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Effects of Kegel Exercises on Urinary Incontinence in the Elderly

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ABSTRACT

The elderly experience of decline and changes physically, psychologically, socially, and spiritually most affect their health status. Urinary incontinence is a problem experienced by many elderly. Kegel exercises are a therapy for urinary incontinence problems. The purpose of the study was to determine the effect Kegel exercises of Kegel exercises on urinary incontinence. The study population was all elderly who experienced urinary incontinence in the working area of UPTD Puskesmas Tanjung Raya Muara Enim. The study was conducted from January 22 to February 10, 2024. The sample number was 38 people with the purposive sampling technique. This research design is pre-experimental with one group pre-post design. The instrument used to measure incontinence scores is the ICIQ-UI Short Form, with three measurements at week 1, week 2, and week 3. Data were analyzed using the Friedman test to see differences in urinary incontinence scores from the results of 3 measurements at week 1, week 2, and week 3. Based on analysis using the Friedman test, the p-value was 0,000 (p<0,050), which means there was a difference in urinary incontinence scores in the first week, second week, and third week after doing Kegel exercises. The lowest urinary incontinence score after the Kegel exercises was in the third week, with a mean rank value of = 1,34. Kegel exercises in the third week had more influence in reducing urinary incontinence scores.

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1. Introduction

The elderly is an advanced stage of a life process characterized by changes in the body's ability to adapt (Dewi & Ners, 2015). In 2050, The elderly population is estimated in the world to increase to two billion (WHO, 2020) . The percentage of the elderly population in Indonesia will be 11.75% in 2023. This figure is up 1.27% compared to the previous year's 10.48% (Badan Pusat Statistik, 2024) The percentage of the elderly population in Indonesia will be 11.75% in 2023. According to 2022 Susenas data in Muara Enim district, the elderly percentage of women (37.34%) is more than men (30.83%) (BPS Provinsi Sumsel, 2023).

A phase of life that every human being must experience is the change in becoming old or elderly (Hentika, 2019). Someone who has entered the age of 60 years and over will experience the aging process in physical and mental changes (Siregar & Yusuf, 2022). The change physically, various systems such as the vision system, hearing system, respiratory system, body temperature regulation system, endocrine system, skin system, cardiovascular system, digestive system, reproductive system, musculoskeletal system, decline in the nervous system, and the urinary system (Arisandi, 2023). The

physical, psychological, social, and spiritual decline and changes experienced greatly influence their health status (Wisnusakti & Sriati, 2021).

The elderly experience physical changes in the urinary system (Astuti et al., 2023). The impact of changes in urinary function, the elderly experience problems controlling urine output, called urinary incontinence (Suyanto, 2019). Urinary incontinence is the involuntary loss of urine of sufficient quantity and frequency to cause health and social problems (Gemini et al., 2021). Incontinence in menopausal women occurs due to weakness of the pelvic floor muscles and changes in the function and structure of the bladder and urethra (Suparman & Rompas, 2008). The impact of urinary incontinence is loss of self-confidence, and avoidance of social interactions can result in depression (Kurniasari & Soesilowati, 2017).

Kegel exercises involve the repetitive contraction and relaxation of the pelvic floor muscles. The primary mechanism of action for kegel exercises in strengthening pelvic floor muscles and reducing urinary incontinence involves several physiological and anatomical processes. The mechanism of action is muscle strengthening; contraction and relaxation. Kegel exercises involve deliberately contracting (tightening) and then relaxing the pelvic floor muscles. This repeated action enhances muscle tone and endurance. Muscle hypertrophy; with regular practice, the pelvic floor muscles, like any other skeletal muscle, undergo hypertrophy (increase in muscle size) due to the repeated stress and subsequent repair process. This results in stronger muscles. Increased muscle coordination and control; neuromuscular re-education; Regular Kegel exercises improve the coordination and control of the pelvic floor muscles. Enhanced neuromuscular control allows for better voluntary contraction and relaxation of these muscles, which is essential for bladder control. Reflex activation; over time, the pelvic floor muscles can become more responsive and capable of quicker, reflexive contractions when needed, such as during coughing or sneezing, which helps prevent leakage (Dumoulin et al., 2018).

Improved support of pelvic organs; pelvic organ support. The pelvic floor muscles play a critical role in supporting the bladder, uterus, and rectum. Strengthening these muscles helps maintain the proper position of these organs, reducing the risk of stress urinary incontinence, where leakage occurs during activities that increase intra-abdominal pressure. Enhanced Urethral Closure Pressure; Urethral Sphincter Function: Stronger pelvic floor muscles contribute to better functioning of the urethral sphincter, the muscle that controls the release of urine. Enhanced sphincter strength and control help prevent involuntary urine leakage.

The interventions for patients with urinary incontinence include Kegel exercises, Crede maneuvers, bladder training, scheduled toileting, catheterization, medication, and surgery (Stanley & Beare, 2006). Kegel exercises are exercises to strengthen the pelvic muscles. Kegel exercises to strengthen the pelvic floor muscles (puoccygeal muscles) and urinary tract muscles (Huang & Chang, 2020). Based on research titled The Effect of Kegel Exercises on Urinary incontinence in the Elderly, based on the results of a literature review from 6 journals, there was a significant influence between before and after being given Kegel exercises on the frequency of urinary incontinence. The research shows that doing Kegel exercises reduces the frequency of urination because the pelvic floor muscles restrain urination (Ruswati, 2022).

Based on previous research entitled The Effect of Kegel Exercises on Elderly People with Urinary Incontinence, the average value of urinary incontinence before doing Kegel exercises was 10.56, standard deviation 2.063 and the average incontinence value after being given Kegel exercises was 8.00, standard deviation 2.797. Statistical test with the dependent T-test, the p-value = 0.00 (p<0,05), meaning there is an influence kegel exercise of BAK frequency on urinary incontinence (Jepisa et al., 2022). Previous research entitled The Effect of Kegel Exercise Training on urinary incontinence in the Elderly at Toeloengredjo Pare Hospital obtained results, data analysis using the Wilcoxon test after being given Kegel exercise therapy significantly obtained p-value = 0.000 (p<0,05), meaning Kegel exercise was effective in reducing urinary frequency in incontinence urine (Sulistyawati et al., 2022).

Previous research results entitled the influence of kegel exercise on urine incontinension reduction in elderly using the T-dependent test showed a P value = 0.000 (p<0.05), meaning there was an effect of Kegel exercises on the frequency of urinary incontinence. There was a significant difference

between urinary incontinence before and after Kegel exercises (Hartini et al., 2018). Based on a preliminary study of 10 elderly using a urinary incontinence questionnaire showed that (50%) experienced mild urinary, (30%) experienced mild-moderate urinary incontinence, and (20%) experienced moderate urinary incontinence. This study aims to effects of kegel exercises on urinary incontinence.

Previous research results in kegel exercise only treated once and once only measured incontinence scores before and after the Kegel exercise intervention. In this study, Kegel exercises were carried out three times a day for three weeks and with four measurements, namely before the intervention, in week 1, week 2, and week 3. The theoretical benefit of research is that the research can add references to studies in the field of nursing science, one of which is nursing intervention in nursing problems for patients with urinary incontinence. The practical benefits of Kegel exercises can be as supporting interventions in treating urinary incontinence.

This study aims to effects of kegel exercises on urinary incontinence. Identifying urinary incontinence scores before Kegel exercise intervention and after Kegel exercise at week 1, week 2, and week 3. Find out the difference in urinary incontinence scores before the intervention and after the 1st week of intervention. find out the difference in urinary incontinence scores before the intervention and after the 2nd week of intervention. Find out the difference in urinary incontinence scores before the intervention and after the 3rd week of intervention. Find the effect of Kegel Exercises on urinary incontinence scores at week 1, week 2, and week 3.

2. Methods

This research design is pre-experimental with a one-group pre-post design. The study population was all elderly who experienced urinary incontinence in the working area of the Regional Technical Services Unit, Public Health Center, Tanjung Raya Muara Enim. The study was conducted from January 22 to February 10, 2024. The sample number was 38 people with the purposive sampling technique. This research design is pre-experimental with one group pre-post design. The research stage begins with a request for consent from the respondent. The researchers provide education on the steps for kegel exercises. The instrument used to measure incontinence scores is the ICIQ-UI Short Form, with three measurements at week 1, week 2, and week 3. Data were analyzed using the Friedman test.

3. Results and Discussion

Univariate Analysis

a. Urinary Incontinence Score Before Kegel Exercises

Table 1.
Urinary Incontinence Score Before Kegel Exercises

Measurement	Urinary Incontinence Score	Frequency (n)	Percentage (%)	Mean	Median	Min-Max	SD
Before Kegel Exercises	17	1	2,6	22,82	23,00	17-28	2,808
	18	4	10,5				
	20	2	5,3				
	21	5	13,2				
	22	2	5,3				
	23	7	18,4				
	24	9	23,7				
	25	2	5,3				
	26	2	5,3				
	27	2	5,3				
	28	2	5,3				
Total		38	100				

Based on table 1, of the 38 respondents, the majority had a urinary incontinence score of 24 (severe urinary incontinence category) (23,7%) and a urinary incontinence score of 28 (very severe

urinary incontinence category) (5,3 %). The urinary incontinence score before Kegel exercises was a mean of 22,82, and a median value of 23,00. The lowest incontinence score was 17, and the highest was 28, with a standard deviation of 2,808.

b. Urinary Incontinence Score After Kegel Exercises at Week 1

Table 2.
Urinary Incontinence Score After Kegel Exercises at Week 1

Measurement	Urinary Incontinence Score	Frequency (n)	Percentage (%)	Mean	Median	Min-Max	SD
After Kegel Exercises at Week 1	17	4	10,5	21,13	21,00	17-27	2,849
	18	8	21,1				
	20	2	5,3				
	21	6	15,8				
	22	5	13,2				
	23	4	10,5				
	24	6	15,8				
	25	1	2,6				
	27	2	5,3				
Total		38	100				

Based on table 2, of the 38 respondents after week 1 of Kegel exercises, the majority had a urinary incontinence score of 18 (moderate urinary incontinence category) (21,1%). The urinary incontinence score after kegel exercises in week 1 had a mean value of 21,13 and a median value of 21,00. The lowest incontinence score was 17, and the highest was 27, with a standard deviation of 2,849.

c. Urinary Incontinence Score After Kegel Exercises at Week 2

Table 3.
Urinary Incontinence Score After Kegel Exercises at Week 2

Measurement	Urinary Incontinence Score	Frequency (n)	Percentage (%)	Mean	Median	Min-Max	SD
After Kegel Exercises at Week 2	7	1	2,6	13,63	14,00	7-23	3,605
	8	1	2,6				
	10	7	18,4				
	11	1	2,6				
	12	6	15,8				
	13	2	5,3				
	14	6	15,8				
	15	7	18,4				
	16	1	2,6				
	17	2	5,3				
	18	1	2,6				
	22	2	5,3				
	23	1	2,6				
Total		38	100				

Based on table 3, of the 38 respondents after the second week of Kegel exercises, the majority had a urinary incontinence score of 15 (moderate urinary incontinence category) (18.4%) and a urinary incontinence score of 10 (mild-moderate urinary incontinence category) (18.4%). After kegel exercises in

week 2, the urinary incontinence score with a mean value of 13,63 and a median value of 14,00. The lowest incontinence score was 7, and the highest was 23, with a standard deviation of 3,605.

d. Score After Kegel Exercises at Week 3

Table 4.
Urinary Incontinence Score After Kegel Exercises at Week 3

Measurement	Urinary Incontinence Score	Frequency (n)	Percentage (%)	Mean	Median	Min-Max	SD
After Kegel Exercises at Week 3	6	5	13,2	11,13	10,50	6-17	3,265
	7	1	2,6				
	8	2	5,3				
	9	4	10,5				
	10	7	18,4				
	11	2	5,3				
	12	3	7,9				
	13	2	5,3				
	14	4	10,5				
	15	5	13,2				
	16	2	5,3				
	17	1	2,6				
Total		38	100				

Based on table 4, of the 38 respondents after Kegel exercises in the third week, the majority had a urinary incontinence score of 10 (mild-moderate urinary incontinence category) (18.4%). After the third week, the urinary incontinence score of Kegel exercises had a mean value of 11,13 and a median of 10,50. The lowest incontinence score was 6, and the highest was 17, a standard deviation of 3,265.

Bivariate Analysis

a. Data Normality Test

Table 5.
Data Normality Test Results

Variabel	*Statistic*	*df*	*P-Value*
Urinary Incontinence Score Before Kegel Exercises	0,955	38	0,133
Urinary Incontinence Score After Kegel Exercises at Week 1	0,931	38	0,021
Urinary Incontinence Score After Kegel Exercises at Week 2	0,929	38	0,019
Urinary Incontinence Score After Kegel Exercises at Week 3	0,943	38	0,052

Based on table 5, the results of the data normality test showed that the urinary incontinence score before Kegel exercises p-value = 0,133, which means is normal distribution, the urinary incontinence score after the first week of intervention p-value = 0,021, which means the data is not normal distribution, the urinary incontinence score after the second week of intervention p-value = 0,019, which means the data is not normal distribution, the urinary incontinence score after the third week of intervention p-value = 0,052, which means the data is normal distribution.

b. Differences In Urinary Incontinence Scores Before And After Kegel Exercises At Week 1

Based on the results of the data normality test in Table 5, before the kegel exercises, the urinary incontinence score (p-value = 0,133) and the urinary incontinence score after the first week of intervention (p-value = 0,021) can be interpreted that the data distribution is not normal, to see the difference in incontinence scores urine before and after Kegel exercises in the first week, the statistical test used was the Wilcoxon test.

Table 6.
Differences In Urinary Incontinence Scores Before And After Kegel Exercises At Week 1

Variable	Median	SD	Min- Max	*P-Value*
Urinary Incontinence Score Before Kegel Exercises	23,00	2,808	17-28	
Urinary Incontinence Score After Kegel Exercises at Week 1	21,00	2,849	17-27	0,003

Based on table 6 bivariate analysis using the Wilcoxon test, p-value = 0.003 (< 0.050), meaning there was a difference in urinary incontinence scores before and after Kegel exercises in week 1.

c. Differences In Urinary Incontinence Scores Before And After Kegel Exercises At Week 2

Based on the results of the data normality test in Table 5, the urinary incontinence score before the intervention (p-value = 0,133) and the urinary incontinence score after the second week of intervention (p-value = 0,019) means not normal data distribution, statistical test using the Wilcoxon test to determine the difference in urinary incontinence scores before and after Kegel exercises at Week 2.

Table 7.
Differences In Urinary Incontinence Scores Before And After Kegel Exercises At Week 2

Variable	Median	SD	Min- Max	*P-Value*
Urinary Incontinence Score Before Kegel Exercises	23,00	2,808	17-28	
Urinary Incontinence Score After Kegel Exercises at Week 2	14,00	3,605	7-23	0,000

Based on table 7, bivariate analysis using using the Wilcoxon Test p-value = 0,000 (< 0,050), meaning there is a difference in urinary incontinence scores before and after Kegel exercises in Week 2.

d. Differences In Urinary Incontinence Scores Before And After Kegel Exercises At Week 3

Based on the results of the data normality test in Table 5, before the intervention, the urinary incontinence score p-value = 0.133, and the urinary incontinence score after week 3 (p-value = 0.052) can be interpreted as normal data distribution, statistical test using is the Paired T-Test to the difference in urinary incontinence scores before and after Kegel exercises in the third week.

Table 8.
Differences In Urinary Incontinence Scores Before And After Kegel Exercises At Week 3

Variable	Mean	SD	Min- Max	*P-Value*
Urinary Incontinence Score Before Kegel Exercises	22,82	2,808	17-28	
Urinary Incontinence Score After Kegel Exercises at Week 3	11,13	3,265	7-23	0,000

Based on table 8, bivariate analysis using the Paired T-Test showed a p-value of 0.000 (< 0.050), meaning there was a difference in urinary incontinence scores before and after Kegel exercises in Week 3.

e. The Effect of Kegel Exercises on Urinary Incontinence Scores at Week 1, Week 2, and Week 3

Based on the data normality test in Table 5, the incontinence scores in week 1 (p-value = 0,021), week 2 (p-value= 0,019), and week 3 (p-value = 0,052) means not normally distributed, so the statistical test used to see the difference in incontinence scores in 3 measurements at week 1, week 2 and week 3 is the Friedman test.

Tabel 9.
The Effect of Kegel Exercises on Urinary Incontinence Scores at Week 1, Week 2, and Week 3

Variable	Mean Rank	*P-Value*
Urinary Incontinence Score After Kegel Exercises at Week 1	2,86	0,000
Urinary Incontinence Score After Kegel Exercises at Week 2	1,80	
Urinary Incontinence Score After Kegel Exercises at Week 3	1,34	

Based on analysis using the Friedman test, the p-value was 0,000 (p<0,050), which means there was a difference in urinary incontinence scores in the first week, second week, and third week after doing Kegel exercises. The lowest urinary incontinence score after the Kegel exercises was in the third week, with a mean rank value of = 1,34. Kegel exercises in the third week had more influence in reducing urinary incontinence scores.

Discussion

Based on the research results of the 38 respondents, the majority had a urinary incontinence score of 24 (severe urinary incontinence category) (23,7%) and a urinary incontinence score of 28 (very severe urinary incontinence category) (5,3 %). The urinary incontinence score before Kegel exercises was a mean of 22,82, and a median value of 23,00. The lowest incontinence score was 17, and the highest was 28, with a standard deviation of 2,808. The results of this study are from previous research showing that before kegel exercises, 23% of mild urinary incontinence, 62% of moderate urinary incontinence, and 15% of severe urinary incontinence (Suhartiningsih et al., 2021). Based on previous research using the Wilcoxon test, it was found that p-value = 0,000 (p < 0,05), indicates that there was a change in the frequency of urination after being given Kegel exercises. It can be concluded that there is an influence of kegel exercises on urinary incontinence in the elderly (Sulistyawati et al., 2022). Based on previous research, the result of the study from 10 respondents, mostly 7 respondents (70%) before the kegel exercise had moderate urinary incontinence, while almost all of 8 respondents (80%) after kegel exercise had mild urinary incontinence. Wilcoxon statistical test result obtained p value = 0,008 ≤ 0,05 then Ha accepted so that there is influence of kegel exercise on elderly patients with urinary incontinence in Technical Implementation Unit of Social Service Tresna Werdha Jombang (Wilda & Andriani, 2018)

Based on theory, as humans get older, they will experience, they will experience physical, psychosocial, and spiritual changes. One of the physical changes is the urinary system, namely a decrease in the tone of the vaginal muscles and the muscles of the urinary tract (urethra) caused by the hormone estrogen decreases, causing urinary incontinence, the muscles becoming weak, urine capacity decreasing to 200 ml or causing the frequency of urination to increase and not controlled (Black & Hawks, 2014). Several factors that cause urinary incontinence include abnormalities in urination frequency due to excessive urine production, and frequent urination at night called nocturia, the elderly experience more urinary incontinence because muscle tone in the urinary tract decreases, and estrogen production can cause atrophy of the urethral tissue that the urethra becomes stiff and inelastic (Aspiani, 2014).

Based on the research results, of the 38 respondents after week 1 of Kegel exercises, the majority had a urinary incontinence score of 18 (moderate urinary incontinence category) (21,1%). The urinary incontinence score after kegel exercises in week 1 had a mean value of 21,13 and a median value of 21,00. The lowest incontinence score was 17, and the highest was 27, with a standard deviation of 2,849. After the second week of Kegel exercises, the majority had a urinary incontinence score of 15 (moderate urinary incontinence category) (18.4%) and a urinary incontinence score of 10 (mild-moderate urinary incontinence category) (18.4%). After kegel exercises in week 2, the urinary incontinence score with a mean value of 13,63 and a median value of 14,00. The lowest incontinence score was 7, and the highest was 23, with a standard deviation of 3,605. after Kegel exercises in the third week, the majority had a urinary incontinence score of 10 (mild-moderate urinary incontinence category) (18.4%). After the third week, the urinary incontinence score of Kegel exercises had a mean value of 11,13 and a median of 10,50. The lowest incontinence score was 6, and the highest was 17, a standard deviation of 3,265.

Kegel exercises are exercises to strengthen the pelvic muscles or exercises that aim to strengthen the pelvic floor muscles, especially the puboccygeal muscles so that a woman can strengthen the muscles of the urinary tract. Kegel exercises can also cure the inability to hold urine (Widianti & Proverawati, 2010).

Exercise continues to be developed and can be carried out on elderly people who experience stress incontinence problems, namely uncontrolled urine output due to sneezing, coughing, laughing, or doing physical exercise and urge incontinence where there is impaired control of urine output. Doing Kegel exercises can improve the function of the pelvic floor muscles, namely a series of muscles from the pelvis to the coccyx (Maas et al., 2011).

Pelvic floor muscle training (ODP) was first developed by Dr. Arnold Kegel in 1940 to strengthen the pelvic floor muscles and treat stress urinary incontinence. This is to the concept of Kegel exercises and the opinion of a gynecologist named kegel in 1940, that Kegel exercises are very useful for strengthening the skeletal muscles in the pelvic floor, thus strengthening the function of the external sphincter in the bladder (Huang & Chang, 2020).

Based on the theory that (kegel exercises) or stage basic muscle training to strengthen the pelvic floor muscles and treat stress urinary incontinence. This exercise is a progressive pelvic floor muscle exercise on the levator ani muscle which can be contracted consciously, called kegel exercise (Ifadah et al., 2023). Kegel exercises to strengthen the pelvic floor muscles (puoccygeal muscles) and urinary tract muscles (Huang & Chang, 2020)

Based on analysis using the Friedman test, the p-value was 0,000 (p<0,050), which means there was a difference in urinary incontinence scores in the first week, second week, and third week after doing Kegel exercises. The lowest urinary incontinence score after the Kegel exercises was in the third week, with a mean rank value of = 1,34. Kegel exercises in the third week had more influence in reducing urinary incontinence scores. Based on previous research entitled The Effect of Kegel Exercises on Elderly People with Urinary Incontinence, the average value of urinary incontinence before doing Kegel exercises was 10.56, standard deviation 2.063 and the average incontinence value after being given Kegel exercises was 8.00, standard deviation 2.797. Statistical test with the dependent T-test, the p-value = 0.00 (p<0,05), meaning there is an influence kegel exercise of BAK frequency on urinary incontinence (Jepisa et al., 2022).

The results of this research are supported by previous research at the end of the 4th week of exercises, 1st-grade urinary incontinence (UI) developed in the IG (10%) and in the CG (13.3%). At the end of the 8th week, 2nd-grade UI (3.3%) developed in the IG and 1st-grade (10%) and 2nd-grade UI (6.7%) developed in the CG. Fecal incontinence developed in neither group (Urvaylıoğlu et al., 2021). Penelitian sebelumnya menunjukan the result showed statistically significant differences in general health perception (p=0.028), role limitation (p=.012), physical limitation (p=.021), sleep/energy (p=.005), incontinence severity (p=.006) domain of KHQ and sagittal stability (p<0.001) between functional approach and Kegel exercise group. Significant differences observed in all domains of KHQ except in personal relationship in functional approach group and in general health perception, personal relationship, and sleep/energy in Kegel exercise group. Significant differences seen in severity of

incontinence (p=.034), leakage volume (p=.024), frequency of micturition (p=.016), and sagittal stability (p=.006) within the functional approach group but not within Kegel exercise group (Karki et al., 2023).

4. Conclusion

The urinary incontinence score before Kegel exercises was a mean of 22,82, and a median value of 23,00. The lowest incontinence score was 17, and the highest was 28, with a standard deviation of 2,808. The urinary incontinence score after kegel exercises in week 1 had a mean value of 21,13 and a median value of 21,00. The lowest incontinence score was 17, and the highest was 27, with a standard deviation of 2,849. After kegel exercises in week 2, the urinary incontinence score with a mean value of 13,63 and a median value of 14,00. The lowest incontinence score was 7, and the highest was 23, with a standard deviation of 3,605. After the third week, the urinary incontinence score of Kegel exercises had a mean value of 11,13 and a median of 10,50. The lowest incontinence score was 6, and the highest was 17, a standard deviation of 3,265.

Based on bivariate analysis using the Wilcoxon test, p-value = 0.003 (< 0.050), meaning there was a difference in urinary incontinence scores before and after Kegel exercises in week 1. Based on bivariate analysis using using the Wilcoxon Test p-value = 0,000 (< 0,050), meaning there is a difference in urinary incontinence scores before and after Kegel exercises in Week 2. Based on bivariate analysis using the Paired T-Test showed a p-value of 0.000 (< 0.050), meaning there was a difference in urinary incontinence scores before and after Kegel exercises in Week 3. Based on analysis using the Friedman test, the p-value was 0,000 (p<0,050), which means there was a difference in urinary incontinence scores in the first week, second week, and third week after doing Kegel exercises. The lowest urinary incontinence score after the Kegel exercises was in the third week, with a mean rank value of = 1,34. Kegel exercises in the third week had more influence in reducing urinary incontinence scores.

This research contributes to a reference study regarding Kegel exercise therapy as a supporting intervention for the elderly who experience urinary incontinence. Nurses providing nursing care to patients with urinary system disorders can use Kegel exercises as a complementary therapy in overcoming nursing problems, namely urinary incontinence. Nurses and health workers in the community can provide education and create routine Kegel exercise training programs for people who experience urinary incontinence so that Kegel exercises are carried out regularly and monitored by nurses and health workers.

The limitation of this research is that researchers could not monitor kegel exercises every day three times. Previous researchers had provided education to families about Kegel exercises so that monitoring the implementation of Kegel exercises every day in the morning, afternoon, and evening for three weeks was assisted by the family.

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