

## **CHAPTER 3**

### **RESEARCH METHODS**

#### **3.1. Research Design**

Research design is a planned approach that aims to identify key issues in research before entering the final stage of data collection. In addition, this design forms a framework or structure that serves as a reference in the implementation of the research process (Nursalam, 2021).

This study uses a correlational research design. Correlational research is conducted to determine whether there is a relationship between two or more variables and how strong that relationship is, without applying any treatment or intervention to the variables being observed, so that there is no manipulation in the data collection process (Ibrahim et al., 2018). This study uses a cross-sectional approach, which is a method used to observe the relationship between risk factors and their effects through data collection at a specific point in time (point time approach). Each participant in this study was observed only once, with relevant characteristics and variables measured at the time of observation. Therefore, the observation time may vary for each subject (Notoatmodjo, 2018). The purpose of this study was to evaluate the relationship between the level of knowledge about hypertension and self-management among elderly people with hypertension at the Posyandu RW 10 Madyopuro Village.

### **3.2. Research Time and Place**

This research was conducted at the Posyandu RW10, Madyopuro Village, on Tuesday, May 27, 2025.

### **3.3. Population dan Sample**

#### **3.3.1. Research Population**

A population is a collection of objects or subjects that have certain characteristics and traits that researchers focus on for analysis, enabling them to draw conclusions (Masturoh & Anggita, 2018). This research involved 28 elderly people with hypertension who actively participated in the Posyandu RW 10 Madyopuro Village activities as the population.

#### **3.3.2. Research Sample**

A sample is a part of a population that has certain characteristics and is selected as the subject of research in order to draw conclusions (Masturoh & Anggita, 2018). Researchers determined the sample size using the total sampling technique. Total sampling is a sampling technique in which all members of the population are included in the research sample. This method was used because the population in this study was less than 100 individuals. Therefore, the number of respondents included in the sample was 28 people.

#### **3.3.3. Inclusion and Exclusion Criteria**

##### **1. Inclusion Criteria**

Inclusion criteria are specific requirements or characteristics that members of a population must possess in order to be included in a

research sample (Masturoh & Anggita, 2018). In this research, the inclusion criteria used include:

- 1) Aged 60 years or older
- 2) Elderly people with blood pressure measurements  $\geq 140/90$  mmHg
- 3) Able to communicate verbally in order to cooperate during the research and does not suffer from dementia
- 4) Elderly people who regularly participate in posyandu activities
- 5) Elderly people who are willing to participate as respondents in this research

## **2. Exclusion Criteria**

Exclusion criteria refer to certain characteristics possessed by members of the population that make them unsuitable for inclusion in the research sample (Masturoh & Anggita, 2018). The exclusion criteria in this study include:

- 1) Elderly with memory loss or dementia
- 2) Elderly with impaired consciousness who cannot communicate well
- 3) Elderly who do not have a history of hypertension.

## **3.4. Data Collection Methods**

Primary data is information obtained directly by researchers from the original source. This type of data is often referred to as actual data or newly collected data (Masturoh & Anggita, 2018). In this research, primary data was obtained by distributing questionnaires to respondents to fill out.

In addition to the questionnaire, data on the number of respondents with hypertension was obtained based on interviews with posyandu cadres and records in the routine control books owned by posyandu participants. The researchers did not measure blood pressure directly, but used simple medical records already available on each respondent's control card.

### **3.5. Research Instruments**

Research tools serve as a means of obtaining data in a study, which is structured based on concepts, constructs, and variables that have been determined through in-depth theoretical analysis (Masturoh & Anggita, 2018).

This research used a questionnaire containing a number of questions related to the variables that were the focus of the study. The researchers used two instruments, one to measure the level of knowledge about hypertension and the other to measure self-management of hypertension. In this study, the Guttman Scale was used to assess the level of knowledge about hypertension, while the Likert Scale was used to measure self-management ability. The Likert Scale consists of four response options: always (A), often (O), sometimes (S), and never (N).

#### **1. Level of Knowledge About Hypertension**

The instrument for this variable is a questionnaire adapted from the Hypertension Knowledge-Level Scale (HK-LS) developed by Ardyanti (2021). This questionnaire has undergone validity and reliability testing. Scores are given based on the Guttman Scale:

- Correct Answer = 2
- Incorrect Answer = 1

## 2. Self Management

The instrument used to measure self-management is a questionnaire based on the HSMBQ (Hypertension Self Management Behavior Questionnaire) that has been modified by Ardyanti (2021). This questionnaire uses a 4-point Likert scale with 10 questions. The assessment is given as follows:

- Always = 4
- Often = 3
- Sometimes = 2
- Never = 1

### 3.6. Research Procedure

The steps in conducting this research include the following stages:

1. Preparation stage
  - a. The researcher determines the research topic. After determining the focus of the problem related to the relationship between the level of knowledge about hypertension and self-management skills in elderly people with hypertension, the researcher submits the title for approval by the supervising lecturer.
  - b. After the research title has been approved by the supervising lecturer, the researcher will draft a letter of request to the Malang Applied Nursing Undergraduate Program for the issuance of a preliminary study

permit. The letter will be addressed to the Posyandu RW 10 Madyopuro Village, as part of the research permit process.

- c. Researchers prepare application forms for respondents to fill out
- d. Researchers prepare informed consent forms for respondents
- e. Researchers develop data collection instruments in the form of questionnaires to be used during the research process.

## 2. Research implementation stage

- a. Researchers will distribute participation request letters, informed consent forms, and questionnaires in printed form to the specified respondents.
- b. Next, respondents give their consent by signing the consent form..
- c. Then, respondents read the instructions for filling out the questionnaire and filled it out independently without influence from other parties.
- d. After all questions have been answered, the researcher checks the completeness of the answers on the questionnaire
- e. Once all data has been collected, the researcher proceeds with the data processing stage.

## 3. Final stage

- a. Researchers process and analyze research results.
- b. Researchers draw conclusions based on findings obtained from research results.
- c. Researchers compile research reports and consult with their supervisors on the results of their research.

### **3.7. Variables**

#### **3.7.1. Dependent Variable**

The dependent variable is the variable that undergoes change as a result of the influence of the independent variable (Masturoh & Anggita, 2018). Self-management is the dependent variable in this research.

#### **3.7.2. Independent Variable**

An independent variable is a variable that can influence other variables. Changes in the independent variable have the potential to cause changes in other variables. This variable is also often referred to as a predictor, risk factor, determinant, or cause (Masturoh & Anggita, 2018). This research sets the hypertension knowledge level as an independent variable.

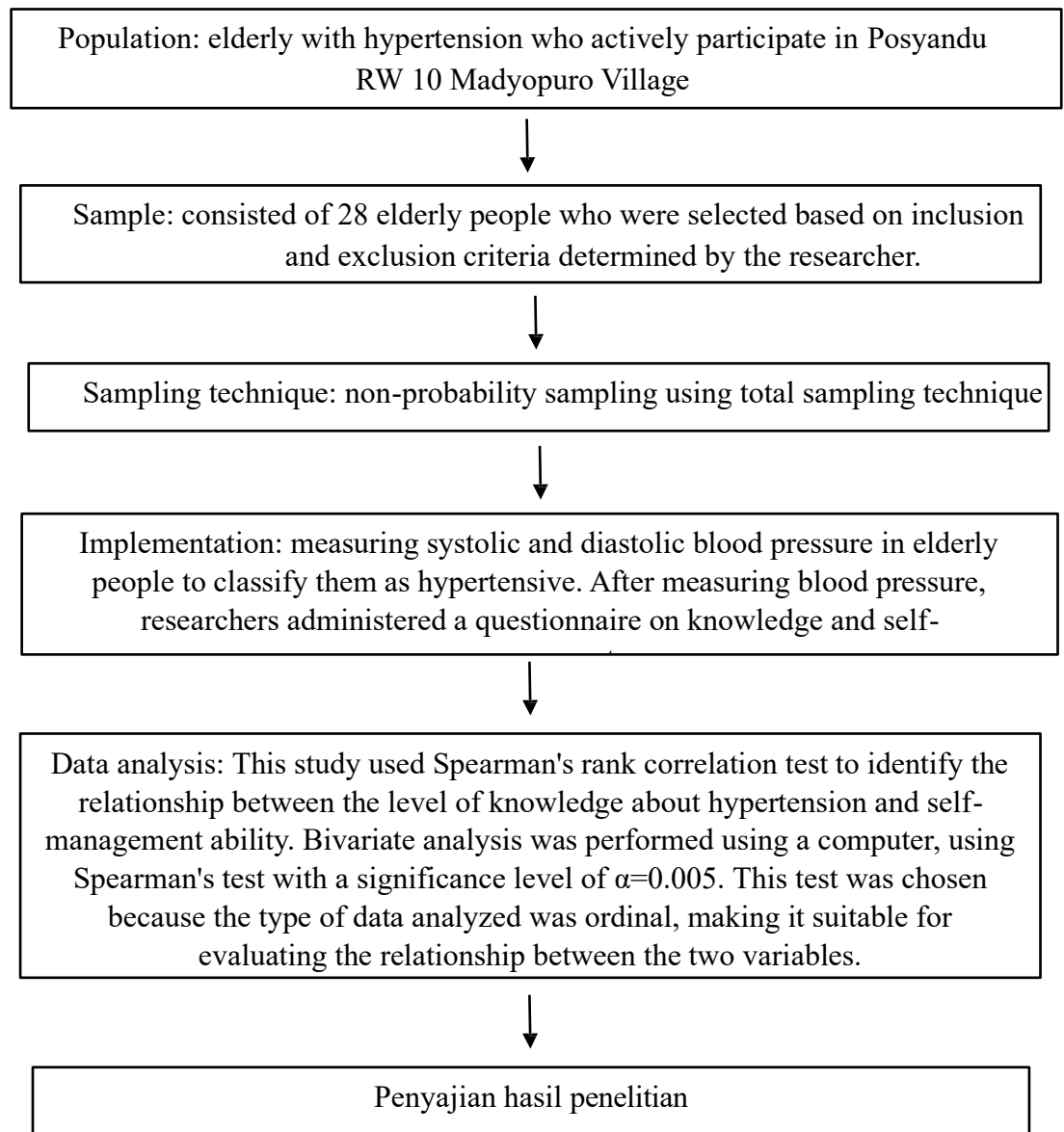
### **3.8. Operational Definition**

An operational definition of a variable is a description that aims to describe the variable in detail so that it can be measured. This definition can also be interpreted as an effort to clearly formulate research variables by establishing the procedures or steps required in the measurement process (Adiputra et al., 2021).

Table 3.1 Operational Definition of the Relationship between Hypertension Knowledge Level and Self-Management

Variable	Definition	Instrument	Scale	Score	Measurement Results
Hypertension Knowledge Level	Respondents' answers to 10 questions in the modified HK-LS questionnaire with levels of knowledge and understanding.	Hypertension Knowledge Questionnaire (HK-LS) according to Ardyanti 2021	Ordinal	Correct: 2 Incorrect: 1	Good = >7 Fair = 5-7 Poor = <5
Self-Management	The results of respondents' answers to 10 questions in the modified HSMBQ questionnaire to see the extent to which older adults control their daily behavior in managing hypertension.	HSMBQ questionnaire according to Ardyanti 2021	Ordinal	Always (A) = 4 Often (O) = 3 Sometimes (S) = 2 Never (N) = 1	Good = >30 Fair = 21-30 Poor = < 20

### 3.9 Kerangka Kerja



Gambar 3.1 Kerangka Kerja Hubungan Tingkat Pengetahuan Hipertensi dengan *Self Manafement* Pada Lansia di Posyandu RW 10 Kelurahan Madyopuro

### 3.10. Data Analysis

#### 3.10.1. Univariate Analysis

Univariate analysis was performed to explain the characteristics of each variable studied. This type of analysis was adjusted to the type of data available. In general, univariate analysis produces output in the form of frequency distributions and percentages for each variable. (Notoatmodjo 2018).

The variables of gender, occupation, highest level of education, level of knowledge, and self-management will be analyzed using percentages with the following formula:

$$P = \frac{F \times 100\%}{N}$$

Explanation:

P : Percentage

F : Total of answer categories

N : Total of respondents

#### 3.10.2. Bivariate Analysis

Bivariate analysis is a technique used to examine the correlation or relationship between two variables (Notoatmodjo, 2018). In this research, bivariate data analysis was performed using the Spearman Rank statistical test. This test was used to examine the relationship between categorical variables with ordinal measurement scales.

This study used bivariate analysis to explore the relationship between the level of knowledge about hypertension and self-management ability. Data processing was performed using computerized methods, applying the Spearman Rank test at a significance level of  $\alpha=0.05$ .

The Spearman Rank test was used because the data analyzed was ordinal data, making this test suitable for measuring the relationship. The results of the computerized calculations were used to interpret the strength of the relationship between variables. Based on Nurslam (2016), the correlation coefficient has the following levels of relationship strength:

- a. 0,00-0,199: very weak relationship or no correlation
- b. 0,200-0,399: weak relationship
- c. 0,400-0,599: moderate relationship
- d. 0,600-0,799: strong relationship
- e. 0,800-1,00: very strong relationship

Based on Riwidikdo (2007), the Spearman Rank test ( $p$ ) has the following interpretation:

1. If the significance value ( $p$ ) is less than  $\alpha=0.005$ , then  $H_0$  is rejected and  $H_1$  is accepted, indicating that there is a relationship between the two variables
2. Conversely, if the significance value ( $p$ ) exceeds  $\alpha=0.005$ , then the null hypothesis ( $H_0$ ) is accepted and the alternative hypothesis ( $H_1$ )

is rejected, which means that there is no relationship between the variables being tested.

### **3.11. Data Display**

The data in this study will be presented in the form of distribution tables listing frequencies and percentages. After the distribution tables are created, the researchers will provide a narrative explanation of the table contents. Frequency distribution tables will be used for variables such as age, gender, occupation, highest level of education, self-management, and level of knowledge about hypertension.

### **3.12. Data Processing Methodes**

#### **3.12.1. Editing**

Data editing is the process of checking the results of questionnaire completion to ensure that all answers have been filled in completely. If incomplete data is found, the data collection process must be repeated. (Masturoh & Anggita, 2018).

#### **3.12.2. Coding**

Coding is the process of converting data in the form of letters or text into numerical format (Masturoh & Anggita, 2018). In this research, each respondent's answer was given a code.

#### **3.12.3. Entry Data**

Data entry is the stage of entering codes into columns according to the answers to each question item. In this process, the coded data is

entered into a computer program for processing, including frequency calculations (Masturoh & Anggita, 2018).

#### **3.12.4. Cleaning Data**

Data cleaning is a stage of rechecking the data that has been input to ensure its accuracy before analysis. The purpose of this process is to prevent data loss (missing data), so that analysis can be carried out accurately. Once all the data is complete, the next step is to perform the analysis process (Masturoh & Anggita, 2018).

#### **3.13. Research Ethics**

Research ethics refers to the mutually respectful relationship between researchers and research subjects based on ethical principles (Notoatmodjo 2018). This research has undergone an ethical review process and has been deemed feasible to implement. Ethical approval was obtained from the Health Research Ethics Committee of the Malang Ministry of Health Polytechnic with Number: DP.04.03/F.XXI.30/00610/2025. The ethical issues that must be considered include the following:

##### **1. Informed consent**

Informed consent is a form of agreement made between researchers and respondents through the provision of a consent form. This agreement is conveyed before the research process begins by distributing the consent document to prospective respondents. The main purpose of informed consent is so that respondents understand the intent, purpose of the research, and its potential consequences. If the respondent agrees, the

researcher will respect the respondent's rights. The information that must be included in the informed consent form includes the respondent's participation, the purpose of the actions taken, the type of data required, the commitment, the implementation procedures, the possible risks involved, the benefits of the research, and the guarantee of data confidentiality.

## 2. Anonymity (without name)

Protecting the confidentiality of research subjects is done by not including the full names of respondents on the instrument. Instead, only initials are recorded on the data collection sheet and in the research results to be published.

## 3. Confidentiality

Researchers guarantee the confidentiality of all research results, including information obtained and related issues. All data collected will be kept confidential by researchers.

## 4. Nonmaleficence

Researchers ensured that the entire research process used non-invasive methods in the form of questionnaires, without medical treatment or intervention, and gave respondents complete freedom to stop participating if they felt uncomfortable.