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## ERGONOMIC GYMNASTIC TRAINING TO IMPROVE THE ABILITY OF ELDERLY CADRES TO REDUCE BLOOD PRESSURE IN ELDERLY WITH HYPERTENSION

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### ABSTRACT

The COVID-19 pandemic that lasted for two years had an impact on the health of the elderly, especially the elderly with hypertension. Elderly health development through Posyandu Lansia provides great benefits for the elderly with hypertension in controlling their blood pressure, but this activity must be vacuumed during the pandemic. The reduction in the number of COVID-19 cases is expected to be able to reach rate of Posyandu Lansia, so that elderly health cadres as activity drivers can improve their knowledge and skills. The purpose of this activity is to increase the knowledge and skills of elderly health cadres in the implementation of ergonomic gymnastics to reduce blood pressure in the elderly with hypertension. The method used in this community service activity is a participative educational approach, namely providing health education and demonstrations regarding ergonomic gymnastics. This activity was carried out for one month and was attended by ten elderly health cadres. Knowledge and skills of cadres in carrying out ergonomic gymnastics were observed with questionnaires and Standard Operating Procedures (SOP). The results of community service show that the knowledge and skills of elderly health cadres in carrying out ergonomic gymnastics are very good.

Keywords: COVID-19, Elderly, Elderly Health Cadres, Ergonomic Gymnastic, Hypertension.

## INTRODUCTION

One of the efforts to improve the quality of life of the elderly is to establish Pos Layanan Terpadu (Posyandu) Lansia (Purwaningsih & Triyono, 2019). Elderly health development through Posyandu Lansia provides great benefits for the elderly in managing their health, one of which is hypertension sufferers. Activities carried out at Posyandu Lansia are health checks (blood pressure, pulse, blood sugar, cholesterol, uric acid), medication, to physical exercise such as elderly gymnastics (Afandi et al., 2019; Septianingrum & Susanto, 2020). The continuity of Posyandu Lansia is certainly influenced by the involvement of competent and skilled cadres. The skills of the elderly health cadres are obtained through high knowledge (Ayu et al., 2021).

The COVID-19 pandemic that has hit all over the world, including Indonesia, has had a major impact on the health of the elderly because they are the group most at risk of contracting COVID-19. This condition causes activities related to the elderly to be stopped (Kusumawardani et al., 2020). During the Covid-19 pandemic, all activities in Posyandu Lansia were in a vacuum, so the elderly who suffer from hypertension cannot control their health conditions, so this has an impact on increasing the risk of hypertension complications such as stroke. Ergonomic gymnastics training for elderly cadres is carried out as a form of refreshing the skills of elderly health cadres and re-activating cadres in an effort to improve the health of the elderly.

Wonokromo Village is one of the villages in Wonokromo District. Surabaya City, East Java Province. Wonokromo Village consists of eight Community Pillars (RW) and there are several public facilities in Wonokromo Village, such as schools, malls, terminals, health centers, and hospitals. The Wonokromo Village area is a densely populated residential area, with a population of 40,224 people.

The number of elderlies in Wonokromo village is quite large. Most of the elderly use public health facilities when they are sick. The Wonokromo Health Center is also one of the best public health centers in Surabaya with various programs, such as Posyandu Lansia. This program is a flagship program at the Wonokromo Health Center, but the activities of the elderly Posyandu are currently on vacuum (inactive) due to the Covid-19 pandemic. The elderly is a group at risk of being infected, therefore activities involving the elderly must be temporarily suspended. Elderly health cadres who are the driving force of this program are also vacuumed. Several cadres stated that they had somewhat forgotten how to do health checks such as taking blood pressure, checking temperature, etc. They also said that many elderly people want this activity to be held again because the elderly have difficulty in managing their health conditions, especially elderly with hypertension.

## OBJECTIVES

### *General Purpose*

This training is expected to be able to improve the knowledge and skills of elderly

health cadres in teaching ergonomic gymnastics to the elderly to reduce blood pressure in the elderly with hypertension.

#### *Special Purpose*

After implementing this community service activity, it is hoped that the elderly cadres are able to:

1. Increase knowledge of cadres about ergonomics exercise through offline health education.
2. Improving the skills of cadres in performing ergonomic exercises through demonstrations of ergonomic exercises in accordance with standard operating procedures, as well as providing leaflets and ergonomic exercise module as a guide for cadres.

### **PLAN OF ACTION**

#### *Strategy Plan*

The method used in this community service activity is a participative educational approach that will be held from April until May 2022 in UNUSA Campus A. Participants are elderly health cadres in RW 03 and RW 08 Kel. Wonokromo, Kec. Wonokromo, Surabaya as many as ten cadres.

#### *Implementation*

In the first week the elderly cadres were given health education about hypertension and non-pharmacological therapy to reduce blood pressure in the elderly with hypertension, followed by training in ergonomic gymnastics for the elderly according to standard operating procedures. The cadres were also given leaflets and ergonomic exercise modules as a guide for the implementation of the training. This module contains the concept of hypertension and the concept of ergonomic exercise, including the sequence

of ergonomic exercise movements. This module was created and owned by a team of community service lecturers and distributed to elderly health cadres in RW 03 and RW 08.

The training is carried out offline while maintaining the health protocol. Before the activity started, participants were given a pre-test, in the form of a paper-based questionnaire. After that, participants were given health education about the meaning, purpose, benefits, preparation, requirements, equipment for the implementation of ergonomic exercise. In the next session, participants will demonstrate ergonomic exercise following the instructions from the speaker followed by an independent demonstration. Next there is a discussion session between the presenters and participants. At the end of the session, participants filled out a post-test distributed by the observer.

In the third week, cadres were asked to send videos when they taught ergonomic exercises to the elderly. The video was sent via WhatsApp to the observer. The skills of the cadres are assessed based on the suitability of the Movement with the SOP and the ability to communicate with the elderly.

#### *Setting*

This community service was held from April until May 2022 in UNUSA Campus A, Jalan SMEA No. 57 Surabaya, East Java, Indonesia. The training was conducted in that place because there are facilities and infrastructure to support the activities, such as a large enough space, the availability of LCDs and laptops, and the location is easily accessible by cadres.

### Target

The training participants are elderly health cadres in RW 03 and RW 08 Kel. Wonokromo, Kec. Wonokromo, Surabaya as many as 10 cadres, including nine women and one man.

## RESULTS AND DISCUSSION

The results of the knowledge of elderly health cadres about ergonomic gymnastics before and after training are as follows:

**Table 1.** Results of pre-test and post-test

Score	Mean	SD	Min-Max.	P
Pre-test	34	9.7	-61.952 to	0.000
Post-test	89	8.8	-48.048	

Based on table 1 above, it shows that there is a significant difference in knowledge about ergonomics exercise before and after ergonomic exercise training ( $p = 0.000$ ). This shows that the knowledge of cadres increased after being given training. The results of observing the skills of cadres in demonstrating independently to the elderly show that almost all cadres have been able to teach ergonomic gymnastics movements according to standard operating procedures, there are only a few people whose movements are less than perfect, the sequence of gymnastics is wrong, and they forget one exercise.

Cadres need to have good knowledge to obtain maximum health services. The lack of knowledge and skills possessed by cadres is one of the reasons for the lack of success of services at Posyandu (Akbar et al., 2021). Knowledge of health cadres is very important as the main guideline for cadres in carrying out their roles in order to

provide good health services (Septianingrum et al., 2021).



**Figure 1.** Implementation Phase of Ergonomic Gymnastics.

The results of interviews with cadres showed that so far, they only knew one type of elderly exercise taught by the Puskesmas, so that only exercise was taught to the elderly. There are many types of physical exercise that can be taught to the elderly, one of which is ergonomic gymnastic. It is a movement that optimizes body position when given treatment, with the aim of eliminating or minimizing fatigue (Dewi, 2019). Ergonomic gymnastics is a movement technique to restore or shape the position of the spine and flexibility of muscles and joints and can affect the circulation and blood circulation system. (Septianingrum & Susanto, 2020).



**Figure 2.** Cooling Phase in the Implementation of Ergonomic Gymnastics.



Research on the effectiveness of ergonomic exercise in the elderly with hypertension has been carried out, and has been proven to reduce blood pressure in the elderly (Alifatun, 2019; Megawati, 2017; Septianingrum & Susanto, 2020; Yanti et al., 2021). This ergonomic exercise is suitable for the elderly because it will help restore the position and flexibility of the nervous system which can make blood flow to the brain smooth, besides that it can also increase the function of vasodilation which can reduce peripheral vascular resistance. If the elasticity of blood vessels increases, it will make it easier for blood vessels to become flexible and the flow of blood pumped by the heart will be smooth (Yanti et al., 2021). In addition to lowering blood pressure, ergonomic exercise also has other benefits, namely reducing joint pain and increasing muscle strength in the elderly. Changes in bones, muscles, and joints result in changes in appearance, weakness, and slowed movement that accompany aging (Huriah et al., 2018).

The training of elderly health cadres is important in an effort to improve the welfare of the elderly. Community service efforts to improve the health of the elderly by training and assisting the elderly health cadres have also been carried out by Akbar et al. (2021) and produced positive outcomes in the form of increasing cadre knowledge about the Posyandu Lansia.

Community service through empowering elderly health cadres is beneficial for the sustainability and optimization of Posyandu Lansia. This training is also a form of refreshing the mind for cadres who have been away for more than a year. They are very enthusiastic about participating in this training to completion as a form of contribution and loyalty in elderly health services.



**Figure 3.** Termination Session for the Implementation of Community Service Activities.

## CONCLUSION

Ergonomic gymnastics training for elderly health cadres as a form of community empowerment efforts is able to increase the knowledge and skills of elderly health cadres in carrying out ergonomic gymnastics. The results of this community service are expected to be able to optimize the role of cadres as drivers of elderly health services. Ergonomic gymnastics that are taught can be used as an alternative to safe physical exercise for the elderly, and can be done regularly to reduce blood pressure in the elderly.

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