Review Article ISSN 2771-9057

Recent Advances in Clinical Trials

A Patient with Urinary Incontinence and Pelvic Floor Weakness Managed by Pelvic Floor Muscle Strengthening Exercise

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Received: 11 September 2021; **Accepted:** 01 November 2021

Citation: Alam F, Akter F, Parvez N. A Patient with Urinary Incontinence and Pelvic Floor Weakness Managed by Pelvic Floor Muscle Strengthening Exercise. Recent Adv Clin Trials. 2021; 1(1); 1-4.

ABSTRACT

Now a day's Low-back pain is a major health problem in all over the world. 70-80% people have suffering with LBP at any time of their life. More than 200 million people who has suffered by incontinence which occurs mostly during middle age and associated with quality of life. Female were more vulnerable than male due to the body structure and exposure. Core muscle strengthening improves their overall function and daily quality of life. Pilates helps to improve their core muscles strength and helps to solve their incontinence problem. In this case 45 years old women are a housewife with three children. She was suffering from back pain with incontence problem for few months. Gradually she was feeling weakness in her left lower limb and more the leakage problem especially in stress position during coughing, sneezing time. The course of intervention started with Mackenzie Mechanical Diagnosis and Therapy of lumbar spine. Repeated Extension in Lying, 10 repetitions every 2 hours. From 4th weeks started pelvic floor strengthening exercise. Strengthening of back muscle and stabilization exercise of lumbar spine has been started after 3 weeks as adjacent therapy. LBP with incontinence may be benefited by thoracic spine mobilization including stretching of hip flexors, piriformis muscles According to WHO, describes any disorder causes not only physical impairments, but also causing limitation in activities, restriction in participation and contextual factors which have been perfectly described by ICF. Within 6 weeks of treatment, she progressed in pain and radicular symptom, muscle strength and gradual activity participation. She also had an experience of adapting the situation and upholding her household activities. Among all other complications urinary incontinence was the most irritable conditions which affected mostly the quality of life. Most of the time surgical interventions were not so much effective than behavioral and therapeutic exercises. Physiotherapy core strengthening exercises with Pilate's method were helpful for their improvement of this condition.

Keywords

Urinary incontinence, Pelvic floor muscle strengthening, Quality of life.

Introduction

In worldwide more than 200 million people who has suffered by incontinence. Usually, it occurs during middle age and associated with quality of life. Female were more vulnerable than male due to the body structure and exposure. Core muscle strengthening improves their overall function and daily quality of life. Pilates helps to improve their core muscles strength and helps to solve their incontinence problem [1]. On the other hand, the sexual issues are very much concerning matter especially for female patients. For this important issue it's very much important to build up the strength of core muscles and sexual functions where Pilate's method helps to strength the area of core muscles and improve the sexual function [2]. Pilates exercises helps to improve the whole-body movement including breathing, concentration, centering precision and rhythm. Joseph Pilates stated that this set of corrective exercises promoted voluntary control over the body; improve the effective posture and also stabilizing core muscles

during movement especially dynamic movement. Pilates specially improve physical health as well as psychological health and motor functions which improve the whole functions [3].

Urinary incontinence (UI) was the involuntary leakage of urine where stress incontinence was more common than urge incontinence. Women were more vulnerable than men and prevalence showed that it varied from 10% to 40%. The most affected age was 50 to 70 [4]. Urinary tract infection was the most common condition which specially affected the quality of life and it also affected the significant health costs. During pregnancy were more vulnerable female. It affected about 30-50% where pelvic floor muscle training played effective role as a treatment of this condition. Pilate's method may produce significant improvements in the pelvic floor muscles strength. This exercise helps to contraction of core muscle group which are important to prevention and maintenance urinary incontinency and improve the intra-abdominal muscle strength and stabilize trunk muscles [2].

Aim

The primary aim of this study was to know about the case study of urinary incontinence and the physiotherapy management.

Objectives

1. To review the low back pain with incontinence among the women patients.
2. To explore the case of urinary incontinence and physiotherapy management.
3. To determine the physiotherapy evidence-based treatment and its outcome for urinary incontinence.

Description of case with physiotherapy management

Mrs. A is 42 years old women is a housewife with three children. She was suffering from back pain with incontence problem for few months. Initially she ignored the pain and continued working more her household activity. Gradually, she was feeling weakness in her left lower limb and more the leakage problem especially in stress position during coughing, sneezing time. She consulted with a physician and her relatives who advised her to consult with Physiotherapist. She has been treated with various types of specialized concept and within three weeks she had a vast positive response in back pain and associated symptom. Within 6 weeks of treatment, she progressed in pain and radicular symptom, muscle strength and gradual activity participation. She also had an experience of adapting the situation and upholding her household activities. She is continuing the follow up session once in a month as a consequence of satisfactory recovery of her symptoms and relief of recurrence and future well and healthy life. But from last five months, she was feeling pain in left side lower limb and urine leakage during stress situation. Then she consulted with a physician and had an X-ray of Lumbar spine. After that she knows about that she has degenerative changes among multi-segment of lumbar spine. She had a discussion with her neighbor about her condition and they suggested her to consult with a Physiotherapist. During initial emergency monitoring session, Clinician was reliable on propositional and non-propositional knowledge to find a well-structured automated retrieval. Positive SLR (pain and limitation at less than 70 degree), referred pain (left lower limb), more pain and difficulty during walking, introduced a primary idea about condition [5].

In the 1st session, clinician decided to continue the mechanical diagnosis and treatment in McKenzie method. Clinician found poor posture (protruded abdomen) in sitting & standing, also taken consideration to in weakness of ankle dorsiflexion and extension of the great toe (Donally & Veracallo, 2018). Moderate movement loss found in extension and minimum movement loss found in flexion and pain at Numeric Pain rating scale-8 out of 10. In Movement test, repeated extension in lying mild centralized the symptom and reduces pain assuming that clinician found the right way of intervention. Pain decreased up to 2 in Numeric pain Rating Scale, but ROM as same as previous. But there were no change in weakness of dorsi flexor and great toe extensors. From clinician's previous patient's experience, thought that after few more sessions, clinician started stabilization exercise, strengthening exercises and abdominal & pelvic floor exercises for left lower limb, dorsi flexors and great toe extension. Physiotherapists also started kegal exercise and Pilate's method for recovery and improvement of incontinence problem.

Discussion

Urinary incontinence was the one of important issues and complications. Which Conservative management for incontinence and organ prolapsed mainly focused on lifestyle interventions, physiotherapy rather than medication and surgery. Lifestyle modifications included weight loss, pelvic floor muscle training and core muscles strengthening as well as bladder training [6]. Pilate's method also helped to improve pelvic floor muscle strength and overall function, balance and daily activity. It was done usually 3 times in week or 5 times in a week and continued for 3 months to 4 months [7]. This method focused on adequate posture, body voluntary control and stabilization of core muscles during dynamic movements. In case of women Pilates specially helped to improve physical health strength with psychological health [8]. It helps the pregnancy and delivery process. These pelvic floor exercises and other exercises with counseling helped them to improve and maintain their conjugal life [9]. This incontinence problem was more prominent and frequent during pregnancy. This prevalence was about 30% at the first trimester of pregnancy. It had a greater risk during postpartum stage [10]. Pelvic floor muscle training included repeated voluntary contractions of pelvic floor muscles. It also dependent on the frequency, intensity and the progression of exercise and also dependent on the duration of the training period. It included usually three times in a week and continued for several weeks and approximately it continued for 8-12 weeks. This exercise was provided by health professionals specially physiotherapists. It was very much effective for women especially during pregnancy to prevention of urine leakage. Physiotherapy supervision had a great roll for greater outcome [10].

Physiotherapy Intervention summary

The course of intervention started with Mackenzie Mechanical Diagnosis and Therapy of lumbar spine. Repeated Extension in Lying, 10 repetitions every 2 hours. From 4th weeks started lumbar traction and pelvic floor strengthening exercise with sustain back extension. Strengthening of back muscle and stabilization exercise of lumbar spine has been started after 3 weeks as adjacent therapy. LBP with incontinence may be benefited by thoracic spine mobilization including stretching of hip flexors, piriformis muscles [3].

World Health Organization [11] describes any disorder causes not only physical impairments, but also causing limitation in activities, restriction in participation and contextual factors which have been perfectly described by ICF. Conversely, ICF gives a standard language and framework for the description of health and health-related conditions. According to ICF, patient showed disease/condition as LBP with incontinence, impairments as pain, muscle weakness, leakage problems. Activity limitations were walking, ADL activity, and sexual activity. Participation restrictions were unable to participate in social gathering, personal factors and psychologically depressed about prognosis.

Exercise 1: Core strengthening (Static)

- Therapist: Give the instruction to the patient so that the patient will be able to perform the exercise solely beyond the painful range.
- Patient position: Prone lying on the bed.
- Four-point kneeling on the bed, continue to breathe normally. Slowly try to draw in your abdominal wall. Holding this position for 10 seconds.
- Then relax abdominal wall. Elbow straight with shoulder level. Maintain normal thoracic and lumbar curve. Perform it ten times per set, two sets a day.

Exercise 2: Core strengthening (Dynamic, Cat Camel exercise)

- Therapist: Give the instruction to the patient so that the patient will be able to perform the exercise solely beyond the painful range.
- Patient position: Prone lying on the bed.
- Four-point kneeling on the bed, continue to breathe normally. Elbow straight with shoulder level, maintain the normal spinal curve. Move the trunk and pelvis into upward and downward direction rhythmically.
- Perform it ten times per set, two sets a day.

Exercise 3: Core strengthening (Dynamic, Superman exercise)

- Therapist: Give the instruction to the patient so that the patient will be able to perform the exercise solely beyond the painful range.
- Maintain normal neutral spine on prone lying. Bring legs together and extend arms overhead so biceps are alongside ears. Using the muscles of back with a little help from your glutes, raise legs and toes off the ground, keep leg straight.
- Hold this position for five seconds. Lower back down to the ground with control Perform it ten times per set, two sets a day.

Exercise 4: Lumber extension

Exercise 5: Hook lying combination exercise

- Therapist: Give the instruction to the patient so that the patient will be able to perform the exercise solely beyond the painful range.
- Patient position: Supine lying on the bed.
- Hook lying position on the bed, maintain a normal neutral spine. Holding the hands together and arms straight up. Raise knees so that it comes horizontal to the bed level and leg goes out, Arms go overhead at the same angle of the leg. Hold each position for 10 seconds. Slowly return to the starting position.

Exercise 6: Bridging exercise

Exercise 7: Straight leg rising

Exercise 8: Pelvic tilting exercise

- Therapist: Give the instruction to the patient so that the patient will be able to perform the exercise solely beyond the painful range.
- Patient position: Sitting on the physio ball.
- Try to move the ball forward & backward, side to side. Perform it for 5 minutes.

Exercise 9: Kegel exercise

- Therapist: Give the instruction to the patient so that the patient will be able to perform the exercise solely beyond the painful range.
- Patient position: Supine lying, knee 90 semi-flex, sole touched on the bed.
- Breathe freely during exercise. Tighten the pelvic floor muscle, not try to contract the muscle of abdominal, thigh & buttocks. Then relax for 5 seconds, try to perform it four or five times in a row. Perform it 3 times a day, 10 repetitions, 1 set.

Conclusion & Recommendation

Among all other complications urinary incontinence was the most irritable conditions which affected mostly the quality of life. Most of the time surgical interventions were not so much effective than behavioral and therapeutic exercises. Advanced age, obesity, bladder dysfunction may affect patients and most of the time 6.3% to 52% cases were failure after surgery (Jackson, & Wadley, 1999). In this case clinician also noticed that patient was depressed and anxious about her condition. So, therapist tried to modify her daily activities like change her cooking, prayer position and also tried to involve her family members specially her husband for her proper recovery, future prognosis, avoid recurrence and psychological support. Therapists also tried to feel patients mind and find out the inner cause of her problem.

This narrative review related with a case study helps to learn about this type of condition as a result we can make accurate decision quickly in this way and also treat a patient in proper way. In future if we done some experimental research in this field than we can prove the importance of the physiotherapy management especially pelvic floor strengthening exercises.

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