Comparing the Effects of Hypopressive “Exercise” and Kegels Exercise for Pelvic Organ Prolapse among “Patients with” Spontaneous Vaginal Delivery

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Abstract

Background: This study was designed to inspect the effectiveness of Hypopressive exercise and Kegels exercise for pelvic organ prolapse among patients with spontaneous vaginal delivery. Pelvic organ prolapse is when one or more organs of the pelvis slip down from their normal position and bulge into vagina. Hypopressive exercises help to rectify the prolapse and minimizes its severity. Kegels exercises are usually done for pelvic floor muscle training.

Purpose: To compare the effectiveness of Hypopressive and Kegels exercise for pelvic organ prolapse among spontaneous vaginal delivery.

Materials and Methods: Total of 42 participants were selected from C3 Care Cure Comfort clinic according to inclusion and exclusion criteria, and the participants were explained about the treatment and written consent were obtained. The subjects underwent study for a time period of 4 months from April 2023-July 2023 and results were obtained. The participating subjects were randomly allocated into two groups, Hypopressive exercise group “and” Kegels exercise group. All the subjects underwent pre-test measurement with modified oxford scale and pelvic floor impact questionnaire at the beginning of the treatment.

Results: statistical analysis of data showed significant differences not only in the Hypopressive group but also in the Kegels exercise group. The Hypopressive group was significantly higher than Kegels exercise group, with a p value of <0.0001.

Conclusion: Hypopressive exercise is more effective than Kegels exercise for pelvic organ prolapse among spontaneous vaginal delivery. The study was done for a short period of time with a small group of people.

Key Word: Pelvic organ prolapses, Hypopressive, Kegel, pelvic floor exercise, spontaneous vaginal delivery, modified oxford scale, pelvic floor impact questionnaire.

Introduction

Pelvic organ prolapse is when one or more organs of the pelvis slip down from their normal position and bulge into vagina. Pelvic organs include the bladder, uterus, vagina, prostrate, rectum. The main cause of pelvic organ prolapse is pregnancy, vaginal delivery and multiple deliveries as well as

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increased intraabdominal pressure such as weight lifting, chronic cough, obesity can increase the chance of pelvic organ prolapse.\textsuperscript{1,2,3} It is a downward descent of women’s pelvic organs including bladder, uterus or post hysterectomy vaginal cuffs.\textsuperscript{4} Symptoms will cause trouble if the bulge protrudes past the vaginal opening.\textsuperscript{5}

Hypopressive exercises are a relatively new technique for training the pelvic floor muscles. Hypopressive are a collection of exercises, posture, and breathing methods.\textsuperscript{6} Hypopressive can be done three times a week for six weeks for beneficial results. Hypopressive can be done in various positions like standing, kneeling, four-point kneeling, sitting and supine positions.\textsuperscript{7,8}

When we perform Hypopressive exercises the substantial part of the postural muscles are intensely activated\textsuperscript{9}. Hypopressive exercise slims the waist and improves the abdominal muscles without harming the pelvic muscles.\textsuperscript{10} During hypopressive exercises, it is critical to maintain appropriate “posture” and avoid any straining or breath-holding.\textsuperscript{11}

Kegels exercises are usually done for pelvic muscle training, these exercises help in bladder and bowel training.\textsuperscript{12} The pelvic floor muscles which support bladder, rectum, bowel can be strengthened by this exercise. Kegels exercise is best to do during pregnancy which makes delivery easier, because it gives greater control over pelvic muscle during labor.\textsuperscript{13} Kegels involve tightening and releasing the muscles.\textsuperscript{14} Kegels can be performed in positions like sitting, standing, lying and focus should be in performing on squeezing and lifting like you are picking up with the pelvic floor. While performing the exercise, many people contract their hip, abdominal and gluteal muscles rather than pelvic floor muscles.\textsuperscript{15}

\textbf{Aim}

The aim of the study is to find the effectiveness of Hypopressive exercise and Kegels exercise for pelvic organ prolapse among spontaneous vaginal delivery.

\textbf{Material and Method}

Total of 42 participants were selected according to inclusion and exclusion criteria and the participants were explained about treatment safely and simplicity of the procedure and written consent was obtained. Subjects willing to participate were randomly allocated into two groups: Hypopressive exercise group and Kegels exercise group. All the subjects underwent pretest measurement with modified oxford scale and pelvic floor impact questionnaire in the beginning of treatment. The study procedure was held at C3 physiotherapy clinic. A total of 42 subjects were chosen for an experimental study on pelvic organ prolapse, subjects received information about the study’s goal and were assured. The subjects from the C3 physiotherapy clinic with pelvic organ prolapse were screened.

\textbf{Inclusion criteria:}

- People with pelvic organ prolapse
- Pelvic muscle weakness
- Urinary incontinence
- Older and postpartum mothers
- Vaginal delivery
- No associated neurological disorder

\textbf{Exclusion Criteria:}

- People underwent recent surgery
- Muscle injury, spinal injury
- Detrusor overactivity
- Intrinsic sphincter
- High blood pressure
- Chronic neurological disorder

\textbf{Outcome Measures:}

Assessment was performed at baseline (before starting of treatment) and after two weeks of study.

- Modified oxford scale

Modified oxford scale is a numerical rating used to quantify the power of pelvic floor muscle contraction.\textsuperscript{18}

- Pelvic floor impact questionnaire

It is a health related quality of life questionnaire for women with pelvic floor conditions to fill out.

\textbf{Procedure}

Total of 42 participants were selected according to inclusion and exclusion criteria and the participants
were explained about treatment safely and simplicity of the procedure and written consent form was obtained. Subjects willing to participate were randomly allocated into two groups. Group A (n=21), Group B (n=21), Hypopressive group and Kegels group. All subjects underwent pretest measurement with modified oxford scale and pelvic floor impact questionnaire in beginning of the treatment.

**Group A: Hypopressive Exercise:**

**Exercise 1: Hypopressive Exercise In Sitting,**

1. Sit comfortably with an erect spine.
2. Breathe in slowly by fully stretching your ribs, then release entirely all of the inhaled air.
3. As no amount of air is left in, do not inhale. Block the passage of air thus the air may not enter or exit.
4. In the early stages, we can also perform the exercise by sealing our mouth and nose with our hands.

Now, open your ribs and take a deep breath. Your organs will be sensed through your ribcage. Hold this stance for four seconds before breathing in and relaxing.

**Exercise 2: Hypopressive Exercise In Standing,**

1. As the subject is standing, ask them to bend forward by slightly bending your knees.
2. Take a long breath as you breathe in followed by breathing out.
3. Once the air inside is let out, pull the pelvic muscle and as well as abdomen inside while holding the breath as long as possible.

These pelvic exercises enhance back posture, which aids in the prevention of back discomfort.

**Exercise 3: Hypopressive Exercise In Lying,**

1. Lie down on your back in a position where knees are slightly bent.
2. Hands are casually placed parallel to the body, then breathe in and out normally at the initial stage for relaxation.
3. Shrink your pelvis muscle but sucking or pulling it inside towards the spine.
4. At starting this contraction can be held for 20 to 30 seconds later the time can be gradually increased according to the efficacy of the subject.
5. Stay in this position as long as possible without breathing.
6. At the end, fill the lungs with air and the subject can begin to relax and continue their normal breathing.

**Exercise 4: Hypopressive Exercise In Kneeling On The Floor,**

1. In this position of hypopressive the exercise is done in a four-point position.
2. In a four-point position the hand is placed on the floor, bending the back along with knees on the floor.
3. Now, breathe out and release the complete air from your belly as much as positively and hold your breath.

These exercises can be performed for 20 mins to 1 hour, 3-5 times a week.

A decrease in pelvic organ prolapse can be seen if the exercise is continuously done for 20 minutes a week. And waste reduction can be seen for about 2 to 10 cm.

**Group B: Kegels Exercise**

Kegels exercise helps to strengthen the pelvic muscles, which aids for conditions like pelvic organ prolapse, urinary incontinence, stress incontinence, bowels and bladder function.

Kegels exercise can be performed by lifting, holding and squeezing the muscles of the pelvic floor. Once the exercise is started, time can be gradually increased according to the efficacy of the subjects, at least two to three sets of exercise can be performed in a day.

**Steps To Do Kegels Exercise:**

1. The subject is asked to locate their pelvic muscles correctly; the location can be identified by methods like squeezing pelvis while peeing. By inserting a finger into vagina, the pressure can be felt in the fingers.
2. Ask subjects to start the exercise, instruct them to tighten the pelvic floor muscles for 3 seconds, and follow up by relaxing for 3 seconds. This is called one Kegel.
3. Then repeat it for 10 times, which is known as a set.
4. These sets can be done in the morning as well as at night.

5. If the subjects are well versed in doing, the number of sets can be increased. For e.g., instead of holding kegels for 3 seconds it can be increased for 5 seconds.

Data Analysis Hypopressive Exercise Group

INTERPRETATION: Graph No. 1 shows that the values are extremely statistically significant.

Kegels Exercise Group

INTERPRETATION: Graph No. 2 shows that the values are extremely statistically significant.

Post test values both group

INTERPRETATION: Graph No. 3 shows that the value is extremely statistically significant.

Result

The subjects were selected according to the inclusion and exclusion criteria and informed consent form was obtained from all the subjects. Subjects were assigned into two groups. The Hypopressive group consisted of 21 subjects who received Hypopressive exercise and Kegels group consisted of 21 subjects who received Kegels exercise.

The modified oxford scale post-test mean values in Hypopressive group were 3.50, while it was 2.10, in the Kegels group. This indicates that Hypopressive group were significantly higher than then Kegels group, with a p value of <0.001.

The pelvic floor impact questionnaire posttest mean values in the Hypopressive group were 1.20, whereas 2.10 in the Kegels group. This indicates that Hypopressive group pelvic floor impact questionnaire values were significantly higher than the Kegels group with a p value <0.001.

Discussion

The purpose of this study was to find the effectiveness of Hypopressive exercise and Kegels exercise for pelvic organ prolapse among spontaneous vagina delivery.\(^{16}\)

Pelvic organ prolapse is when one or more organs of the pelvis slip down from their normal position and bulge into vagina. Pelvic organs include the bladder, uterus, vagina, prostrate, rectum.\(^{17}\)
Beneficial effect was significantly greater in Hypopressive exercise than Kegels exercise. Statistical analysis of Hypopressive exercise group and Kegels group by using modified Oxford scale has p value of less than <0.001 were considered statistically significant. The statistical analysis of Hypopressive exercise group and Kegels exercise group by using pelvic floor impact questionnaire has p value <0.001 were considered as statistically significant.

Kari Bø et.al (2023) has concluded that while accessing the subjects with pelvic organ prolapse the Hypopressive exercise shows significant benefits, there are few RCTs assessing the effects of other exercise programs beside Hypopressive for pelvic organ prolapse. To date, there are no other exercise programs that are more effective than Hypopressive for pelvic organ prolapse.

Sao Paulo Med et.al 2012 has concluded that, in their study they looked at 58 women with pelvic organ prolapse before and after Hypopressive exercise. Between the ages of 50 and 60, women’s muscular mass decreases significantly (10% to 16%). There is also a decrease in cross section area, fat and connective tissue infiltration in muscle, the size and number of muscle fibers, and the number of motor units. Given the ages of the patients in this study, it could be assumed that the levator ani muscles of these ladies had become weak and atrophied. Physiotherapy significantly enhanced the cross-section area of the levator ani muscle in women with pelvic organ prolapse. Both Hypopressive exercise and pelvic floor workouts improve the levator ani muscle.

Shameka Mitova et.al (2022) has concluded that Hypopressive postural techniques result in a significant increase in the abdominal and pelvic muscle strength of the women in the groups to which they are administered. – EGs 2 and 3. The combined methodology is much better and superior results in all metrics in the group of women who utilized it. In turn, dramatically improves both muscle function and prolapse.

Molina-Torres G, et.al (2023) Feb has concluded that, following an 8-week intervention with hypopressive exercises, there is a reduction in pelvic floor dysfunction and related symptoms. Furthermore, there is an improvement in pelvic floor muscular contractility, as well as a reduction in the severity and symptoms associated with pelvic organ prolapse. The goal of this research was to see how an 8-week supervised hypopressive exercise training regimen affected pelvic floor muscle strength and urine incontinence symptoms. These findings support previous research, which found an improvement in pelvic organ prolapse after a 12-week hypopressive exercise program, as well as improvements in pelvic floor muscle contraction, urinary incontinence tone, body image, and sense of well-being, with high satisfaction with the intervention after a 2-month hypopressive exercise programme.

Conclusion

According to the study, Hypopressive exercises and Kegels exercise both reduces pain and increases pelvic floor function and improves pelvic organ prolapse. The findings suggest that the Hypopressive exercise is more beneficial than Kegels exercise in reducing pain and enhancing functional activities for pelvic organ prolapse among spontaneous vagina delivery.

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Reference