Effect of Pilates Training for Urinary Incontinence in Postpartum Mother

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Abstract

Background: This study was designed to inspect the effect of Pilates training for urinary incontinence in postpartum mothers

Purpose: To find the effect of Pilates training for urinary incontinence in postpartum mothers.

Materials and Methods: According to their inclusion and exclusion criteria, 38 subjects were included. Two groups: the experimental group received Pilates instruction, and the control group underwent kegels exercises. Kegels exercises are categorized as Group B and Pilates training as Group A. Sample sizes of n=19 for group A and n=19 for group B make up these groups. The study period was carried on the month of July 2023.

Result: Statistical analysis of quantitative data showed significant differences not only in Pilate’s group but also in kegels exercise group.

Conclusion: The findings suggest that Pilates training is more beneficial than kegel’s exercise in reducing urinary incontinence and strengthening pelvic muscles.

Key Words: Pilates training, Kegel’s exercise, Urinary incontinence, Modified Oxford Scale

Introduction

The most frequently suggested physical therapy regimen for women who experience stress urination leakage is pelvic floor muscle training. Additionally, it is used to treat mixed incontinence in females and, less frequently, urge incontinence.¹ Pelvic floor muscle training is a part of physiotherapy for UI, however despite evidence to the contrary, it is acknowledged that patient motivation and dedication frequently limit the effects.² The most popular physical therapy treatment for women with stress urinary incontine(SUI) is pelvic floor muscle training. Urinary incontinence caused by mixed and, less frequently, urgency is occasionally also advised.³ More people are realizing that physical symptoms alone are not good indicators of how incontinence affects people’s lives. As a result, more all-encompassing methods of UI treatment, such Pilates instruction, have been suggested.⁴ Urinary incontinence (UI) affects about one-third of women after giving birth. For both preventing and treating incontinence, pelvic floor muscle therapy (PFMT) is frequently advised throughout pregnancy and after giving birth.⁵ Training the pelvic floor muscles (PFMT) is frequently advised for the treatment of...
postpartum urine incontinence (UI). However, it is still unclear how postpartum PFMT affects anal incontinence (AI), sexual function, and pelvic organ prolapse (POP). Therefore, our goal is to evaluate how well postpartum PFMT treats these pelvic floor issues.6

Women frequently experience urinary incontinence (UI), which lowers quality of life and makes them less likely to engage in fitness and exercise activities. Childbirth and pregnancy are recognized risk factors. The evidence on the role of PFMT in the prevention and treatment of UI is either not addressed at all or only briefly in the current recommendations for exercise during pregnancy.7

The levator hiatus is closed, pubovisceral length is decreased, the pelvic floor and pelvic organs are raised, and the bladder is raised in its resting posture thanks to PFMT’s increased muscle volume. This review’s goal is to assess PFMT’s effectiveness in preventing and treating UI throughout pregnancy and after childbirth. Following hormonal and anatomical changes during pregnancy and after delivery, the strength of the pelvic floor muscles may decline, allowing musculoskeletal changes that may cause UI. The repetition of one or more sets of pelvic muscle voluntary contractions is pelvic floor muscular training (PFMT).8

During Pilates movements, unintentional co-contraction of the PFM would balance out increases in intra-abdominal pressure that occur during exercise, preventing leakage and supporting the pelvic floor muscles. Breathing and muscle contractions occur during the entire therapy session when practicing Pilates. More research is required to determine the effectiveness of Pilates training in improving bladder function.9 Instead than concentrating on a single muscle group, Pilates is a type of exercise that uses a variety of exercises to both strengthen and build flexibility throughout entire body. While combining movements that may unintentionally train the pelvic floor, stay away from vigorous abdominal contractions, breath holding yourself or putting pressure on your pelvic floor otherwise.10

Utilizing vaginal palpation, the Modified Oxford Grading of PFM System can assess the strength of the PFM. It contains six-point scale with 0 being no contraction, 1 being flicker contraction, 2 being weak PFM contraction, 3 being moderate PFM contraction, 4 being good PFM contraction, and 5 being strong PFM contraction. Physiotherapists frequently utilize this measuring scale since it can be combined with vaginal palpation in the clinical assessment. Manual dexterity on the part of the physiotherapist is thought to be crucial for its proper use.11

When using the ICIQ-UI SF, the first three questions result in a total ICIQ score with a range of 0 to 21. No urine leakage and no impairment of quality of life result in a score of zero. The frequency of urinary leaking is quantified in question 1 (Q1), the amount of leaking is assessed in question 2, and the interference of urinary incontinence with daily living is assessed in question 3.12 Because most Pilates exercises are performed while contracting the core abdominal muscles and the diaphragm, it is believed that Pilates movements that concentrate on pelvic stability, mobility, and body alignment would significantly increase PFM strength. These exercises are essential due to the interdependence of respiratory mechanics, intra-abdominal pressure maintenance, and urine continence. However, there isn’t enough clear evidence to say whether Pilates exercises can improve UI yet.13

### Aim

The aim of the study to determine effectiveness of Pilates training in patients with Urinary incontinence by strengthening pelvic floor muscle.

### Material and Method

According to their inclusion and exclusion criteria, 38 subjects were included two groups: the experimental group received Pilates instruction, and the control group underwent kegels exercises. Kegels exercises are categorized as Group B and Pilates training as Group A. Sample sizes of n=19 for group A and n=19 for group B make up these groups duration of 4 weeks.

### Inclusion Criteria

Postpartum mothers with normal vaginal delivery, Age above 18, Score 0-2 in Modified Oxford scale of pelvic floor muscle.
Exclusion Criteria

Patients with history of Neurogenic Bladder, Tumors of the Bladder, Genital prolapse and any medical condition making it impossible to perform interventions.

Outcome Measures

Modified Oxford Scale for Pelvic Floor Muscle International Consultation on Incontinence questionnaire Urinary Incontinence.

Procedure

Experimental study was carried out among the urinary incontinence patients. Samples were collected from Shri Tanishq Nakshatra multi speciality hospitals Chennai. Total of 38 subjects were selected by convenience sampling method based on inclusion and exclusion criteria. Postpartum mothers by normal vaginal delivery above the age of 18 were included and those who had episiotomy and LSCS were excluded from the study. The study was explained full and written consent was obtained from the subjects. Modified oxford scale of pelvic floor muscle is used to measure each subject pelvic floor muscle strength and International Consultation on incontinence questionnaire used has question to the subjects. The 38 participants are divided into two groups. Each groups have 19 postpartum mothers, with group A as experimental group and group B as control group. The study clarified that Group A will be more effective and more useful within the short period of time. The observations will be noted. The statistical rate will be used to assess the prevalence rate. The Study procedure was held at nearby Gynaecology and obstetrics hospital (Shri Tanishq Nakshatra multi speciality hospital). A total of 38 subjects were chosen for an experimental study on urinary incontinence. Subjects received information about the study’s goal and were assured of it (Shri Tanishq Nakshatra multi speciality hospital) referred with urinary incontinence were screened. However, little is known about how specifically Pilates activities influence the female pelvic floor muscle. Modern pilates training routines include breathing exercises and pelvic floor muscle contractions. Instead of being specifically trained, pelvic floor muscles are inadvertently trained through exercise and movement. During Pilates movements, unintentional co-contraction of the pelvic floor muscles would counteract increases in intra-abdominal pressure that occur during exercise, preventing leakage and supporting the pelvic floor muscles. Breathing and muscle contractions occur during the entire therapy session when practicing Pilates. More research is required to determine the benefits of Pilates exercise for improving bladder function. Group A is trained with Pilates for 30 minutes, 5 days a week for 4 weeks. Group B is given for four weeks, the members of Group B underwent Kegel’s exercise, a pelvic floor muscle strengthening exercise, for 30 minutes each week. Participants were initially instructed to consciously contract their pelvic floor muscles while holding their urine to prevent leakage in the semi-Fowlers position. As they progress, participants are instructed to use the same technique while sitting, standing, or performing other activities that may increase intra-abdominal pressure.

Pilates training: Exercising breathing Slow down your breathing and pay attention to your diaphragm. Slimnastics are performed in the “power house” as air is released when pursed lips are used. Covering up adoration or Opening Gradually bend your legs in a long sitting position so that they are heel to heel and extend your band as far as you are able to. Genital cock In the crock position, crock the pelvis in the clockwise and anticlockwise directions. (Increment in standing) shoulders down crook-lying position, the power house is activated to start the movement. This is followed by gluteal compression, retroversion of the pelvis, and lifting of the pelvis (hold for 3 to 5 seconds, if possible). The movement then resumes where it left off. A thicker wall Keep one base’s spacing between two bases while standing with your back against a wall, and thicken your base as much as you can by contracting your “power house” muscle.

Kegels Exercise: Exercise technique by Kegel: initial position of the semi-fowlers Participants are asked to deliberately tense the muscles in their pelvic floor as holding the pee in order to stop leaks, then in person in the sequence is requested to act the same method while standing or sitting stance or during and after activities that can elevate abdominal pressure.

Data Analysis

A statistical analysis made with quantitative data revealed a statistically significant difference between Pilates training group and kegels exercise group.
Graph-1 ICIQ-UI questionnaire in pre and post test value in Pilates training Group

Graph-2 ICIQ-UI questionnaire in pre and post test value in kegels exercise Group

Graph-3 ICIQ-UI questionnaire in post value in Pilates training Group and kegels exercise Group.

Graph-4 Modified oxford scale of PFM pre and post test value of Pilates training Group.

Graph-5 Modified oxford scale of PFM pre and post test value of kegels exercise Group.

Graph-6 Modified oxford scale of PFM post test value of Pilates training Group and kegels exercise Group.
Result

Pilates training group consisted of 19 subjects who received Pilates training exercise and kegels exercise group consists of 19 subjects who received kegels exercise. Statistical analysis of quantitative data showed significant differences not only in Pilates group but also in kegels exercise group. The ICIQ-UI SF Post Test mean value in the Pilates group was 4.16 while it was 6.74 in the Kegels exercise group. This indicates the Pilates training group were significantly higher than the Kegels exercise group, with a p value of <0.0001.

Discussion

The objective of the current study is to assess the effectiveness of Pilates training and Kegel’s exercise on urinary incontinence and Pelvic floor muscle strength And also to assess the effectiveness in terms of reducing UI and strengthen the pelvic floor muscle. This comparison is demonstrated with duration of 4 weeks. The outcome result were measured by Modified Oxford scale of pelvic floor muscle and International Consultation on Incontinence questionnaire-Urinary Incontinence before and treatment. Beneficial effect was significantly greater in Pilates training than the kegels exercise. When response was compared between both groups, the result showed a significant difference in Pilates training than the Kegel’s exercise.

Afsha Parveen et al (2023) has concluded that Pilates may meliorate QOL while strictness, mobility, strength, vital capacity, respiration rate, body mass index, and balance. To find out if Pilates is effective at enhancing women’s health difficulties, new, high-quality research is required.14 Stephany Gordon et al(2020) both treatment protocols dropped circumstances of urine leakage when there is an increase in intra-abdominal pressure, increased PFM power, adherence, and quantity of quick condensation boosted women’s quality of life with UI. still, only the group that entered only the Pilates protocol showed an increase in repetitions of slow contraction.15 Kannan, P., Hsu, W., Suen, W.T., Chan, L., Assor, A., Ho, et al. Pilates and yoga are contrasted with pelvic floor exercise for urine incontinence in older women. controlled, randomized birdman experiment. Complementary antidotes in clinical practice.16

Conclusion

According to the study, Pilates training and Kegels exercises both reduce urinary incontinence among Normal vaginal delivery mothers. The findings suggest that Pilates training is more beneficial than Kegels exercise in reducing Urinary Incontinence and strengthening pelvic muscles which aids in urinary incontinence for women’s undergone normal vaginal delivery.

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References


