



Effect of Kegel's exercise on stress urinary incontinence among women: A quasi experimental study

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ABSTRACT

A pre-experimental study was conducted to determine the effect of kegel's exercise on stress urinary incontinence among forty women. The subjects were selected by purposive sampling technique from selected kudumbasree units of NellanadPanchayath in Trivandrum district of Kerala. Pre experimental approach with one group pretest posttest design was used as a research design. Data were collected by using socio personal proforma and a semi-structured questionnaire to assess the stress urinary incontinence. After conducting pretest, investigator taught about kegel's exercise to the subjects and are requested to do exercise three times a day (morning, afternoon and evening) and ten times in each session. Results showed that there was significant reduction in stress urinary incontinence that shows kegel's exercise has significant effect on stress urinary incontinence ($p < 0.0001$). It was also found that there was no significant association between stress urinary incontinence and selected sociopersonal variables.

KEYWORDS : Kegel's exercise, stress urinary incontinence, women

Introduction

Urinary incontinence is the unintentional loss of urine. Stress urinary incontinence happens when physical movement or activity occurs such as coughing, sneezing, laughing or heavy lifting puts pressure (stress) on the bladder. Stress urinary incontinence is not related to psychological stress. The most commonly encountered clinical forms of established urinary incontinence in adults are stress incontinence, urge, overflow, and mixed urinary incontinence. Stress urinary incontinence is sudden leakage of a small amount of urine that occurs with increased abdominal pressure such as laughing or coughing, it occurs when intravesical pressure exceeds intra urethral pressure in the absence of detrusor activity.

Trouble with involuntary loss of urine is acknowledged by more than one half of the 194 women in two health conscious mostly well-educated populations of presumably healthy women. The proportion of women experiencing incontinence remains relatively constant but the severity increases with age. Multiparity, poor pelvic muscle strength or endurance, and postmenopausal status are the most common associates of stress urinary incontinence (S.U.I.) in an otherwise healthy woman.

Stress urinary incontinence (SUI) has a significant impact on the quality of life for many women, although estimates of prevalence vary widely due to inconsistencies in the definitions of SUI and differences in populations studied. A large meta-analysis reported an estimated prevalence for urinary incontinence of thirty percentage in women aged thirty to sixty years, with approximately half of the cases attributed to SUI another study reported the prevalence of SUI was five percentage to thirty percentage in European women.

A hospital-based cross-sectional study on prevalence and risk factors of urinary incontinence in Indian women included women attending gynecology OPD (consulters) and hospital employees (nonconsulters). The objectives were to study the prevalence and risk factors of urinary incontinence in Indian women and result shows that of 3000 women enrolled, 21.8% (656/3000) women were incontinent. In that highest numbers were found to have stress incontinence [73.8% (484/656)] followed by mixed [16.8% (110/656)] and urge incontinence [9.5% (62/656)]. Age more than forty years, multiparity, postmenopausal status, body mass index more than 25, history of diabetes and asthma, and habit of taking tea, tobacco, pan, and betel are risk factors found to be associated with increased prevalence of urinary incontinence in univariate

analysis. Stress incontinence was separately not associated with menopause.

An experimental prospective research study conducted on bladder training and kegel's exercises for women with urinary complaints living in a rest home. The study aimed to determine the efficiency of bladder training and kegel's exercises for older women living in a rest home. Through a randomization process, 25 women were included in the treatment group, and another 25 were in control group. Participants were aged older than 65 years with urinary complaints. The pretreatment interview form, Quality of Life Scale, Mini-Mental Test, Rankin Scale, daily urinary forms and pad tests were administered to the treatment and control groups. Bladder training and Kegel's exercises were given to the treatment group for six to eight weeks. The second evaluation was performed eight weeks after treatment, and the last evaluation was carried out six months after treatment. Result showed that the average age for treatment group was 78.88 +/- 4.80 years, and the average age for control group 79.44 +/- 5.32 years. A significant increase in pelvic floor strength was observed in the treatment group compared to the control group upon all evaluations.

Materials and methods

A pre-experimental study was conducted to determine the effect of kegel's exercise on stress urinary incontinence among forty women. The data were collected from selected kudumbasree units of Thottumpuram, Mylakkal and Kanthalakkonam wards of NellanaduPanchayath after getting administrative permission from Institutional Ethical Committee and from NellanaduPanchayath authority. In this study the instruments/ tools used were Socio personal proforma and a Semi-structured questionnaire to assess stress urinary incontinence. The reliability of the tool was tested using test-retest method, Karl Pearson's correlation formula was used to calculate the reliability and it was found to be 0.94. So, the tool showed that highly significant and positive correlation, thus the tool is considered to be reliable. Based on the inclusion criteria forty subjects were selected by using purposive sampling technique. The areas of the selected subjects were located with the help of CDS members, kudumbasree members and ASHA workers. The investigator introduced herself to the subjects and the objectives of the study were explained to each subject. During the time of data collection, the investigator met the subjects personally and the socio personal data was collected through self-report and stress urinary incontinence assessed through interviewing by using semi structured questionnaire. Data was collected after obtaining informed consent from the subjects. The respondents were assured

anonymity and confidentiality of the information provided by them. After collecting the data, the investigator taught kegel's exercises. Subjects are advised to initially identify the pubococcygeous muscles by stopping the midstream urine. Then advised to contract the pelvic floor muscles, hold the contraction for five seconds, and then relax for five seconds. Avoid holding breath. Instead, breathe freely during the exercises. Subjects are requested to do exercise morning, afternoon and evening. Each session should contain ten times. Investigator gave a voiding diary and exercise log to the subjects for recording. Follow up was assured through telephone calls and weekly visits to kudumbasree meetings held on Sundays. After six weeks, posttest was done by using the same semi structured questionnaire. There was no sample attrition.

Results:

a. Sample characteristics:

Among subjects, 62.5% belongs to 46-50 years of age group, 25% belongs to 41-45 years of age group, 7.5% were belongs to the age group of 36-40 years and only five percentage belongs to the age group of 31-35 years. Majority of the subjects, 92.5% were studied up to high school level of education and only 7.5% were studied up to higher secondary education. most of the subjects, 72.5% were carryout moderate type of physical activity and fifteen percentage of subjects were carryout heavy type of physical activity and 12.5% were in sedentary type of physical activity group. Majority of the subjects, 72.5% were belongs to Hindu religion and only 27.5% were belongs to Muslim religion. Among the subjects, 45% belongs to BMI category of 18.5 – 25, thirty percentage belongs to BMI category of 25- 30, 22.5% were belongs to BMI category of <18.5 and only 2.5% were belongs to BMI category of > 30. Majority of subjects, seventy percentage had excessive use of tea, 2.5% performed regular exercises and 27.5% were belongs to none of them. Around half of the subjects, fifty percentage were belongs to second gravida and around 32.5% belongs to third gravida and only 17.5% belongs to more than gravida three. More than half of the subjects, 62% were belongs to parity two, thirty percentage were belongs to parity three and eight percentage were belongs to parity more than three. Majority of subjects, 87.5% were underwent normal vaginal delivery and only 12.5% were underwent caesarean section. More than half of the subjects, 57.5% were had babies with birth weight of two to three kilograms and 35% were had babies with three to four kilograms. Only 7.5% were had babies with birth weight more than four kilograms. Among the subjects, eighty percentage had no previous pelvic floor surgeries/ procedures, fifteen percentage had underwent Dilatation and curettage and only five percentage had perennial tear repair.

b. Effect of Kegels exercise on stress urinary incontinence

Table 1: Median, Wilcoxon signed ranks testz value and p value of difference between pre and post test scores of stress urinary incontinence

n=40

Characteristics	Median of difference	Wilcoxon signed rank test Z value	p value
Pretest score	9.00	5.466	0.0001*
Post test score	3.00		

* Significant at p<0.001

Table 1 shows that the Wilcoxon signed rank test z value obtained was 5.466 and p value was 0.0001 which is extremely significant at p<0.001. Hence the research hypothesis was accepted. So, it can be concluded that the kegel's exercise has extremely significant effect on stress urinary incontinence among women.

C. Association between stress urinary incontinence and selected sociopersonal variables among women.

Association of socio personal variables such as age, physical activity, religion, BMI, lifestyle habits, gravida, parity, mode of delivery, birth

weight of baby and previous pelvic floor surgeries/ procedures were analyzed by using Kruskal-Wallis test and education was analyzed by using Mann- Whitney U test. It shows there was no significant association between sociopersonal variables and stress urinary incontinence among women.

Discussion

With stress incontinence, movements and activities such as coughing, sneezing, and lifting put greater abdominal pressure on the bladder. That causes the leakage of urine. A number of things can contribute to stress incontinence. For instance, it can result from weak muscles in the pelvic floor or a weak sphincter muscle at the neck of the bladder. A problem with the way the sphincter muscle opens and closes can also result in stress incontinence. Chronic coughing, smoking, and obesity may also lead to SI.

The present study findings are consistent with the result of another previous study on Evaluation of Effect of kegel's exercise for the Management of Stress Incontinence in Women of Gujarat, India. A total of sixty females having Stress Incontinence were included in the study and given kegel's exercises for one month and compared with pretreatment status. Results showed that statistically significant improvement was observed in comparison to pretreatment cases after kegel's exercise (*p<0.001) and it can be concluded that kegel's exercise is effective for controlling SUI.

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