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"A STUDY TO ASSESS THE EFFECTIVENESS OF KEGEL EXERCISES IN REDUCING URINARY INCONTINENCE AMONG ELDERLY WOMEN RESIDING IN SELECTED OLD AGE HOMES IN ELURU."

Medical Surgical Nursing

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ABSTRACT

This pre-experimental study aimed to assess the effectiveness of Kegel exercises in reducing urinary incontinence among elderly women residing in selected old age homes in Eluru, Andhra Pradesh. **Background:** Urinary incontinence is a prevalent yet underreported issue among elderly women, significantly affecting their quality of life. Strengthening pelvic floor muscles through Kegel exercises offers a simple, non-invasive approach to manage this condition effectively. **Objectives:** The study aimed to assess the level of urinary incontinence before and after intervention, evaluate the effectiveness of Kegel exercises, and examine the association between post-test incontinence levels and selected demographic variables. **Methodology:** A total of 50 elderly women with urinary incontinence were selected using simple random sampling from Premalayam Old Age Home. Data were collected using the Michigan Urinary Incontinence Symptom Index (M-ISI) before and after a one-month Kegel exercise intervention. The intervention included a planned teaching program with demonstrations and daily guided practice. **Results:** "According to the M-ISI scale, pre-test findings revealed that 48% had moderate, 30% had severe, and 22% had very severe urinary incontinence." Post-test results showed improvement, with 60% having moderate, 24% severe, and only 4% very severe incontinence. The mean urinary score reduced from 10.40 to 8.82 ($t = 11.51$, $p = 0.000$), and Michigan score reduced from 18.08 to 14.18 ($t = 11.65$, $p = 0.000$), indicating statistically significant improvement. No significant association was found between post-test scores and demographic variables. **Conclusion:** The study concluded that Kegel exercises are effective in reducing urinary incontinence among elderly women. Awareness and education on pelvic floor strengthening should be promoted in geriatric care to enhance quality of life.

KEYWORDS

Urinary incontinence, elderly women, Kegel exercises, pelvic floor muscle training, geriatric care.

INTRODUCTION:

Urinary incontinence is a common yet underreported health issue among older adults, particularly elderly women. It involves the involuntary leakage of urine and significantly affects physical, emotional, and social well-being. While aging naturally contributes to weakened pelvic floor muscles, additional risk factors such as childbirth, menopause, obesity, neurological disorders, and surgeries further increase the likelihood of incontinence.

India's aging population is rapidly expanding, with the number of individuals over 60 years steadily rising. Despite its prevalence—affecting up to 50–69% of women—urinary incontinence is not an inevitable part of aging and is often treatable.

Kegel exercises, introduced by Dr. Arnold Kegel in 1948, are simple, non-invasive exercises that strengthen pelvic floor muscles. They have been shown to improve bladder control, reduce urine leakage, and enhance quality of life without the risks associated with medical or surgical interventions.

This study explores the effectiveness of Kegel exercises in managing urinary incontinence among elderly women, promoting a cost-effective and side-effect-free solution for a growing public health concern.

Need For The Study: Urinary incontinence (UI) is a common yet underreported health problem affecting millions worldwide, especially elderly women. Globally, around 200 million people suffer from UI, with a 12.8% prevalence in women, increasing with age. In the United States, up to 75% of long-term care residents and 30–40% of women above 60 years experience UI.

In **India**, the prevalence of UI is **26.47%**, with stress UI (13.9%), mixed UI (7.2%), and urge UI (5.4%). Age-specific data shows a steady rise—from **7.25% in women aged 18–34** to **30.19% in those over 75 years**. In **Andhra Pradesh**, especially rural areas like **West Godavari district**, UI remains neglected due to social stigma and lack of awareness.

Despite its burden, UI is not a normal part of aging and can be managed effectively. **Kegel exercises** offer a safe, cost-effective, and non-invasive method to strengthen pelvic floor muscles and reduce urinary leakage, making them ideal for elderly women. This study aims to highlight the effectiveness of Kegel exercises in managing urinary incontinence and improving quality of life.

Problem Statement:-"A study to assess the effectiveness of Kegel exercises in reducing urinary incontinence among elderly women residing in selected old age homes in Eluru."

Objectives:

1. To assess the level of urinary incontinence among elderly women before intervention using a pre-test.
2. To evaluate the effectiveness of Kegel exercises in reducing urinary incontinence among elderly women in terms of change in incontinence levels.
3. To assess the level of urinary incontinence among elderly women after practicing Kegel exercises using a post-test.
4. To find the association between post-test urinary incontinence levels and selected demographic variables.

Hypothesis

H_1: There will be a significant difference between the pre-test and post-test levels of urinary incontinence among elderly women after practicing Kegel exercises.

H_2: There will be a significant association between the post-test level of urinary incontinence and selected demographic variables among elderly women.

Research Approach: A quantitative approach assessed Kegel exercises' effectiveness in reducing urinary incontinence in elderly women.

Research Design: A pre-experimental one-group pre-test post-test design was used to assess the effectiveness of Kegel exercises.

Setting Of The Study: The study was conducted at Premalayam Old Age Home, Eluru, chosen for its feasibility, availability of the target population, and cooperation from the authorities.

Population: The population of the study comprised elderly women suffering from urinary incontinence residing in Eluru.

Sample And Sample Size

Sample: Elderly women with urinary incontinence living in Premalayam Old Age Home

Sample Size: 50 elderly women

Sampling Technique: Simple random sampling technique was used to

select the participants.

Criteria For Sample Selection
Inclusion Criteria:
- Elderly women willing to participate
- Present during data collection
- Able to perform Kegel exercises

Exclusion Criteria:
- Unwilling to participate
- Unable to perform exercises
- Recent pelvic surgery or severe cardiovascular disease
- Severe cognitive impairment

Variables
Independent Variable: Practice of Kegel exercises
Dependent Variable: level of urinary incontinence among elderly women

Development And Description Of Tool
Section I – Demographic Data Questionnaire: Includes age, religion, education, occupation, income.
Section II – Michigan Urinary Incontinence Symptom Index (M-ISI): It Consists of 10 items with 5 response options. Score Range: 0–40

Interpretation:

Severity level	Score Range
Very severe	31-40
Severe	21-30
Moderate	11-20
Slight	1-10
Not at all	0

Section III – Urinary Incontinence Frequency Scale. It consists of 8 items with 3 response options. Score Range: 0–16

Interpretation:
- **Very-severe=** 13-16
- **Severe=** 9-12
- **Moderate=** 5-8
- **Slight=** 1-4
- **Not At All=** 0

Ethical Considerations: Ethical clearance was obtained, and permission was granted by the in-charge of Premalayam Old Age Home, Eluru. Informed consent was taken from all participants, ensuring confidentiality.

Plan For Data Analysis:
On Day 1, demographic data and pre-test scores using the Michigan Urinary Incontinence Symptom Index were collected. A planned teaching program and demonstration on Kegel exercises followed, with return demonstrations by participants. They practiced the exercises daily for 45 minutes over one month. A post-test was then conducted using the same tool to assess changes in urinary incontinence levels.

Descriptive Statistics:
- Frequency and percentage for demographic data
- Mean and standard deviation for urinary incontinence scores

Inferential Statistics:
- Paired t-test to compare pre- and post-test scores
- Chi-square test to find associations with demographic variables

Data Analysis And Interpretation:
Frequency And Percentage Distribution Of The Sample According To The Selected Demographic Variables: In the experimental group, most participants (50%) were aged 61–70years, 34% were above 70, and 16% were 51–60 years. The majority were Hindus (80%), followed by Christians (18%) and Muslims (2%). Regarding education, 34% were illiterate, 58% had primary, 6% secondary, and 2% were graduates. Most (94%) had a monthly income below ₹5000. Occupationally, 46% were housewives, 44% daily wage workers, 6% employees, and 4% were in small-scale business.

Table -2: Frequency And Percentage Distribution Of The Sample In Pre-test And Post-test Scores (Urinary Incontinence Scale)

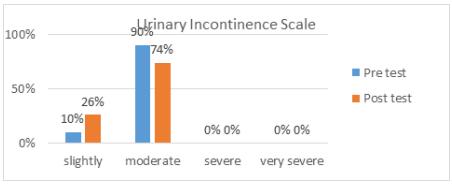
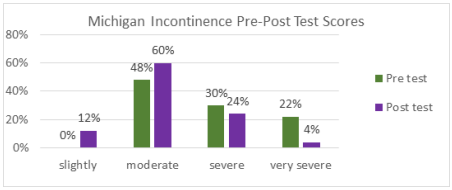


Table -3 Frequency And Percentage Distribution Of Pre-test And Post-test Scores (Michigan Incontinence Scale)



Association Between Post-Test Incontinence Severity and Demographic Variables:
The findings revealed no statistically significant association between urinary incontinence severity and variables such as age(χ^2=3.34), religion (χ^2=0.47), education (χ^2=3.99), monthly income(χ^2=1.12), and occupation (χ^2=1.67).

Similarly, for the Michigan Incontinence Scale, no significant association was observed with age (χ^2=10.48), religion (χ^2=8.71), education (χ^2=5.22), monthly income (χ^2=0.65), and occupation (χ^2=10.15).

DISCUSSION:
Objective 1: To assess the level of urinary incontinence before the intervention. "According to the M-ISI scale, pre-test findings revealed that 48% had moderate, 30% had severe, and 22% had very severe urinary incontinence." This highlights the high prevalence of incontinence prior to the intervention.

Objective 2: To evaluate the effectiveness of Kegel exercises. "Post-intervention improvement was observed, with 12% showing slight, 60% moderate, 24% severe, and only 4% very severe urinary incontinence." The mean urinary score reduced from 10.40 to 8.82 (t =11.51, p =0.000), and the Michigan score reduced from 18.08 to 14.18 (t =11.65, p = 0.000), indicating a statistically significant improvement. H_1 accepted – Kegel exercises were effective in reducing urinary incontinence.

Objective 3: To assess post-test levels after Kegel exercises. Post-test scores confirmed reduced severity. A comparison of post-test means (urinary = 8.82, Michigan = 14.18) showed a significant difference (**t = 6.33, p = 0.000**), suggesting both tools assess symptoms differently.

Objective 4: To find association with demographic variables. Chi-square tests showed no significant association between post-test scores and age, religion, education, income, or occupation. **H_2 rejected** – No significant link between demographic variables and incontinence levels.

Implications:
Nursing Practice
Nurses should teach elderly women Kegel exercises during clinical interactions and raise awareness about urinary incontinence and its management in the community.

Nursing Education: Nurse educators should include urinary incontinence and Kegel exercises in the curriculum and organize regular workshops or training sessions to enhance staff and student knowledge.

Nursing Administration: Nursing administrators should support health awareness campaigns and encourage community health nurses to conduct camps on Kegel exercises for the elderly and caregivers.

Nursing Research: Nurse researchers should disseminate findings to promote evidence-based practice, explore interventions for urinary incontinence, and develop teaching materials to improve geriatric continence care.

Recommendations

- Replicate the study with a larger sample.
- Conduct studies in varied settings.
- Compare rural vs. urban and home vs. institutionalized elderly women.
- Test the effectiveness of structured teaching on Kegel exercises.
- Examine the link between incontinence severity and Kegel practice.

Limitations

- The study was limited to a single old age home in Eluru.
- The small sample size restricts generalization of results.

CONCLUSION

The study reveals that elderly women experienced a significant reduction in urinary incontinence after practicing Kegel exercises. It highlights the effectiveness of Kegel exercises as a non-invasive intervention and emphasizes the need to educate elderly women and caregivers about their regular practice for better continence care.

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