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*"Go beyond the technology aproach toward better
healthcare quality"*

18-19 July 2019

Grand Tjokro Hotel, Bandung, West Java - Indonesia

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15:00-15:10	Djunizar Djamaludin	Knowledge, Self-Efficacy, and Performance of Patient Education In Heart Failure Among Nurses
15:10-15:20	Hudzaifah Al Fath	Coping Mechanism And Stress Among Emergency Department Nurses After Unsuccessful Cardiopulmonary Resuscitation
15:20-15:30	Muhammad Amin Bin Ahmad Zaki	knowledge, attitude and practice regarding dengue fever among uilm students

Pediatric and adolescent care

Moderator : Susri Utami, MSN & Nenden Lesmana Wati, S.Kep., Ners., M.Si

Reviewer : Henny Suzana Mediani, PhD

Date 19 July 2019

Time: 13:00-16:30

Venue: Breakout room: Lily 1

Schedule

Time	Name	Title
13:00-13:10	Susanti Niman	the effect of bibliotherapy on the self-esteem of early adolescents
13:10-13:20	Mikawati Rasyid S.Kp., M.Kes	Relationship of Exclusive Breastfeeding and Mother Height with Stunting among Children 2 – 5 Years Old at Puskesmas Barombong Kabupaten Gowa
13:20-13:30	Windy Rakhmawati	Experiences of getting tuberculosis diagnosis: An entry point of family to engage in tuberculosis prevention for children living in tuberculosis households in Indonesia
13:30-13:40	Ayu Yuliani S	the effect of massage therapy on the quality of bed children beta thalassemia IN GUNUNG JATI HOSPITAL CITY of CIREBON
13:40-13:50	Margareta Hesti Rahayu	Nursing practice in pediatric medication safety
13:50-14:00	Hani Liyah Thoharotul Nafsi	Disclosure Process on parent with HIV children : Qualitative Study
14:00-14:10	Nenden Lesmana Wati	The Relationship Between Therapeutic Communication And Level Of Anxiety Among Hospitalized Preschool Children In Air Force Hospital (RSAU) DR. M. SALAMUN BANDUNG

14:10-14:20	Susri Utami, MSN	Kangaroo mother care health education towards Mothers' attitude and motivation
14:20-14:30	Eva supriatin	The life experience family and nurses for implementing family centered care model
14:30-14:40	Dania Relina Sitompul, S.Kep., Ners, M.Kep.	Mother's Stress Experience Towards Caring for the Children with Autism
14:40-14:50	Ririn	Adolescent personal skills in HIV prevention
14:50-15:00	Winda Heriani	Practice of Dengue Prevention Among School-Age Children in Indonesia
15:00-15:10	Liza Sahara	Assesment of Nutrition Status and Fluid Status in Dengue Children in Indonesia
15:10-15:20	Eva supriatin	The life experience family of caregiver caring for child with cancer
15:20-15:30	Siti Khuzaiyah, SST, M.Kes.	The Satisfaction and Motivation of The Adolescent to Attend in a Comprehensive Teenage Health Services of Nasyiatul Aisyiyah (Pelayanan Remaja Sehat Milik Nasyiatul Aisyiyah/ PASHMINA)
15:30-15:40	Dior Manta Tambunan	Bathing Method for Preterm Infants: A Systematic Review
15:40-15:50	Popy Siti Aisyah	The Effect of the Sound of the Holy Quran on Pain Level of Neonates During Invasive Procedure
15:50-16:00	Benny M P Simanjuntak	The Correlation Between Parental Involvement And Socialcompetence Behavior Of Adolescents With Intellectual Disability In SLB NEGERI BOGOR
16:00-16:10	Mandias Reagen	Eating Wild Animal Meat with the Level of Uric Acid

Adult nursing and disaster issues

Moderator : Tri Mulia Herawati, M.Kep
Reviewer : Professor Dr Koshy Philip & Dr. Samarth Mittal
M.B.B.S, MS

Date: 19 July 2019

Time: 13:00-16:30

Venue: Orchid 3

Schedule Time	Name	Title
13:00-13:10	Dr. Hj Tri Hapsari RA, S.Kp., M.Kes	Correlation Between Compliance Of Protein Diet And Clinical Symptoms : Chronic Kidney Disease Patients Who Are Under Treatment Of Hemodialysis
13:10-13:20	Muh. Yusuf Tahir S.Kep., Ns., M.Kes., M.Kep	Multidimensional Qualith of Life for HIV /AID Patients Who Undergo ARV Therapy in Apotek Maccini Clinic Makassar
13:20-13:30	Ns. Niken Safitri Dyan Kusumaningrum, S.Kep.M.Si.Med	The Therapeutic Effects of Topical Application of Ozonized Olive Oil on Diabetic Ulcer Healing: A Review of Literature
13:30-13:40	Susy Puspasari	Analysis of Factors Influencing Nurses in Implementation of Eye Care on Comatose Patients in Intensive Care Unit
13:40-13:50	Ulpi	Eksploration study of being gay in bandung
13:50-14:00	Ridwansyah	HIV prevention behaviour among adolescent in bandung
14:00-14:10	Rieke Desti Legiana	High smoking prevalent among people living with HIV
14:10-14:20	Yuliana	Early Mobilization of Wounds Healing of Patients Post Laparatomy Surgery
14:20-14:30	Ani Haryani	Predictors of Nurse Caring Behaviour in Critical Care Ward in dr Dradjat Prawiranegara Hospital, Banten-Indonesia
14:30-14:40	Roni Herdiana	Transition into identify: A live experience of people living with HIV
14:40-14:50	Theresia Titin Marlina	The effectiveness of knee flexion and extension to decrease pain in elderly with osteoarthritis effectiveness of knee flexion and extension to decrease pain in elderly with osteoarthritis
14:50-15:00	Rita Dwi hartanti, M. kep. Ns. Sp. Kep. M.B	How does length of hemodialysis affect quality of life of the Chronic Kidney Disease patients

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As Oral Presenter
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No.	Nama	Jabatan
1.	Th. Tltin Marlina, Ns., M.Kep	Dosen
2.	M.I. Ekatrina Wijayanti, Ns., MSN	Dosen
3.	Siwi Ikaristi M. Theresia., Ns., MSN	Dosen
4.	Margaretha Hesti Rahayu, Ns., M.Kep	Dosen
5.	Arimbi Karunia Estri, Ns., M.Kep	Dosen

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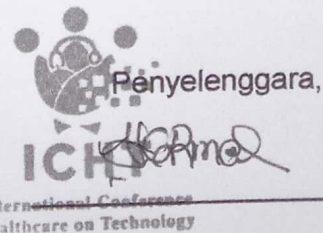
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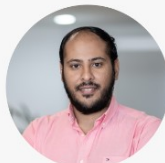
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Conference Paper

The Effectiveness of Hip and Knee Strengthening on Reducing Pain Intensity among Elderly with Osteoarthritis

Theresia Titin Marlina¹, Sr Lucilla, CB¹, and Havids Aima²

¹Panti Rapih School of Health Science Yogyakarta, Indonesia

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Abstract

Background: The population of elderly people increases from year to year along with increasing life expectancy. In 2000 the life expectancy in Indonesia was 64.5 years (with the percentage of the elderly population being 7.18%). It is estimated that the number of elderly people in 2020 reaches 9.9% of the total population in Indonesia. Osteoarthritis (OA) is a degenerative disease that occurs in the elderly due to thinning of joint cartilage, more common in the knee joint (89.91%) with pain manifestations. If the pain cannot be overcome, it can cause limitations in movement and disturb the daily activities, then it is suggested to do physical exercise, especially strengthening exercise. **Objectives:** the aimed of this study was to examine the effect of hip and knee strengthening to reducing pain in elderly patients with OA. **Methods:** A quasi-experimental study with randomised pre-post-test control design conducted in May until July 2014 in Yogyakarta. Seventy respondents with grade 1-2 OA and not having an increasingly severe disease by exercising recruited. OA pain assessed using numerical pain rating scale. The ordinal regression used to analyse the data. **Results:** hip and knee strengthening intervention statistically significant reduced pain intensity ($p = 0.00$). **Conclusions:** The result demonstrated the effectiveness of hip and knee strengthening to reduce pain in elderly patients with OA. Hip and knee strengthening intervention through video can be one of a suggested intervention to reduce pain in patients with OA.

Keywords: Elderly, Hip, Knee, Osteoarthritis, Pain, Strengthening

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1. Introduction

Republic of Indonesia Law No. 13 of 1998 concerning the welfare of the elderly states that an elderly is someone who has entered the age of 60 years and over. The Center for Data and Information of the Indonesian Ministry of Health states that the average life expectancy in Indonesia is slightly higher than the average life expectancy in the world. Life expectancy in Indonesia in 2010 - 2015 is 70.7 years while in the world is 70 years. In 2015 - 2020, the life expectancy in Indonesia rises into 71.7 years while

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in the world is 71 years. This indicating a success of development in the health sector causing an increase in the life expectancy. This means that with a high life expectancy, the dependency rate of non-productive age to productive age will be even greater [1].

The elderly population increases from year to year with an increase in life expectancy. In 2000 the life expectancy in Indonesia was 64.5 years (with the percentage of the elderly population being 7.18%). This number increased to 69.43 years in 2010 (with the percentage of the elderly population being 7.56%) and in 2011 increased to 69.65 years (with the percentage of the elderly population being 7.58%). The number of elderly people in Indonesia in 2012 is 7.59% of the total population [2]. It is estimated that the number of elderly people in 2020 will reach 9.9% of the total population in Indonesia. Special Region of Yogyakarta is one of the provinces that has the highest number of elderly (13.5%), followed by Central Java Province (11.7%) and East Java (11.5%) [3].

Health aspects of the elderly will experience a decrease in health status, functionally or due to certain diseases. Physiologically, the elderly will experience a decline in the function of all organs. Some of them is the joints and bones. Almost all elderly complain of knee pain due to thinning of joint cartilage. This knee pain indicates a joint disease called arthritis. This is in accordance with the 2013 Riskesdas data, which states that arthritis is the second largest disease after hypertension that occurs in the elderly [2]. The prevalence of joint disease based on the diagnosis of health workers in Indonesia is 11.9% and based on diagnosis or symptoms 24.7%. Whereas in Yogyakarta 5.6% [2]. This is possible because DIY is a province that has the largest number of elderly.

One of the joint diseases is osteoarthritis, which is chronic and progressive joint cartilage damage, thinning of the joint cartilage. Osteoarthritis is a degenerative disease that usually occurs at the age above 50 years. The most commonly affected cartilage is the knee and pelvis because the knee and hip joints are the biggest support of the body so that the possibility of joint damage is greater than the other joints [4]. Based on the elderly population that continues to increase, where the elderly population is the largest and arthritis is the second most common disease in the elderly in DIY and based on the available evidence regarding exercise so researchers are interested in researching about hip and knee strengthening in reducing knee pain in elderly osteoarthritis.

2. Methods

2.1. Research design

This research design used a quasi-experimental study with randomized pre-post-test control design. This research started with pain accessing in intervention and control group. The researcher practice knee and hip strengthening exercise to intervention group after the respondents was examined by orthopedic. After finishing the exercise, respondents advised to do the exercise at home twice a day in every morning and evening, for four weeks. The researcher was monitoring the respondent's obedience in doing the exercise every two days and assessed pain intensity every week by phone. Whereas in control group, after assessing pain intensity, the researcher educate the respondents about OA management. Researcher also evaluate pain intensity in control group every week until four weeks by phone.

2.2. Sample

This study's participants were elderly who was diagnosed with knee osteoarthritis by a doctor, and were declared not to have any disease that gained weight by doing exercises. Seventy respondents were participated with 53 respondents included in the intervention group and 17 respondents in the control group. The division of the number of respondents was based on Pagano's theory which stated the sample divided into 75% in the intervention group and 25% in the control group.

2.3. Instrument

The instrument used to assess pain intensity was the numerical pain rating scale (NPRS). We apply pain scale in range 0 – 10, where 0 is used to painless and 10 for unbearable pain. Pain intensity can be divided into painless (scale 0), mild pain (scale 1-3), moderate pain (scale 4-6), severe pain (scale 7-9) and unbearable pain (scale 10). While, for the educational media used leaflets about osteoarthritis managements.

2.4. Data collection procedure

Before collecting data, researcher manage research license, prepare instruments that would be used to measure pain intensity and leaflets as education media. This research selected the respondents in a simple random way, by finding respondents who suitable in inclusion criteria by looking at the orthopedic registrants database. After getting

the appropriate sample, the researcher gives an explanation and asks for the information consent. Then assessed the pain intensity using numerical pain rating scale. Respondents in the intervention group were trained in hip and knee strengthening. The exercise is done twice a day with 25 movements, every 20 seconds movement, for 4 weeks. Researcher also educated osteoarthritis management to the control group. Then, assess the pain intensity of all respondents every week for 4 weeks.

2.5. Data analysis

Univariate analysis used to describe respondent's characteristic in intervention and control group. Bivariate analysis explained the difference of pain intensity between before and after intervention, and also compare the difference of pain intensity between intervention and control group. Ordinal regression was chosen because this research using ordinal scale. Data analysis using computer assistance.

3. Results

TABLE 1: The frequency distribution of respondent.

N=70				
Character	Intervention group		Control group	
	n	%	n	%
Gender:				
Male	11	20.8	2	11.8
Female	42	79.2	15	88.2
Age:				
60 – 69	42	79,2	13	76,5
70 – 80	11	20,8	4	23,5
BMI:				
<18,5	0	0	0	0
18,5 – 24,9	25	34	0	0
25 – 29,9	43	62	9	53
30 – 39,9	2	4	8	47
>40	0	0	0	0

The majority of respondents in both the intervention and control groups were female and BMI 25-29,9 (obesity).

The pain intensity before exercise compared with the intensity of pain 1th, 2th, 3th and 4th week obtained each p value $0.000 < 0.025$, it can be concluded that there was a significant difference in pain intensity before and after doing hip and knee

TABLE 2: Significance of pain intensity in intervention and control group.

	N=70	
Asymp. Sig. (2-tailed)	Intervention group	Control group
1 th week	.000	.180
2 th week	.000	.102
3 th week	.000	.034
4 th week	.000	.005

strengthening exercise every week. Pain intensity in the control groups, showed that significant occurred at the fourth week. In the first to third week it appears that the p value above 0.025

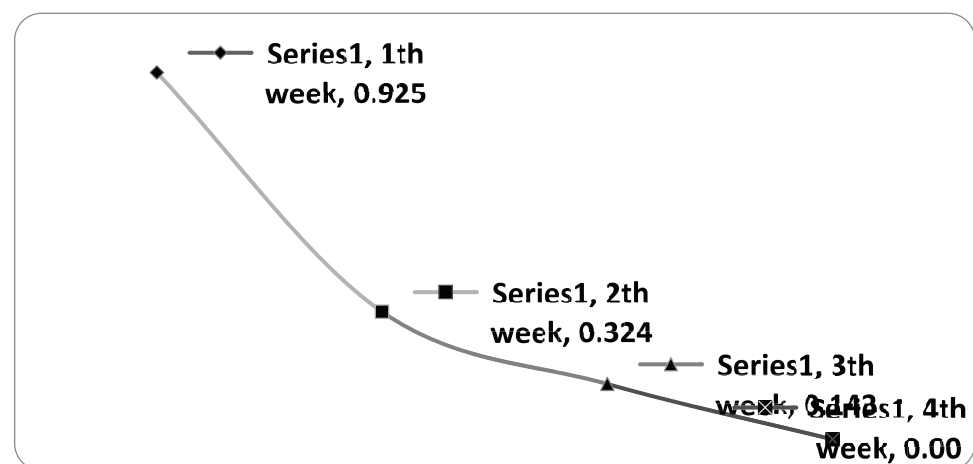


Figure 1: Significant difference in the decrease in pain intensity of the control group and the intervention group every week.

There was a significant differences the reduction of pain intensity at 4th week with p value 0.004 (<0.025) in the intervention group compared to the control group

The influence of the independent variables on the dependent variables was greatest in the fourth week (23%). This means that hip and knee strengthening exercises had effect of 23% of pain reduction, however 77% were influenced by other factors.

4. Discussion

The majority of respondents in both the intervention and control groups were female. The 8.5% of female experience joint disease and 18.6% are aged 65-75 years, 18.9% are aged over 75 years. It's mean that elderly women are at risk of joint disease [5].

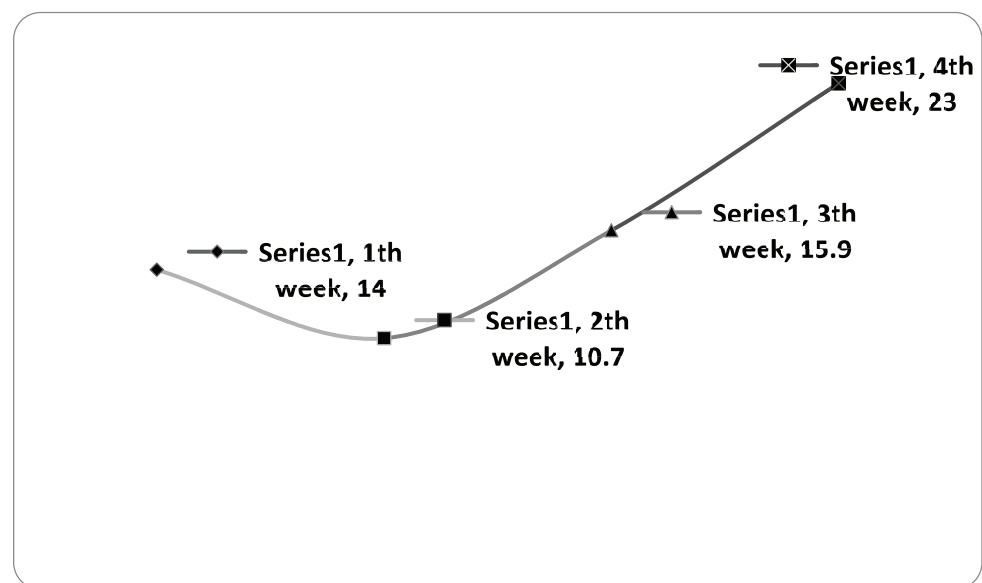


Figure 2: The influence of independent variables on the dependent variable.

The results of this study indicated that hip and knee strengthening exercises can reduce elderly knee pain with osteoarthritis. The elderly experience thinning of the joints due to an aging physiological process, so they often complain of knee pain. This happens because the knee joint is the joint that carries the most weight, so it experiences thinning of the joint cartilage more quickly. Hip and knee strengthening exercises that are performed regularly can increase joint metabolism resulting in an increase in joint fluid diffusion, adequate joint nutrition and increased cartilage integrity. This increased cartilage integrity causes the joints to move freely and reduce pain. The results of research states that hip and knee strengthening is effective in reducing the intensity of pain in patients with patelofemoral pain and increasing the activity of patients [6]. It is also in line with the general recommendations of the International Osteoarthritis Research Society and the MOVE consensus, which suggests strengthening exercise to reduce pain intensity.

The strengthening exercises are very beneficial for the elderly because they help bone strength and muscle growth or prevent fatigue [7]. Likewise, according to a systematic review found that hip muscle strengthening is effective in patients with patelofemoral pain syndrome. This is because hip and knee strengthening will increase muscle strength. With strong muscles it can support the body's burden so that the knee joint cartilage is not overburdened. This is what causes reduced pain [8]. A systematic review states that knee exercises reduce knee pain in osteoarthritis sufferers and

improve physical function and quality of life. Although this benefit lasts short between 2-6 months after cessation of treatment [9].

This exercise can also reduce cytokine levels in the synovial fluid of the knee OA patient, inhibits cartilage degradation and improves pain symptoms. Cytokines are one of the chemical mediators of inflammation and if cytokine levels fall then the mechanism of nociceptor stimulation by noxious stimulus is inhibited and the process of transduction in the mechanism of pain becomes obstructed [10]. The result of studied was found that knee exercises are effective in reducing pain in patients with knee osteoarthritis [11]. That 60% of osteoarthritis sufferers perform activities that are appropriate to reduce pain [12].

This stretching exercise helps increase muscle flexibility and affect the nerves, reduce the symptoms of cell oxygen deficiency which causes an increase in lactic acid, causing pain. Stretching exercises had an effect on decreasing knee joint pain in the elderly [13]. Besides that it can also be explained that by doing this strengthening stimulates the A beta fibers found in the skin, so it can deliver impulses faster. Provision of exercise stimulation to continue, make the input of the dominant impulse come from the A beta fibers so the gate (gate control) closes, and pain impulses cannot be transmitted to the cerebral cortex for interpretation [14].

5. Conclusion

The result demonstrated the effectiveness of knee and hip strengthening to reduce pain in elderly patients with osteoarthritis. Knee and hip strengthening intervention through video can be one of a suggested intervention to reduce pain in elderly patients with osteoarthritis. For the elderly with osteoarthritis of knee to routine exercises.

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Conflict of Interest

The author(s) declared no potential conflict of interest

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