



A Study of Exercise Habits and Heart Rate Exercise in The Elderly at Wredha Rindang Asih Nursing Home

Original Article

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Abstract

Physical activity is one of the most important efforts to maintain and improve health. In achieving the needs of daily activities, every elderly can do exercise habits. Someone with low physical activity habits (sedentary) has a higher risk of experiencing health problems. The purpose of this study was to describe the level of exercise habits and intensity of exercise in the elderly. The research method uses a quantitative approach with a survey type that aims to investigate whether there is a relationship between the independent variable and the dependent variable. The population of the research sample is the elderly at Wredha Rindang Asih Nursing Home, a sample of 28 people with purposive sampling technique consisting of 16 men and 12 women. Data were collected by filling out questionnaires and measuring resting pulse in the morning and measuring exercise pulse after participating in physical training (gymnastics). The results of the study of exercise habits showed 19 elderly people (67.87%) were in the good category. The results of the measurement of resting pulse showed that 28 elderly people (100%) were in the normal category (60-100x/minute). The results of the exercise pulse measurement showed that 21 people (75%) were in the normal category, there was an increase in the elderly's pulse rate of 24% with an average pulse rate (98.6x/minute). The conclusion of this study is that the level of exercise habits in the elderly is in the good category, while the intensity level of exercise in the elderly is in the medium category. There is no relationship between exercise habits and exercise rate in the elderly at Panti Wredha Rindang Asih. Suggestions for the elderly to always maintain exercise habits by getting used to a healthy life and regular exercise.

Keywords: *elderly, exercise habits, exercise rate*

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INTRODUCTION

Sport has various functions, one of which is a necessity for every individual in society. Sport is basically a need for every human being in life, so that his physical condition and health are maintained properly. Therefore, humans want to try to maintain their health and one way to maintain good health is through exercise [1]. However, since the Coronavirus Disease 2019 (Covid-19) pandemic spread, the government began to enforce strict health protocols. The aging process experienced by the elderly causes this group to be one of the groups experiencing the most severe effects due to COVID-19 and has a greater susceptibility to corona virus infection compared to young people [2].

Older people are grouped into young adulthood (elderly adulthood), or 29-25 years, middle years or maturity, 25-60 years or 65 years, geriatric age over 65 years or 70 years old. subdivided by 70 - 75 years (young old), 75 - 80 years (old), more than 80 (very old) [3]. According to [4] it is recommended to do moderate activities while still paying attention to the general principles of

physical exercise, namely frequency, intensity, time, and type because the risk of exposure to infection or disease is low. Moderate intensity is when doing physical activity, a person can still talk even though he is panting. Exercise can be done at least 2-3 times a week with a minimum duration of 30-45 minutes. Elderly who has high physical fitness besides being healthy and fresh can also carry out daily activities independently. Poor physical fitness in the elderly often makes the elderly look unhealthy and often suffer injuries due to falls [5]. In general, a person is said to be elderly (elderly) if he is 65 years and over. Elderly is not a disease, but is an advanced stage of a life process marked by a decrease in the body's ability to adapt to the environment. Elderly is a condition characterized by a person's failure to maintain balance against physiological stress conditions. This failure is related to a decrease in the ability to live and an increase in individual sensitivity [6]. The increase in life expectancy is one of the impacts of improving the quality of health and social conditions of the community and is reflected in the increasing number of elderly people (elderly) from year to year [7]. According to Suryanto, (2015) in order for the elderly to remain healthy, happy, useful and of good quality, several things must be considered. There is a very good acronym that describes the key to a healthy elderly is B - A - H - A - G - I - A. The elderly needs special attention by being maintained and improved. The goal is that as long as possible they can live productively according to their abilities so that they can take an active role in development. This condition is exacerbated by the absence of time, place, and opportunity for the elderly to carry out activities [9].

According to Rachmah Laksmi Ambardini, (2020) physiologically, exercise habits can increase aerobic capacity, strength, flexibility, and balance. Researchers have the assumption that less exercise habits will more easily lose aerobic capacity, strength, flexibility, and balance. However, in exercising, various movements are needed to support physical activity, so the elderly who are less active in exercising habits are not recommended to exercise with moderate to heavy intensity. Sports in the elderly is a physical activity that is carried out regularly to improve the quality of individual health, physical fitness and prevent disease. Sport essentially utilizes physical activity to produce changes in individual qualities, both in terms of physical, mental, and emotional [11]. Sports habits are a form of physical activity that has duration, frequency and intensity. Exercise is said to be lacking if the frequency of exercise is <3x/week and a duration of <30 minutes, meanwhile, exercise is said to be sufficient or good if it is done at least 3x/week and a minimum duration of 30 minutes [12]. The importance of good exercise habits to support activities, especially people who have entered old age. The type of exercise for the elderly to achieve body resistance with the most appropriate fitness is gymnastics accompanied by strength exercises plus balance and stretching movements. Carrying out gymnastic exercises regularly will increase the efficiency of the lungs and heart work, useful activities to increase and maintain cardiorespiratory resistance [13].

Cycling activities at least 3-5 times a week, namely with light and moderate intensity exercise with a duration of 30 to 45 minutes. In carrying out sports activities, other things that must be considered are avoiding overtraining (excessive exercise), avoiding high-risk crowds, using exercise equipment alternately, always thinking positively, getting enough rest, and consuming foods with balanced nutrition [14]. Exercise intensity is a quality that shows the severity of physical exercise, which is obtained from the amount of physical exercise carried out along with the time spent in doing physical exercise [15]. Cardio exercise or exercise is included in the type of aerobic exercise. Types of exercise or exercise that are aerobic can be done with a duration of about 20-60 minutes with an exercise intensity of 60%-80% of the maximum heart rate [16].

MATERIAL AND METHODS

This research is a quantitative-research with the type of survey research which aims to investigate whether there is a relationship between the independent variable and the dependent variable. The sampling technique in this study used a purposive sampling technique of 28 people. In this study, the elderly were 16 men and 12 women, in the age category of this study the

average age group was 75-90 years with a total of 15 people and 13 people in the 55-74 years age category. The research procedure was carried out by filling out a questionnaire regarding general data in the form of name, gender and age, followed by measuring resting pulse in the morning for two consecutive days, and measuring exercise pulse after participating in physical training in the form of gymnastics. After the data is collected then the data is processed and presented based on the research objectives.

The resting pulse measurement procedure is carried out in the morning before doing physical activity using the following procedure. Officers take data on the pulse of the elderly in the morning after the elderly wake up and have not done light or heavy activities. Resting pulse can be measured for one minute or measured for 10 seconds and then multiplied by six or for 15 seconds and then multiplied by four. Repeat taking a resting pulse on the second and third day. The results of the recorded pulse were submitted to the researcher. The procedure for measuring the exercise pulse is carried out after carrying out physical coaching activities for the elderly by using the following procedure. Each officer examined one elderly person in pairs. Officers took general data on the elderly in the form of name, age, and gender. Participants/elderly follow the entire series of physical coaching training programs in an orderly manner. After warming up for 5 minutes, followed by core exercises, then the officers took the participants' exercise pulse data. The officer submits the recorded pulse data to the researcher. The technique used in this study is to test the normality of the data using the Shapiro-Wilk then analyzed by the Spearman correlation test and data processing using SPSS version 25 for windows.

RESULTS

In this study, the elderly were 16 men and 12 women, in the age category of this study the average age group was 75-90 years with a total of 15 people and 13 people in the 55-74 years age category. The research was conducted by filling out a questionnaire followed by measuring resting pulse in the morning for two consecutive days, and measuring exercise pulse after participating in physical training in the form of gymnastics. After the data is collected then the data is processed and presented based on the research objectives. Based on the results of processing the collected data are then presented in the form of the following tables.

Characteristic data obtained from filling out a questionnaire regarding general data in the form of name, gender and age in the elderly. The results showed that the elderly male sex amounted to 16 people (57.14%), women amounted to 12 people (42.86%). In the category of elderly age (55-74 years) there are 13 people (46.43%), the elderly (75-90 years) are 15 people (53.57%) out of a total of 28 elderly people. The results of the characteristics of the elderly in this study can be seen in table 1.

Table 1. Description of the Sample Characteristics for the Elderly

Characteristics (n :28)	N	%
Gender		
a. Male	16	57,14
b. Female	12	42,86
Age		
a. Elderly (55 – 74 years)	13	46,43
b. Old elderly (75 – 90 years)	15	53,57
c. Very old elderly (>90 years)	-	-

Table 2. Categories of Sports Habits in the Elderly

Score	Category	N	%
127 – 150	Very good	0	0
103 – 126	Good	19	67,86
79 – 102	Moderate	9	32,14
55 – 78	Less	0	0
30 – 54	Very less	0	0
Total		28	100

Data on exercise habits were obtained from questionnaires distributed to the elderly. The results showed that there were 19 elderly people (67.86%) in the good category and 9 elderly (32.14%) in the moderate category. All study samples have regular exercise habits. This is related to the habits that are often carried out by the sample, including maintaining diet, maintaining sleep patterns, maintaining a healthy environment and exercising regularly. The results of the level of exercise habits in this study can be seen in table 2.

Data obtained from measurement of resting heart rate in the elderly. Resting heart rate was measured using a pulse meter before performing physical activity. The results of the study of resting heart rate measurements carried out before doing activities, the results showed that there were 28 elderly people (100%) in the normal category (60-100x/minute). The results of the heart rate in this study can be seen in table 3.

Table 3. Category of resting heart rate in the elderly

Heart rate	Category	N	%
< 60x/minute	Bradycardia	0	0
60 – 100	Normal	28	100
> 100x/minute	Tachycardia	0	0
Total		28	100

Table 4. Category of Exercise Heart Rate in the elderly

Heart rate	Category	N	%
< 60x/minute	Bradycardia	0	0
60 – 100	Normal	21	75
> 100x/minute	Tachycardia	7	25
Total		28	100

The data were obtained from the measurement of exercise heart rate in the elderly. Exercise heart rate was measured using a pulse meter during sports activities. The results of the study of heart rate measurements carried out after carrying out training program activities (gymnastics), showed that there were 21 elderly people (75%) in the normal category and 7 elderly people (25%) in the tachycardia category. The results of the heart rate in this study can be seen in table 4.

The exercise intensity data was obtained from the exercise pulse/maximum pulse rate x100% in the elderly. The results of the exercise intensity study showed that the exercise intensity of the elderly there were 17 elderly people (60.71%) in the moderate category and 11 elderly people (39.29%) with the sub maximum category. The results of the level of exercise intensity in this study can be seen in table 5.

Table 5. Category of Exercise Intensity in Elderly

Percentage	Category	N	%
< 40%	Very good	0	0
40 – 55%	Good	0	0
55 – 70%	Moderate	17	60,71
70 – 90%	Less	11	39,29
> 90%	Very less	0	0
Total		28	100

DISCUSSION

Based on the measurement results of resting heart rate and exercise heart rate, the maximum pulse rate is obtained with an average (146.2x/minute) in the elderly. The increase in pulse rate in the sample occurred due to physical activity carried out in a certain intensity and for a long enough duration. In the increase in the pulse rate in the sample does not exceed the maximum pulse rate. This study shows that with increasing age, the ability to carry out daily physical activities decreases by 30-50%. The results of this study concluded that there was no relationship between exercise habits and exercise rate in the elderly. This is caused by several factors that influence it, the age factor in the sample tends to be more in the category of old age so that in carrying out research there are obstacles. In addition, the gender of the sample is dominated by men compared to women, and the health of the sample at the time of conducting

the study can also affect the results of this study. In this study, the number of samples was one of the factors that influenced the results of the study, the number of samples obtained was only 28 elderly people, this resulted in the results of the study being less than optimal. The research method used in this study is less subjective, the method used should be objective and other factors that are not measured in this study.

CONCLUSION

The description of the level of exercise habits in the elderly at the Wredha Rindang Asih Nursing Home is in the good category. The level of exercise intensity is in the moderate category. There is no relationship between exercise habits and exercise rate in the elderly at Wredha Rindang Asih Nursing Home. There are several influencing factors, namely gender, age group and the number of samples in the elderly. Suggestions in this study are for the elderly, especially the elderly who have done exercise habits to always maintain it, by getting used to living a healthy life by exercising regularly. Elderly people who have limited range of motion in exercising should be more concerned about maintaining the health of their limbs by maintaining a healthy diet, sleeping pattern and light exercise.

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CONFLICTS OF INTEREST

Conflict of interest : Authors state no conflict of interest.

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