



PHYSICAL THERAPY TREATMENT IN POSTNATAL WOMEN

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ABSTRACT

Background: The postnatal period starts at the time when a mother gives birth to a baby; all changes that occur during pregnancy come back to a normal state like hormonal levels, size of the uterus, and weight. According to WHO this is the most ignorant period for postnatal women and their children by the society which is a bitter reality that's why death is common in many mothers and children during the postnatal period. In Physical therapy, Gynecological rehabilitation is an important part of treatment and also a topic of consideration for referrals to doctors in the postnatal period to improve the issues related to postnatal women.

Objective: To enhance the knowledge regarding the role of Physical therapy in the postnatal period of women.

Search Strategy: This is a review article with extracts from various search engines like PubMed, CDC, MP, MCHI, Google scholar, Sci-Hub, etc. It is used to increase the knowledge regarding various treatment options in physical therapy that are helpful for postnatal women without causing side effects.

Conclusion: Physical therapy consists of many interventions that can be beneficial, and it improves the quality of life of postnatal women.

Keywords: *Postnatal care, exercise, core stability exercises, nutritional guidance, endurance, muscle strengthening exercises.*

Introduction

One of the most precious moments of a woman's life is becoming a mother. The growth of the baby into the parenthood of a woman is a very important matter in her life, especially in the postnatal period. For looking after her child after birth for the first time in her life mother may feel nervous regarding all newborn matters. The mother's routine activities are restricted within the house when she gives birth to the baby. The usually restricted period for women after giving birth to a baby is forty days¹. There are three different stages of Postnatal care of women². The first one that starts after the baby's birth is known as the Acute Phase which lasts 24 hours after delivery, The second stage starts after the first postnatal day known as the Sub-acute stage and can last from two to six weeks, The third stage which starts after six weeks of delivery known as Late stage and can last up to six months². Third stage of the postnatal period depends on the healing of the wound and the tone of the major muscles of a particular patient. The reason behind the variation of time horizon in the third stage is the slow and steady physiological changes of nature³ Due to the goals

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of UNMDG (the United Nations' development goals) health of the maternal and child is significantly improved. Moreover, the incidence rate of death is quite high throughout the world. About 303,000 deaths of women are due to the cause of maternal per year⁴. And the death rate of children less than five years is about 5.6 million approximately⁵. During the postnatal period of women the death rate of newborns is about forty percent⁴. Although mostly these deaths can be prevented in various ways^{6,7}. The goal of Sustainable Development by the United Nations is to prevent and stop deaths in 2030 among maternal and babies⁸. From the past decades in Southeast-Asia the mortality rate of maternal and baby has reduced; though in various regions and countries, its rate is varied⁹. About 2 days, 6 to 7 days, and 6 weeks after delivery is recommended for postnatal follow-ups.

Furthermore, postnatal or post-operative physical therapy treatment is designed into three comprehensive sessions through which a healthy diet, exercise, and home exercise program are advised by the specialized physical therapist in Gynaecological rehabilitation¹⁰. Although the rate of three follow-ups by the women after the procedure is about 60%¹¹.

As WHO (World Health Organization) reported due to improper care around the world the mortality rate of mother and child is increasing therefore, it is important for managing maternal and child care to control this problem¹². In our literature review we are highlighting the guidelines for postnatal women and different protocols that should be followed by a physical therapist to treat women in their postnatal period.

Acog and Smfm Recommendations for Postnatal Women

According to the American College of Gynecologists and Society for Maternal-Fetal Medicine, postnatal women should follow the following recommendations:

- ✓ There should be the provision of guidance from a medical professional regarding the mother feeding procedure for a new mother after the baby's birth.
- ✓ Current history of medications and allergies related to antenatal medicine should be under view before planning for the next pregnancy.
- ✓ The interval between the two pregnancies should not be less than eighteen months.
- ✓ Screening for postpartum depression is necessary for every postnatal woman.
- ✓ There is an increased risk of preterm labor in women with urinary infections.
- ✓ In the case of LSCS, There is an increased risk of uterus rupture during the time of labor in women with a low interval between the two pregnancies i.e.; 1.5 to 2 years¹³.
- ✓ Postnatal women should perform 2.5 hours of minimum to moderate physical activity per week¹⁴.
- ✓ To reduce the chances of postpartum depression and reduction of depression, postnatal women should perform exercises during their antenatal period^{15, 16}.

Methodology

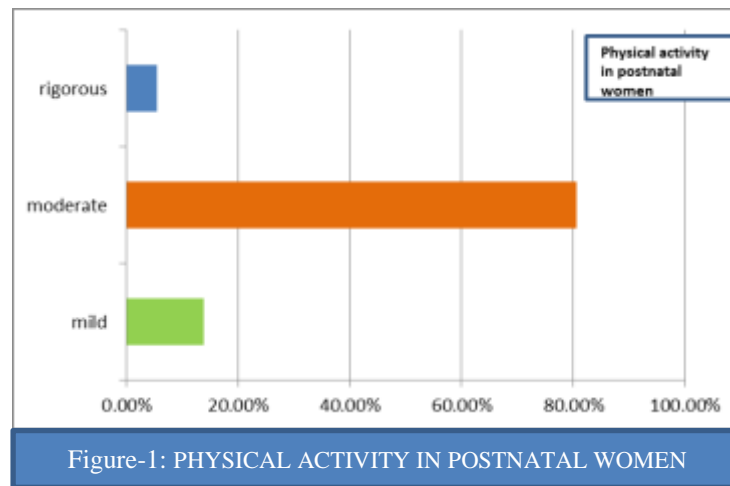
This exploratory study was accomplished by browsing fifty original articles from the previous twenty years; its searching is done from different research websites like PubMed, CDC (Center disease control, MP (Medline plus), MCHI (Mayo clinic health information), Google Scholar, Sci-Hub through the browsing of terms which are related to our literature topic those terms are: postnatal exercises, physiotherapy after delivery, Kegel exercises, posture, nutrition, abdominal muscles strengthening exercises. We mainly include the articles in this study in which different applications of physical therapy treatment apply to healthy postnatal women and have experimental in nature this results in an accurate outcome and enhance the worth of our study.

For this purpose, articles which have included in this study were properly vetted and synchronized by regular reading and observing of their abstracts and their references are also reviewed systematically.

Prevalence of Postnatal Physical Activity in Pakistan

Any kinematic event or body motion that burns calories, and increase heart rate, and blood pressure is known as Physical Activity¹⁷. Occurrence of comorbid diseases can also reduce by the modification of sedentary life into an active daily routine¹⁸. There are many advantages of exercise during the antenatal and postnatal period for mothers. As it has a crucial role in the prevention of various diseases during pregnancy and after delivery as well like hypertension, diabetes, muscular pain in different areas of the body, obesity, sleep problems, digestion, etc. it is also helpful for the mental state of maternal health¹⁹. Large number of women's activities of daily living compromise after delivery as they do not do exercises or any other home base activities²⁰.

According to a recent study in Pakistan, the amount of physical activity in postnatal women is described in three categories that are: mild, moderate, and heavy as shown in the following Figure 1²¹.



Role of Physical Therapy in Postnatal Women

There are many advantages of physical therapy for postnatal women as various interventions can cause improvement in health status after delivery. Many of the benefits of Physical therapy are Improvement in dysfunctions of the reproductive system, reduction in the occurrence of postnatal depression, cause psychological stability, improvement of mood, good cardiac fitness, development of endurance, strengthening the weakened muscles, reduced weight, and also improve quality of life²²⁻²³.

Physical Therapy Interventions

There are some protocols that the physical therapist follows to treat postnatal women after delivery which are as follows²⁴.

1. Exercises
2. Postural Guidance
3. Nutritional Guidance

1. Exercises

According to NPAC (National Physical Activity Guidelines), 2 hours and 30 minutes of physical activity should be done every week but it can be split into different activities throughout the week, and ten minutes of exercise is fine for postnatal women at one time, that can be done twice or thrice a day depending on the ability of postnatal women²⁵.

Exercises of Postnatal women are divided into three phases:

▪ **Acute phase exercises**

This phase of exercise can start when women feel comfortable after the delivery of the baby, in this period breathing exercises and gradual exercises of lower limbs can be used to reduce pain and promote the healing of wounds according to the concerned gynecologist's orders.²⁶

▪ **Sub-acute phase exercises**

After the delivery of the baby, a woman has some problems related to the muscles of the back and abdomen more than before and her joints and other supporting parts of the musculoskeletal system like bones, tendons, ligaments, etc. are weak, so small changes in posture or incorrect jerky movements can cause injury due to these heavy exercises are not recommended during this phase. The major group of muscles of the pelvic floor supports the pelvic area of women which becomes weak during pregnancy and after delivery of the baby and causes some problems like urinary incontinence²⁷.

▪ **Late-phase exercises**

It begins after six weeks of pregnancy, all problems may be resolved which arise during the antenatal period, problems of loosening of pelvic floor muscles that were treated since the sub-acute phase may be resolved and now it's time to strengthen the abdominal muscles with a gynecologist prescription and physical therapist treatment. Because the healing of stitches is more important than tummy exercises. Many exercises can be done to reduce tummy fat like Plank, Crunches, etc²⁸.

Kegel Exercises

Kegel exercises are designed to strengthen the muscles of the pelvic floor and also reduce urinary incontinence. It can be used after the subacute stage²⁹. Kegel exercises can be done in many positions like sitting, lying, and standing which are as follows:

1. Pelvic floor muscle contractions
2. Cat and camel exercise
3. Bridging
4. Sit crossed-legged³⁰

1. Pelvic floor muscle contractions

It can be done in three positions sitting, standing, and lying. Following are the procedures of pelvic floor muscle contractions exercises:

• **Sitting**

Pelvic floor muscle strengthening exercise can be done in a sitting position by the upward movement of the tip of the toes by stretching the toes tips with the contraction of pelvic floor muscles for five to ten seconds.

• **Standing**

Pelvic floor muscle strengthening exercises can be done in a standing position by the use of a chair or any flat surface with the balancing of body posture and the placement of both elbows together on the chair or surface and now do the lifting of heels.

• **Lying**

Pelvic floor muscle strengthening exercise can be done in a lying position by relaxing the abdominal muscles of the lower region and hip with both lower limbs apart as the measurement of the shoulder's width and now contract the muscles of the pelvic floor for five to ten seconds³¹.

2. Cat and camel exercise

It is the strengthening of the core muscles, the procedure of this exercise is to make a neutral position on the patient's back and place the patient's both hands and knees on the floor, by placing of hands under the patient's shoulder joint and the knees under the patient's hip joint, this is divided into two poses which are as follows:

- **Cat**

Lifting up of patient's head while sinking of patient's back down make sure both should be done at a similar time, the spine should make a curving posture while the pelvic bone should stick out, and during this movement deep exhaling exercise should be done simultaneously.

- **Camel**

In this pose tucking of pelvic bone inside with the spine making an arch to make the hump of the camel during this deep inhaling exercise should be done simultaneously³².

3. Bridging

This Kegel exercise can also use to strengthen the core muscles by lying on the back with bending of knees at 90 degrees now start the exercise by tightening of muscles of the abdomen and do the rising hip joint by clearing the ground until there is an alignment of knees and shoulders take place with the patient's hips. do the deep breathing exercise with three 3 seconds hold and then return back to the initial position Advise the patient to do this with particular repetitions according to the guidance of a physical therapist³³.

4. Sit crossed legged

Pelvic floor muscles can also be strengthened by sitting in a cross-legged position with doing the contraction of the pelvis, and vagina gently³⁴.



Figure-2: Exercises for Postnatal women

2. POSTURAL GUIDANCE

After delivery either the mode of delivery is normal delivery or C-section, the major issue is to align the patient's body in good posture because most of the problems after delivery are due to execution of bad posture³⁵, following are some issues that are related to posture:

Bed mobility

- For reduction of any complication related to stitches and backache or pain in any other of the body maintaining good posture during getting in and out of bed is necessary.
- Sitting on the edge of the bed is the first step while the patient is getting in or out of the bed.
- During the transition from sitting to lying position and lying to sitting position correct use of elbows and legs is necessary.

- Pillows can also be used to reduce the pressure of the stitches and load on the back during lying or sitting on the bed³⁶.

Carrying of load

- After delivery heavy lifting is contraindicated if due for any reason it is important for the patient to lift anything so do lifting in an appropriate manner to reduce the strain on the back and stitches as well.
- Proper standing with a wide base of support.
- Reducing the pressure on the back bending of knees and hips is an important thing to consider during lifting.
- Abdominal muscles can be strengthened and tightened by the use of tummy belts during daily activities.
- If carrying any load so that should be near the body as it reduces the pressure on the back and stitches both.
- During standing use of the legs should be appropriate so for this strengthening exercises of the legs are also an important part of physical therapy treatment³⁷.

Feeding position

- It is the major thing that may cause a problem for the patient's back and stitches after delivery.
- Maintaining posture is essential during breastfeeding.
- Accurate sitting on a chair with the placement of feet on the stole.
- Don't make a stooped posture when the baby is taking fed during sitting.
- Breastfeeding can also be done in a lying position with proper support of the baby and the head and neck of the mother³⁸.



Figure-3: Posture for Postnatal women

3. DIETARY GUIDANCE

- According to the study, for postnatal women a physical therapist should also guide the patient about the nutrition requirements of women after delivery.
- As 1600 to 2400 calories are required for an adult female pre-pregnancy, a woman who is feeding her baby should need extra calories up to 500 a day.
- This may vary with the women's age, BMI (body mass index), and activity base.
- Postnatal women need water in excess amounts after birth to maintain hydration.
- She also needs protein, vitamins, carbohydrates, and calcium to maintain her own health status.
- To complete all basic caloric requirements, she should take milk, meat, vegetables, fruits, eggs, etc.
- As we know that healthy women can take care of and feeding of her baby in a more efficient manner as compared to malnutrition women³⁹.

Discussion

As previously shown in many studies being physically active is the major requirement to overcome the problems related to postnatal women⁴⁰. Another study shows that those postnatal women who

are doing exercises or being physically active during the postnatal period are more rapidly resolve the issues which arise during their antenatal period like gestational diabetes, gestational hypertension, backache, carpal tunnel syndrome, cervical pain, etc⁴¹. Another study indicates the role of posture is an integral part of the postnatal period, the reason behind this is the reduction of pressure on stitches that in turns causes rapid wound healing and enhances activity to perform a daily task in an appropriate and painless manner⁴². For pain management of females after delivery related to stitches and body aches medicines play a vital role and are widely used throughout the world but to overcome the musculoskeletal problems related to pregnancy and after delivery can treat with physical therapy in an efficient manner as described in this literature⁴³. The main difference between pharmacological and physical therapy treatment is the side effects that can arise after the use of medications for pain management in postnatal women but in comparison to physical therapy, exercise programs do not cause any side effects which is a key benefit of this and also proven many times in different researches⁴⁴.

The previous studies describe the importance of physical activity and exercise for postnatal women in reducing the pain of the wound, pain in different parts of the body, increasing mobility, strengthening pelvic floor muscles to overcome the problem of incontinence, and weight control after delivery⁴⁵. All targets can achieve through lifestyle modification and indulging in physical activity and exercises in the routine⁴⁶. Another reported that changes in the hormonal mechanism of postnatal women there a possibility of postnatal depression⁴⁷. Occurrence of depression in postnatal women after delivery of a baby is mainly known as postpartum depression⁴⁸. According to the previous research role of physical activity during the postnatal period is to increase the circulation of blood to reduce pain and healing of the wound, stimulates lactating hormone to increase breast milk, strengthen of pelvic floor and muscles of the abdomen, reshape and compression of the uterus, prevention of reproductive infections, and also maintains the mental status of mother to prevent depression⁴⁹. According to one of the research C-Section mothers can start exercises after ten to twelve hours of delivery⁵⁰. Another research reported as: after six hours of normal delivery postnatal women can start exercising⁵¹. All activities and exercises which start after giving birth to a baby should be currently recommended by the gynaecologist⁵². in our review research we broadly explain the protocols and exercises of physical therapy treatment that should be followed by every postnatal woman under the supervision of a qualified physical therapist and the prescription of a concerned doctor.

Conclusion

Physical therapy has a vital role in the treatment of problems that arise in the life of women after a baby's birth like the pain of stitches after any mode of delivery, backache, neck ache, muscle weakness, weight gain, etc. as mentioned in our literature review. This review can enhance the knowledge of postnatal women as well as a physical therapist by reading, observing, and implementing the guidelines of physical therapy in the postnatal period. In the future researchers can work on the role of physical therapy in women with postnatal vaginal delivery and postnatal C-Section separately.

AUTHORS' CONTRIBUTION:

The following authors have made substantial contributions to the manuscript as under:

Conception or Design: Syeda Rida Baqir, Komal Jamil

Acquisition, Analysis or Interpretation of Data: Komal Jamil, Yumna Ilyas

Manuscript Writing & Approval: Syeda Rida Baqir, Yumna Ilyas

All authors acknowledge their accountability for all facets of the research, ensuring that any concerns regarding the accuracy or integrity of the work are duly investigated and resolved.

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INFORMED CONSENT: It was Secondary Research, which is a type of research method that involves compiling existing data sourced from a variety of channels rather than a collection of data from subjects.

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