

Postpartum Exercises: Perceived Barriers and Self-efficacy Among Women Admitted in Postnatal Ward in Jalgaon

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ABSTRACT

Introduction: The postpartum period is the six-week interval from the newborn's birth until the reproductive organs return to their usual prepregnant state. Postpartum exercise is a regular exercise that prevents potential postnatal complications and increases maternal strength and capability to undertake physical and mental tasks after childbirth.

Aim: To evaluate postnatal exercises' perceived barriers and self-efficacy among postnatal women.

Objectives: To assess the perceived barriers to postpartum exercise among women admitted to the postnatal ward. To evaluate the level of self-efficacy towards postpartum exercise among women admitted to the postnatal ward.

Methodology: This cross-sectional research involved 104 postpartum women. The outcome measures were the Exercise Barriers Scale and the Exercise Self-Efficacy Scale. Data were analysed using Ms Excel and Minitab 17 and summarised using descriptive statistics (mean and standard deviation).

Results: Our findings reveal that the majority of participants demonstrated moderate levels of both self-efficacy (68.27%) and perceived barriers (68.27%). Our study found that only 2.88% of postpartum women exhibited high self-

efficacy for exercise, while 28.85% reported low self-efficacy. A small proportion of participants (15.38%) reported low perceived barriers, with scores. In contrast, high perceived barriers were observed among 16.35% of the women, whose scores fell between 43 and 56.

Conclusion- The study concluded that the majority of postpartum women exhibited moderate levels of self-efficacy and perceived barriers toward engaging in postnatal exercise, indicating a balance between motivation and constraints in adopting physical activity during the postpartum period

Keywords: Self-efficacy, Postpartum period, Postnatal care

INTRODUCTION

The postpartum period is the six-week interval from the newborn's birth until the reproductive organs return to their usual prepregnant state. These include dramatic physical changes in the reproductive system, uterus, vagina, perineum, and breast begin to return to their nonpregnant state immediately after childbirth.⁽¹⁾ The postpartum period is divided into three distinct phases: the acute phase, which spans the first 24 hours after delivery of the placenta; the early phase, extending up to 7 days; and the late phase, lasting from 6 weeks to 6 months. Each phase

presents unique clinical considerations and challenges.⁽²⁾ The postpartum period also includes psychosocial adjustments, such as shifts in parental roles, changes in family dynamics, and alterations in self-perception and body image. Many of these adjustments may require more than 6 to 8 weeks to address fully.⁽³⁾

Postpartum exercise is a regular exercise that prevents potential postnatal complications and increases maternal strength and capability to undertake physical and mental tasks after childbirth.⁽⁴⁾ Women typically do not consistently participate in postnatal exercise because they often prioritize baby care and family responsibilities. Pregnancy and childbirth cause women to adapt to a sedentary pattern, which typically has a significant impact on health in terms of weight gain and muscle laxity. Furthermore, pregnancy and childbirth can further exaggerate the laxity of pelvic and abdominal muscles. Regular exercise for new mothers provides a variety of health benefits. These advantages encompass a quicker return to pre-pregnancy weight and shape, improved fitness levels, and enhanced capability to manage the demands of caring for a newborn. A comprehensive exercise program that emphasizes muscular strength, endurance, and flexibility is crucial for women's health and well-being, despite the desire of all postnatal women to regain their shape swiftly.⁽⁵⁾ Exercising at a young age, especially following childbirth, helps strengthen muscles, leading to improved bone mass and better bone health. Besides postpartum benefits, exercise during the postnatal period also improves overall physical health. Being active, particularly for women, can lower the risk of diseases like osteoporosis, cardiovascular disease, type 2 diabetes, cancer, and obesity. Regular exercise has also been proven to help manage stress, reduce depression, boost self-esteem, and improve body image. Most forms of exercise can be maintained or resumed after childbirth, although some women may need to adjust the intensity or duration of their workouts due to the additional fatigue from

delivery and caring for a newborn.⁽⁵⁾ Postpartum exercise has been shown to improve cardiovascular fitness, restore abdominal muscle tone that is often stretched during pregnancy and labor, and reduce the risk of becoming overweight or obese. Furthermore, it can enhance lactation and breastfeeding capabilities.⁽¹⁾

Barriers to physical activity (PA) can be categorized into environmental and personal factors. Studies focusing on postpartum health highlight the importance of addressing both these factors before introducing any exercise program. Personal factors refer to aspects related to the individual circumstances of the mothers themselves. These personal factors include income and the number of children under her care. Additionally, they involve challenges such as inadequate childcare, a lack of exercise partners, and other social support factors, including negative family attitudes. In contrast, environmental factors are circumstances beyond the mothers' personal control and direct experience. These factors include access to public transportation, availability of recreational facilities, neighborhood safety, and deficiencies in the health information system.⁽⁶⁾

The employment status of mothers during childbearing influences their participation in postpartum exercise. Mothers who are self-employed, such as those in trading, tailoring, or hairdressing, are more likely to engage in postpartum exercise compared to mothers who are civil servants. Mothers of higher financial means can readily acquire home exercise equipment like ergometers, bicycles, treadmills, and similar items. This enables them to participate in postpartum exercise conveniently at home. In contrast, mothers with lower financial resources are unable to afford such equipment, which restricts their ability to exercise at home and consequently limits their physical activity levels.⁽⁴⁾ self-efficacy, is defined as "beliefs in one's capabilities to organize and execute the courses required for producing given attainments."⁽⁷⁾ High self-efficacy is linked to protective behaviors that promote healthy

habits regular healthy habits such as regular physical activity, healthy nutrition, and weight control. For example, studies have shown that physical activity after childbirth is associated with high self-efficacy and social support.⁽⁸⁾

The lack of exercise in postpartum mothers leads to fatigue, reducing their ability to manage physical and mental tasks. This fatigue also diminishes their capacity to care for their infants and fulfill their responsibilities to other family members. Furthermore, decreased maternal energy levels can impair the mother's and infant's immune, nervous, and mental systems. Other adverse consequences may include early cessation of breastfeeding, as well as the development of stress and mood disorders, increased incidence of postpartum depression, and potentially affecting the sexual relationship between spouses.⁽¹⁾

Repeated pregnancies and childbirth can exhaust women's bodies, significantly impacting their musculoskeletal system. This often leads to muscle and ligament relaxation, which contributes to conditions such as exaggerated lordosis, causing lower back pain, forward neck flexion, and downward shoulder movement. Furthermore, this relaxation of muscles and ligaments increases joint mobility and widens the sacroiliac and symphysis pubic joints.⁽⁹⁾ Many women may complain of heavy, swollen legs, with edema and aching, along with swollen feet and ankles immediately after childbirth, which may not have been noticeable before delivery. These symptoms can occur on one side or both sides. The causes could be speculated as prolonged pushing during labor, pelvic congestion, urinary tract dysfunction, or the temperature on the postnatal ward⁽¹⁰⁾

Breast engorgement, characterized by swelling, heat, fullness, and pain (extending into the axilla where a 'tail' of breast tissue lies), can occur when lactation initiates on the third or fourth day after childbirth. Back pain may not have been a symptom during pregnancy, but it often develops after birth. Factors such as the passage of the fetus

through the pelvis, which causes stretching and movement of relaxed joints, epidural anesthesia, the lithotomy position (especially if the legs were not placed and removed from the stirrups simultaneously), poor feeding or nappy-changing postures, as well as tension and fatigue, may all contribute to this development⁽¹⁰⁾

Infections that occur after childbirth, often due to physiological changes during pregnancy or trauma from childbirth or cesarean surgery, typically affect the genital tract, particularly the uterus and vagina. These infections, such as vulvitis, vaginitis, cervicitis, and endometritis, may not appear on imaging studies. However, if left untreated, they can spread to other areas through proximity (e.g., causing pelvic inflammatory disease and related complications), via the lymphatic system (leading to conditions like metritis, parametritis, or peritonitis), or through the bloodstream (resulting in septic thrombophlebitis, embolic thrombophlebitis, and sepsis). Deep vein thrombosis (DVT) and pulmonary embolism (PE) are significant contributors to illness and death during pregnancy and the postpartum period. The risk of deep vein thrombosis is elevated during the first two weeks after childbirth, with half of all venous thromboembolic events occurring during this time.⁽¹¹⁾

In postpartum patients, deep vein thrombosis (DVT) in the lower limbs, particularly in the iliofemoral veins of the left leg, is the most common type of venous thromboembolism, comprising 70%–80% of all cases.⁽¹²⁾ Hemorrhage that occurs within the first 24 hours after delivery, known as primary or early postpartum hemorrhage, is the most frequent type of obstetric bleeding, affecting 4%–6% of all deliveries.⁽¹³⁾ Uterine atony, which is the ineffective contraction of the uterus after delivery, is the primary cause of primary hemorrhage, responsible for 75%–90% of cases⁽¹⁴⁾

For women who are breastfeeding and beginning an exercise regimen, starting with lower heart rate levels may be advantageous to prevent fatigue. Those who are more

physically fit can aim for the upper range of their target heart rate but should still take care to avoid exhaustion. The duration of activity can vary, but for starting an exercise program, it's recommended to engage in 15 minutes of moderate activity preceded by a 5- to 10-minute warm-up at lower intensity. Additionally, it's recommended to follow the exercise session with a 5- to 10-minute cool-down period. Gradually increasing exercise time at the target heart rate by 5 minutes per week is advised, ensuring the individual does not overly fatigue muscle conditioning exercises that incorporate the infant can be enjoyable for both mother and baby, helping to overcome barriers to exercise by fostering maternal-infant interaction. The infant can be used as a resistance tool (carefully, ensuring the baby's head is always supported before 6 months of age) for strengthening upper body muscle⁽¹⁵⁾

Generally, it is recommended to seek physician approval before initiating a moderate aerobic exercise regimen, ensuring minimal vaginal bleeding post-delivery. Each aerobic conditioning program should adhere to the principles of Frequency, Intensity, Time, and Type of activity (FITT). Once medical clearance is obtained, a moderate exercise routine can commence gradually, starting at three sessions per week and potentially increasing to five, depending on fatigue levels.

The American College of Obstetricians and Gynecologists (ACOG) (2009) recommends that postpartum exercises such as brisk walking, running, swimming, cycling, sit-ups, push-ups, yoga, weight lifting, and Kegel exercises can be beneficial for mothers after childbirth.⁽⁴⁾ Kegel and breathing exercises commence right after birth. Kegel exercises strengthen the pelvic floor muscles and vaginal area, while breathing exercises are believed to enhance overall health in various ways. These include increasing oxygen circulation, reducing fatigue, lowering blood pressure, alleviating stress and anxiety, and improving the function of deep abdominal and pelvic floor muscle⁽¹⁾

Need Of Study

Numerous research studies suggest that different postpartum exercises can help reduce problems such as stress incontinence, postpartum depression, backaches, diastasis recti, and other health issues. However, a large proportion of the global population, estimated between 65% and 85%, do not participate in adequate exercise. Observations in the postnatal ward revealed that postpartum mothers generally do not engage in postpartum exercises during their hospital stay following delivery.⁽¹⁶⁾ Research suggests that physical activity commonly decreases during pregnancy and may remain minimal postpartum.⁽⁶⁾

Postpartum women face numerous barriers to exercising, including fatigue, childcare duties, household tasks, and beliefs about the postpartum period. Postpartum exercise can be started soon after birth with simple exercises and gradually progress to advance depending on the level of comfort. Many women are unaware of the full benefits of postpartum exercise and also some of the customs and superstitions existing in the community will prohibit postnatal women from performing the postpartum exercise⁽¹⁷⁾. Observations in the postnatal ward in Jalgaon revealed that postpartum mothers generally do not engage in postpartum exercises during their hospital stay following delivery. Therefore, the purpose of the current study was to assess the postpartum exercises: perceived barriers and self-efficacy among the women admitted in the postnatal ward, Jalgaon.

MATERIALS & METHODS

Research Design: A descriptive cross-sectional research design was followed in this study.

Study Setting: The study was conducted in tertiary care hospitals located in Jalgaon.

Study Population: Females of the age group 18-40 years old was included in this study.

Sampling Procedure- Convenient Sampling was used in this study.

Sample size: A total of 104 postpartum women were included in this study.

Study Duration: The research was carried out over a period of six months.

Inclusion Criteria

1. Females who have undergone normal vaginal delivery.
2. Females who are free from physical handicaps.
3. Females Agreed to participate in the study.
4. Breastfeeding women.

Exclusion criteria

1. Females are not willing to participate
2. Females with postpartum hemorrhage, active infection, and sepsis were excluded
3. Females having a chronic disease of heart, liver, kidney, or moderate to severe depression.

Outcome Measure

Exercise benefits/barriers scale (EBBS)

The Exercise Benefits and Barriers Scale (EBBS), developed by Sechrist et al., includes a comprehensive set of 43 items designed to evaluate perceived benefits and barriers to exercise. Among these, the barrier subscale consists of 14 items and was used independently in the study to focus on exercise barriers. Each item on this subscale is rated using a four-point Likert-type scale, where responses range from 4 (strongly agree) to 1 (strongly disagree). The total score for the barrier subscale can vary from 14 to 56, with scores categorized into three levels: low exercise barriers (14-28), moderate exercise barriers (29-42), and high exercise barriers (43-56). To ensure the reliability of the barrier subscale, Farahani et al. employed Cronbach's alpha coefficient test, which yielded a reliability coefficient of 0.82, indicating a high degree of internal consistency for this measure⁽¹⁸⁾.

Exercise self-efficacy scale (ESES)

The Self-Efficacy Scale (ESES) for postnatal exercise is a self-report instrument designed to assess an individual's confidence in their ability to engage in postnatal exercise. It

consists of ten statements to which participants respond using a 4-point Likert scale: (1) not at all true, (2) rarely true, (3) moderately true, and (4) always true. The ESES yields a maximum score of 40, with the total scale score ranging from 10 to 40. Based on their scores, women are categorized into three levels of self-efficacy: low (10-20), moderate (21-30), and high (31-40). Hatef et al. assessed the reliability of the ESES, finding it to be robust with a Cronbach's alpha coefficient greater than 0.7, indicating good internal consistency for the scale⁽¹⁹⁾.

PROCEDURE

Ethical clearance was obtained from the Ethical Committee of Dr. Ulhas Patil College of Physiotherapy, Jalgaon, before the commencement of the study. A cross-sectional study was carried out at tertiary care hospitals in Jalgaon city, with participants chosen based on the established inclusion and exclusion criteria. The nature and purpose of the study was explained to the participants. Firstly, consent was obtained from the participants. The participants was explained about the questionnaire. Any doubt about the questions was solved on the same day. The completed questionnaire was taken on the same day.

DATA ANALYSIS

Statistical evaluation of the data for the current study was implemented by using Ms Excel and minitab17 so as to validate the result found. Mean and standard deviation were used to summarize and describe the characteristics of the study.

RESULT

The present study, titled "Postpartum Exercises: Perceived Barriers and Self-Efficacy Among Women Admitted in Postnatal Ward in Jalgaon," was conducted among 104 postpartum women. The collected data were analyzed to assess the levels of perceived barriers and self-efficacy toward postpartum exercises.

Table 1: Descriptive statistics of study variables

Variable	Mean	SD
Age	24.51	3.29
Gravida	2.01	1.00
Parity	1.63	0.80
Number of Children	1.93	0.85

The demographic characteristics of the participants were summarized using mean and standard deviation. The mean age of the

participants was 24.51 years with a standard deviation of 3.29. The mean gravida was 2.01 +/- 1.00, indicating the average number of pregnancies per participant. The mean parity was 1.63 +/-SD 0.80, representing the average number of births. The average number of children among the participants was 1.93, with a standard deviation of 0.85.

Sr. No.	Variable	Groups	Score	Frequency	Percentage
2	Perceived barriers	Low	14-28	16	15.38
		Moderate	29-42	71	68.27
		High	43-56	17	16.35

Table 2: Distribution Of Participants According to Level of Perceived Barrier

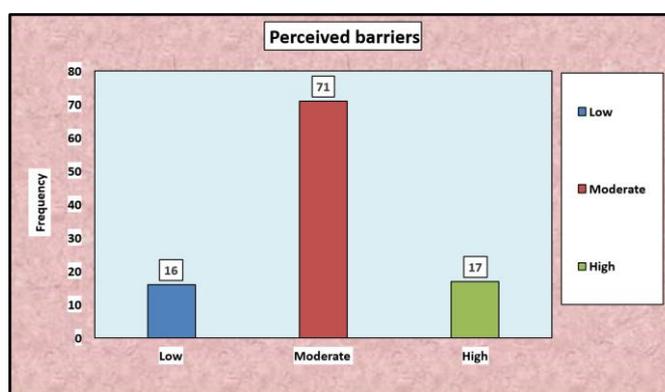


Figure 1: Distribution of participants according to level of perceived barriers

The majority of participants (68.27%) reported a moderate level of perceived barriers (scores between 29–42). A smaller proportion (16.35%) experienced high

perceived barriers (scores between 43–56), while 15.38% of participants had low perceived barriers (scores between 14–28).

Sr. No.	Variable	Groups	Score	Frequency	Percentage
3	Self-efficacy	Low	10-20.	30	28.85
		Moderate	21-30	71	68.27
		High	31-40	3	2.88

Table 2: Distribution of participants according to level of self-efficacy

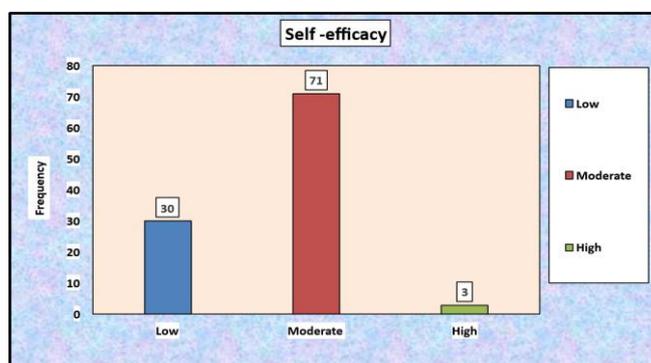


Figure no 2 : Distribution of participants according to level of self-efficacy

The majority of participants (68.27%) demonstrated a moderate level of self-

efficacy (scores between 21–30) About 28.85% of participants had a low level of

self-efficacy (scores between 10–20), while only 2.88% exhibited a high level of self-efficacy (scores between 31–40).

DISCUSSION

The present study aimed to assess self-efficacy and perceived barriers for postnatal exercise among postpartum women. Our findings reveal that the majority of participants demonstrated moderate levels of both self-efficacy (68.27%) and perceived barriers (68.27%), suggesting a complex interplay between confidence and challenges in engaging with postpartum physical activity. These results provide valuable insights into the factors influencing exercise behavior during the critical postpartum recovery period.

Our study found that only 2.88% of postpartum women exhibited high self-efficacy for exercise, while 28.85% reported low self-efficacy. This distribution is particularly concerning given the well-established relationship between self-efficacy and health behavior engagement. Self-efficacy, as conceptualized in social cognitive theory, directly influences behavior through an individual's belief in their ability to execute skills effectively, even in challenging circumstances. Additionally, it exerts indirect effects through goal setting, outcome expectancies, and the ability to navigate facilitators and overcome barriers.⁽⁸⁾

These findings align closely with those of Adeniyi et al., who reported that nearly half of Nigerian postpartum women demonstrated moderate exercise self-efficacy⁽⁹⁾. This consistency across different populations suggests that moderate self-efficacy may be a common characteristic among postpartum women globally, potentially reflecting universal challenges associated with the postpartum transition, including physical recovery, new caregiving responsibilities, and lifestyle adjustments. However, our results contrast with those reported by Hajimiri et al. (2018), who found relatively high levels of self-efficacy and lower perceived barriers among Iranian

postpartum women.⁽⁸⁾ These discrepancies may be attributable to several factors, including cultural differences in postpartum care practices, variations in family support systems, differences in healthcare infrastructure, and the availability and accessibility of postpartum health education programs. Cultural attitudes toward postpartum exercise, maternal roles, and family involvement in childcare may significantly influence women's confidence and motivation to engage in physical activity during this period.

From a theoretical perspective, our findings support the application of self-efficacy theory to postpartum exercise behavior. As El Sayed et al. suggested, when postnatal women develop higher self-efficacy, they become more capable of overcoming perceived barriers and initiating and sustaining physical activity routines. This suggests that interventions targeting self-efficacy enhancement may be particularly effective in promoting postpartum exercise.⁽²⁰⁾

Practically, our results indicate that interventions should adopt a multi-level approach that addresses both individual psychological factors (self-efficacy, motivation) and contextual barriers (time, childcare, family support).

The barriers identified in our study—insufficient time, family responsibilities, lack, and limited family support—are consistent with findings from Saligheh et al., who highlighted similar obstacles among postpartum women⁽⁶⁾. These barriers reflect the multifaceted challenges women face as they navigate the demanding postpartum period, balancing physical recovery with the intensive care requirements of a newborn and, often, other children and household responsibilities.

According to Abbah, Nji younger mothers and women with higher education were more likely to participate in postpartum exercise⁽⁴⁾. Our study population had a mean age of 24.51 years, representing a predominantly younger cohort, which may have limited our ability to detect age-related differences.

The literature consistently emphasizes the critical role of healthcare professionals in promoting postpartum exercise. Evenson, Aytur, and Borodulin demonstrated that professional guidance during postpartum visits significantly increased women's willingness to engage in physical activity⁽²¹⁾. Similarly, Sundaramurthy et al. identified healthcare professionals as the primary source of information on postnatal exercises, though they noted gaps between knowledge and practice⁽¹⁷⁾.

Our findings, particularly the prevalence of moderate self-efficacy and perceived barriers, suggest that current healthcare support may be insufficient in translating knowledge into sustained behavior change. While women may receive information about the benefits of postnatal exercise, they may lack the ongoing support, practical strategies, and confidence-building interventions necessary to overcome barriers and establish regular exercise routines. This highlights an opportunity for healthcare systems to develop more comprehensive, longitudinal support programs that extend beyond initial education to include follow-up, personalized guidance, and barrier-specific problem-solving.

CONCLUSION

The study concluded that the majority of postpartum women exhibited moderate levels of self-efficacy and perceived barriers toward engaging in postnatal exercise, indicating a balance between motivation and constraints in adopting physical activity during the postpartum period. A small proportion of participants demonstrated high self-efficacy while others reported either high or low barriers.

Limitations

This study included a limited number of participants from one area, so the results may not apply to all women. Since the data were collected at one point in time and based on self-reported answers, there may be some bias or inaccuracy. The study also did not include interviews or detailed personal

experiences that could explain the reasons behind women's exercise behavior more deeply

Future Scope

Future research should follow women over time to see how their confidence and barriers change during the postpartum period. Studies using both surveys and interviews can give a clearer picture of their real challenges. Testing programs that include home Based exercises, family involvement, and support from healthcare providers can help find effective ways to encourage regular physical activity after childbirth.

Declaration by Authors

Ethical Approval: Ethical clearance for this study was obtained from the Institutional Ethics Committee. Informed consent was collected from all participants prior to their involvement and prior to publication of the findings.

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