

CHAPTER I

INTRODUCTION

1. 1. Background

Hypertension is the third leading cause of death after stroke and tuberculosis, and as one of the public health problems throughout the world (Yonata, 2016). According to data from the World Health Organization (WHO), nearly 1 billion worldwide suffer from hypertension. In 2013, it was estimated that the most continent with hypertension were countries in Africa (46% of adults) and the lowest was countries in America (35% of adults) (WHO, 2013). In various countries in Asia, the prevalence of hypertension varies, ranging from 15 - 35%, the figure is expected to continue increase every year (Singh, 2016).

Basic Health Research (Riskesdas) in 2018 mentioned the prevalence of hypertension in Indonesia around 34.1% higher compared to 2013 around 25.8%, with the incidence of cardiovascular disease complications more in women (52%) compared to men (48%) (Riskesdas, 2018). In Indonesia, hypertension was ranked the highest in the 10 most diseases in the elderly in 2013 (Ministry of Health, 2014). In 2017, hypertension occupies in Central Java had the largest proportion of all non-communicable diseases reported, in the amount of 64.83% of these diseases being the main priority in controlling non-communicable diseases in Central Java. Purbalingga regency ranked 11th out of 34 districts or cities with a percentage of 14.26% (Central Java Health Office, 2017).

Older people are at high risk for degenerative diseases, such as coronary heart disease (CHD), hypertension, diabetes mellitus, gout (rheumatism) and cancer (Karmitasari, 2018). One of the diseases that is often experienced by the elderly is hypertension, hypertension is a state of change in which blood pressure rises chronically. Hypertension or high blood pressure is actually a disorder in the blood vessels which decreases the supply of oxygen and nutrients to the body's tissues that need it (Destiara, 2017).

Hypertension or high blood pressure is a condition where a person's blood pressure >140 mmHg (systolic pressure) and >90 mmHg (diastolic pressure) (Riska, 2015). According to WHO, the blood pressure limit considered normal is less than 130/85 mmHg (WHO, 2013). Hypertension is triggered by several risk factors, such as age, sex, genetic factors, stress factors, educational factors, obesity, excess sodium intake, lack of physical activity, and vitamin D deficiency (Pramana, 2016). Therefore, non-pharmacological treatment is needed which provides long-term effects and minimal side effects include herbal treatment in this case by using dates-infused water (Ilkafah, 2018). Dates-infused water are known to contain phenol and potassium compounds which are quite high, these phenol compounds have antioxidant activity and function as antihypertensive agents (Diah, 2015). Based on nutrition fact in 100 g of dates there is a potassium content of 650 mg (Handini, 2018).

Dates are nutrient-rich food, because they contain a lot of energy from carbohydrates (glucose, fructose), little protein, and fat, and are complete with vitamins and minerals (Fadila, 2018). Previous research has been carried out to test levels of phenol compounds in dates-infused water of 19.04 mg / 100 g and potassium of 15.23 mg / 100 g. So, in this study the effect of dates-infused water on the elderly will be tested for a decrease in antihypertension.

1. 2. Formulation of the problem

Does the Dates-Infused Water (*Phoenix dactylifera*) affect on blood pressure in elderly with hypertension?

1. 3. The purpose of the problem

1.3.1 General purpose

Knowing the effect of dates-infused water (*Phoenix dactylifera*) on blood pressure in elderly with hypertension.

1.3.2 Special purpose

1. Knowing blood pressure before and after giving dates-infused

- water (*Phoenix dactylifera*) in elderly with hypertension
2. Knowing the effect of dates-infused water (*Phoenix dactylifera*) with soaking time of 12 hours on blood pressure in elderly with hypertension

1. 4. Benefits of research

1.4.1 Theoretical

Researcher can gain knowledge and experience as well as field skills in research specifically related to the Dates-Infused Water against Hypertension in the elderly and it is hoped that it can be used as preliminary data for subsequent research on the Effects of Dates-Infused Water on Hypertension in the elderly.

1.4.2 Practical

The results of this study are expected to provide other alternatives to overcome hypertension in the elderly through information and as input for respondents to be able to respond and act positively in overcoming hypertension.

1. 5. Authenticity of Research

Table 1. Authenticity of Research

Title	Variable & Design	Result	Difference
Giving Effectiveness Against Cucumber Infused Water Decrease Blood Pressure In Elderly Hypertension (Karmitasari, <i>et al.</i> , 2018)	Dependent variables: elderly Hypertension Independent variables: Infused water Cucumber method: Pre Experimental, one group pre-test post-test design	Based on the results of different test on the table paired sample t test showed sig (2-tailed) 0.000 compared to a value of 0.05 is significantly smaller value, which means giving cucumber infused water is effective against systolic and diastolic blood pressure	Independent variables dates-infused water and methods Quasi experimental

Title	Variable & Design	Result	Difference
Difference of Macronutrients, Antioxidants, Iron, Potassium and pH in Dates and Lemon (Abidah, 2019)	Dependent variabel : Dates and Lemon Infused water Independent variabel : Differences of Macronutrients, antioxidants, iron, potassium and pH Method : Pre experimental	There was a significant difference between potassium content of dates infused water and lemon p-Value 0.000. The potassium content of dates infused water was higher (15.23 mg) than lemon infused water (7.78 mg)	Variabel dependen blood pressure in elderly with hypertension Variabel independen dates-infused water

Title	Variable & Design	Result	Difference
Water infused with a combination of Siam Squash, Lemon, Dates Deglet Nour, Red Ginger and Mint Leaves as antihypertensive Alternative Beverages(Handini, 2018)	Dependent variables: Blood pressure are male or female adult independent variables: Water infused with a combination of Siam Squash, Lemon, Dates Deglet Nour, Red Ginger and Mint Leaves method: pre experimental with one group pre-post test	Giving Infused Water can lower systolic blood pressure by 8.9 mmHg with significant value 0.000, and diastolic blood pressure decreased by 2.4 mmHg with significant value 0.002	Dependent Variables blood pressure elderly with hypertension, Independent Variables dates-infused water and Method quasi experimental
The Effect of Red Dragon Fruit Juice (Hylocereus polyrhizus) to Decrease Blood Pressure(Nisa, <i>et al.</i> , 2019)	Dependent variables: Young adults (18-40 years) Independent variables: Red Dragon Fruit Juice method: Quacy experimental	Giving a red dragon fruit juice with the addition of red dragon fruit skin sebanyak 20% effective in lowering systolic blood pressure	The dependent variable, independent variable