

Impact of Kegel Exercises on Control of Urinary Incontinence in Patients of Cystocoele

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Abstract

Objective: To determine Impact of Kegel exercises on control of urinary incontinence in patients of Cystocoele

Study Design: A Randomized control trail (RCT)

Place and Duration: It was conducted in the Department of Rehabilitation, Shifa International Hospital, Islamabad from May, 2012 to November, 2012.

Methodology: Fifty Patients of cystocoele (25 each) selected by consecutive sampling were included in two groups by randomization. Kegel's and postural correction exercises were introduced to the experimental group and back strengthening and postural correction exercises to the control group. Data analysis was carried out by using SPSS 17 software. 't' test was used to determine the effectiveness of Kegel's exercises on urinary incontinence in patients of Cystocoele. p-value (0.001) was significant.

Results: It was observed that 60% of the subjects responded well to Kegel's and postural correction exercises. On the other hand 40% subjects responded to the back strengthening and postural exercises. Eighteen subjects (36%) were included in post menopausal age and 11(22%) in pre menopausal status. Where as 21 subjects (42%) were in reproductive age group (20-40 years). Thirty two subjects (64%) had Grade I, and 18 subjects (36%) had Grade II cystocoele. Moderate urinary incontinence persisted in 5 subjects (10 %,) only, while maximum subjects 23 (46%) had no urinary incontinence, and 22 subjects (44%) had slight urinary incontinence.

Conclusion: Kegel exercises were proved to be significantly effective (p= 0.03) in improving the urinary incontinence in the experimental group as compared to control group (back strengthening exercise).

Key Words: Exercise, Cystocoele, urinary incontinence

Introduction

Cystocele is known to occur as a result of a central or lateral defect. The central defect develops as the result of a defect in the pubocervical fascia in the center of the anterior vaginal wall, and the lateral defect occurs by detachment of the pubocervical fascia from the tough tendinous arcus on each side. The central defect has been known to account for 5 to 15% of cystocele occurrences, and the lateral defect for 70 to 80%.^{1, 2} Women with stress incontinence have weaker pelvic-floor muscles. Kegel's exercises are an effective intervention for stress and urge incontinence.³

Prolapse is the protrusion of a pelvic organ beyond its normal anatomical confines. It represents the failure of fibromuscular supports. Prolapse and urinary incontinence often occur concomitantly and Cystocele, rectocele, enterocele, uterine descent or vaginal vault prolapse may also be present. The pathophysiology of prolapse encompasses direct and indirect injury, metabolic abnormalities and chronic high intra-abdominal pressure. Anterior vaginal wall prolapse may present as stress incontinence. **A large cystocele may cause urethral kinking and overflow incontinence.**⁴

Pelvic floor muscle training is the most commonly recommended physical therapy treatment for women with stress urinary incontinence. It is also sometimes recommended for mixed and, less commonly, urge urinary incontinence. The supervision and content of pelvic floor muscle training programmes are highly variable, and some pro-

grammes use additional strategies in an effort to increase adherence to training.⁵

It is sometimes advised for mixed and less commonly for urge urinary incontinence. Women with stress urinary incontinence alone, who participate in a supervised pelvic floor muscle treatment (PFMT) programme for at least three months, seem to respond better.⁶ Kegel exercises make the pelvic floor muscles strong thus there is more support to the pelvic organs and progression of vaginal prolapse is slowed down too. Learning to isolate the correct group of muscles is most difficult because of the lack of proprioception or awareness of where they are located. Kegel exercises can be done at home but they must be done correctly and regularly to work.⁷

Kegel exercises also improve quality of life of a woman. No significant work has been done in Pakistan on this issue. This study was designed to provide a better understanding and a guideline to reduce Prolapses and surgeries and importance of Kegel exercises.

This Randomized control trial with fifty sample size was conducted to determine the effect of Kegel exercises on control in urinary incontinence in patients of cystocele.

Methodology

Fifty patients were selected by consecutive non probability sampling after **formal permission from Hospital Ethical committee was taken. Informed written consent was taken from the sample population** and every aspect of the study was explained to them before they were enrolled for

the survey. After selection by consecutive sampling, the patients were randomly allocated by lottery method to either group A (Experimental) or group B (Control). Inclusion criteria included patients of Reproductive age groups (20 years up to 40 years) with either grade I or grade II cystocele. The grade I and II patients were randomly allocated to either group A or group B so it did not affect the results as randomization was done. Close ended questionnaire was used as data instrument for the survey. Data regarding 'patients' age, number of children, and cystocele grade was taken. Only those women were included who had Cystocele. Other forms of prolapses like Rectocele and Urethrocele were excluded. The impact of Kegel exercise could be seen on improvement of urinary incontinence. The 24-hour pad test was used to measure the urinary incontinence.

In the first Group (Experimental Group):Kegel Exercises and postural correction were carried out, consisting of contraction and relaxation of the muscles of the pelvic floor. The patients were advised to perform Kegel exercises and postural exercises as well. Alternate contraction and relaxation of perineal muscles was also carried out. These exercises were advised to be performed by doing 5 repetitions x 2 sets and gradually 10 x 2-3 sets each day, at least for 4 months, along with the postural correction exercises (core strengthening exercises like sets of basic crunches, back extensions, standing chest stretch).

In the 2nd Group (Control Group): Back Strengthening exercises were carried out by doing 5 repeti-

tions x 2 sets and gradually 10 x 2-3 sets each day, at least for 4 months. Patients were asked to lie flat on back, with bent knees at 90-degree angle and feet flat on floor. Then to tighten the abdomen and raise the buttocks off the floor, keeping abdominal muscles tight and to tighten the buttocks also. Shoulder to knees being in straight line the position was to be held for a count of five. Then they were asked to slowly lower the buttocks to the floor and the whole exercise to be repeated five to fifteen times.

Statistical Analysis: SPSS version 16 software package was used for data analysis. Frequency and percentages were calculated for categorical data. The data generated on the questionnaires were numbered and validated manually for errors and entered in to the computer for analysis using SPSS version 16 software package. Frequency and percentages were calculated for categorical data. Student t test was applied to determine the effectiveness of kegel exercise for improvement in urinary incontinence after 4 months of exercises between experimental and control groups. p value was found to be significant ($p=0.03$).

Results

The results showed that 6 subjects (12%) were between ages 20-30, 14 subjects (28%) women were between age 31-40 years, 17 subjects (34%) women were between ages 41-50 years, 9 (81%) subjects were between 51-60 years and 4 subjects (8%) were above 60 years. Eighteen subjects (36%) were postmenopausal and 11(22%) were premenopausal.

By examining the grade of Cystocoele 32 subjects (64%) were in Grade I, and 18 subjects (36%) were in Grade II.

Table I. Frequency of persisting urinary incontinence after Kegels exercises (n=50)

Urinary incontinence	Frequency	Percent
Not at all	23	46.0
Slightly	22	44.0
Moderate	5	10.0
Total	50	100.0

As shown in table I, the moderate urinary incontinence persists in 5 subjects (10 %,) only, while maximum subjects 23 (46%) had no urinary incontinence, and 22 subjects (44%) had slight incontinence.

Table II. Shows comparison of urinary incontinence between the two groups, after Kegel exercises.

Impact of Kegel exercises on improving urinary incontinence	Mean	n	Standard Deviation	Standard Error Mean
Urinary Incontinence Control Group	1.76	25	.72	.14
Urinary Incontinence Experimental Group	1.52	25	.59	.12

Table II shows that kegel exercises have positive effect in controlling the urinary incontinence in the patients of cystocoele versus back strengthening exercises amongst Cystocoele patients. The mean difference shows significant improvement in urinary incontinence amongst Kegel exercise group

($p= 0.03$). Student "t" test was applied to compare effectiveness of Kegels exercises.

Discussion

Women with prolapse can experience a variety of **pelvic floor symptoms**. Treatments include mechanical devices and conservative management. Conservative management approaches, including **lifestyle advice and PFMT** (pelvic floor muscle training) are often used in cases of mild to moderate prolapse. The current results showed that these management approaches may improve the strength of pelvic muscles and may improve prolapse symptoms in mild to moderate Cystocoele.⁸ The classification of Cystocoeles is usually based on the Baden-Walker halfway system.⁹ Another study reported that 29 patients (46%) had grade 2 and 32 (51%) had grade 3 Cystocoele. Also, 2 patients (3%) had grade 4 Cystocoele and showed signs of infection on their first visit.¹⁰

Our study showed that 32 subjects (64%) were in Grade I, and 18 subjects (36%) were in Grade II.

Cystocoele repair has been a challenge to pelvic floor surgeons. Although a number of studies present failure rate of the conventional methods for treatment of Cystocoele, with use of a graft or mesh as a reinforcing material which has been popularized, the specific complications related do present, nonetheless. Such complications include erosion, infection, contraction, de novo dyspareunia, and chronic pain.¹¹⁻¹⁴ Pelvic muscle training, sometimes referred to as Kegel exercises, is a noninvasive training which has been shown to benefit women with urinary and/or fecal symptoms. Therefore, it is commonly prescribed

for women with prolapsed organs or those who have **other pelvic floor symptoms**, or Cystocele.¹⁵ Stress incontinence with vaginal prolapse reduction is less common in women with posterior-predominant prolapse (rectocele) compared with those with anterior-predominant prolapse (Cystocele).¹⁶ Prospective comparative studies show that vaginal pessaries constitute an effective and safe treatment for POP and should be offered as treatment of first choice in women with symptomatic POP.¹⁷

As shown in table no II in our study, the moderate urinary incontinence persisted in 5 subjects (10 %,) only, while maximum subjects 23 (46%) had no urinary incontinence and 22 subjects (44%) had slight incontinence after 4 months of Kegel exercise programme. Another study showed that PFMR, in addition to kegel exercises, are appropriate as a general health guideline.¹⁸ Matharu, et al suggested assessment of urinary incontinence by 24 hours pad test.¹⁹

Conclusion

Kegel's exercises are an effective intervention for stress and urge incontinence. Kegel Exercises are an excellent defense against urge incontinence, common amongst women in their later years. Kegel Exercises are a vital factor in total pelvic fitness. The results in this study can be used directly to support the preventive potential role of the exercise of pelvic floor muscle for women with prolapse bladder (Cystocele). Further experimental trials are needed with a larger number of

sample size, to investigate the potential of physical therapy interventions for the prevention and rehabilitation of Cystocele.

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