

Research Report

Dental Health Physical Exercise (SKG) for Elderly

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ABSTRACT

Background: Late adulthood is an aging process characterized by a decrease in some bodily functions. Physical changes associated with late adulthood are musculoskeletal disorders, changes in the cardiovascular system, changes in the immune system, and changes in physical activity. Physical exercise is one of the ways to improve elderly' physical activities. An epidemiological study on elderly under Jagir Public Health Center coverage area reported that periodontitis and dental caries could lower physical performance in the elderly, lowering physical activity. **Purpose:** In consideration of the problem in question, a promotive and preventive program is needed. The Dental Health Physical Exercise (SKG) program was expected to improve the overall physical condition of the elderly. **Methods:** The "Senam Kesehatan Gigi dan Mulut" took place on 19 July 2019 at Integrated Health Service Post for Elderly. **Results:** There were 26 elderly participated in physical exercise. 7.7% of them were not able to follow the exercise, and the remaining 92.3% were able to follow the exercise. **Conclusion:** 92.3% of 26 elderly were able to follow the exercise properly and correctly. However, the remaining 7.7% of them were not able to catch up with the physical exercise. In addition, most participants were able to perform 4 out of 5 movements criteria.

Keywords: Elderly; Physical Exercise; Physical Activity

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INTRODUCTION

Late adulthood is an aging process characterized by a decrease in some bodily functions, posing the body to health risks related to age, social, environmental, and lifestyle.¹ Physical changes associated with late adulthood are musculoskeletal disorders, changes in the cardiovascular system, changes in the immune system, and changes in physical activity.^{2,3}

Physical activity means all forms of activities/body movements that cause energy expenditure, such as doing household chores, shopping, gardening, or exercising. Physical activity is also proven to be an alternative activity to prevent disease in elderly.⁴ Physical activity improves physical performance in the elderly, which is characterized by improved health. Physical exercise is one of the ways to improve physical activity in the elderly.

Physical exercise is a physical activity that helps improve physical health. Physical exercise is very suitable for improving muscle strength and endurance.⁵ Physical

exercise for the elderly consists of organized, targeted, and planned movements designed to improve the physical health of elderly.⁶

An epidemiological study on elderly under Jagir Public Health Center coverage area reported that periodontitis and dental caries could lower physical performance in the elderly, lowering physical activity. A higher IL-6 concentration and sarcopenia reduce the ability of the elderly to perform daily functions. Sarcopenia is a loss of muscle mass and strength associated with the aging process,⁷ which is influenced by a reduction in trophic stimulation derived from innervation and hormonal function as well as by an increased catabolic effect of inflammatory cytokines⁸. This loss of muscle strength is exacerbated by reduced calorie and protein intake and reduced physical activity in the elderly.⁸

In consideration of the problem in question, a promotive and preventive program is needed. The program name was "Senam Kesehatan Fisik Gigi dan Mulut Lansia" Cadres were expected to lead the physical exercise for the elderly.

MATERIALS AND METHODS

The program took place on 19 July 2019. There were 26 participants in the physical exercise. Physical exercise was an effort to improve the physical activity in the elderly. Physical exercise was expected to improve the physical performance in the elderly and prevent periodontitis if it is done regularly. The physical exercise was demonstrated using audiovisual media. The “Senam Kesehatan Gigi (SKG)” was evaluated using the observation method. We observe the cadre and elderly performances in keeping up with the exercise.

The target of the program was 20 elderly in the Integrated Health Service Post. The program’s objective was to increase knowledge levels in dental health care and physical health. The material of “Senam Kesehatan Gigi dan Mulut” was directly distributed and demonstrated to the elderly.

RESULTS

There were 4 main movements, and each movement consisted of 5 evaluation criteria. The mean of scores was then categorized into good or bad. The bad score ranges from 1–2.75. Moreover, the good score ranges from 3–5. The result shows that 7.7% of the elderly failed to catch up with the exercise, and the remaining 92.3% of them were able to follow the exercise.

Table 1. Results of the program

Movement	Score 1–5				
	1	2	3	4	5
Movement 1	0	1	13	10	2
Movement 2	1	5	6	11	3
Movement 3	1	0	4	6	15
Movement 4	1	3	8	7	7
Total	3	9	31	24	27

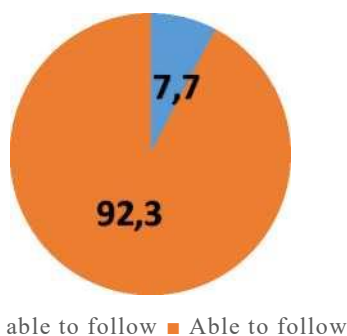


Figure 1. Percentage of the program

DISCUSSION

There were 26 participants in the physical exercise. The program was expected to help the elderly improve their physical health and performance by learning how to brush their teeth correctly and preventing periodontitis. The program was evaluated using the observation method. We observe the cadre and elderly performances in keeping up with the exercise.

Elderly population in the world is increasing, not least in Indonesia. In 2010, the percentage of elderly people aged over 65 years reached 8% of the total world population.⁹ This state of aging results in several changes in the body, which will lead to a decrease in bodily functions, weakness, susceptibility to disease, and death.¹⁰

Based on research conducted by Razak in 2014, seniors also tend to pay less attention to oral health. Some changes in the oral cavity that occur include changes in the structure of the enamel, the number of remaining teeth is small, and an increase in periodontal disease.¹¹ The data obtained that 5-70% of seniors have a pocket depth index score of 4, which means it’s quite severe.¹² Oral health is very important to maintain, especially in the elderly. Oral health is related to general health as well as the nutritional balance in the body. Because, if you experience oral health problems, will affect the function of the mastication and also the sense of taste.¹¹

In addition to decreased function in the oral cavity, seniors also experience a decline in other organ functions, including muscles. Because it is a physiological process, we cannot stop it. However, we can slow down the process, by doing activities that increase the functioning of organs and maintain their health. Physical activity is considered appropriate for maintaining muscle function in the elderly.¹³

WHO has published guidelines for physical activity in elderly. In accordance with these guidelines, exercise is an efficient physical activity that is also more effective in slowing down organ function due to aging in the elderly. Physical activity can help prevent chronic diseases.^{13,14} By WHO, seniors are encouraged to do physical activity for at least 150 minutes every week.¹⁵ Therefore, a health promotion method was chosen regarding dental and oral health education with gymnastic movements, which aims to provide dental and oral health education, as well as providing physical activity for seniors.

The SWOT analysis of the program: (1) Strength: The exercise program adopts physical exercise movements with the MURI record, and it helps the elderly learn how to brush their teeth correctly. The program was expected to promote a set of physical exercise movements for the elderly in the Integrated Health Center. (2) Weakness: Although the participants were able to keep up with the exercise, the information about tooth brushing was rather general. (3) Opportunity: The elderly participants have never attended a physical exercise combined with dental health promotion before. (4) Threat: Newer and updated physical exercises for the elderly.

CONCLUSION

92.3% of the elderly participants were able to follow with the physical exercise movements correctly and appropriately. However, the remaining 7.7% of them were not able to catch up with the physical exercise. In addition, most participants were able to perform 4 out of 5 movements criteria.

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