

## CHAPTER II

### LITERATURE REVIEW

#### **Draft Elderly**

##### Definition of Elderly

Aging is the final stage of life and a natural process that no individual can avoid. This natural process is characterized by the gradual loss of tissue's ability to repair itself, replace itself, and maintain its normal function, making it unable to withstand infection or repair damage. (Kusmiati & Mardiana, n.d.)

Aging is occurrence accumulation changes in humans from time to time that covers change biological , psychological and social correlations to decline Power stand body and its occurrence disease . Elderly is an aging process with increase age marked individuals with decline body organ function like brain , heart , liver and kidneys as well as improvement lost network active body in the form of muscles body . Decrease organ function in the elderly consequence from decrease number and capacity cell body , so that ability network body For maintain function normally disappears , so that No can endure to infection and repair damage suffered ( Napitulu 2019)

### Characteristics Elderly

According to Budi Anna Keliat (1999) in Maryam et al. (2008) the characteristics elderly is :

1. Aged more from 60 years
2. Own varying needs and problems , ranging from from Healthy until sick, biopsychosocial until spiritual, and adaptive to maladaptive
3. Old age is the final stage of development in the human life cycle.

### Classification of the Elderly

According to the Ministry of Health (2003) in Maryam et al. (2008) the classification elderly consists of from :

1. Pre-elderly ( presenile )

A person who is aged between 45-59 years old

2. Elderly

A person aged 60 years or older

3. High-risk elderly

A person aged 70 years or older/a person aged 60 years or older with health problems

4. Potential elderly:

Elderly who are still able to carry out work and/or activities that can produce goods/services.

5. Elderly No potential

### Common Health Problems Elderly

Become old,with all its limitations,of course will experienced somebody when He aged long live man as creature life will reduced by a regulation nature and everyone will experiencing the process of becoming old and feeling old is a lifetime the last human being at this time somebody experience decline physical / biological , mental and social little by little . Frequent mental disorders found in the elderly is disturbance

depression and damage cognitive . Mental changes experienced carry on age among them change personality , memory , and change intelligence , including :

1. World developments
2. Increase age
3. Geographical factors
4. Gender
5. Personality ,
6. Stressors social
7. Support social and work

Function cognitive generally caused by problems with the system nerve centers that include :

1. Disturbance supply oxygen to brain
2. Degeneration/ aging
3. Disease Alzheimer's and malnutrition .

From the factors the common problems faced elderly people who experience mental changes ( disorders) cognitive ) including disturbance orientation time , space , place and not easy accept new things /ideas . Problems faced by the elderly is organ decline systemic , such as decline function kidney function heart , eyes and function cognitive ( intellectual ), which must be noticed before plan a suitable diet and exercise .

Disturbance or decline the function of the organs above must moreover formerly understood and adapted For plan exercise physical health in the elderly . Incorrect exercise or No appropriate will cause greater risk dangerous , but with proper exercise , benefits exercise for elderly will also be very significant . (Kusmiati & Mardiana,

n.d.).As the number of age , body experience various changes that can be increase risk disease certain . In the elderly , some disease general often found , including :

1. Disturbance Breathing Chronic
2. Arthritis
3. Dementia and Alzheimer's
4. Disease Heart
5. Osteoporosis
6. Diabetes mellitus
7. Hypertension

Especially in diseases Hypertension, still There is Lots elderly people who experience condition chronic characterized by pressure blood pressure that is consistently above normal ( $\geq 140/90$  mmHg). This often No cause symptom early , but can trigger complications Serious such as stroke, heart attack heart , and failure Kidney disease . Risk factors include advanced age, obesity, a high-salt diet, and lack of physical activity.

#### Draft Hypertension in the Elderly

#### Definition of Hypertension

Blood pressure is the force exerted by blood against the walls of blood vessels and is caused by the pressure of blood against the walls of arteries as it is pumped from the heart to the tissues. The amount of pressure varies depending on the blood vessels and heart rate. Blood pressure is highest when the ventricles contract (systolic pressure) and lowest when the ventricles relax (diastolic pressure). In hypertension, blood pressure increases because blood is pumped through the blood vessels with excessive force.(Silvianah et al., 2024)

Hypertension, also known as high blood pressure, is a condition in which blood pressure rises above the normal level of 120/80 mmHg. According to guidelines from the World Health Organization (WHO), blood pressure below 130/85 mmHg is still considered within normal limits. However, if blood pressure reaches or exceeds 140/90 mmHg, it is called hypertension (Rosmawati et al., 2024).

Hypertension is also known as the “silent killer” because it often shows no symptoms and if left untreated and uncontrolled will cause complications such as stroke, cardiovascular disease, blood vessel disorders, kidney problems and other conditions that can ultimately lead to disability and even death. Hypertension is a non-communicable disease and the leading cause of premature death worldwide. Based on data from the World Health Organization (WHO) in 2015, approximately 1.13 billion individuals worldwide suffer from hypertension, which means that 1 in 3 people in the world have been diagnosed with the disease. The number of people with hypertension has increased annually to approximately 1.5 billion by 2025.

It is estimated that every year as many as 10.44 million people die from hypertension and its complications (Kemenkes RI, 2024). Hypertension is a non-communicable disease and the leading cause of premature death worldwide. According to data from the World Health Organization (WHO) in 2015, approximately 1.13 billion individuals worldwide suffer from hypertension, meaning that 1 in 3 people in the world have been diagnosed with the disease.

### Classification of Hypertension

Based on the JNC VIII classification, hypertension is categorized as follows:

*Table 2.1 Classification Blood Pressure in Adults according to JNC VIII*

<b>Category</b>	<b>Systolic Blood Pressure</b>	<b>Diastolic Blood Pressure</b>
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Optimal	≤ 115 mmHg	≤ 75 mmHg
Normal	< 120 mmHg	<80 mmHg
Pre- Hypertension	120-139 mmHg	80-89 mmHg
Stage 1	140-159 mmHg ≥ 160	90-99 mmHg ≥ 100
Stage 2	mmHg	mmHg

Source : (Kowalski, 2010)

This type of hypertension is often found in older adults. As people age, almost everyone experiences an increase in blood pressure. Systolic blood pressure continues to rise until age 80, and diastolic blood pressure continues to rise until age 55-60, then gradually decreases or even drops drastically.

#### Factors Risk Occurrence Hypertension in the Elderly

According to the North American Nursing Diagnosis Association (2013), the etiology of hypertension based on its cause is divided into 2 groups, namely:

1. Primary hypertension is also called idiopathic hypertension because the cause is unknown. Influencing factors include genetics, environment, sympathetic nervous system hyperactivity, the renin-angiotensin system, and increased intracellular Na<sup>+</sup> Ca. Factors that increase the risk include obesity, smoking, alcohol, and polycythemia.
2. Secondary Hypertension Causes include: estrogen use, kidney disease, Cushing's syndrome and pregnancy-related hypertension.

Factors that cause hypertension include age, gender, family history, genetics (a risk factor that cannot be changed/controlled), smoking, obesity, lack of physical activity, stress, estrogen use, and excessive salt consumption. These include salty foods, caffeine, and monosodium glutamate (MSG, soy sauce, and shrimp paste). (Purwono et al., 2020).

## Clinical Symptoms

Primary hypertension, ranging from mild to moderate, is usually asymptomatic for years. Symptoms typically appear when complications develop in the kidneys, eyes, brain, or heart. However, other symptoms can appear when someone has hypertension, including:

1. When awake, the head will feel sore, sometimes accompanied by nausea and vomiting which occurs due to increased *intracranial blood pressure*.
2. People who suffer from hypertension will experience blurred vision due to hypertensive damage to the retina.
3. In people with hypertension, central nervous system damage will occur, causing poor gait or unsteadiness.
4. *Nutricia* caused by the effects of increased renal blood flow and *glomerular filtration*
5. Capillary pressure increases, causing *peripheral edema*.
6. Heart pounding
7. Difficulty breathing after Work hard ora lift burden heavy
8. Easily Tired
9. Nose bloody
10. Red face
11. Frequent urination , especially at night day
12. Ear ringing in the ears ( *tinnitus*)
13. Vertigo(Nopriani et al., 2024)

## Hypertension Management

According to (Moh. Roni Alfaqih, 2021)Hypertension Management as follows:

1. Pharmacology

Pharmacological therapy according to WHO/ISH recommendations, taking into account the patient's condition, targets the following considerations and principles:

- a. Start dose low available , raise when response not optimal

Example : ACE beta blocker agent

- b. Combination of two drugs , dosage low more Good than one drug dose tall .

Example : diuretics with beta blockers .

- c. If not There is response One medication , minimal response or There is effect side replace another DHA

- d. Choose one that works 24 hours, so only once a day will increase compliance

## 2. Non-Pharmacological

Non-Pharmacological Therapy The initial step is usually to change the sufferer's lifestyle, namely by:

- a. Lower body weight to the ideal limit
- b. Changing diet in people with diabetes, obesity, or high blood cholesterol levels.
- c. Reduce salt intake to less than 2.3 grams of sodium or 6 grams of sodium chloride per day (along with adequate calcium, magnesium, and calcium intake).
- d. Reduce consume alcohol .
- e. Stop smoke
- f. Sport aerobics that are not too weight ( patient) hypertension essential No need limit his activities during pressure his blood controlled ).

## DASH Diet

The principle of the DASH diet is tall material food that comes from from fruits and vegetables , with use low- fat dairy products , as well consume sufficient fish , nuts and poultry from sources *Saturated Fatty Acid* (SAFA) (Ruli Fatmawati et al.,2022).

At the moment Still many elderly people who do not understand The DASH Diet principles tend to consume high food salt, fat saturated and sugar. Elderly people who

lack know information tend maintain habit Eat night. Without good education , they Possible No realize connection between pattern Eat them and health pressure blood. Here is Management dose Diet Dash servings :

1. Grains : 6-8 servings per day ( e.g. , 1/2 cup) cereals cooked rice, or pasta, or 1 slice of bread).
2. Vegetables : 4-5 servings per day ( e.g. , 1 cup) vegetables green raw , or 1/2 cup slices vegetables ).
3. Fruits : 4-5 servings per day ( for example , 1 fruit) sized currently ).
4. Low- fat dairy products : 2-3 servings per day ( e.g. , 1 cup of milk).
5. Meat , poultry , and fish ( lean ): Maximum 6 servings per day ( e.g. , 1 ounce) cooked meat ) .
6. Nuts , seeds , and beans : 4-5 servings per week .
7. Fats and oils healthy : 2-3 servings per day ( for example , 1 spoon) tea oil vegetable or 1 spoon tea butter ).
8. Sweets : Try limit consumption not enough from 5 servings per week .
9. Sodium: No more from 2,300 mg ( about 1 teaspoon) salt tea ) per day .

Example Servings :

1. Grains : 1/2 cup cereals cooked , rice, or pasta, 1 slice of bread, or 1 oz cereals dry .
2. Vegetables : 1 cup vegetables green raw , 1/2 cup slices vegetables , or 1/2 cup vegetable juice .
3. Fruit : 1 fruit sized medium , 1/2 cup fruit pieces , or 1/2 cup of fruit juice .
4. products : 1 cup low -fat milk , 1 cup yogurt, or 2 slices of cheese low fat.
5. Meat , poultry , fish: 1 oz cooked meat .
6. Nuts : 1/3 cup nuts , or 2 tablespoons Eat grains .

7. Fat and oil : 1 spoon tea oil vegetable oil , 1 spoon teaspoon margarine, or 1 tablespoon Eat mayonnaise .

## Category of Knowledge

### Understanding Knowledge

Knowledge is an idea that emerged For get information and understanding things that are known that can be remember in mind to be able to taken idea or new information . Knowledge possessed somebody will distributed and communicated with other people, good in Language and activity . With thus , will enrich knowledge One each other, from results communication the expected knowledge somebody the longer it will be the more increasing and developing . The existence of information new about something matter give runway cognitive new for him formation knowledge to matter the (Murwani et al., 2024)

Knowledge is results from know what happened after the person who did it sensing happen through five senses humans, namely senses sight , hearing , smell , taste and touch . Most of them are obtained from eyes and ears . Knowledge is guidelines in form action somebody (Notoatmodjo et al., 2021) Knowledge That itself is influenced by factors formal education . Knowledge is very closely related the relationship with education , where expected that with higher education then that person will the more his knowledge is broad . However it needs to be emphasized , not means an educated person low absolute knowledgeable low too. This is remember that improvement knowledge No absolute obtained from non-formal education only . Knowledge somebody about something object contains two aspects that is aspect positive and negative aspects Negative . These two aspects will determine a person's attitude, thus leading to a more positive attitude toward a particular object. According to WHO

(World Health Organization) theory, one form of health object can be described by knowledge gained from personal experience.(Notoatmodjo et al., 2021)

Understanding lifestyle is crucial because it provides insight into the actions taken. With adequate knowledge, individuals are more likely to behave appropriately and avoid potentially harmful habits. Increasing knowledge about hypertension can encourage patients to adopt better behavior, especially in controlling their blood pressure, so that it remains at a normal level.(Umah & Rosyid, 2024).

### Factors that Influence the Level of Knowledge

Many factors which influence increasing amount sufferers hypertension is between other level education and knowledge about hypertension so that not enough. There is effort prevention early hypertension that experienced by the community . It is hoped that with increasing level education and knowledge public about hypertension can create behavior prevention to complications that will arise arise . Knowledge about disease hypertension very much needed to create something awareness public For do prevention early hypertension , things this is very important Because part big public Still reluctant do prevention as early as maybe . Besides that lack of knowledge public about hypertension , changes style life , level awareness public For do prevention early hypertension , lack of activities physical , settings pattern shifted food from pattern Eat traditional to pattern westernized food .(Siprianus AbduSTIK Stella Maris, 2013)

#### 1. Internal Factors

- a. Education of Figures education 20th century MJ Largevelt quoted by Notoatmodjo ( 2003) defined that that education is every effort , influence protection and assistance provided to the child in question to maturity . While the Indonesian GBHN defines other , that education as something business base For

become personality and abilities inside and outside school and ongoing lifetime life .

- b. Interest Interest is defined as as something trend or high desire to something with existence high level of knowledge supported sufficient interest from somebody very much Possible somebody the very much Possible somebody the will behave in accordance with what is expected .
- c. Experience is an event that someone experiences. As quoted by (Azwar, 2009), it states that the absence of any experience at all. A psychological object tends to have a negative attitude towards that object. To form the basis for forming an attitude, personal experience must leave a strong impression. Therefore, attitudes will be more easily formed if the personal experience is in a situation that involves emotion and appreciation. The experience will be deeper and more lasting.
- d. Age: An individual's age is calculated from birth to their first birthday. The older a person is, the more mature they are in their thinking and working. In terms of public trust, a more mature person is more likely to be trusted than someone who is less mature. This is a result of their experience and mental maturity; the older a person is, the more conducive they are to coping with the problems they face.

## 2. External Factors

- a. Economy In fulfilling primary or secondary needs , family with status economy Good more easy sufficient compared to family with economic status low , thing This will influence need will information including need secondary . So it can be concluded that economy can influence knowledge somebody about various matter .
- b. Information is overall meaning , can interpreted as announcement somebody existence information new about something matter give runway cognitive new for formation attitude to matter those messages suggestive carried by information the

if direction attitude certain . Approach This usually used use awareness public to something influential innovation change behavior , usually used through mass media.

- c. Culture / Environment Culture Where We live and grow up have influence big to knowledge we . If in an area has culture For always guard cleanliness environment then it is very possible influential in formation attitude personal or attitude somebody .

## Health Education

### Understanding Health Education

Health Education is a planned effort to influence others, whether individuals, groups, or communities , so that they do what is expected by the health education or promotion practitioners. According to (Sulaiman, 2024)health education, it is a number of experiences that have a beneficial influence on the habits, attitudes, and knowledge related to each person's health. Health education provided by health workers can take the form of counseling, education, and guidance. In general, health education in community health centers is provided by health workers through education using visual media such as posters, leaflets, flipcharts, or even without media such as in community health centers in remote areas that still have limited facilities and infrastructure to provide health education to the community.(Sulaiman, 2024).

### Health Education Objectives

The goal of health education is to improve the knowledge, attitudes, and behaviors of individuals and groups so they can maintain, improve, and restore their health independently. Health education focuses on providing information and developing skills to support sustainable healthy behavior change. Meanwhile, (Notoatmodjo et al.,

2021)the primary goal of health education is to raise public awareness of the importance of health and motivate them to adopt healthier lifestyles.

### Factors Influencing Health Education

Factors that need to be considered so that Health Education can achieve its targets:

#### 1. Level of education

A person's education can influence method view somebody to information new that he received. Then from That Can it is said the more The higher the level of education, the more easy somebody accept the information .

#### 2. Socioeconomic Level

The higher a person's socio-economic status, the easier it is for them to receive new information.

#### 3. Customs

Customs are something that should not be ignored in our society.

#### 4. Public Trust

Most people still pay more attention to information conveyed by people they already know, because they already have trust in the person conveying the information.

#### 5. Availability of Time in Society

When conveying information, it is necessary to pay attention to the level of community activity to ensure the level of community attendance in the outreach.

### Health Education Methods

Based on the target approach to be achieved according to Notoadmojo (2012) there are 3 methods as follows:

#### 1. Method based on individual approach

This method is one of the individual and regular methods used For foster behavior new , one of them foster a person who starts interested in something change behavior or innovation . One of the the basis used is individual approach , because Each person has different problems or reasons regarding acceptance and behavior. There are 2 forms his approach that is :

- a. Guidance and Counseling
- b. Interview

2. Method based on approach group

Education Level of health education targets must pay attention when choosing method group. Then from That group big will need different methods with group small method This will effective If in accordance with the level of education in community groups.

3. Method based on approach mass

This method suitable For communicate message message health intended to the community. So that target from method This nature general, in the sense of not differentiate group age, gender gender , occupation , social status , education level and so on . So that the message conveyed must designed such appearance so that can captured by the masses .

### Health Education Media Methods

Following is a Health Education Media based on its function as health media distributor :

1. Print media

a. *Leaflet*

*Leaflets* are form delivery information health through folded sheet

b. *Booklet*

This media is something message health in written and pictorial forms .

c. *Fliver* ( leaflet )

d. *Flip chart* ( sheet come back )

This media can convey a message or information health in form book in each the sheet containing sentence as message health related with picture .

e. *Columns* (newspaper articles), posters and photos

## 2. Electronic Media

### a. Slide

Slides (film frames ) are a 35 mm transparency film with 2x2 inch frame. Frame This made from cardboard or plastic. Frame this is also projected via slide projector.

### b. Video

Video is a technology for capture, record , process, transition and organize repeat picture move .

### c. Board media .

## Video Media Concept

### Understanding Video Media

According to (Hartati et al., 2024) Video media is one of the technology the most popular and effective information and communication in reach public wide . Video capable combine audio and visual technology , so produce dynamic and interesting shows . With existence second element it is hoped that the elderly and pre- elderly can more easy receive , understand , and remember message learning . Excess use of video media in learning include : video can introduce dimensions new in the learning process , presenting picture move to respondents simultaneously with accompanying sound , and capable display difficult phenomenon For observed in a way direct .

### Characteristics of Video Media

According to (Hartati et al., 2024) that, the characteristics of video media as a learning medium include the following:

1. The video display is very flexible and can be adjusted according to needs, namely by adjusting the distance between layers for display.
2. Video can serve picture move

3. Video helps convey materials required visualization and demonstration things such as certain motoric movements
4. Video can combined with animation and settings speed can customized For demonstrate change .

### Benefits of Video Media

Following is benefits of video media according to (Burch, 2010), among others:

1. Providing educational learning about hypertension diet for the elderly
2. Showing the actual procedure of something that was initially impossible to see.
3. Providing experiences that have not been done by the elderly, such as the hypertension diet (DASH) procedure

### The Effect of the Dietary Approaches to Stop Hypertension (DASH) Diet Education Video on Hypertension Knowledge Patient Elderly and Pre-Elderly Hypertension

According to Massi et al. (2018) in Aji Pangestu et al (2024) in the Journal Anesthesia : Journal Health and Medical Sciences Vol. 2 No. 2 April 2024 , education health care provided through video is very effective in improvement knowledge. Video help in delivery information as well as make things easier understanding , strengthening memory Because material delivered in a way concise and clear .

Knowledge related hypertension is factor crucial in reach control pressure good blood . Minimal knowledge about method control hypertension through modification style life healthy , including a proper diet , can cause pressure blood difficult controlled . Therefore, education about hypertension can be provided individually or in groups. Adequate knowledge about hypertension will influence how a person cares for themselves and their ability to control their blood pressure. Conversely, limited knowledge will impact a person's attitude towards self-care (Kurniasari et al., 2018).

Several factors such as education, gender, sources of educational information, and social support can influence the success of education about hypertension. Therefore, the educational approach needs to be tailored to individual characteristics to achieve optimal results (Khalil, 2020).

Health education media, particularly videos, plays a crucial role in helping viewers better understand information. Numerous studies have shown that videos are effective in increasing knowledge after being presented through video education (Herron et al., 2019). In this study, the effectiveness of the DASH educational video was proven, as evidenced by the significant difference in the average knowledge responses of hypertensive patients before and after receiving the DASH educational video. Similar results were also demonstrated in a study by Rahmah Sani (2021) that DASH diet education through video media was effective in changing the knowledge and attitudes of hypertensive patients in the Pasar Rebo District. The purpose of using video media in health education is to provide informative and easily accessible information, avoid misperceptions, and enable the displayed object to be understood more clearly. Involving multiple senses, such as sight and hearing, in receiving a message can improve comprehension (Aryani and Riyandry, 2019).

The same study was also conducted by (Putri et al., 2017) the results that the average knowledge of the group that received education through video before the pretest intervention was 14.6, while after the posttest intervention it increased to 18.5. This shows that the average knowledge score after the intervention was higher than before the intervention, with a mean difference of 3.8. In a study of 196 glaucoma patients, which showed that the patient's knowledge score increased significantly after being given education through animated video media compared to before. The results of another study conducted by Saengow, et al., (2018) on 214 epilepsy patients also

showed the effectiveness of using animated videos in increasing patient knowledge. The average knowledge of the group that received initial treatment was lower (6.73) compared to the control group (7.48). However, after the intervention, the knowledge of the treatment group increased significantly to match the average knowledge of the control group (7.42), with a p value  $<0.001$ , and in the third month the knowledge of the treatment group still increased (7.47). The educational media used, particularly animated videos, has proven to be an effective, enjoyable, informative, and easy-to-understand new way to increase patient knowledge. This demonstrates that a video-based educational approach can significantly improve patient understanding and assist healthcare professionals in providing more effective information.

## Conceptual Framework

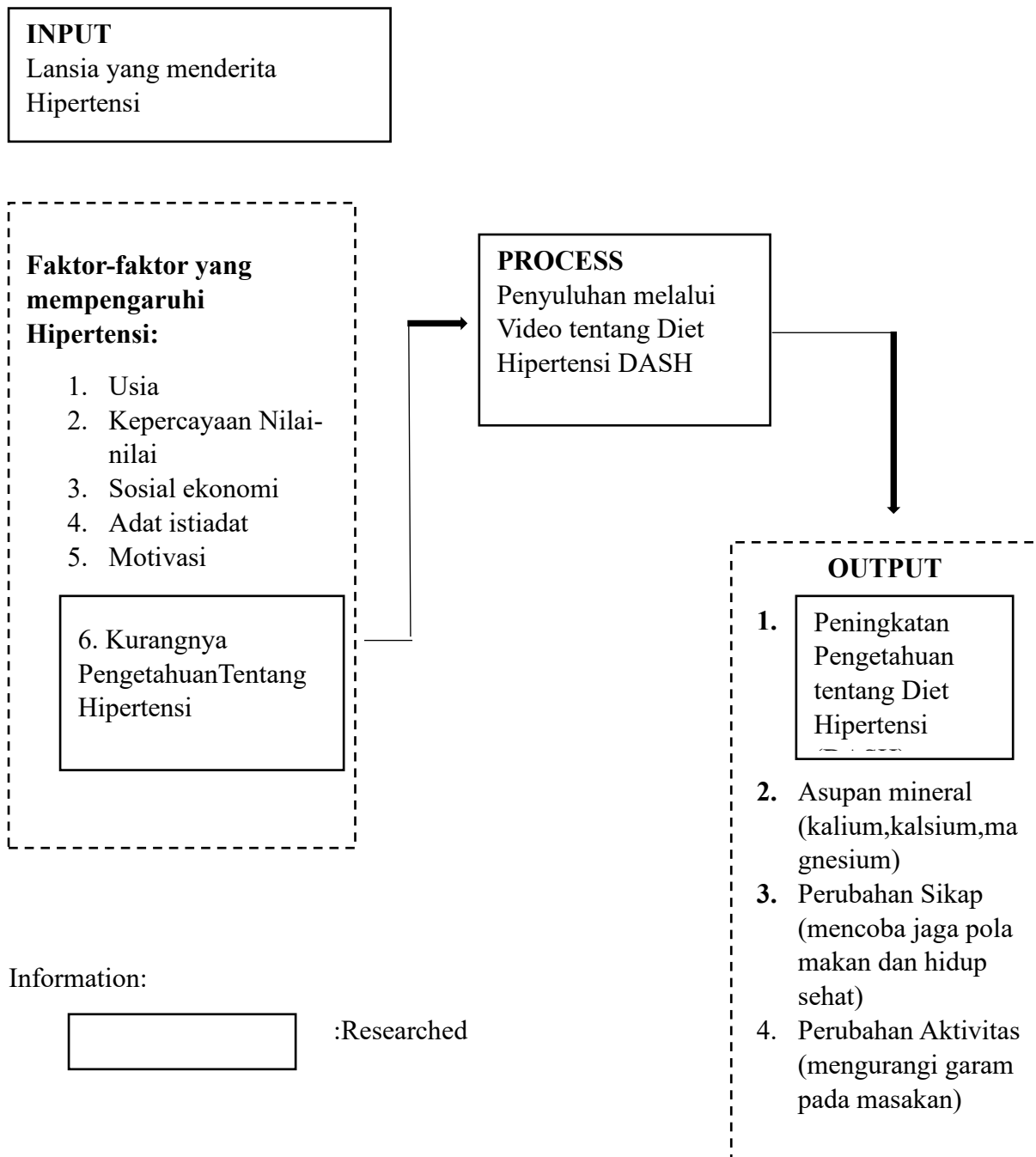


Figure 1 Framework Concept of Differences in Levels of Knowledge Elderly About Dietary Approaches To Stop Hypertension (Dash) Before And After Get Education Via Video in the RW 04 area of Samaan Subdistrict Klojen

## **Explanation of Conceptual Framework**

Education through video is a form of intervention by providing information about the hypertension diet (DASH) with a direct educational method using video media that is shown and also shared with the elderly to be used as independent learning materials at home. The educational process can be influenced from *environmental input* to *Process* then *Output* . DASH diet education will directly influence the knowledge of the DASH diet and mineral intake (potassium, calcium, and magnesium) of hypertension sufferers.

## **Hypothesis**

- There is differences in knowledge levels about the DASH diet before and after giving education through video media for the elderly hypertension in the RW 4 area of Samaan Subdistrict Klojen , Malang City.