Analysis of Types of Physical Activity on Active Elderly Community in Bandung City

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Article Info

Abstract

Physical activity can improve health and reduce the risk of some diseases, and most importantly it can improve the quality of life of the elderly. The purpose of this study was to determine the level of physical activity and the type of physical activity carried out by the elderly daily in the elderly community in Bandung City. The method used is descriptive with a quantitative approach. This data collection technique used a purposive sampling technique, and the level of physical activity was measured using the International Physical Activity Questionnaire-Short Form (IPAQ-SF) questionnaire. The sample of this study was 40 people consisting of the Pasir Layung Elderly Community 20 people and the Setiabudhi Healthy Heart Community 20 people. The results of this study are that the majority of the elderly do physical activity every day, namely gymnastics as much as 75% and the majority of the elderly in this community have a high level of physical activity as much as 52%. It is proven that the elderly here have a high level of physical activity and have good physical activity.

INTRODUCTION

On a global scale there are 727 million people who will be 65 years old or older in 2020. The estimated number of cases will reach 1.5 million by the year 2050 (World Health Organization, 2011). In addition, by 2050 it is predicted that there will be 33 countries where the number of elderly people will reach more than 10 million people, of which 22 countries will be developing countries. Globally, the proportion of older workers, 65 years or older, increased from 6% in 1990 to 3% in 2020. This proporsi is expected to continue rising, reaching 16% by the year 2050 (Badan Pusat Statistik 2021). The number of elderly people was approximately 5,300,000 (7.4%) of the total population in 2000. By 2010, that number had increased to 24,000,000 (9.77%), and by 2020, it is predicted that there will be 28,800,000 (11.34%) of elderly people in the world (KEMENKES RI, 2013). On the other hand, in Indonesia alone, there were 23,66 million people in 2017 (9,03%), 27,08 million people in 2020 (KEMENKES RI, 2021), 33,69 million people in 2025, and 40,95 million people in 2030. (KEMENKES RI, 2017) According to Sujana, Treesia, and Wibowo (2017), the following factors affect the physical condition of the lung: 1) Usia; 2) Functions of the brain; 3) Functions of psychology; and 4) Stress response. Among these factors, the World Health Organization emphasizes the importance of physical activity in improving physical conditions among the elderly. This is explained by the "Global Recommendations on Physical Activity for Health," which include recommendations for physical activity among the elderly (World Health Organization, 2010).

In previous research conducted by (Zaenal, 2018) in the Grobogan province with a sample size of 46 people, it showed that 21 people (45.7%) did light physical activity, while 13 people (28.3%) did moderate physical activity.) and heavy physical activity as many as 12 people (26%). So based on this data, it shows that the majority of elderly people only carry out light activities in their daily lives. Apart from that, elderly people say that their health has deteriorated, so they can no longer do physical activity (Baert, Gorus, Mets, Geerts, & Bautmans, 2011). Based on a report from the Physical Activity Council (2018), it is stated that the largest decline in the physical activity of elderly people starts from adulthood towards the age of 55 years and beyond.

In the meantime, one of the factors contributing to the formation of serious diseases is a lack of physical exercise (Dahlan, Umrah, & Abeng, 2018). In research conducted by (Dewi, 2018), data was found that elderly people who have health problems generally experience limited physical activity. The results of this research are only an illustration of the level of physical activity carried out there. However, it has not been explained what type of physical activity was carried out.

Therefore, further research is needed to determine the type of physical activity carried out by the elderly. Based on the background above, the problems that will be studied in this research are: 1) What type of physical activity do you do every day? 2) What is the level of physical activity in the elderly community in Bandung City? Based on the problem formulation above, the objectives of this thesis proposal are: 1) Find out what types of physical activity the elderly do every day 2) Find out the level of physical activity among the elderly in the Bandung City elderly community.

METHODS

This research design uses quantitative research. Quantitative research is research that uses data in the form of scores or numbers. These variables are measured so that data consisting of numbers can be analyzed based on statistical procedures (Jack R. Fraenkel, 2012). Meanwhile, the method used in this research is a quantitative descriptive method, namely a research method intended to describe a situation or event that is occurring at the moment (Jack R. Fraenkel, 2012). The data collection technique used was observation using a questionnaire sheet (Syahrum & Salim, 2012). The instrument used is the International Physical Activity Questionnaire (IPAQ). (Edwards & Loprinzi 2019).

Participants

Participants are individual participants whose involvement in research can range from providing data to initiating and designing research (Jack R. Fraenkel, 2012). The participants involved in this research were the Active Elderly Community in Bandung City.

Sampling Procedures

The sampling technique is the selection of individuals from a population who will be used as samples who will participate in the research. This sampling technique was carried out using the Purposive Sampling technique, namely a data source sampling technique by determining certain criteria (Jack R. Fraenkel, 2012).

The samples taken in this study were 40 active elderly people who met the researchers' criteria, consisting of 20 people from the Pasirlayung elderly exercise community and 20 people from the Setiabudhi healthy heart elderly community.

Materials and Apparatus

A research instrument is a method or test that has been prepared by researchers in an effort to obtain data in this research effort (Jack R. Fraenkel, 2012). This research instrument uses the short form or short version of the International Physical Activity Questionnaire (IPAQ) (Edwards & Loprinzi, 2019). IPAQ is used to measure the type of intensity of physical activity and sitting time that people do as part of their daily lives

IPAQ consists of 3 categories, namely: 1) Low activity level, 2) Medium activity level, and 3) High activity level, or as a continuous variable (MET minutes/week. MET minutes represent the amount of energy expended to perform physical activity (Forde, 2005). MET (Metabolic Equivalent of Task) is a multiple of the estimated resting energy expenditure. The specific types of activities assessed are walking, moderate intensity activities and vigorous intensity activities.

Procedures

Research procedures are the steps that researchers must go through in carrying out research, they can also be called research implementation requirements (Jack R. Fraenkel, 2012). In conducting this research, the researcher developed procedures or steps for conducting research as follows:
1) Preparation Stage

At this stage, the researcher identifies the problem to be researched, namely the type of physical activity in the elderly, then makes an agreement with the supervisor regarding the title of the problem to be researched. After obtaining agreement regarding the research title, the researcher then prepares a research proposal and conducts a proposal seminar. After the seminar, the proposal is then revised and determines which

populations will be studied. After that, make a research permit letter to the UPI Sports Science study program.

2) Research Implementation Stage

Before carrying out the research, the researcher previously confirmed the location first by bringing a research permit and making a schedule for the research process. After that, the researcher came to the scheduled research location. Then the sample was given a complete explanation regarding the aims and objectives of the research, and was given an explanation regarding filling out the questionnaire that had been prepared by the researcher. Prospective respondents who meet the criteria and are willing to become respondents are then given a research questionnaire.

3) Data Processing and Analysis Stage

After the data is collected and complete, the researcher then recapitulates the data and carries out data analysis. Data analysis in this research used normality and quantitative descriptive tests. The results of the data analysis that have been obtained are then continued with discussion and conclusions. In accordance with this statement, the researcher made research procedures as follows:

Design or Data Analysis

Data processing and analysis is a series carried out in an effort to obtain research conclusions (Jack R. Fraenkel, 2012). The data analyzed in this research used descriptive statistics and used software, namely the help of the Statistical Product for Social Science (SPSS) version 24 program.

1) Normality Test

The Kolmogorov-Smirnov test is to determine whether the data is normally distributed or not. If the p value is above 0.05 then the data distribution is declared to meet the assumption of normality, and if the p value is below 0.05 then it is interpreted as not normal. ($p > 0.05$ = Normal), ($p < 0.05$ = Abnormal) (Jack R. Fraenkel, 2012)

2) Descriptive Analysis

Descriptive analysis is the method used to describe each variable. In this descriptive analysis, calculations are used to determine the percentage level of the answer score for each variable. From the total score of respondents' answers obtained, assessment criteria for each statement item were then prepared. To describe the data on each research variable. (Jack R. Fraenkel, 2012)

RESULT

This research used a sample of an active elderly community in the city of Bandung, by conducting observations and distributing questionnaires, with a total sample of 40 samples obtained. Which consists of 2 elderly communities in Bandung City, namely the elderly community in Pasir Layung and the healthy heart community in Gegerkalong. This study used 7 questions about physical activity in the last 7 days. After collecting data using a questionnaire, the following data analysis results were obtained, namely:

Table 1. Characteristics of the Research Sample

Characteristics	N	%
Gender		
Man	7	17,5%
Woman	33	82,5%
Age Group		
60 to 69 years old	26	65%
≥70 years	14	35%

Based on table 1, the results obtained are that the majority of the sample is female at 82.5%, while the gender is male at 17.5%. In the majority age group 60 to 69 years it was 65% and ≥70 years it was 35%.

Table 2. Types of Physical Activity

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Walking	10	25,0	25,0	25,0
Gymnastic	30	75,0	75,0	100,0
Total	40	100,0	100,0	

Based on Table 2, the results obtained are leisure walking at 25% and gymnastics at 75%. So most of the elderly in Bandung City do gymnastics more often.

Table 3. Physical Activity Level

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Low	3	7,5	7,5	7,5
Medium	16	40,0	40,0	47,5
High	21	52,5	52,5	100,0
Total	40	100,0	100,0	

Based on table 3, the results obtained are in the Low physical activity category at 7.5%, the Medium category at 40%, and the High category at 52.5%. This means that more than half of the physical activity levels of active elderly people in Bandung City are categorized as high levels of physical activity.

DISCUSSION

This discussion will be adapted to the research problem, namely:

1. Type of Physical Activity
Based on Figure 1.1, the physical activity that the elderly engaged in most frequently was gymnastics, which accounted for 75% of total physical activity. Leisure strolling, on the other hand, accounted for the smallest percentage of physical activity, with 10 individuals participating in it (25%). The study of this research reveals that senior communities in Bandung that are active engage in physical activity more frequently. This is consistent with other

research (Fitri et al., 2021) that shows gymnastics exercises are a good way to incorporate physical activity into daily life since they can increase cognitive outcomes and discipline toward exercise.

Physical activity declines with age, and this aging process leaves the elderly with restrictions. For those between the ages of 18 and 64, physical activity encompasses a variety of pursuits such as playing, housework, walking or cycling, participating in everyday activities, and participating in community events. The WHO's recommended physical activity programs are designed to lower the risk of non-communicable diseases, reduce mental stress, and promote bone and muscular health in addition to cardiorespiratory health. World Health Organization (2010).

In light of these advantages, senior citizens should engage in physical exercise since improving physical health is linked to improving life quality and independence, enabling seniors to engage in everyday activities and employment (Kimura, Yasunaga, & Wang, 2013). Furthermore, consistent physical activity can help with mood enhancement, major joint mobility gains, and weight loss or obesity reduction (Fiodorenko-Dumas, Paprocka-Borowicz, & Małecki, 2015). Higher levels of physical activity in older adults are linked to higher quality of life scores across the board (Fitri et al., 2021). A key factor in the development of functional autonomy and wellbeing in older adults is physical activity. In order to help elderly people live longer and be happier, it is hoped that they would be able to make autonomous decisions and carry out everyday tasks (Fiodorenko-Dumas et al., 2015). The importance of physical fitness in this age group cannot be emphasized because it maximizes the advantages of the type of physical activity performed, as older adults tend to be less physically active and spend more time

inactive. It is imperative that elderly individuals engage in physical activity and refrain from prolonged periods of inactivity.

2. Physical Activity Level

According to the study's findings, there are three categories of physical activity levels: low (7.5%), medium (40%), and high (52.5%). The majority of respondents, or 44.7% of the 123 older respondents, exhibit high levels of activity, according to research by Dewi (2018), which lends credibility to the findings of this study. Additionally, prior studies have demonstrated a positive correlation between high physical activity levels and both good physical and mental health (Donoghue, Connell, Kenny, & Place, 2016). According to the findings, older adults who engage in physical activity tend to have better physical activity status.

In seniors 65 years of age and older, low levels of physical activity are linked to an increased risk of death and the emergence of chronic health issues. In contrast, older people who engage in high amounts of physical exercise have a lower chance of dying. There was a 26% lower death rate among those who engaged in moderate physical activity—150 minutes or more per week—than among those who did not. Seniors 60 years of age and older benefit from physical activity. (Arem and associates, 2015)

CONCLUSION

Based on the research findings, it was discovered that the active senior community in Bandung City engaged in daily physical activity more frequently in gymnastic activities, accounting for 75% of the total, and had a high level of physical activity 52%. This demonstrates that older people generally engage in healthy physical activity. This should clearly explain the main conclusions of the work highlighting its importance and relevance.

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