

CHAPTER III

RESEARCH METHODS

Research Design

Research Design is series procedures and methods used For analyze and collect data for determine the variables to be become topic study . Research design is a strategy that is carried out researchers For connect every element study with systematically to be more effective and efficient . Research design is a design regarding the entire process required in planning and implementing research Silaen (2018).

In research This use design quantitative type of pre -experimental One-Group Pretest- Posttest Design with a purpose prove difference level knowledge before and after intervention.In design this , done measurement level knowledge patient elderly and pre-elderly hypertension before and after given counseling using educational video media for the Dietary Approaches to Stop Hypertension (DASH) hypertension diet .

Location and Time of Research

Research Location

This research was conducted in RW 04, Samaan Village, Klojen District, Malang City.

Research Time

This research was conducted after the proposal seminar in February-March 2025.

Population and Sample

Population

According to (Nur Fadilah Amin, 2023) Population in study is something very thing important , because He is source information . Experts own a little definition different between One with others, but in principle own the same substance . According to Sugiyono , defining population as an existing generalization area in research . This area covering about object or subjects that can withdrawn in conclusion .

Based on opinion above, then what becomes population in study This is all over elderly people who suffer Hypertension totaling 30 people, in RW 04, Samaan Subdistrict , Klojen , Malang City .

Sample and Sampling

Sample in study This is elderly people who suffer hypertension in the RW 04 area of Kelurahan Samaan, District Klojen, Malang City, which is full criteria inclusion , namely as many as 30 respondents . Retrieval technique samples used is *total sampling* , namely method in which all

member population made into as sample Because amount relative population small and still allows For investigated in a way comprehensive .

According to Sugiyono (2016), the sampling technique used in this study was total sampling. Total sampling is a sampling technique where the sample size is equal to the population. The reason for using total sampling is because the population size is less than 100. Therefore, the sample size for this study was 30 people within one month.

Inclusion and Exclusion Criteria

In this study, 30 people were taken as samples from the entire elderly and pre-elderly population. The criteria required in this study is as following :

1. Inclusion Criteria

- a. Elderly people aged <70 years and pre-elderly people aged 50-60 years
- b. Cooperative elderly
- c. Elderly people who are willing become respondents
- d. Seniors who can access information via gadget
- e. Elderly people who suffer hypertension

2. Exclusion Criteria

- a. Patient with disturbance sensory
- b. Patients who do not cooperative

Method of collecting data

Data collection method is a systematic process For gather information from various source with objective get accurate , relevant , and complete picture beneficial For analysis more continued.Data This can obtained through various methods, such as observation, interviews , surveys, questionnaires , experiments , or documentation (Effendi, 2017). In the research This instrument collection the data use questionnaire .

Questionnaire will made by researchers For measuring the level of knowledge respondents before and after giving education questionnaire containing question about the DASH diet in patients hypertension .

Data Collection Tools

Instrument Data collection

Instrument in study This use questionnaire and video. Questionnaire This consists of out of 10 questions about the DASH diet which includes definition, types permitted and prohibited foods and drinks allowed during the DASH diet , how to processing DASH diet foods , benefits of the DASH diet , amount DASH diet portions.How to use questionnaire This that is with method respondents requested For fill in questionnaire) with fill in question choice double with method crossed or circled.After question all answered Then the answer that has been filled totaled Correct how much. Determine knowledge elderly and pre-elderly elderly based on total score results from answerer questions contained in the survey Knowledge the that is If Correct 8-10: Very

Good, Correct 5-7: Fair, Correct 2-4: Not Good, and Correct 0-1 Not Good. Activity This done *Pre* and *Post*.

The second instrument will used is an educational video about the DASH diet Educational Video This 10 minutes long . Contains at a glance about hypertension, understanding the DASH diet , benefits , and various types of DASH diet that can implemented daily life of sufferers hypertension. Video education This made by the researcher himself sourced from literature or article about disease hypertension and the DASH diet. video This will spread expand through group *WhatsApp* respondents . Respondents given chance study the video during One week . Next researchers will measuring the level of knowledge Respondents Return through the same questionnaire .

Procedure Data collection

Stage implementation Data collection

1. Pre-Test
 - a. Share Pre-test knowledge survey questionnaire
 - b. Provide instructions for completing the questionnaire, such as maintaining the confidentiality of answers.
 - c. Ensure respondents complete the questionnaire on time and assist with any technical difficulties.
2. Counseling Through Video Media
 - a. Sending DASH diet educational videos via *WhatsApp* group .
 - b. Give instructions , such as :
 - 1) "Please watch this video until the end."

- 2) "If you have any questions, please ask in the group."
 - c. provide discussion sessions in groups to clarify the material in the video.
3. Post-Test
- a. Share Pre-test knowledge survey questionnaire
 - b. Take notes amount respondents who completed all stage .
 - c. Saving Respondent data in digital form for measurement more carry on .

With thorough preparation , the use of WhatsApp as a data collection medium makes it possible survey walk more practical , efficient , and appropriate with ability respondents .

Variable el

According to Kerlinger (1979) in (Tatang M.Amirin, 1999)what is meant by variable is something that varies (*varies*). To be clear , if something That Can clarified into two or more category, then called as a variable.

According to (Effendi, 2017) Variables study can seen from two angles that is from corner roles and characteristics . Seen from aspect its role , variables This can differentiated to in two types that is Dependent variable (affected) and independent variable (influencing).

Variable Dependent

Variables dependent (affected) is variables that are used as factors influenced by a or a number of other variables . Variables dependent (affected) on research This is knowledge elderly about the DASH diet.

Variable Independent

Variables independent (influencing) is variables that play a role give influence to other variables . (Haqul, 1989) in (Effendi, 2017)

Independent variables (influencing) in study This is education via video.

Definition Operational

According to (Nurdin and Hartati, 2019) in (Tatang M.Amirin, 1999) Definition Operational is a variable in operational based on observed characteristics and entered variables is a key variable that can measured in a way operational and can accountable.

Table 1

Variables	Definition	Parameter	Instrument	Data Scale	Measurement results
Independent variable Education through Knowledge videos about the DASH Diet (Dietary Approaches to Stop Hypertension)	It is the process of conveying information with using audio visual media that contains explanation researchers with appearance voice images and text that can seen by the respondent himself through each respondent's <i>cell phone</i> , after sent by researchers through	In accordance with the SOP for Hypertension Diet (DASH) Video Education at the Elderly Knowledge Level via WhatsApp Group. Video Content : Videos containing explanation about recommended and mandatory foods avoided in the DASH diet, the benefits of the	1. Smartphone or computer For create and send videos. 2. applications (Canva, CapCut, or application similar). 3. Content in the form of text, images and graphics about the DASH diet. 4. WhatsApp group containing elderly or companion they .	-	

	Respondent WA group . Duration of this video for 7 minutes and can played over and over again . regarding DASH diet principles .	DASH diet for health , as well as method implementation of this diet in life daily . Counseling Duration : Counseling is conducted for 2-5 minutes, where participants can watch the video and take part in a question and answer session afterwards. Delivery Method : Counseling is carried out through a WhatsApp Group that has been created and is sent once a week.	5. Knowledge Survey Questionnaire (KS) Sheet		
variable (affected) Knowledge about the DASH Diet (Dietary Approaches to Stop Hypertension).	Knowledge about the DASH Diet measured as understanding and information held by the patient elderly and pre-elderly hypertension about DASH diet principles . Knowledge This includes :	Indicator Knowledge : Understanding about Food : Ability For mention type recommended and mandatory foods avoided in the DASH diet. Benefits of the DASH Diet : Knowledge about benefits	Knowledge of the DASH Diet (Dietary Approaches to Stop Hypertension) . With fill in The questionnaire available has 10 questions .	Ordinal	Correct 8-10 : Very Good Correct 5- 7 : Good Enough Correct 2- 4 : Not Good Correct 0- 1 :Not Good

of the DASH
diet in
management
hypertension
and health in a
way general .

Diet

Implementatio

n : Ability to
explain how to
implement the
DASH diet in
daily eating
patterns.

Variables This
is measured
results in
research .

Knowledge
patient about
the DASH diet
and
management
hypertension
will evaluated
before and after
counseling For
see whether
There is
significant
changes .

Use
questionnaire
Survey
Knowledge .

Stage Data Management

Elderly and pre-elderly data includes: Age, Type gender, level Education,
Occupation , Length of Service suffer Hypertension .

3.8.1 Scoring

Knowledge Level Data elderly and Pra elderly about Hypertension Diet (*Dietary Approaches To Stop Hypertension*) DASH obtained from answer questionnaire and processed with a gift system Knowledge score elderly and Pra Elderly measured with ask 10 questions and give answer from questionnaire. Provision score answer Correct is Giving score answer Correct is 1 and wrong is 0. Total score maximum is 10 and minimum 0. Then the level of knowledge elderly and pre-elderly elderly about Hypertension Diet (*Dietary Approaches To Stop Hypertension*) DASH is calculated with information as following :

Table 2 Knowledge Level Category

Category	Correct answer
Very good	8-10
Pretty good	5-7
Not good	2-4
Not good	0-1

According to (Hulu and Sinaga, 2019) which is Data processing is one of the steps taken For analyze the data that has been obtained after do Research . The collected data cannot be analyzed directly, so to analyze the data obtained, careful data processing must be carried out through several stages . There are 5 stages of data processing , namely :

1. *Editing*

Editing is a process of checking data that has been collected through tool data collection (instruments research). Focus on the stage This is

complete missing data and improve or correct previous data Not yet clear (Suwarjana , 2000). Data checking includes checking the completeness of the answers, the readability of the writing, and the relevance of the answers to the questions.

2. *Coding*

Coding is stage give code answer to questionnaire that has been answered by respondents in form numbers / figures (Hulu and Sinaga, 2019). Usually the classification done with give sign / code shaped numbers for each answer .

3. *Entry*

Entry is the process of entering data or move answer respondents or code answer to a specific media (SPSS) For furthermore can analyzed (Hulu and Sinaga, 2019).

4. *Cleaning*

Cleaning is a checking process return the data that has been entered in statistical software form (SPSS), purpose from this process For know that the data entered has error or no (Hulu and Sinaga, 2019).

5. *Tabulating Data*

Tabulating data is the process of compiling data in such a way appearance , which is arranged For presented and analyzed , the compilation of the data can done in form tables and so on (Hulu and Sinaga, 2019).

Data analysis

Data that has been collected from respondents through research that has been done furthermore processed with technique data processing and data analysis . Data analysis used consists of from :

Analysis Univariate

Analysis univariate aim For describe or explain in a way descriptive about distribution frequency or characteristics from every variables research (Sumantri , 2015). Form from analysis univariate varies , depending from type The data . For numerical data, the mean, median, and standard deviation are used. For categorical data, the percentage is used.

Univariate analysis in this study uses percentages. The data that will be presented in percentage form includes general data on respondent characteristics including age, gender, education, occupation and history of hypertension, as well as specific data on the level of knowledge before and after education is provided.

Analysis Bivariate

According to (Sumantri, 2015), bivariate analysis is used on two variables that are suspected to have a relationship and is used to test the hypothesis by determining between the independent variable and the dependent variable. In this study, researchers want to know the difference in knowledge about the DASH diet before and after providing education through videos. The statistical test used is *the paired t-test* if the data is

normally distributed. However, if the data is not normally distributed, the statistical test uses *the Wilcoxon Signed Rank Test* .

Based on Wilcoxon Signed Rank test results , the Z value is For knowing the level of significance (high-low). The 2-tailed sig value (p-value) if not enough from alpha ($p < 0.05$) for know existence significant difference between level pre and post knowledge . However if $p > 0.05$ then No There is differences in knowledge levels before and after pre and post intervention .

Data Presentation

According to (Zakariah et al , 2020). Presentation of data is activities carried out after a group information arranged so that allows For withdrawn conclusion . Through presentation of the data , so the data is arranged and organized in pattern connection so that make it easier reader understand Meaning from results report research that has been made . In the research This researchers will serve in form the table that will be will listed interpretation from data results in the table the in the form of description sentence For explain and simplify understand the results of the data that has been tabulated .

Etik Penelitian

Menurut Buku Metodologi Kesehatan (2023) etika penelitian merupakan pedoman yang berlaku pada setiap kegiatan yang melibatkan peneliti dengan subjek peneliti, peneliti dengan manfaat penelitian, sehingga responden mendapatkan manfaat pada penelitian. Penelitian ini telah

dilaksanakan dan sudah mendapatkan sertifikat uji etik dengan registrasi No.DP.04.03/F.XXI.30/00629/2025 dengan tanggal berlaku mulai tanggal 1 23 June 2025 until with June 23 , 2026. Dinyatakan layak etik sesuai WHO 2011 dan merujuk pada Pedoman CIOMS 2016, yaitu meliputi:

1. Nilai Sosial (Social Value)

Penelitian kesehatan harus memiliki nilai sosial yang jelas, artinya penelitian tersebut harus memberikan manfaat nyata bagi masyarakat atau kelompok yang menjadi subjek penelitian. Nilai sosial ini penting agar hasil penelitian dapat meningkatkan kesehatan, kesejahteraan, atau pengetahuan yang berguna secara luas. Penelitian yang tidak memberikan kontribusi signifikan terhadap kemajuan ilmu pengetahuan atau kesehatan masyarakat dianggap tidak etis karena akan membuang-buang sumber daya dan waktu tanpa hasil yang bermanfaat. Oleh karena itu, setiap penelitian harus dirancang dengan tujuan yang jelas untuk memberikan dampak positif bagi masyarakat luas.

2. Nilai Ilmiah (Scientific Validity)

Setiap penelitian harus didesain dan dilaksanakan dengan metodologi ilmiah yang valid dan dapat dipercaya. Ini berarti penelitian harus melalui perencanaan yang matang, menggunakan metode yang tepat, serta melakukan analisis data secara akurat dan sistematis. Validitas ilmiah sangat penting karena penelitian yang tidak valid dapat menyesatkan dan berpotensi membahayakan peserta serta masyarakat yang mengandalkan hasil penelitian tersebut. Selain itu, validitas ilmiah

memastikan bahwa hasil penelitian dapat direplikasi oleh peneliti lain dan digunakan sebagai dasar pengambilan keputusan yang tepat dalam bidang kesehatan.

3. Pemerataan Beban dan Manfaat (Fairness in Distribution of Burdens and Benefits)

Prinsip keadilan dalam penelitian menuntut agar beban dan manfaat penelitian didistribusikan secara adil di antara peserta dan masyarakat. Beban penelitian, seperti risiko, waktu, dan ketidaknyamanan, tidak boleh hanya ditanggung oleh kelompok tertentu yang rentan atau kurang berdaya. Sebaliknya, manfaat dari penelitian harus dapat dinikmati oleh semua pihak yang berkontribusi, terutama peserta penelitian. Hal ini penting untuk mencegah eksploitasi dan diskriminasi, serta memastikan bahwa penelitian tidak memperburuk ketidaksetaraan sosial yang sudah ada.

4. Risiko (Risks)

Penelitian harus meminimalkan risiko yang mungkin dialami oleh peserta dan memastikan bahwa risiko tersebut sebanding dengan manfaat yang diharapkan. Semua risiko harus diidentifikasi secara menyeluruh, dinilai dengan cermat, dan dikomunikasikan secara transparan kepada peserta penelitian. Peneliti bertanggung jawab untuk melakukan tindakan pencegahan guna mengurangi risiko dan memantau keselamatan peserta selama penelitian berlangsung. Jika risiko yang ada dianggap tidak dapat

diterima, maka penelitian tersebut tidak boleh dilanjutkan demi melindungi kesejahteraan peserta.

5. Bujukan/Eksploitasi (Avoidance of Coercion and Exploitation)

Penelitian harus dilakukan tanpa adanya bujukan, tekanan, atau eksploitasi terhadap peserta. Peserta harus diberikan kebebasan penuh untuk memutuskan apakah mereka ingin ikut serta dalam penelitian tanpa adanya paksaan, tekanan sosial, atau iming-iming yang tidak wajar. Eksploitasi terjadi ketika peserta dimanfaatkan secara tidak adil, misalnya karena ketidaktahuan, ketergantungan ekonomi, atau posisi sosial yang lemah. Oleh karena itu, peneliti harus menjaga integritas dan menghormati martabat peserta dengan memastikan bahwa partisipasi mereka benar-benar sukarela dan berdasarkan pemahaman yang jelas.

6. Kerahasiaan dan Privasi (Confidentiality and Privacy)

Penelitian harus menjamin kerahasiaan data pribadi dan privasi peserta. Informasi yang dikumpulkan selama penelitian harus dijaga dengan ketat agar tidak bocor atau disalahgunakan oleh pihak yang tidak berwenang. Data peserta harus dianonimkan atau dienkripsi bila memungkinkan untuk melindungi identitas mereka. Selain itu, privasi peserta harus dihormati selama dan setelah penelitian berlangsung, sehingga peserta merasa aman dan terlindungi dari potensi dampak negatif yang mungkin timbul akibat pengungkapan data pribadi.

7. Persetujuan Setelah Penjelasan (Informed Consent)

Peserta penelitian harus memberikan persetujuan yang diinformasikan secara lengkap dan sukarela setelah mendapatkan penjelasan yang jelas mengenai tujuan, prosedur, risiko, manfaat, dan hak mereka dalam penelitian. Penjelasan ini harus disampaikan dalam bahasa yang mudah dimengerti oleh peserta agar mereka benar-benar memahami apa yang akan mereka jalani. Peserta juga harus diberi kesempatan untuk bertanya dan mempertimbangkan sebelum membuat keputusan. Selain itu, persetujuan dapat ditarik kapan saja tanpa adanya konsekuensi negatif bagi peserta, sehingga hak mereka untuk memilih tetap dihormati sepanjang penelitian berlangsung.

