EVALUATION OF MODIFICATION OF COMPLEMENTARY NURSING INTERVENTIONS TO REDUCE HYPERTENSION FOR THE ELDERLY: A PARTICIPATORY ACTION RESEARCH

Muflih Muflih[1*], Istianna Nurhidayati[2], Sang Ayu Made Adyani[3]

[1]Nursing Departement, Faculty of Health Sciences, University Respati Yogyakarta
2Nursing Departement, Institute of Health Science Muhammadiyah Klaten
[3]Nursing Departement, Faculty of Health Science, Universitas Pembangunan Nasional Veteran Jakarta
***corresponding author: muflih@respati.ac.id**

Abstract
Elderly people with hypertension need non-pharmacological interventions that can help stabilize blood pressure, as part of long-term care. The main objective of this study was to reduce blood pressure for elderly patients in social care institutions through implementing complementary care modifications using a participatory action research process. The design of this study is a mixed research triangulation method, which involves the use of quantitative and qualitative methods through participatory action research methodologies to develop evidence-based complementary nursing interventions. This intervention model was tested in 7 elderly people who were at least 60 years old. The nurse including the researcher chose the elderly group to facilitate the process of participatory action research to develop, implement and evaluate a modified model of complementary nursing intervention, consisting of; acupressure and relaxation techniques, for 6 days. The process of participatory action research is produced; decreased blood pressure for patients, reduced complaints of dizziness, increased comfort and increased satisfaction with complementary nursing care activities provided. Implementation of acupressure and relaxation techniques in groups can increase social interaction, self-care ability in stabilizing blood pressure and maintaining the ability of daily activities for the elderly. This study shows the efficacy of a complementary nursing modification intervention in reducing blood pressure for elderly patients with hypertension.

Keywords: Alternative Intervention; Acupressure; Blood Pressure; Older Patients

1. INTRODUCTION

So far, care for the elderly with hypertension in social care institutions is done using conventional medicine or care. In addition to focusing on stabilizing blood pressure, long-term care for the elderly is focused on efforts to increase independence. One of them is the ability to take care of themselves so that they can continue to do their daily activities independently, including self-care with hypertension.

Elderly in this study in the process of long-term care that wants comfort and minimized getting drug-based treatment. Alternative care efforts that can be given to the elderly through training are complementary treatments of acupressure and relaxation techniques. Both of these techniques have been shown to reduce blood pressure for the elderly who are done separately. Acupressure techniques performed at certain points have been identified to reduce blood pressure [1]. Likewise, relaxation exercises can reduce blood pressure simultaneously [2]. However, studies that combine both of them and conducted with participatory action research methods are still rarely found.

This research is important because it is evidence-based and shows how the process of participatory action research applying modifications to complementary nursing interventions consists of acupressure and relaxation techniques for blood pressure reduction for the elderly with hypertension cases. This research can make sustainable changes to the practice of nurses in social care institutions. Therefore, the elderly in this study are involved in the process of actively intervening to implement the nursing interventions obtained

2. METHODS and MATERIAL

This study uses a type of qualitative research with an action research approach. This research method aims to make changes to a problem by providing intervention or action monitored by the researcher so that the results of these changes can be utilized.

The population in the study that will be conducted in all the elderly at the Tresna Werdha Social Service Center, Yogyakarta, Abiyoso Unit, which is divided into 12 guest houses. The complementary nursing intervention trial of acupressure and relaxation techniques was given one homestay (Indrokilo), which consisted of 7 elderly from the 8 selected districts, with a purposive sampling technique. The selected elderly have inclusion criteria consisting of; the elderly are still physically active, there are no limitations of movement, there are no mental health problems and are cognitively able to follow the directions given.

Acupressure intervention is given at Taixi point (Kl3) and Shenmen (HT7). There is two number of acupressure points given because it considers the ability of the elderly to practice it independently later on. The relaxation technique is given during the acupressure process by guiding the elderly to take deep breaths regularly, according to the guidelines. This intervention is carried out every day for 6 days within 20 minutes of therapy.

Analysis of the data used is a combination of qualitative and quantitative data. Qualitative data consists of; response to comfort, calmness and other physical responses obtained from interview or observation techniques. Quantitative data is the value of blood pressure in units of mmHg as measured by digital sphygmomanometer. Blood pressure measurements were carried out before and after the intervention with a delay of 5 minutes

3. RESULTS AND DISCUSSION

The results of the study before being given an intervention found that 4 of 7 elderly people complained of several symptoms of hypertension, such as dizziness and stiffness in the back of the neck in certain situations. Elderly said there was no special therapy to reduce blood pressure or reduce symptoms except with drugs.

Elderly people who have hypertension have 7 elderly out of a total of 8 elderly (87.5%). The average blood pressure of the elderly is 149/85 mmHg. All elderly who have hypertension know about the understanding, causes, signs and symptoms of hypertension. Elderly with hypertension who consumed antihypertensive drugs were only 2 out of 7 elderly (25%) and the remaining 5 elderly (75%) did not take anti-hypertensive drugs. The seven elderly have not shown adaptive behaviour to control blood pressure, such as 4 of 7 elderly (57.14%) who still often ate food from outside social institutions or consumed coffee.

The results of the evaluation of the response of the elderly after being given an intervention found that the elderly seemed calm, comfortable, and even felt sleepy. As stated by the first participant on the third day as follows:

"..... It feels good to get a massage, rather sleepy ..... Ngelu sirane wes ora keroso mane (headache is not felt anymore) ..... (P1)"

On the same day, researchers evaluated the understanding of the elderly about how to practice acupressure and relaxation. Elderly said that he had begun to understand how to do massage at the acupressure point with a combination of relaxation. As presented by the second participant as follows:

"... little by little I understand the chance to massage (understand the way to massage) ..."

The average change in blood pressure values obtained varies every day. The constant reduction in blood pressure ranges from 5-12 mmHg for systole and 1-8 mmHg for diastole (See table 1). Overall changes in mean blood pressure values from the first day of intervention until the last day were concluded that there was a tendency for a decrease in the mean blood pressure 5 minutes before the intervention or after, both systolic and diastolic blood pressure (see diagram 1).

Changes in blood pressure due to acupressure intervention have been proven by several previous researchers, but with different points. In a previous study, acupressure at Taichong point (LIV3) affected reducing blood pressure [1]. Other studies use acupressure combinations in the ear and Zusanli point (ST36) [3]. In this study, the acupressure points used were Taixi and Shenmen points. This point if viewed from the science of eastern medicine has a different function.

Taixi point is the acupressure point associated with kidney organs, while Shenmen point is the acupressure of the heart organ. Scientifically it has been proven that the two organs are related to the stability regulation of blood pressure [4]. Emphasis on these two points improves the energy flow of the two organs, making blood pressure stable

Table 1. Mean values of systolic and diastolic blood pressure (mmHg)

	Mean Pre-Test		***Mean Post-Test***		**Mean Difference**	
	Systole	***Diastole***	***Systole***	***Diastole***	***Systole***	***Diastole***
Day 1	153	85	148	82	↓ 5	↓ 3
Day 2	148	86	140	78	↓ 8	↓ 8
Day 3	161	83	149	78	↓ 12	↓ 5
Day 4	146	79	136	80	↓ 10	↓ 1
Day 5	151	80	139	77	↓ 12	↓ 3
Day 6	136	76	130	72	↓6	↓4

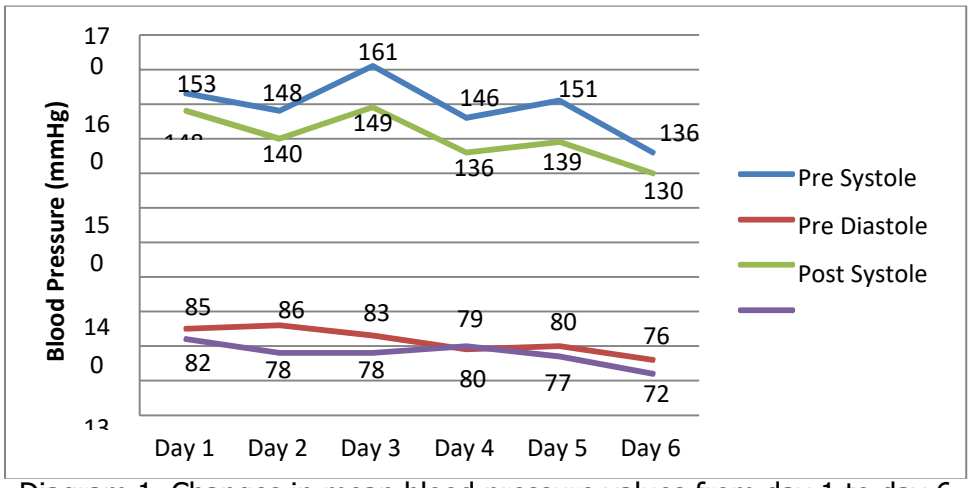

Diagram 1. Changes in mean blood pressure values from day 1 to day 6.

Effective administration of acupressure has been shown to cause drowsiness, improve sleep quality and reduce symptoms of insomnia [5], [6]. This is as found by

researchers that the elderly feel drowsiness after an intervention. Giving pressure at the acupressure point in releasing excessive energy in the heart organ, so that the heart becomes relaxation and results in drowsiness. Giving acupressure is also proven to reduce feelings of anxiety, depression, and feelings of quality of life that are indirectly related to hypertension [7], [8].

Giving relaxation therapy combined with the acupressure technique has the effect of strengthening the feeling of comfort and calm. This affects the relaxation of the heart and blood vessels. Relaxation therapy has been shown to suppress feelings of anxiety and depression that trigger hypertension [2]. Simple relaxation techniques carried out by breathing in have a sufficient effect in stabilizing blood pressure [9], [10]. The physiological effects of relaxation can make the muscles relax and calm the mind, although not as strong as hypnotherapy therapy [11].

A complimentary nursing intervention consisting of a combination of acupressure and relaxation techniques can be an alternative nursing action for the elderly in Indonesia. This, considering the number of elderly people in Indonesia that continues to increase and the incidence of hypertension is influenced by psychosocial factors [12]. Besides, this intervention can help elderly people who tend to experience increased adherence to taking antihypertensive drugs [13].

4. CONCLUSION

The results of this study provide scientific evidence about the efficacy of a complementary nursing modification intervention in reducing blood pressure for elderly patients with cases of hypertension. The intervention in the form of a combination of acupressure and relaxation techniques can be part of a long-term care effort that supports the activities of the elderly independently. The provision of this intervention still considers the physical, mental, and cognitive conditions of the elderly. For nurses who are in charge of social care, institutions should provide this intervention training as part of efforts to improve self-care independence for the elderly..

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