

A study to assess the effectiveness of kegels exercise in prevention of urinary incontinence among elderly women at selected area in Chennai

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ABSTRACT

Urinary incontinence is one of the most common lower urinary tract disorders in women, resulting from failure of voluntary vesicle and urethral sphincter control, which results in involuntary passage of urine. Although urinary incontinence is not a normal consequence of aging, age-related changes in the urinary tract do predispose the older person to incontinence. A pelvic floor muscles exercise is the most common physical therapy for women with urinary incontinence. Pelvic floor muscles exercises will have better improvement and will reduce signs of urinary incontinence. Hence a study aimed to assess the effectiveness of kegels exercise in prevention of urinary incontinence among elderly women. **METHODS:** Experimental research design was used with 60 samples who matched the inclusion criteria were selected by purposive sampling technique. Demographic variables were collected by using self-structured questionnaires. **RESULT:** Out of 60 samples 8(13.33%) elderly women have slight level of urinary incontinence, 50(83.33%) elderly women having moderate level of urinary incontinence, 2(3.33%) elderly women having severe level of urinary incontinence. There is a poor pre-test among 60 samples. Post-test shows that kegels exercise is effective in prevention of urinary incontinence among elderly women. **CONCLUSION:** Kegels exercise is the best physical therapy in the treatment of mild and moderate urinary incontinence.

KEY WORDS: Urinary incontinence, Kegels exercise, Elderly Women.

INTRODUCTION:

Genitourinary problems are the most common complaint among adult women affecting all aspects of their life. Among genitourinary problems, urinary incontinence (UI) is one of the most significant and prevalent condition. The prevalence ranges from 8-45% in various studies across the world.¹

Urinary incontinence is one of major problems that have a negative impact on the women's daily life physically, socially, psychologically, sexually, and economically; it's also one of the threatening factors that can cause withdrawal from social situations and reduced quality of life.²

Urinary incontinence (UI) is a condition that negatively affects the quality of life more frequently with age and is observed more often in women than men (Or) Urinary incontinence means involuntary leakage of urine and inability of the bladder to hold it because the voluntary control in the urinary sphincter is either weakened or lost. It is not a disease but a symptom; these symptoms vary according to types of urinary incontinence. Some women may lose a few drops of urine while running, coughing or even laughing. Others may feel a strong sudden urge to urinate just before losing a large amount of urine.³

Although urinary incontinence is not a normal consequence of aging, age-related changes in the urinary tract do predispose the older person to incontinence. Urinary incontinence can decrease an older person's ability to maintain an independent lifestyle, which increases dependence on care-givers and may lead to institutionalization. Between 25% and 50% of all nursing home residents have urinary incontinence (Omli et al., 2010). Acute UTI, infection elsewhere in the body, constipation, decreased fluid intake, and a change in a chronic disease pattern, such as elevated blood sugar levels in patients with diabetes or decreased oestrogen levels in menopausal women, can provoke the onset of urinary incontinence. Although the bladder of the older person is more vulnerable to altered detrusor activity, age alone is not a risk factor for urinary incontinence. Decreased bladder muscle tone is a normal age-related change found in older adults. This leads to decreased bladder capacity, increased residual urine, and an increase in urgency (Ling Man & Le Low, 2010; Stewart, 2012).⁴

The bladder of infant contracts automatically when urine is filled upto a certain volume of bladder. As the individual learns to control urination, bladder muscle contraction is prevented by constant inhibition from the cerebral cortex. This allows urination to be delayed until the individual is ready. Undesired bladder muscle contraction may occur as a result of break in the neurologic pathway from the brain to the bladder. UI can also leads to certain medical problems leads to cystitis, urosepsis, perineal rashes, pressure sores and falls, skin irritation, rashes and urinary infections. Psychological complications of the disorder include diminished self-esteem, isolation, and depression.⁵

More than 25 million adults in the United States are estimated to have urinary incontinence (involuntary loss of urine from the bladder), with most of them experiencing overactive bladder syndrome, making this disorder more prevalent than diabetes or ulcer disease (Meiner, 2011; Miler, 2012). Pelvic floor exercises are also known as Kegel, or childbirth, exercises. Kegel exercises are commonly used and have a 30% to 90% success rate in women with stress incontinence. Kegel exercises were originally designed by Dr. Arnold Kegel in 1948 who found that most women with stress urinary incontinence had pelvic floor muscle insufficiency. Kegel argued that restoring the function of the pelvic floor would in turn increase the urethral closure pressure, thus preventing involuntary loss of urine (de Kruif & van Wegen, 1996).⁶

Pelvic floor muscles exercises have been successfully used since 1948 by encouraging women to voluntarily contract their pelvic floor muscles. It is the most commonly recommended treatment for them with mixed incontinence & stress leakage of urine but less commonly for urge incontinence Huda, et al., (2013). Kegel exercises help to strengthen the pubococcygeus (PC) muscle, which supports the pelvic floor. The potential benefits of doing Kegel exercises on a regular basis include: greater ease in achieving orgasm, increased intensity of orgasm, increased lubrication, heightened control over sensation during penetration, and protection against urinary incontinence and bladder prolapse. PC muscles are activated when one stops the flow of urine. Clinicians are encouraged to use this example when teaching patients about Kegel exercises. Often, a total of 200 repetitions are recommended per day, not necessarily all at one time.⁷

OBJECTIVES:

To assess the pre-test level of urinary incontinence among elderly women

- To assess the effectiveness of kegels exercise among elderly women
- To assess the post-test level of urinary incontinence among elderly women after kegels exercise
- To associate the post-test level of urinary incontinence with selected demographic variables.

MATERIALS AND METHODS:

The research approach adopted in the study was quantitative approach by using experimental research design. The formal permission was obtained from Ward Counsellor. The purpose of the study was explained. IRB permission was obtained from SIMATS. The study was conducted at selected area in Chennai (Ayanavaram) with 60 Samples. Samples were selected by purposive sampling technique by using Lottery method.

The demographic variables consist of age, marital status, educational status, type of work, number of children and use of drugs. Demographic variables was collected by interview method followed by assessed the level of urinary incontinence by using Incontinence Severity Index (ISI) questionnaire. The investigator taught about the kegels exercise. The program sessions are twice per day, each session ranged from 30-45 minutes. After 2 weeks, assessed (post-test) the level of urinary incontinence with the same Incontinence Severity Index (ISI) questionnaire. The data was analyzed by using descriptive and inferential statistics such as frequency, percentage, mean and standard deviation.

RESULT:

FIGURE I Out of 60 samples, 29(48.33%) belongs to the age group of 80-85 years. Regarding marital status 54(90%) samples were married. Regarding educational status 19(31.66%) samples were come under elementary school. Regarding type of work 32(53.33%) samples were come under sedentary worker. Regarding number of children 23(38.33%) samples having 2 children. Regarding use of drugs 12(20%) samples were using anti-hypertensive drugs and 15(25%) samples were using anti-diabetic drugs.

TABLE – I Frequency and percentage distribution of pre-test on severity of urinary incontinence among elderly. This data revealed that 6(10%) had slight urinary incontinence, 43(71.66%) had moderate urinary incontinence, 9(15%) had severe urinary incontinence, 2(3.33%) had very severe urinary incontinence.

TABLE – II Frequency and percentage distribution of post-test on severity of urinary incontinence among elderly. This data revealed that 8(13.33%) elderly women were comes under slight level of urinary incontinence, 50 (83.33%) elderly women were comes under moderate level of urinary incontinence, 2(3.33%) elderly women were comes under severe level of urinary incontinence.

TABLE III Mean and standard deviation of the effectiveness of Kegels exercise. It shows that, the post –test mean value is lower than pre-test. The paired’ value found statistically significant, and it shows that kegels exercise is effective in prevention of urinary incontinence among elderly women at selected area in Chennai.

TABLE – I: Frequency and percentage distribution of pre-test on severity of urinary incontinence among elderly.

SEVERITY OF URINARY INCONTINENCE	EXPERIMENTAL GROUP	
	FREQUENCY (N)	PERCENTAGE (%)
Slight	6	10%
Moderate	43	71.66%
Severe	9	15%
Very Severe	2	3.33%
TOTAL	60	100%

TABLE – II: Frequency and percentage distribution of post test on severity of urinary incontinence among elderly.

SEVERITY OF URINARY INCONTINECE	EXPERIMENTAL GROUP	
	FREQUENCY	PERCENTAGE
Slight	8	13.33%
Moderate	50	83.33%
Severe	2	3.33%
Very Severe	0	0%
TOTAL	60	100%

TABLE–III: Mean and standard deviation of the effectiveness of Kegels exercise.

KEGEL EXERCISE	PRE-TEST	POST-TEST	PAIRED ‘t’ TEST
MEAN	29.15	23.66	3.09
STANDARD DEVIATION	8.03	6.915	

GRAPHICAL REPRESENTATION SHOWING THE FREQUENCY DISTRIBUTION OF DEMOGRAPHIC VARIABLE

FIGURE I A

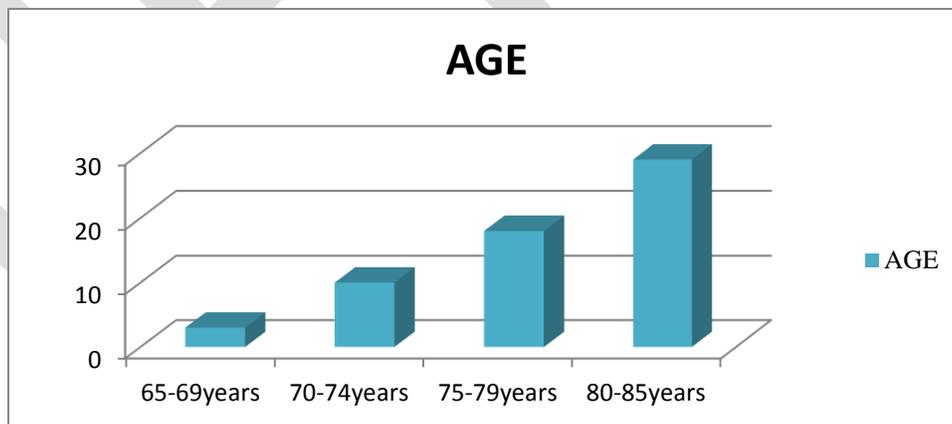


FIGURE I B

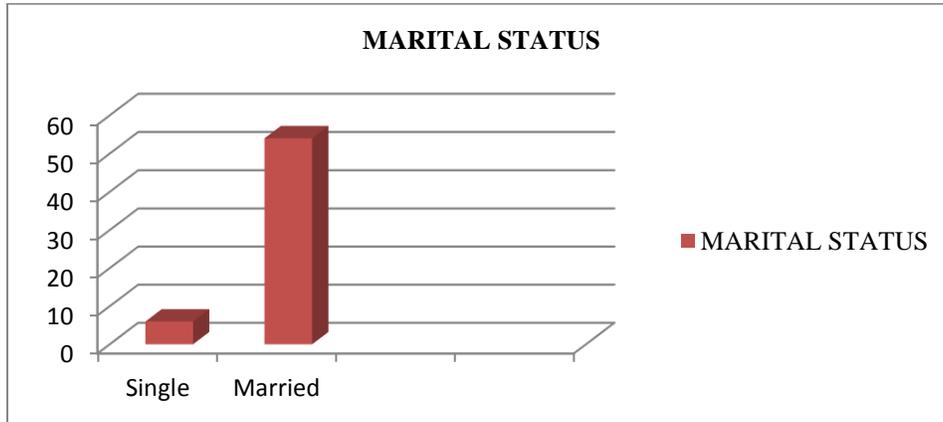


TABLE I Frequency and percentage distribution of pre-test on severity of urinary incontinence among elderly

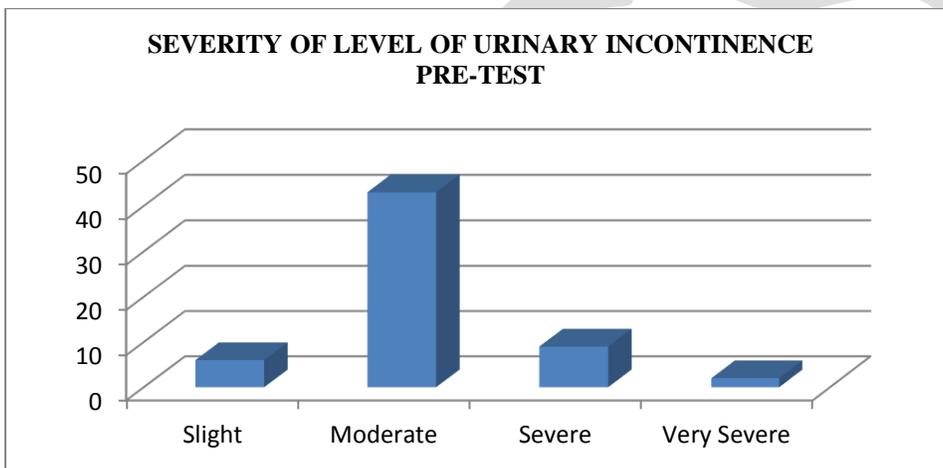


TABLE II Frequency and percentage distribution of post-test on severity of urinary incontinence among elderly

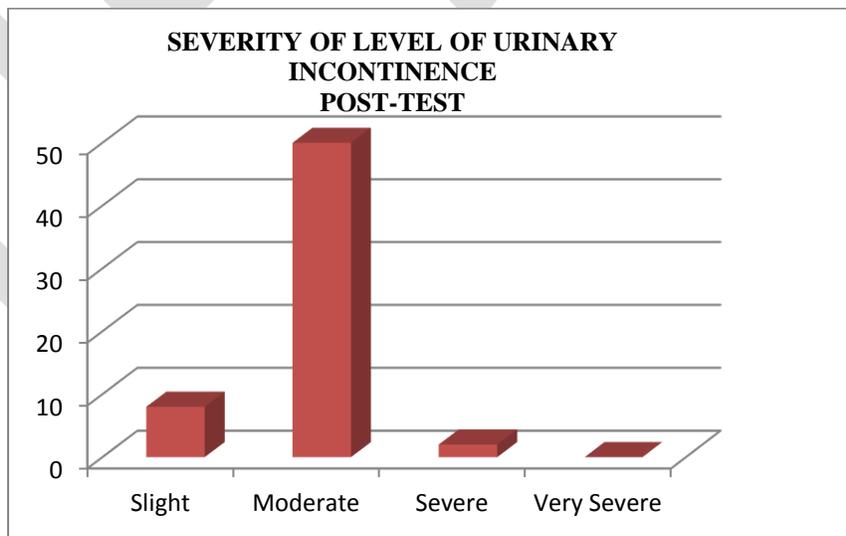
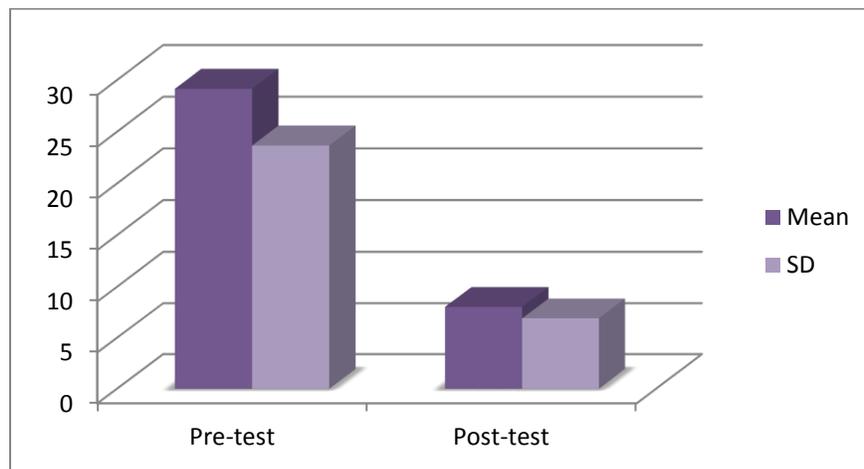


TABLE III Mean and standard deviation of the effectiveness of Kegels exercise.



DISCUSSION:

The present study to assess the effectiveness of kegels exercise in prevention of urinary incontinence among elderly women. The level of urinary incontinence assessed by Incontinence Severity Index (ISI). Research has shown that Kegels exercise can be used as an effective complementary treatment for managing and in prevention of urinary incontinence among elderly women.

Jagadeeswari J, KalaBarathi S, Mangala Gowri P (2019) had conducted a study to estimate the effectiveness of vaginal cone therapy on urinary incontinence among women. The study aims to assess the level of urinary incontinence in experimental and control group and to assess the effectiveness of vaginal cone therapy on urinary incontinence in experimental group and control group. The study results reveal that among 60 samples in experimental group 26 women had a moderate level of urinary incontinence, and 4 women had slight urinary incontinence whereas in control group 24 women had moderate level of urinary incontinence and 6 women had slight urinary incontinence. The study results show significant improvement in level of urinary incontinence among experimental group than the control group after the intervention at the level of $p < 0.05$. This reveals that vaginal cone therapy is highly significant in the experimental group because pelvic muscle strength had improved so the vaginal can be used also as a treatment and preventive measures too.¹¹

MAE Hillary Wagner MD (08 January 2019) had conducted a study to evaluate the incidence of SUI in physically active women, and examines specific exercises that can increase SUI. A cross-sectional study was conducted in women from four CrossFit centres and one aerobic center for comparison. Participants were surveyed regarding baseline demographics, activity levels, severity, and frequency of leakage during CrossFit exercises as well as preventative strategies against SUI. Participants were stratified based on age, body mass index, types of exercises, parity, delivery, and compared using Mann Whitney-U and Chi square. There is a significantly higher risk of SUI during CrossFit exercises associated with previous pregnancy and vaginal delivery but also in nulliparous women. In general, women participating in CrossFit have been applying preventative measures for protection of SUI during exercises.¹²

Neela Soni, Anil Rahule (2018) Stated that Stress urinary incontinence (SUI) affects the quality of life at least one third of women globally. This problem is more common in India, where women usually do not seek treatment for their reproductive health problems and do not vocalize their symptoms. Therefore, this study aimed to evaluate the effect of exercise on stress incontinence in women. Kegel exercise is said to be effective for the management of SUI. Hence it was tried to see the effects of this method in the population of Gujarat, India. A total of 60 females having stress incontinence were included in this study and given kegel exercises for one month and compared with pre treatment status. In result, statistically significant improvement was observed in comparison to pre treatment

cases after kegel exercise in perineometry power. It can be concluded that kegel exercise is effective for controlling SUI in the study population.¹³

Zarawski Marcin(2017): In this study, the researcher evaluated the impact of pelvic floor muscle training on the occurrence and intensity of urine leakage in women in three different periods: during pregnancy, until 6 weeks postpartum and up to 12 months after childbirth. In addition, the researcher examined the contribution of pelvic floor exercise to changes in the quality of life of women with urinary incontinence. Results showed that urinary incontinence may affect up to 45% of women in the postpartum period. Conclusion of this study shows the importance of educating the public about the role of prophylaxis in the prevention of urinary incontinence and confirms that pelvic floor training is an effective method of prophylaxis and therapy of urine leakage during pregnancy and the postpartum period.

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