

## Physical activity training education for the elderly at nursing homes

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### ABSTRACT

**Background.** The gerontological nursing stage is one part of the clinical practice of the nursing profession that must be completed by students. As a form of achieving learning goals, we provide counseling about the importance of physical activity training for the elderly. The process that occurs in general in the elderly progressively which results in changes that cause organ dysfunction and failure of an organ or a particular body system is called aging. Aging (getting old) is the process of slowly losing the ability of a network with the aim of maintaining its normal function and repairing itself so that the defense against infection is reduced and the damage experienced can be repaired. Some of the health problems experienced by the elderly include hypertension, sensory disturbances, tremors, diabetes mellitus, and dementia. Various types of interventions can be given to increase the knowledge and ability of the elderly to be able to maintain their health, therefore students provide education on the importance of physical activity training for the elderly.

**Purpose.** This activity aims to increase the knowledge of the elderly and self-awareness to carry out routine health checks.

**Method.** This activity involved 10 who can take part in educational activities on the importance of physical activity training and checking blood pressure and muscle strength in the elderly. Students use the method pre and post conference, namely before carrying out activities, students measure knowledge, blood pressure and muscle strength of the elderly, then intervention is carried out by educating the importance of physical activity training.

**Results.** Elderly who take part in the activity experience an increase in blood pressure which is still within normal limits and an increase in muscle strength.

**Conclusion.** There is a significant difference regarding knowledge in applying activity therapy between the pre test and post test, this shows the ability and increase in the elderly in realizing the importance of physical activity training.

### KEYWORDS

Elderly, gerontological nursing, Physical Activity Exercise

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## INTRODUCTION

Physical, biological, psychological and social changes or the emergence of degenerative diseases due to the aging process affect aspects of increasing the number of elderly. These changes are not pathological, but the elderly are more susceptible to several diseases (Killington dkk., 2020; on behalf of the COFRAIL study group dkk., 2020; Reckrey dkk., 2019). One of them is the changes experienced in the musculoskeletal system where the elderly experience changes with age such as decreased muscle function which results in reduced muscle fiber which results in reduced muscle strength and reduced muscle mass and bone mass. The elderly who exercise regularly do not experience the same decline in function as the elderly who do not actively exercise. In general, the endurance of the musculoskeletal system (Otto dkk., 2020; Treacy dkk., 2022), flexibility and muscle strength in the elderly has decreased, but in the elderly who actively move their bodies this does not happen, it's just that conditions that occur naturally change in the elderly reducing physical activity.

Physical activity is body movement that has an impact on energy expenditure which aims to maintain both mental and physical health and maintain quality of life so that it is healthier and fitter throughout the day (Tse dkk., 2019). By doing physical activity, the elderly can maintain and even improve their health status. Since 1980, America has made efforts to reduce the number of limitations in carrying out basic physical activities and has succeeded in increasing the percentage of elderly people who are free from limitations in carrying out basic physical activities or are able to perform basic physical activities. Physical exercise is all efforts made to improve the physical fitness and physical condition of the elderly (Gabriela dkk., 2022; Kartel dkk., 2022; Qureshi dkk., 2022). Stretching is a muscle stretching activity that aims to range joint motion and increase flexibility in the muscles.

Each type of physical exercise must be carried out through a warm-up, core training, and cool-down stage. Warming up aims to provide initial stimulation at the training stage to get excited. The warm-up must include 2 components, the first is gradual aerobic exercise and the second is flexibility exercises according to the activity being carried out. Each type of physical exercise must be carried out through a warm-up, core training, and cool-down stage (Dewi S dkk., 2022; Hikmah dkk., 2022; Keshav dkk., 2022). Warming up aims to encourage the desire to exercise to be excited. The warm-up must include 2 components, the first is gradual aerobic exercise and the second is flexibility exercises according to the activity being carried out. Based on the statement above, the group conducted counseling by educating the importance of physical activity training for the elderly which aims to increase knowledge and understanding and motivation of the elderly to be able to do proper and effective physical activity exercises.

## RESEARCH METHODOLOGY

In this study the authors used a descriptive method, namely a method that describes a situation or problem that is happening based on the facts and data obtained and collected during the research. The problem-solving framework is a series of procedures and steps in activities that aim to obtain systematically structured stages, so that they can be carried out effectively and efficiently. The basic thing offered to help overcome this problem is through education activities for the elderly at the Nursing Home which are packaged under the name of the activity "Physical Training Education for the Elderly at the Budi Social Foundation Batam Social Institution".

Description of the troubleshooting framework, including:

### 1. Field Study

Field studies include observation, data collection related to Gerontic Nursing Stage material in the Professional Nurse Clinic Practice, as well as interviews with related parties who can support Clinical Practice activities.

### 2. Library Studies

Literature study as a basis for obtaining good references so that reports on Professional Clinical Practice of Gerontic Stage Nurses can be scientifically justified. Literature study contains theories related to clinical practice objects.

## RESULT AND DISCUSSION

There are several important reasons why physical activity can keep the body in good health. Among them are increasing muscle flexibility and strengthening and extending muscle endurance. Activities that use a lot of arm muscles and thigh muscles are called aerobic exercises which will make the heart work more efficiently, both during exercise and at rest (Anoum dkk., 2022; Demina dkk., 2022; Firman dkk., 2022). Activities such as brisk walking, jumping rope, jogging, cycling, hiking or dancing are examples of aerobic activities that are useful as an increase in physical endurance. One of them is the changes experienced in the musculoskeletal system where the elderly experience changes with age such as decreased muscle function which results in reduced muscle fiber which results in reduced muscle strength and reduced muscle mass and bone mass.

The decline in the musculoskeletal system that occurs in the elderly can cause diseases such as osteoarthritis, rheumatism, and diseases that interfere with other musculoskeletal systems. In the elderly there is a decrease in elasticity and flexibility in the connective tissue around the joints such as fascia, ligaments, cartilage, tendons and periarticular tissue (Hartini dkk., 2022; Ilham dkk., 2022; Safitri dkk., 2022). Decreased joint motion occurs when a joint loses its flexibility, resulting in joint stiffness, swelling, gait disturbance, pain, limited range of motion of the joint and other activities of daily living. Joint protection techniques in activities are efforts to prevent joint damage.

Pain is a condition that is more than just a pricking sensation caused by a certain stimulus. The nature of pain is subjective and very individual. The goal of the physiological mechanisms of pain is to protect oneself. Behavior will change when someone experiences pain. The presence of tissue damage that occurs is a sign of pain so that when assessing pain it must be a major consideration in nursing (Najeed dkk., 2022; Nopiana dkk., 2022). The cause of disability causes pain. Many people have chronic diseases, increased life expectancy and pain are common symptoms. The inevitable aging process is not a pain in the ass. The process of assessment, diagnosis and aggressive management needs to be done in the elderly who experience pain. The elderly are at high risk of experiencing pain situations. Pathological conditions that accompany pain are more likely to be experienced by the elderly who live longer.

Physical activity is body movement that has an impact on energy expenditure which aims to maintain both mental and physical health and maintain quality of life so that it is healthier and fitter throughout the day (Dianovi dkk., 2022; Rohmalimna dkk., 2022). By doing physical activity, the elderly can maintain and even improve their health status. The elderly who exercise regularly do not experience the same decline in function as the elderly who do not exercise actively. In general, the endurance of the musculoskeletal system, flexibility and muscle strength in the elderly has decreased (Amado-Alonso dkk., 2019; Rahmah dkk., 2022), but in the elderly who actively move their bodies this does not happen, it's just that conditions that occur naturally change in the elderly reducing physical activity.

## CONCLUSION

Based on the results of observations that have been made about the Effect of Education on the Importance of Physical Activity Training for the Elderly at the Batam Social Development Foundation for the Elderly, the following conclusions can be drawn:

1. There is a significant difference in knowledge in applying activity therapy between the pre test and post test, this shows an increase in ability and an increase in the elderly in realizing the importance of physical activity training.
2. Knowledge of the elderly about the importance of physical activity training is still low before counseling and health checks are carried out. From the results of the pre-conference, this educational activity has never been carried out at the Batam Elderly Social Care Foundation.
3. The elderly already know the importance of physical activity training and are committed to doing it regularly.
4. As many as 10 elderly people can participate in this activity with the result of an increase in blood pressure that is still within normal limits and an increase in muscle strength in their extremities.

5. Throughout the activities the elderly can follow instructions and carry out activities together.

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## AUTHORS' CONTRIBUTION

Look this example below:

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; In-vestigation.

Author 3: Data curation; Investigation.

Author 4: Formal analysis; Methodology; Writing - original draft.

Author 5: Supervision; Validation.

Author 6: Other contribution; Resources.

Author 7-8: Visuali-zation; Writing - original draft.

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