



A QUASI-EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF PELVIC FLOOR EXERCISES (KEGELS EXERCISES) IN STRESS URINARY INCONTINENCE AMONG PATIENTS IN SELECTED PRIVATE HOSPITALS, BHOPAL CITY

¹Mrs. Jobimol Mathew, ²Lt. Col. (Dr.) Karesh Prasad, ³Mrs. Priyanka Shukla

¹ Asso. Professor, Medical-Surgical Nursing Department, Nalapad College of Nursing.

² Principal/Professor, Peoples College of Nursing & Research Centre, Bhanpur, Bhopal (M.P)

³ Professor, Peoples College of Nursing & Research Centre, Bhanpur, Bhopal (M.P)

Email: jobi.mol2009@gmail.com, Mobile. 8075 878 910



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ABSTRACT

Urinary Incontinence (UI) is defined by the International Continence society as the complaint of any involuntary leakage of urine. Stress Urinary Incontinence (SUI) is the 2nd most common cause in aging females. It presents clinically as the involuntary loss of urine during physical activities that increase intra-abdominal pressure, such as coughing or sneezing. A study was conducted to assess the effectiveness of Pelvic Floor Exercises (PFE) in SUI among 60 patients. A One Group Pre-Test Post-Test Design was utilized. Data were collected using the Incontinence Impact Questionnaire (IIQ-7) and analyzed by Descriptive and Inferential Statistics. Post-test results showed a significant decrease in the impact of SUI across all categories, with many patients reporting "not at all" or only "slight" interference in activities. The paired t-test values were statistically significant ($p < 0.05$) for every item. The findings conclude that PFE is highly effective in decreasing SUI among patients and is recommended as the best first-line treatment.

INTRODUCTION

Pelvic Floor (Kegels) Exercise, first introduced in 1948 by Dr. Arnold Henry Kegel, is a behavioural technique that requires repetitive active exercise of the pubococcygeus muscle. It is designed to improve the strength and ability of these muscles to prevent urine loss and is considered a non-invasive and safe treatment.

Urinary Incontinence (UI) is defined as the complaint of any involuntary leakage of urine. Stress Urinary Incontinence (SUI) specifically refers to urine loss coincident with an increase in intra-abdominal pressure, in the absence of a detrusor contraction or an overdistended bladder.

NEED FOR THE STUDY

Approximately 30-40% of middle-aged women in India suffer from SUI, and the problem increases with age. SUI often limits social activity, threatens self-confidence, and impacts self-esteem. Despite its prevalence, many women suffer for an average of 4 years before consulting a doctor due to the personal nature of the problem and the belief that no help is available. Current clinical challenges include under-reporting by patients and a

lack of education regarding effective treatments. Because PFE has been proven to decrease SUI without side effects, there is a strong need to promote it as a primary management strategy.

OBJECTIVES

The study aimed: -

- To determine the prevalence of Stress Urinary Incontinence among patients.
- To intervene Pelvic Floor Exercise among patients with Stress Urinary Incontinence.
- To evaluate the effectiveness of Pelvic Floor Exercise in Stress Urinary Incontinence among patients.

Hypothesis:

H1: There is a significant difference between the Pre-test and Post-test Scores of Pelvic Floor Exercise for Stress Urinary Incontinence.

H2: There is a significant association between Pre-test IIQ-7 Scores and selected Socio-Demographic Variables and Clinical History.

Materials and Methods

The present study employed a quasi-experimental one-group pre-test–post-test research design to evaluate the effectiveness of Pelvic Floor Exercises (Kegel's exercises) on stress urinary incontinence (SUI) among patients attending selected private hospitals in Bhopal. The study was conducted at People's Hospital and L.B.S. Hospital, Bhopal, using a pre-experimental research approach. The independent variable was the Pelvic Floor Exercise intervention, while the dependent variable was the level of stress urinary incontinence among the participants. The target population comprised patients diagnosed with stress urinary incontinence attending the selected hospitals.

A total of 60 participants were included in the study using a purposive sampling technique, based on predefined eligibility criteria. The study included patients who were willing to participate, diagnosed with stress urinary incontinence, had a previous history of stress urinary incontinence, hysterectomy, or prostatectomy, postnatal mothers available during the study period, women who had undergone normal vaginal delivery, menopausal women, and patients who were able to read and write either English or Hindi. Patients who were unavailable during the data collection period, had previously received training in pelvic floor exercises, were undergoing treatment for urinary incontinence, or had undergone surgery for urinary incontinence were excluded from the study.

Baseline data were collected using the standardized Incontinence Impact Questionnaire (IIQ-7) to assess the impact of stress urinary incontinence on the participants' quality of life. Following the pre-test assessment, participants received instruction and training on Pelvic Floor Exercises (Kegel's exercises) and were encouraged to perform the exercises regularly for four weeks. At the end of the intervention period, a post-test assessment was conducted using the same IIQ-7 questionnaire to evaluate changes in the severity and impact of stress urinary incontinence. The collected data were analysed using appropriate descriptive and inferential statistical methods to determine the effectiveness of the pelvic floor exercise intervention.

DATA COLLECTION TOOL

The process of developing this tool involved:

1. Socio-demographic proforma
2. Incontinence Impact Questionnaire (IIQ-7)

SECTION I:

PART – A: Socio - Demographic Proforma

PART – B: Clinical History

SECTION- I:

Part-A: Socio demographic proforma includes: -

Age, BMI (Height, Weight), Gender, Marital Status, Educational Status, Occupation, Living Status.

Part-B: Clinical History includes:

Daily intake of water in 24 hrs, Smoking habit, Alcohol consumption, use any other Irritant Substances (caffeine, tea, coffee), Menopausal Status (if applicable), Parity (if applicable), Previous history of Stress Urinary Incontinence prior to surgery/procedure, Previous history of Hysterectomy, Previous history of Prostatectomy, without history of any surgery having Stress Urinary Incontinence, Previous knowledge about Pelvic Floor Exercises.

SECTION- II: Standardized Tool

Incontinence Impact Questionnaire (IIQ-7)

After an extensive discussion with guide, the investigator developed Section I & Section II in which Section 1 was divided into two parts a structured interview schedule on Socio-Demographic for collecting data consisting of 5 items and Clinical History on Stress Urinary Incontinence among patients consisting of 11 items and Section II on collecting data on Stress Urinary Incontinence among patients consisting of 7 items by using Standardized Tool IIQ-7.

RESEARCH DESIGN

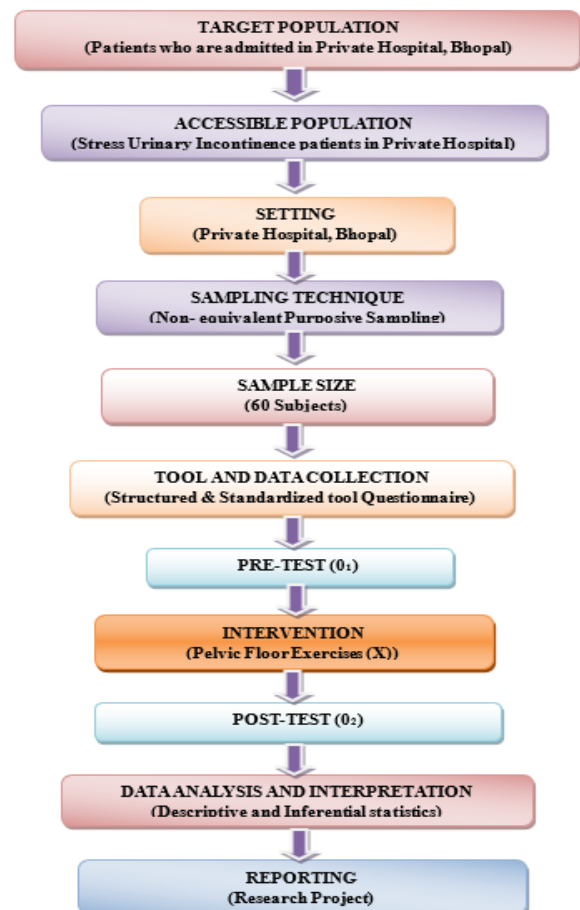


Figure 1:- Schematic Representation of Research Methodology

RESULTS AND ANALYSIS

A total of 60 patients with stress urinary incontinence (SUI) participated in the study. The majority of participants were females (63.3%), aged 25–30 years (33.3%), with a normal BMI (33.3%), and married (86.7%). Nearly half (48.3%) were homemakers and 46.7% belonged to the middle socioeconomic group. Most participants had no history of smoking (66.7%) or alcohol consumption (68.3%), while 70% had no previous knowledge of Pelvic Floor Exercises (PFE).

The effectiveness of Pelvic Floor Exercises was assessed using the Incontinence Impact Questionnaire (IIQ-7) before and four weeks after the intervention. In the pre-test, the majority of participants reported that urine leakage had a moderate to great impact on household activities, physical recreation, travel, social relationships, emotional health, and feelings of frustration. Following four weeks of Pelvic Floor Exercises, the post-test showed marked improvement, with most participants reporting no or only slight impact of urine leakage on these activities.

Comparison of the pre-test and post-test IIQ-7 scores demonstrated a statistically significant improvement in all seven domains ($p < 0.05$), indicating the effectiveness of Pelvic Floor Exercises in reducing the severity and impact of stress urinary incontinence. Significant associations were also observed between SUI and selected clinical variables, including daily water intake, alcohol consumption, and the use of irritant beverages such as tea and coffee ($p < 0.05$). Therefore, both research hypotheses (H_1 and H_2) were accepted, confirming that Pelvic Floor Exercises significantly improved stress urinary incontinence and that selected clinical factors were associated with the condition.

Overall, the study findings demonstrate that Pelvic Floor Exercises are an effective non-invasive intervention for improving stress urinary incontinence and enhancing the quality of life among affected patients.

DISCUSSION

The present study attempted to assess the effectiveness of Pelvic Floor Exercises (Kegel's Exercises) in Stress Urinary Incontinence among patients in selected People's Hospital and L.B.S Hospital, Motia Talab Masaid Road, Bhopal City. This study used pre-experimental research design; Lottery sampling technique was utilized to select 30 patients from People's Hospital and 30 patients from L.B.S Hospital. Pre – test IIQ-7 scores was given by using Standardized Tool Questionnaire. Pelvic Floor Exercises in Stress Urinary Incontinence patients was demonstrated and educated on the same day. After 4 weeks post-test IIQ-7 scores regarding effectiveness of Pelvic Floor Exercises in Stress Urinary Incontinence patients was assessed. The collected data was analyzed by descriptive and inferential statistics. The results revealed that majority of the patients SUI was decreased from PFE. After the administration of PFE there was increase

or improvement in post-test IIQ-7 scores and PFE group correlated with increased strength of pelvic muscles.

On the whole, the study was really an interesting and exciting experience to the investigator. The constant encouragement and the guidance of the guide, cooperation and interest of the respondent to participate in the study, contributed to the fruitful completion of the study.

RECOMMENDATION

A study could be replicated on a larger sample to identify specific nursing interventions provided to patients with Stress Urinary Incontinence.

A follow up study can be conducted to evaluate the long – term effects of Pelvic Floor Exercise.

The study was highly recommended the Pelvic Floor Exercise for Stress Urinary Incontinence patients for its significant in improving the pelvic muscles and Stress Urinary Incontinence.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest regarding the publication of this study.

CONCLUSION

Assessment of the Pretest scores regarding Incontinence Impact among patients and implementation of the PFE is highly effective for SUI is to them is the main concept of the study. From the findings of the study, majority of the patients SUI was decreased from PFE. After the implementation of the PFE the post-test IIQ-7 scores showed that none of the patients in the PFE group experienced any adverse effects of the therapy and there is a significant improvement in the SUI patients. Hence, paired 't' value were significantly higher than there p value i.e. <0.05 in each items /inventory. H_1 & H_2 were accepted.

Thus, it is concluded that the PFE is highly effective in imparting the SUI among patients. So, it appears that the best 1st line treatment for patients with SUI is PFE.

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