

THE EFFECT OF PHYSICAL ACTIVITIES OF ELDERLY SPORTS WITH DEGREE OF ELDERLY HYPERTENSION DURING THE COVID-19 PANDEMIC STUDY LITERATURE

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ABSTRACT

Background: Hypertension is often called the silent killer because severe complications of vital organs can lead to death. The prevalence of hypertension is expected to continue to increase and is predicted in 2025. Hypertension is often experienced by the elderly because the aging process biological growth causes the tendency of the elderly to suffer from degenerative diseases such as hypertension. the Covid 19 pandemic. The purpose of this study was to determine the effect of elderly sports physical activity on the degree of hypertension in the elderly during the Covid 19 pandemic based on a review of research journals. This research method uses a literature review by searching for journals in the google scholar search database which is then analyzed. The results are based on 11 research journals that have been reviewed by 10 journals which state that the elderly's physical activity has an influence on the degree of hypertension in the elderly. The conclusion is based on the results of a review of research journals that elderly sports physical activity is one of the non-pharmacological methods that can be used to reduce the degree of hypertension in the elderly during the COVID-19 pandemic.

Keywords: Physical activity; elderly sports; blood pressure.

INTRODUCTION

Hypertension or high blood pressure is often referred to as the silent killer because someone with hypertension who has even had hypertension for years often does not realize it until complications occur such as serious damage to vital organs that can lead to death. As many as 70% of hypertensive patients do not realize that they have hypertension until they check their blood pressure to health services (Arifianto, et al. 2014), (Chrismilasari 2022). Many elderly suffer from hypertension due to factors that influence the occurrence of hypertension or blood pressure will increase with age, especially after the age of 40 years. This is caused by changes in the structure of large blood vessels, so that the lumen becomes narrower and the walls of the blood vessels become stiffer, as a result of an increase in systolic blood pressure (Anggi K, 2008), (Negara, 2018).

In connection with the increasing number of elderly people (elderly) Indonesia is now so fast, this is a success in development and technological advances which have resulted in a decrease in mortality and morbidity and increase life expectancy or (OHH) the number of elderly people in 2010 as many as 19.3 million people and 2015 increased to 21.72 million people. In the aging process, biological changes cause the tendency of the elderly to suffer from degenerative diseases such as hypertension. In addition, during the Covid-19 pandemic, all activities became limited,

including sports activities, because exercise requires a lot of energy, the results of the study stated that it is important for people with hypertension to know their capacity to exercise (Sari, 2017), (Negara, 2018).

The World Health Organization (WHO) in 2018 noted that around 972 million people or 26.4% of the world's population suffer from hypertension. This figure is likely to increase to 29.2% in 2025, from 972 million people with hypertension, 333 million are in developed countries. and the remaining 639 million are in developing countries, including Indonesia. Southeast Asia is in the 3rd highest position with a prevalence of 25% of the total population. The results of Riskesdas 2018 show the prevalence of hypertension in the Indonesian population > 18 years. Based on national measurements of 34.11%. The increasing prevalence of hypertension based on the measurement method also occurs in almost all provinces in Indonesia. The results of Riskesdas 2018 show that the Province. South Kalimantan has the highest prevalence at 44.13% followed by West Java at 39.6%, East Kalimantan at 39.3% (Kemenkes RI, 2019). with the highest hypertension sufferers in Banjar Regency. And most of the patients with hypertension are the elderly.

Patients with hypertension in Indonesia, who were checked at the puskesmas were reported regularly as much as 22.8%, while irregularly as

many as 77.2% of hypertensive patients with a history of irregular control, uncontrolled blood pressure reached 91.7% while those who claimed regular control in the last three months, it was reported that 100% still had hypertension. This result is thought to be due to limited facilities at the Puskesmas, limited funds, limited drugs available and the duration of drug administration which is only around 3-5 days (Anies, 2018). Plus the lack of interest in doing physical activities such as exercising accustomed to spending time in old age by relaxing). , even though for the elderly this is highly recommended especially those who suffer from hypertension are always worried about the transmission of the Covid-19 Virus which causes a burden on the mind and will trigger an increase in the degree of hypertension (Jamini, 2020). Treatment of hypertension can be classified into two, namely pharmacological and non-pharmacological, one of which is physical activity such as exercise. What is recommended is hypertension exercise. According to Triyani, E (2017) research. In addition, during the Covid-19 pandemic, it is not only nutritional intake that needs to be considered, but physical activity to maintain fitness is very important because it can increase body immunity (Negara, 2021).

In accordance with the recommendations of the World Health Organization International of Society Hypertension (WHO-ISH) and the Joint National Committee (JNC VIII) a guideline for the management of hypertension in adults in dealing with hypertension sufferers, namely carrying out programmed exercise activities has become a basic component of hypertension treatment before administering drugs. medicine. American College of Sports Medicine recommended exercise training (ACSM 2017). Patients are given the opportunity to choose other types of sports to avoid boredom due to the pandemic. The elderly's interest in physical activities such as exercising, while one of the recommended physical activities is aerobics with a frequency of 3-5 times per week for 30-60 minutes with an intensity of 40-70% aerobic capacity and maximal elderly exercise to avoid boredom. The results of the study show that the Elderly Gymnastics Program should be routinely held once a week for the elderly to take part in the gymnastics using music to avoid boredom and higher interest in exercising in the elderly (KM Andria, 2013). Exercises are generally aerobic such as walking, jogging, gymnastics, or cycling. Excellent activity with light and precise weights. Physical activity is thought to be related to the quality of life in the elderly with hypertension (Supratman, 2014; Kusumaratna 2008), (Anggara, 2022).

Based on the above description, the researcher is interested in conducting a study with the title "The Effect of Physical Activity on Elderly Sports with Degrees of Hypertension in the Elderly During the Covid-19 Pandemic".

RESEARCH METHODS

This research is a research using literature study method or literature review. Literature review can be a larger work, depending on the type of need. Literature review is important because it can explain the background of research on a topic, show why a topic is important to research, find relationships between studies/research ideas, identify themes, concepts, and main researchers on a topic, identify major gaps and discuss further research questions based on previous studies (University of West Florida, 2020). This research was conducted by means of a literature review, conducted from July to September 2022 at Cahaya Bangsa University.

The data used in this study is secondary data obtained from the results of research that has been carried out by previous researchers. The source of secondary data obtained is in the form of reputable journals both nationally and internationally with a predetermined theme, namely "elderly sports physical activity with a degree of hypertension in the elderly during the covid 19 pandemic". Search literature in this literature review using a database Search publications through Google Scholar with the site <https://scholar.google.com/> using keywords according to the theme.

RESULTS AND DISCUSSION

After searching the journals using the Google Scholar publication journal site because according to the researcher it is easy to access in addition to other published journals because Google Scholar has directed the search for journals to various other published journals and at the same time screening journals to get results according to the inclusion and exclusion criteria, The results of a literature review search through publications in the database using the keywords "physical activity", "physical activity", "elderly sports", "elderly sport", "blood pressure", "hypertension", "elderly", "elderly", "COVID pandemic -19". From the period 2019 - 2022, 8,330 journal articles were found. And a boolean operator (AND, OR, NOT) was added to specify the search process, there were 444 journal articles. A total of 389 journals were selected because the term did not match the inclusion criteria. The results after the journal articles were deleted, the remaining 55 journals were deleted. A total of 33 journals were selected because they were

not appropriate based on the theme of the journal content. The selection results were based on the inclusion criteria of the journal content theme, the remaining 22 journals. A total of 11 journal articles were not full text or journals only provided abstracts. The results obtained are 11 journals which are divided into 9 national journals and 2 international journals in English to be reviewed again according to inclusion criteria, inclusion criteria in this study Articles/journals containing the same keywords as the research topic, articles/journals can be accessed easily, articles/journals are full text and not limited to certain research methods, articles/journals are published from the last 2022 to 2017, according to keywords that have been determined by researchers, journals with keywords: Physical activity, sports, elderly, the degree of hypertension in the elderly, during the Covid 19 pandemic with a span of the last 5 years (2017-2022)

From the results of a literature review of 11 journals that have been reviewed by researchers, and carried out by previous researchers regarding the influence of physical activity in the elderly with the degree of hypertension in the elderly, there is a deep influence on the degree of hypertension in the elderly. With the level of physical activity, every body movement produced by skeletal muscles and which causes energy expenditure, which includes work, leisure time, and daily activities (Fatmah, 2010; S Sriani, 2018), (Negara, 2022).

All of the journals that were sampled in this study were some of the results of research using experimental methods and narrative reviews. There are 5 journals that use a cross sectional design, namely the research of Sri iswahyuni(2017), Dian istiana et al(2022). Eko Kuswandono(2019). Seprina et al (2022). Eva Duwi Ratnaningrum (2022). There are 4 studies that use a narrative review or literature review, namely the research of Chidiebere Emmanuel Okechukwu et al (2022). Ninda Purnama Sari, Suri Salmiyati (2020). Ema Novita Deniati, Annisaa (2021). Sauda et al (2020). 2 studies that use a quantitative research design, the research of Totok Hernawan, Fahrur Nur Rosyid (2017) which uses a pre-experimental design and the research of Nadia ristamida al Mubarroh et al (2021) which uses a descriptive survey. According to notoatmodjo (2018), a cross sectional survey is a study to study the dynamics of the correlation between risk factors and effects, by approaching, observing or collecting data all at once (point time approach).

The population used in the 11 research journals is elderly hypertension sufferers. The number of samples from the 11 journals studied had differences, there were 6 research journals that

corresponded to having more than 30 samples, namely Eva Duwi Ratna Ningrum's research (2022) entitled The effect of physical activity on systolic blood pressure in elderly people with hypertension in Kalirejo Village, Kab. . Kendal, totaling 96 people, Seprina, Herlina, Bayhakki (2022) entitled The Relationship of CERDIK Behavior to Blood Pressure Control in Hypertensive Elderly in the COVID-19 Pandemic Period. A total of 65 people, Eko Kuswandono (2019), entitled the relationship between exercise behavior and hypertension in the elderly at the Sidomulyo Public Health Center Pekanbaru. With a total of 86 respondents, Dian Isiana et al (2022) entitled The Relationship between Physical Activity and the Incidence of Hypertension at the Work Area of the Ampenan Health Center. totaling 30 respondents, Sri iswahyuni (2017), Saputra 2019 The Relationship Between Physical Activity And Hypertension In The Elderly. With a total of 90 respondents, Nadia Ristamida Al Mubarroh et al (2021) entitled Physical activity and aspects of elderly concerns during the Covid-19 pandemic. A total of 70 respondents. This is in accordance with the theory of Cohen, et al (2007) The larger the sample from the size of the existing population the better, but there is a minimum number that must be taken by researchers, which is as many as 30 samples.

Of the 11 journals, there is 1 journal compared to the research conducted by Dian Isiana et al (2022) entitled The Relationship between Physical Activity and the Incidence of Hypertension at the Work Area of the Ampenan Health Center. This study uses a quantitative descriptive method, with a cross sectional approach. With a sample of 30 respondents and the average respondent aged 41-50 years. The results of the analysis of the relationship between physical activity and the incidence of hypertension showed that most of the respondents were in the moderate physical activity category and most of the respondents were in the normal blood pressure category. This is because each individual has a different body response to physical activity as an effort to prevent or reduce the degree of hypertension in the elderly.

Of the 11 journals studied, samples from 11 journals about physical activity in elderly sports with hypertension degrees in the elderly, sports such as hypertension exercise are able to encourage the heart to work optimally. Where exercise is able to increase energy requirements by cells, tissues and organs of the body, which consequently can increase venous return, causing stroke volume which will directly increase cardiac output, causing arterial blood pressure to increase, after arterial blood pressure increases first, the impact of this

phase will increase. This is able to reduce respiratory and skeletal muscle activity which causes decreased sympathetic nerve activity, after which it will cause a decrease in heart rate, decreased stroke volume, vasodilation of venous arterioles, due to this decrease, resulting in a decrease in cardiac output and a decrease in total peripheral resistance, resulting in a decrease in blood pressure. blood (Sherwood, 2005; Totok hernawan, fahrur Nur Rosyid, 2017), (Lestari, 2022) in line with nursing theory (Orem, 2001) it must be done intentionally and continuously in time and in accordance with individual regulatory requirements, one of which is mentioned by Orem namely the level of energy expenditure by individuals. Based on this theory, the researcher assumes that physical activity in the elderly such as hypertension exercise has an effect on reducing the degree of hypertension in the elderly. While the use of antihypertensive drugs in the long term can lead to drug dependence, decreased metabolism in the elderly, decreased kidney function, decreased ability of the heart and blood vessels, causing cognitive function damage that is not good for the health of the elderly. This is in line with the results of a study (Eko Kuswandono 2019) showing that there is a relationship between exercise behavior and hypertension in the elderly. So that sports behavior can continue to be used as special nursing interventions and community nursing.

Of the 11 journals studied, samples from 11 journals about elderly sports physical activity during the Covid-19 pandemic with the degree of hypertension in the elderly. The researcher assumes that during the current pandemic, it is highly recommended that after doing physical activity or sports do not gather in crowded places or avoid crowds and apply health protocols by washing hands and feet, showering and immediately changing the clothes used when exercising. The elderly face a variety of threats and challenges during a pandemic, although all age groups are at risk of contracting COVID-19, the elderly face a significant risk of developing severe disease if they contract the disease because of the physiological changes that occur with aging and the potential for underlying health conditions (WHO, 2010). 2020; Al Mubarroh, NR, Susanto, IH, & Mustar, YS (2021). In addition, the current COVID-19 pandemic has also affected the elderly disproportionately, the immediate impact of which is the very high mortality rate of 80% reported deaths in the United States occur in people over the age of 65, and cases of death increase with age (Bialek et al., 2020; Al Mubarroh, NR, Susanto, IH, & Mustar, YS (2021). Recent study in Wuhan showed that old age/elderly is a risk factor for

COVID-19 death in hospitals (Zhou et al., 2020; Al Mubarroh, NR, Susanto, IH, & Mustar, YS (2021). From some of the aspects above, there are several factors that influence the elderly in carrying out physical activities such as in the research of Seprina, S., Herlina, H., & Bayhakki, B. (2022) respondents who are not diligent in physical activity because they do not have enough time, and there are respondents who are in recovery period so they only do light physical activity. Lack of physical activity increases the risk of suffering from hypertension. And what we need to manage in one of the efforts to implement hypertension is being able to manage stress, in line with the results of a study by Seprina, S., Herlina, H., & Bayhakki, B. (2022) based on research results, 56 elderly who are able to manage stress, 9%. This shows that the elderly are able to manage stress well. That the importance of health education for stress management in the elderly to control their blood pressure. This is in line with the research of Deniati, EN, & Annisaa, A. (2021) The trend of cycling sports emerged as a result of the implementation of PSBB in Indonesia. People who are increasingly bored with staying at home, are starting to look for sports activities outside the home to just relieve fatigue, get fresh air, socialize but keep their distance and avoid crowds. According to the studies that have been discussed previously, the trend of cycling as an aerobic exercise during the current Covid-19 pandemic can be a preventive measure for the elderly to avoid the Covid-19 virus.

Of the 11 journals reviewed, all implemented physical activity interventions using the FITT criteria in an effort to prevent or reduce the degree of hypertension in the elderly, but the interventions based on the FITT criteria given to the sample were different, all journals that were sampled intervened based on the FITT criteria with time for physical activity. above 30 minutes/day. This is in line with the research of Totok Hernawan, Fahrur Nur Rosyid (2017) Hypertension exercise is carried out for 30 minutes with stages of 5 minutes of warm-up exercises, 20 minutes of transitional movements and 5 minutes of cooling movements.

Based on the results of a review of research journals that there is an effect of physical activity on elderly sports with the degree of hypertension in the elderly and is one of the non-pharmacological methods that can be used to reduce the degree of hypertension and is effective for reducing the degree of hypertension in the elderly, but this intervention is also less effective because the response of the human body is different. -different.

CONCLUSION

. Based on the results of a review of research journals that Physical Activity in the elderly is one of the non-pharmacological methods that can be used to prevent and reduce the degree of hypertension in the elderly and one of the effective efforts in preventing and reducing the degree of hypertension with the criteria of physical activity or exercise FITT (Frequency, Intensity, Time, Type).

Based on the 11 journals reviewed, there are 10 journals which state that the intervention of elderly sports physical activity has an influence on the degree of hypertension in the elderly.

All of the journals that were sampled in this study were some of the results of experimental research and narrative reviews. There are 5 journals that use a cross sectional design. And 4 studies that use a narrative review or literature review. And 2 studies that use quantitative methods.

Of the 11 journals that have been reviewed, all implemented physical activity interventions using FITT criteria in an effort to prevent or reduce the degree of hypertension in the elderly, but interventions based on FITT criteria given to different samples, all journals that were sampled intervened based on FITT criteria with activity time. physical activity above 30 minutes/day.

The population used in 11 research journals is elderly hypertension sufferers. The number of samples from the 11 journals studied had differences, there were 6 research journals that matched with having a sample of 30 or more.

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