muscles, including the soleus and gastrocnemius (Gogia, 1988).
- The most atrophy is in the postural muscles of the legs and back (Bloomfield., 1997; LeBlanc, 1995; LeBlanc, 2000; LeBlanc, 1997).
- Knee extensor and plantar flexor cross-sectional area reduce and Knee extensor isometric strength decrease (Mulder, 2015). Thus, it is possible that bed rest may induce alterations in muscle metabolism properties of pregnant women.

**Psychosocial effects of Bed rest during pregnancy**



The psychosocial effects of bed rest during pregnancy are difficulty in concentrating, mood changes, stress, anxiety, depression, financial worries, etc.

**Research carried out on side effects of bed rest**

Approximately 20 percent of women are prescribed bed rest during pregnancy according to the Cleveland Clinic. There are different kinds of Bed rest such as restricting movements, limiting the activity, confined to bed all day, etc. Bed rest is usually recommended to prevent preterm labor and other pregnancy complications, and it may be used to treat many conditions.

Bed rest during pregnancy is no longer recommended for majority of the conditions (Mayo clinic, 2018). While bed rest increases blood flow to

the placenta, there is no evidence that it decreases the danger of premature birth. Bed rest is prescribed with varying levels of activity restriction. They can move liberally inside the house, avoid lifting children, doing heavy housework and might even be able to continue working. Complete bed rest during pregnancy is usually not recommended, except in rare circumstances. If any health care provider recommends bed rest, elicit the reasons for it (Mayo clinic, 2017).

The risk for Gestational Diabetes Mellitus (GDM) and abnormal glucose tolerance is reduced by vigorous activity during the year before pregnancy. When analysis is restricted to nulliparous women, physical activity appeared even more beneficial (Oken, *et al.*, 2006). Due to increased risk of maternal fall, injury and uncertainty of safety of exercises during pregnancy, pregnant women tend to reduce exercising. It is also found that there is an association between the factors related to exercise and women's beliefs about the safety of exercise during pregnancy (Duncombe, Wertheim, Skouteris, Paxton, & Kelly, 2009).

Majority of the obstetricians are unaware of the side effects of bed rest therapy, yet 89% to 92% of them prescribe Bed rest therapy from weeks to several months during pregnancy, (Maloni, Cohen, & Kane, 1998). Pregnant women who were on bed rest during antepartum period were discharged from hospital without an assessment of possible side effects, advice about recovery, or a planned program of rehabilitation (Maloni, 1996).

According to Maloni and kasper, there is very few research activities carried on examining the side effects of bed rest therapy among pregnant women (Maloni&Kasper, 1991). Documentation of physiologic side effects of bed rest in pregnant women is essential because bed rest treatment may place women at risk for both short- and long-term disability. Moderate-intensity exercise of 30 minutes per day at least 5 times per week, or vigorous-intensity physical activity 75 minutes per week is the minimum recommendation for adults. The Center for Disease Control (CDC) recommends muscle-strengthening activities on two or more days per week. (American College of Obstetricians &Gynecologists, 2015).

### **Nursing Implications**

Health care providers still use Bed rest under the assumption that it provides positive results for pregnant women. There are no standard criteria or

guidelines to prescribe specific type of bed rest; although, the recent attempt by Irion, Irion, Lewis & Giglio (2012) to provide standardized criteria for bed rest yielded no consensus among the experts. Many health care professionals in the field of women's health and obstetrics have said that Bed rest during Antenatal period should not be a standard intervention for women with high-risk pregnancy.

There are many adverse side effects associated with Bed rest, such as muscle atrophy, deep vein thrombosis (DVT), psychological distress, low birth weight, cardiovascular and physical deconditioning. Therefore it is clear that the treatment of Bed rest is harmful and that rehabilitation time is significantly prolonged compared to women not treated with bed rest. Since bed rest is still used as a treatment today, implications for clinical nursing practice includes recommending safe activities for the pregnant mother. The clinical nurse will also continuously assess and compare vitals before, during and after the activity to ensure safety.

## **CONCLUSION**

At this point, studies suggest that pregnant women, even with complications are better off continuing their normal routine than resting. Therefore there is a need to rethink about prescribing Bed rest therapy during pregnancy.

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