CHAPTER 2 THEORETICAL BACKGROUND

2.1 Family Concept

2.1.1 Definition of Family

According to Setiadi (2008 : 2) Family is a member of an interconnected household through blood relation, adoption, or marriage.

According to the health department of RI 1988 in Sudiahrto (2007 : 22) Family is the smallest of the community consisting of the head of the family and several people who gather and live somewhere under a roof in a state of interdependence .

According to Achjar (2010 : 1) Family is a group of people connected by marriage, adoption and birth. That aims to create and maintain a common culture, enhance the phyical, mental, emotional, and social development.

Accoding to Padila (2012 : 19) MOH RI (1998) defines the family is the smallest unit of society consisting of husband, wife, and child or husband and wife, father and son, or mother and child.

Accoding toMubarak (2011: 67) The family is an association of two or more individuals who are bound byblood relationships, marriage or adoption, and every member of the Familyalways wear each other.

Accoding to author that the family is a group of people who live in one house because of the bonding of blood or marital bond.

2.1.2 Family Structure

According to (Setiadi, 2008) family structure describes how the family performs family functions in the community. Family structure consists of various, including:

a. Patrilineal

Blood relatives consisting of blood relatives in several generations, where the relationship was arranged across the line of the father line.

b. Matrilineal

Blood relatives consisting of relatives sedrah in several generations where the relationship is arranged through the maternal line.

c. Matrilocal

A husband and wife living with the family of the wife's blood.

d. Patrilocal

A husband and wife living with a husband's family.

e. Merried Family

Marital relationships as a basis for family coaching, and some relatives who are part of the family because of a relationship with a husband and wife.

According to Friedman, Bowden, & Jones (2003) in Susanto (2012) Family structure includes the processes used in the family to achieve the expected goals. This process includes communication between family members, goals, conflict resolution, maintenance, and use of internal and external sources. Goals in the family will be more easily achieved in the event of jelly and direct communication. Such communications will facilitate resolving conflicts and troubleshooting. Family structures based on organization include membership and a pattern of continuous relationships. Friedman, Bowden, & Jones (2003) in Susanto (2012) divides the family structure into four elements, namely communication pattern, family roles, family values and norms, and family strength.

a. Communication Pattern

Communication in the family there is a function that there are not, this can be caused by several factors that exist in communication components such as sender, channel-media, massage, environment, and receiver. Communication in the family can be emotional communication, verbal communication, and non-verbal, circular communication. (Susanto, 2012)

b. Family Roles

Role is a set of behaviors that are expected in accordance with the given social position so that the role structure can be formal and informal. Position or status in the family is an individual position in the family that can be viewed by the community as a wife, husband, or child. The formal role of the family is a collective agreement formed within a family norm. The role within the family shows the behavioral patterns of all members within the family. (Susanto, 2012)

c. Family Values and Norm

Value is a person's perception of a thing whether good or beneficial to himself. Norms are human roles, derived from cultural values. Norms point in accordance with the values held by the community, where norms learned since childhood.(Susanto, 2012).

d. Family Strength

Susanto (2012) Family strength is the ability (potential or actual) of the individual to control or influence to change the behavior of others in a positive direction. Types of power structures within the family include: Legitemate power / authority (right to control) such as parent to child, refent power, resource or expert power (opinion,

expert etc.), eward power Power because of the expectation that will be received), coercive power (influence that is forced according to desire, informational power (influence through persuasion), affective power (influence given through manipulating with love such as sexual relations).

2.1.3 Type / Family Form

According to Achjar (2010), dividing the family type by:

- a. Family family (*family cereal*) is a family consisting of women and men who meried more than once and is a nuclear family.
- b. Family is *composed*, is families whose marriages are polygamous and live together.
- c. Family *kabitas*, is family formed without marriage.

According to Gusti (2013), dividing the family type into two parts:

- a. Traditional Family Type
 - 1. Nuclear family is a family consisting of fathers, mothers, and children derived from offspring or adoption or both.
 - 2. The extended family is a nuclear family plus other family members who still have blood relations (grandparents, uncles, aunts, cousins, etc.)
 - 3. Family re-formation (dyadic family) is a new family formed from couples who have been divorced or lost partner.
 - 4. A single parent is a family consisting of one parent with a child due to a divorce or being left behind by a partner.
 - 5. The single adult living alone is an adult who lives alone without ever getting married.
 - 6. The unmearried teenage mother is a mother with a child without marriage.

- 7. The elderly family (niddle age / aging couple) are husbands as money seekers, wives at home or both leave home due to school / marriage / career.
- b. Non- Traditional Family Type
 - 1. The commune family is more than one family without a domestic blood relationship.
 - 2. Parents (fathers and mothers) with no marriage bonds and children living together in a single household.
 - 3. Homosexuals are two individuals of a kind living together in one household.
- 2.1.4 Family Function

The basic function of the family according to Setiadi (2008):

- a. Affective function, is the primary family function to teach everything to prepare family members relating to others.
- b. Socialization function, is a function of developing and training a child for social life before leaving home to connect with others outside the home.
- c. The function of reproduction, is a function to preserve the generation and maintain family continuity.
- d. Economic function, is a functioning family for fulfilling the family's economic needs and a place to develop the individual's ability to increase income to meet family needs.
- e. Function of health care / maintenance, namely the function to maintain the state of health of family members in order to maintain high productivity.

According to Setiadi (2008) with the change of agrarian life pattern into industrialization, family function developed into:

- a. Biologic Function
 - 1. To continue the offspring
 - 2. Nurture and raise children
 - 3. Meet family nutritional needs
 - 4. Maintain and care for family members
- b. Psychology Function
 - 1. Giving love and security
 - 2. Giving attention among family members
 - 3. Foster maturation of family members' personalities
 - 4. Provide family identity
- c. Socialization Function
 - 1. Foster socialization in children
 - 2. Establish behavioral norms according to the child's developmental level
 - 3. Continue the family culture values
- d. Economic Function
 - 1. Looking for sources of income to meet family needs
 - 2. Setting up the use of family income to meet family needs
 - 3. Saving to meet the needs of the family in the future such as child education, pension and so forth.
- e. Education Function
 - Educate children to provide knowledge, skills, and shape the child's behavior in accordance with the talents and interests he has.
 - 2. Preparing children for the upcoming adult life in fulfilling its role as an adult
 - 3. Educate children according to their developmental levels

2.1.5 Stage of Family Development

The stage of family development according to Murwani & Setyowati (2013) divide the family into eight stages of development, namely:

- a. New family (berganning family) ie newly married couples who do not have children. The task of this family development stage are:
 - 1. Build a satisfying intimate relationship
 - 2. Set a common goal
 - 3. Foster relationships with other families, friends and social groups
 - 4. Discuss plans to have children or family planning
 - 5. Preparation to become a parent
 - 6. Understand prenatal care (understanding of pregnancy, childbirth, and parenthood)
- b. Families with the first child <30 months (Child Bearing) this is a transition period to parents who will cause a family crisis. Le Master's classical study (1957) of 46 parents expressed 17% no problem the rest is problematic in terms of:
 - 1. Husband feels ignored
 - 2. Increased disputes and arguments
 - 3. Interruptions in a continuous schedule
 - 4. Sexual and social life is disrupted and declining

The task of family development in this stage include:

- a) Adaptation of family member changes (roles, interactions, sexual and activities)
- b) Maintain a satisfactory relationship with the couple
- c) Divide roles and responsibilities (how the parent's role to the baby with touch and warmth)
- d) Parental guidance on child growth and development
- e) 6 weeks post partum counseling
- f) Arranging space for children

- g) Cost / funds child bearing
- h) Facilitating the role learing of family members
- i) Hold regular religious habits
- c. Families with preschoolers

Its developmental task is to adjust to the needs of pre-school children (according to growth, learning and social contact) and to plan for the next birth. The task of family development at the moment is:

- 1. Fulfillment of family members' needs
- 2. Help children socialize
- 3. Adapt to newborn child, other child also fulfilled
- 4. Maintaining relationships within and outside the family
- 5. Division of time, individual, spouse and child
- 6. Division of responsibilities
- 7. Plan activities and stimulation time to grow and develop children.
- d. Family with children school age (6-13 years). Current family development tasks are:
 - 1. Helping to socialize the child to the environment outside the home, school and wider environment
 - 2. Encourage children to achieve intellectual power development
 - 3. Provide activities for children
 - 4. Adjust to community activity by including children
 - 5. Meeting increasing needs including the cost of living and health of family members

- e. Families with teenagers (13-20 years old). Current family development tasks are:
 - 1. Development of adolescence (providing equal and responsible freedom considering that adolescents are young adults and begin to have autonomy).
 - 2. Maintain open communication (prevent gep communication)
 - 3. Maintain intimate relationships with family
 - Preparing for changes in the family member regulation regulatory system to meet the growing needs of family members.
- f. Families with adult children (child 1 leaving home). Family development tasks prepare children to live independently and accept the departure of their children, menta return facilities and resources that exist in the family, acting as husband, wife, grandparents and grandparents. Current family development tasks are:
 - 1. Expanding the nuclear family into a big family
 - 2. Maintain intimacy
 - 3. Helping children to be independent as a new family in the community
 - 4. Preparing children for independent living and accepting the departure of their children
 - 5. Rearranging existing facilities and resources to the family
 - 6. The husband and wife role of grandparents
 - 7. Creating a home environment that can be an example for her children.
- g. Middle aged family. Current family development tasks are:
 - 1. Have a lot of time and freedom in cultivating social interest and leisure time
 - 2. Restoring the relationship between the younger generation
 - 3. Familiarity with a partner

- 4. Maintaining contact with children and family
- 5. Preparation of old age / retirement.
- h. Elderly family. The task of family development at the moment is:
 - 1. Retirement stage adjustment by way of life change
 - 2. Accept the death of a spouse, a friend and prepare for death
 - 3. Maintaining the intimacy of the couple and caring for each other
 - 4. Doing a life review of the past

Carter & Mc Goldrick (1989) in Setiadi (2008) .Dividing the family into 6 developmental stages:

- a. Family between (free / dating) with young adult age
- b. The formation of a new family through a marriage
- c. Families with young children (infants aged up to school age)
- d. Families with adult children
- e. Families who began to release their children to leave the house
- f. Elderly family
- 2.1.6 Level of Family Independence

According to Achjar (2010), the success of family nursing care conducted by family nurses can be assessed from several levels of family independence by knowing the criteria or characteristics that become the provisions of the level ranging from the level of independence I to the level of independence IV, according to Dep-Kes (2006) as follows :

- a. The level of independence I (Self-reliant family level I)
 - 1. Receive a public health nurse
 - 2. Receive the nursing services provided in accordance with the nursing plan

- b. The level of independence II (Self-reliant family level II)
 - 1. Receive a public health nurse
 - 2. Receive the nursing services provided in accordance with the nursing plan
 - 3. Know and can disclose health issues correctly
 - 4. Perform simple nursing actions as recommended
 - 5. Actively utilizing health care facilities
- c. The level of independence III (Self-reliant family level III)
 - 1. Receive a public health nurse
 - 2. Receive the nursing services provided in accordance with the nursing plan
 - 3. Know and can disclose health issues correctly
 - 4. Perform simple nursing actions as recommended
 - 5. Actively utilizing health care facilities
 - 6. Carry out preventive measures as directed
- d. The level of independence IV (Self-reliant family level IV)
 - 1. Receive a public health nurse
 - 2. Receive the nursing services provided in accordance with the nursing plan
 - 3. Know and can disclose health issues correctly
 - 4. Perform simple nursing actions as recommended
 - 5. Actively utilizing health care facilities
 - 6. Carry out preventive measures as directed
 - 7. Take active promotive action
- 2.1.7 The Stages of A Prosperous Family
 - a. Disadvantaged families

Families who have not been able to meet basic needs at a minimum, such as the need for teaching, religion, clothing, food and health. Disadvantaged families have not been able to fulfill one or more indicators of prosperous family stages.

b. Prosperous family stage I

Families who have been able to meet their basic needs at a minimum, but have not been able to meet the overall psychological social needs such as the need for education, family planning, family interaction, interaction in the environment and transportation.

c. Prosperous family stage II

Families in addition to fulfill their basic needs, have also been able to meet all their psychological social needs, but have not been able to meet the overall development needs such as the need to store and obtain information.

d. Prosperous family stage III

Families who have been able to meet all basic needs, psychological social needs and development needs, but have not been able to contribute the maximum to the community, such as regularly donate in the form of material and financial for social interests to the community and active participation with the board Social institutions or social foundations, religious, arts, sports and education.

e. Prosperous family stage IV

Families who have been able to meet all basic needs of social, psychological, as well as development and can also provide a tangible and sustainable contribution for the community. (Setiawati&Dermawan, 2008).

2.1.8 Family Duties In The Health Field

Family duties is the collection of data relating to the inability of the family in the face of health problems. Family nursing care, lists five family duties as exposure to etiology / problem solvers and is usually assessed at the second stage of assessment when found in the family

maladaftif data. According to Achjar (2010), family duties in question is

- a. The family's ability to recognize health problems, including how the family's perception of disease severity, understanding, signs and symptoms, causal factors and family perceptions of family problems.
- b. The ability of the family to make decisions, including where the family understands the nature and extent of the problem, how the problem is felt by the family, the family surrender or not to the problems faced, is there a fear of the consequences or is there a negative attitude of the family on health problems, Done by family to sick family member.
- c. The ability of the family to care for sick family members, such as how the family knows the illness, the nature and development of the care done, the sources that exist in the family and the family's attitude toward the sick.
- d. The ability of the family to modify the environment, such as the importance of family sanitation hygiene, prevention of disease, the family, the environmental maintenance of the family, the cohesiveness of family members in managing the environment inside and outside the house that impact on family health.
- e. The ability of families to utilize health care facilities, such as family confidence in health workers and health care facilities, the existence of existing health facilities, family benefits on the use of health facilities, whether affordable health care by the family, is there a poor experience perceived family.

In accordance with the health maintenance function, the family has a duty in the health field that needs to be understood and done. Freedman (1981) in Setiadi (2008) divides 5 family duties in the field of health to be done, namely:

- a. Know the health problems of family members. Even the smallest changes experienced by family members are not directly into the attention and responsibilities of the family, so if aware of the changes need to be recorded immediately when the occurrence, what changes occur and how much change.
- b. Among families who have the ability to decide to determine family action then immediately take appropriate action to reduce the health problems or even overcome. If the family has limitations should seek the help of others around the family environment
- c. Nursing those who are sick or who can not help themselves because of the disability or age that is too young
- d. Maintaining an atmosphere at home that benefits the health and personality development of family members
- e. Maintain mutual relationships between family and health institutions (utilization of existing health facilities)

2.2 Family Health Care

2.2.1 Definition

Family health care is the level of public health care directed or centered on the family as a unit or unit of care, as a healthy goal through care as a means or a distributor. (Gusti, 2013).

2.2.2 Purpose of family health care (Setiadi, 2008):

The goals to be achieved in providing family nursing care is to improve the health status of the family so that families can increase productivity and family welfare.

2.2.2.1 General Purpose

Raising awareness, willingness and ability of families to improve, prevent, maintain their health so that their health status increases and are able to perform their tasks productively. 2.2.2.2 Specific Purpose

To increase knowledge, awareness and family abilities in terms of:

- a. Improve the ability of families to identify health problems faced.
- b. Improve the family's ability to cope with basic health problems in the family.
- c. Improve the family's ability to make the right decisions
- d. Improve the family's ability to provide nursing care to sick family members
- e. Increase family productivity in improving the quality of life
- 2.2.3 Family Strength Reason As Service Unit

According to (Gusti, 2013) family reasons as a care service unit are:

- 2.2.3.1 Family is part of the society that can be a picture of the community.
- 2.2.3.2 Family behavior can lead to health problems, but it also prevents health problems and becomes a problem-solving resource.
- 2.2.3.3 Health problems in the family will affect each other against family members.
- 2.2.3.4 Family is a harmonious environment to develop family potential.
- 2.2.3.5 Family is a decision maker in overcoming health problems.
- 2.2.3.6 Family is an effective channel in improving public health.

2.2.4 Family Of High Risk Groups

According to sudiharto (2007), in Gusti (2013) carrying out family nursing care that become the main priority are families belonging to high risk in the health sector, including:

- 2.2.4.1 Families with family members of child-bearing age with the following issues:
 - a. Low social economy

- b. Families are less able to cope with health problems
- c. The existence of heredity is not good
- 2.2.4.2 Families with high risk of obstetrics (pregnancy time):
 - a. Age <16 years,> 35 years old
 - b. Less nutrition and anemia
 - c. Primiparas and multiparas
 - d. Hypertension
 - e. History of complications of labor
- 2.2.4.3 Families with high risk children:
 - a. Born prematurely and Weight <2500 gr
 - b. Weight loss is difficult
 - c. Born with a congenital defect
 - d. Mother <nutrition / anemia
 - e. Less breast milk
 - f. The mother has a disease that affects her pregnancy
- 2.2.4.4 Families who have problems in family relationships:
 - a. Unwanted child
 - b. No adjustments of opinion, disagreement, tension
 - c. Family members sick / drunk
 - d. One of the parents left home / died
- 2.2.4.5 Families whose family members suffer from chronic diseases such as tuberculosis, leprosy, hypertension. Families with family members aged> 60 years.
- 2.2.5 Principle of nurse-client relationship with family by Gusti (2013):
 - 2.2.5.1 The focus of nurse intervention is family
 - 2.2.5.2 Given interventions can focus on all health needs and include three levels of prevention
 - 2.2.5.3 Families still have autonomy to make decisions about their health
 - 2.2.5.4 Nurses are guests in the family home

2.3 Family Nursing Care

2.3.1 Definition

Family nursing care is a series of nursing practice activities given to clients as family members in the community order using the nursing process, guided by nursing standards within the scope of authority and responsibility of care. (Gusti, 2013).

Basically the family nursing process is a systematic problem solving, which is used when working both on individuals and families and even communities. In family nursing, the nurse can conceptualize the family as a context where the focus and treatment process are oriented to individual family members. But if the nurse conceptualizes the family as a service unit, then the focus and process of kperawatannya oriented to the family as a unit or system, although this process itself is no different in both. (Achjar, 2013)

2.3.2 Model of Family Nursing Concept

According to, (Gusti, 2013) model of family nursing care are:

- a. Functional structural model by Marlyn to sort out the structure of the kelaura is regulated. Four basic dimensions of sub concepts are considered: role structure, value system, communication pattern, and power structure.
- b. Family function according to Friedman is the result of the family structure is to meet the needs of family members, where the family function consists of:
 - 1. Affective function
 - 2. Socialization and social placement function
 - 3. Reproductive function
 - 4. Econmic function
 - 5. The health care function
- c. Friedman's functional functional model is chosen as a guide for the family nursing process as it facilitates the analysis of

interactions among family members and family interactions with communities, such as care and education systems.

Level of family independence according to Achjar (2010):

The success of family nursing care conducted by family nurses, can be assessed from several levels of self-reliance by knowing the criteria or characteristics that become the provisions of the level from the level of independence I to the level of independence IV, according to Dep-Kes (2006) in Achjar (2010) as follows :

- a. The level of independence I (self-reliant I / KM level I)
 - 1. Receive public health care workers
 - 2. Receive the nursing services provided in accordance with the nursing plan.
- b. The level of independence II (self-reliant II / KM II)
 - 1. Receive public health care workers
 - 2. Receive the nursing services provided in accordance with the nursing plan
 - 3. Know and can disclose health issues correctly
 - 4. Perform simple nursing actions as recommended
- c. The level of independence III (self-reliant III / KM III)
 - 1. Receive public health care workers
 - 2. Receive the nursing services provided in accordance with the nursing plan
 - 3. Know and can disclose health issues correctly
 - 4. Perform simple nursing actions as recommended
 - 5. Actively utilizing health care facilities
 - 6. Carry out preventive measures as directed
- d. The level of independence IV (self reliant IV / KM IV)
 - 1. Receive public health care workers
 - Receive the nursing service provided in accordance with the nursing plan

- 3. Know and can disclose helath issue correctly
- 4. Perform simple nursing actions as recommended
- 5. Actively utilizing health care facilities
- 6. Carry out preventive measures as directed
- 7. Take active promotive action

Number	Criteria	Level Of family Independence					
Tumber	Number Cineria		II	III	IV		
1.	Receive public health workers	V	V	V	V		
2.	Receive the nursing service provided in accordance with the nursing plan.	V	V	V	V		
3.	Know and can disclose health issue correctly		V	V	V		
4.	Perform simple nursing actions as recommended		V	V	V		
5.	Utulizing health facilities actively		V	V	V		
6.	Implementpercautianorymeasures as recommended			V	V		
7.	The active promotive ction.				V		

Table 2.1 Criteria for family self-reliance

2.3.3 Family Nursing Diagnose

A nursing diagnosis is a clinical assessment of individual, family or community responses to actual or potential health or life-related processes (Allen, 1998) in (Gusti, 2013). Family nursing diagnoses are formulated based on data obtained on the assessment, the nursing diagnostic component includes:

a. Problem

Problem is a statement of non-fulfillment of basic human needs experienced by family or family members. b. Etiology

Etiology is a statement that can cause problems with reference to the five tasks of the family:

- 1. Get to know family health problems
- 2. Make the right health decisions
- 3. Care for sick family members
- 4. Maintaining a healthy home atmosphere
- 5. Using existing health facilities in the community
- c. In general the related or etiological factors of family nursing according to (Gusti, 2013) diagnosis are:
 - 1. Ignorance (lack of knowledge, understanding, misperception).
 - 2. Uncertain (lack of motivation)
 - And incapacity (lack of skills to a procedure or action, lack of good financial family resources, facilities, support systems, physical and psychological environments).
- d. Sign and Symptom

Is a set of subjective and objective data obtained by nurses from families either directly or indirectly.

Typology of nursing diagnoses according (Gusti, 2013) include:

- a. The actual diagnosis is a nursing problem that is being experienced by the family and requires the assistance of the nurse quickly.
- b. High risk / risk diagnoses are nursing that have not yet occurred, but a sign to be an actual nursing problem can occur quickly if not immediately get nursing help.
- c. A potential diagnosis is a prosperous state of the family when the family has been able to meet its daily health needs and has a possible supportive source of health.

Priority of nursing diagnosis, according to (Gusti, 2013):

Table 2.2 Scoring process using a scale that has been formulated byBailon and Maglaya 1978, in (Gusti, 2013).

Number	Criteria	Score	Weight
1.	 Nature of the problem Unwell Health threat Crisis or prosperity 	3 2 1	1
2.	 Possible problems can be changed: Easy Only partially Can not Potential problems to be prevented High Enough 	2 1 0 3 2 1	2
4.	 Low The prominence of the problem: Severe problems must be addressed immediately There is a problem but need not be addressed immediately Problems are not felt 	2 1 0	1

The scoring process is performed for each nursing diagnosis:

- a. Determine the scores for each criterion made
- b. Then divided by the highest number and multiplied by the weight.



c. Add up scores for all criteria (highest score there with weighted amount, is, 5).

2.3.4 Nursing Intervention

The family nursing plan is a set of actions the nurse specifies to carry out in solving the health and nursing problems that have been identified from frequent nursing problems.

The steps of family nursing plan according to (Gusti, 2013) are:

a. Set goals

The goal is the general goal that is the ultimate goal to be achieved through every effort, where the problem is used to formulate the ultimate goal.

b. Determine goals or objectives

Objective statements are more specific or more detailed statement of the expected outcomes of the treatment action to be taken, where the cause to formulate the objectives.

- c. Determine the approach and actions of nursing to be performed In choosing nursing actions is highly dependent on the nature of the problem, and the resources available to solve the problem.
- d. Determine criteria and standard criteria Criteria is a sign or indicator used to measure the achievement of objectives, while the standard indicates the desired level of performance to compare that the behavior to which the objective of nursing action has been achieved.

Standard refers to the 5 family duties while the criteria refer to 3 things, namely:

a. Cognitive knowledge

This intervention is intended to provide information, ideas, motivation, and advice to the family as a target of family nursing care.

b. Attitude / affective

This intervention is intended to help the family in an emotional response, so that in the family there is a change of attitude toward the problems encountered.

c. Action / psychomotor

This intervention is aimed at assisting family members in adverse behavioral changes to beneficial behavior.

The important things in the preparation of family nursing care plan ccording to (Gusti, 2013) are:

- a. Objectives should be logical, appropriate to the problem and have a period appropriate to the client's condition.
- b. The result criteria should be measured
- c. The action plan is tailored to the resources and funds owned by the family and leads to the client's independence so that the level of dependency can be minimized.
- 2.3.5 Implementation

According to (Gusti, 2013), execution is one of the stages of the family nursing process whereby nurses get a chance to bother the family's interest to get improvement towards the direction of healthy living behavior. The implementation of family nursing actions is based on nursing care that has been prepared.

2.3.6 Evaluation

Evaluation is an activity that compares the outcomes, implementation with predetermined criteria and standards to see if success and outcomes are unsuccessful, some new nursing plans should be developed

Method of nursing evaluation according to (Gusti, 2013), namely:

a. Formative evacuation / process

Is an evaluation performed during the process of nursing care and aims to assess the results of implementation in stages in accordance with the activities undertaken, the system of writing formative evaluation is usually written in progress notes or using SOAP.

b. Sumative / results evaluation

Is a final evaluation aimed at assessing the whole, this sumatof evaluation writing system in the form of narrative notes or summary papers.

2.4 Basic Concept of Hypertension

2.4.1 Heart Anatomy



Space and heart valves Aris, Tarwoto, Wartonah, 2009) (Source : Aspiani, 2014)

The heart is the main organ of the cardiovascular system, muscular and hollow, located in the thoracic portion of the mediastinum. The heart is shaped like a dull cone with the lower part called the apex located more left than the medial line; The edges lie in the left IV intercostal space or about 9 cm from the left of the medioclavicular line; The upper part is called the base lies slightly right on the third rib to about 1 cm from the lateral edge of the sternum. Has a length of about 12 cm, width 8 cm, and thickness 6cm. Weight of the heart about 200-245 grams, in men about 310 grams and in women about 225 grams. (Aspiani , 2014).

The heart is coated by a membrane called pekardium consisting of two layers, the parietal precipitium and the visceral.prekardium parietal precipital, the outer layer attached to the breastbone and lung membrane. Visceral precognition, the surface layer of the heart itself, also called epicardium. Between the two layers there is a pericardial fluid that serves to reduce the pressure caused by the movement of the heart when pumping. (Aspiani, 2014).

The heart layer consists of three layers, namely epicardium, myocardium, and endocardium, (Aspiani, 2014).

- a. Epicardium is the outermost layer, having the same structure as the visceral pericardium.
- b. The myocardium is the middle layer composed of muscles that play a role in determining the strength of contraction.
- c. The endocardium is the deepest layer composed of endothelial tissue lining the inside of the heart and closing the heart valve.

The heart valve serves to maintain the blood flow in the direction of the heart chambers. There are two types of valves, namely the artrioventikuler valves and semilunar valves.

- a. Antrioventricular valve, separating between the atria and ventricle This valve allows the blood to flow from each atrium to the ventricles during ventricular diastole and prevents backflow to the atrium during ventricular cystole. There are two antrioventricular valves: the tricuspid valve and the bicuspid valve. The tricuspid valve has three valve leaves located between the right atrium and the right ventricle. The bicuspid valve or mitral valve has two valve leaves and is located between the left atrium and the left ventricle.
- b. The semilunar valve, separates the pulmonary artery and the aorta from the ventricles. A semilunar valve that limits the right ventricle and the pulmonary artery is called the pulmonary semilunar valve. The valve that limits the left ventricle and the aorta is called the aortic semilunar valve. The presence of this valve allows the blood to flow from each of the ventricles to the pulmonary or aortic arteries during the ventricular systole and prevents backflow to the ventricle during ventricular distole.

The heart room has 4 chambers, namely the right atrium, the left atrium, the right ventricle and the left ventricle. The atrium is located above the ventricle and side by side. Atrial and ventricle are separated by one-way valves. Between the right and left sections separated by the septum.(Aspiani, 2014).

- a. Right Atrium
 - 1. Thin cardiac atrial wall
 - 2. The right atrium functions as a low blood oxygen container from the rest of the body. The blood multiplies through the superior vena cava, the inferior vena cafa, and the coronary sinus originating from the heart itself. From the right atrium and then the blood is pumped into the right ventricle.
 - 3. Between the vena cava and the atrium of the heart is separated by the folds of the valve or rudimeter muscle band. Therefore, if there is an increase in atrial pressure due to the dam of blood on the right side of the heart will be reversed back through the tricuspid valve.
 - 4. 80% of the venous return into the right atrium passes passively into the right ventricle via the tricuspid valve.
 - 5. 20% fill the ventricle with atrial contraction. Active ventricular filling is called an atrial kick. Loss of atrial kick in dysrhythmias may reduce ventricular filling thus reducing ventricular .
- b. Right Ventricle
 - 1. Unique crescent shaped
 - 2. Useful in producing low pressure contractions sufficient to circulate blood into the pulmonary artery.
 - 3. The right ventricle thickness is only 1/3 of the left ventricle thick because the right ventricular workload is lighter than the left ventricle.

- 4. When the right ventricle contracts, the tricuspid valve closes, and the blood is pumped into the pulmonary artery pulmonary pulmonary artery. In the presence of large arteries and the right ventricle, there is a pulmonary semilunar valve. The three leaves are pushed and opened when the right ventricle contracts and pumps the blood into the pulmonary artery. When the right ventricle relaxes, the blood re-fills the valve leaf and closes the semilunar valmonary valve to prevent backflow of blood into the right ventricle.
- 5. Pulmonary circulation is a low-pressure blood flow system, with much smaller resistance to blood flow from the right ventricle, than the high-pressure systemic circulation of blood flow from the left ventricle.
- c. Left Atrium
 - The left atrium receives oxygenated blood from the lungs through the four veins of the polmunalis. This blood then flows into the left ventricle through the mitralis valve. The mitral valve prevents left ventricular blood flow back into the left atrium when the left ventricle contracts.
 - Between the pulmonary vein and the left atrium there is no true valve, therefore the pressure change from the left atrium easily reverses the retrogrades into the pulmonary vessels. An increase in left atrial pressure which I will cause a pulmonary dam.
 - 3. The left atrium is thin and low-pressure
- d. Left Ventricle
 - 1. Has a wall thicker than the right ventricle wall, so that the left ventricle contracts stronger.
 - 2. The left ventricle pumps blood throughout the body through the aorta, the largest artery of the body. At the aortic and left ventricular encounters there are aortic aaron cysts. This valve

opens due to left ventricular contraction which also closes the mitralis chamber. The semilunary valve of the aorta closes when the left ventricle relaxes, to prevent backflow of aortic blood into the left ventricle, when the atrioventricular valve closes, this valve prevents backflow of blood into the left atrium

- 3. The left ventricle must produce high enough pressure to overcome the systemic circulatory arrest and maintain blood flow to the peripheral tissues.
- 4. The left ventricle has a thick muscle and resembles a circle, facilitating the formation of high pressure during ventricular contraction. Even the ventricular second barrier (the interventricular septum) also helps to strengthen the resistance caused by the entire ventricle to the contraction.
- 5. In contraction, left ventricular pressure increases approximately 5x higher than right ventricular technique, when there is an abnormal relationship between the two ventricles then the blood will flow from left to right through the tear resulting in the amount of blood flow from the left ventricle through the valve oarta will be reduced.

Blood vessels, every cell in the body secra directly depend on the integrity and function of vascular system, because the blood from the heart will be sent to every cell malalui the system. The structural properties of every part of the systemic circulatory system determine its physiological role in the integration of cardiovascular function. Blood vessel wall consists of three parts, the outer layer (tunica adventisia), the middle layer of the muscular (tunica media) and the innermost layer of the endothelial layer (tunica intima).

The whole circulatory system (the cardiovascular system) consists of arteries, arterioles, capillaries, venules and veins.

a. Arteries

Aortic walls and large arteries contain many elastic tissues and some smooth muscle. The left ventricle pumps blood into the aorta with high pressure. This sudden spasm of blood stretches the elastic artery wall, as long as the ventricles rest, the return of the elastic wall to its original state, will pump blood forward, throughout the circulatory system. In the peripheral region, branches of the arterial system divide blood into smaller vessels.

Arterial tissue is occupied about 15% of the total blood volume. Therefore, the arterial system is considered a circuit that has a low volume but high pressure. Because of the nature of these contents and pressures the arterial branch is called the resistance circuit.

b. Arterioles

Arteriole wall consists mainly of smooth muscle with a few elastic fibers. This muscular wall is very sensitive and can be dilated or contracted to regulate blood flow to the capillary tissue. As a result of the ability of the blood vessel muscle to alter the diameter with considerable significance, the arteriole becomes the main resistance site of blood flow from the entire branching of the artery. Consequently the pressure on the capillaries will drop abruptly and the flow changes from pulsating into a calm stream, thus facilitating the exchange of nutrients at the capillary level at the junction between arteiola and capillaries in precipitated sphincters

c. Capillaries

A very thin capillary blood vessel wall consists of a single layer of endothelial cells. Through thin and semipermeable membranes, nutrients and metabolites diffuse from areas of high concentration to areas of low concentration. Thus, O_2 and nutrients will leave the blood vessels and enter the interstitial space and CO_2 cells and metabolites diffuse in a direction that is inwrought.

d. Venules

The venule serves as a collecting stream with a relatively weak but sensitive muscular wall. At the confluence between capillaries and venules there is a post-capillary sphincter.

e. Veins

The vein is a relatively thin walled duct and serves to channel blood from the capillary tissue through the venous system, into the right atrium. Veins can hold large amounts of blood with relatively low pressure. Because of the high-volume, low-volume venous flow properties, the venous system is called the capability system. About 65% of the blood volume is present in the venous system, but the venous tissue capacity can be altered. Venoconstriction can decrease venous tissue capacity, forcing the blood to move forward toward the heart thus enlarging the venous return.

The blood flow from capillaries to the heart is affected by two factors, namely venous pressure factors by skeletal muscle and changes in the pressure of the chest cavity and abdomen during respiration. The venous system ends in the superior vena cava and inferior vena cava.

2.4.2 Definition of Hypertension

Hypertension is a condition when a person experiences an elevated blood pressure above normal that results in an increase in morbidity and mortality (Kushariyadi, 2008) in (Aspiani, 2014). Hypertension is associated with an increase in systolic pressure and diastolic pressure or both pressures. Hypertension can be defined as persistent high blood pressure where the systolic pressure is above 140 mmHg and diastolic pressure above 90 mmHg. In the elderly population, hypertension is defined as 160mmHg systolic pressure and diastolic pressure of 90 mmHg (Brunner & Suddarth, 2005) in (Wijaya & Putri, 2013).

Hypertension is as an increase in systolic blood pressure of at least 140 mmHg and diastolic pressure of at least 90 mmHg. Hypertension is not only at high risk of heart disease, but also suffering from other diseases such as nerves, kidneys, and blood vessels and the higher the blood pressure the greater the risk also. (Nurarif & Kusuma,2015)

Abnormal conditions of hemodynamics, which according to WHO systolic pressure> 140 mmHg and / or diastolic pressure> 90 mmHg (for <60 years) and systolic pressure> 160 mmHg and / or diastolic pressure> 95 mmHg (for age> 60 years). (Nugroho , 2011).

Hypertension is defined as systolic blood pressure greater than 140 mmHg and diastolic pressure greater than 90 mmHg, based on two or more measurements. (Brunner & Suddarth, 2013).

Hypertension or high blood pressure is an abnormally elevated blood pressure in the arteries more than a period. Hypertension adds to the heart and arterial workings of the heart which, if continued, can cause heart damage in the blood vessels (Udjianti, 2011). Normal blood pressure systole <130 diastole <85 mmHg high systolic border 130-139 diastolic 85-89. (Ardiansyah, 2012).

Hypertension is defined as persistently high blood pressure .this means a systolic pressure that is equal to or greater tah 140 mmHg and a diastolic pressure that is equal to or greater than 90 mmHg when taken at least and averaged on two different occasions 2 weeks apart. (Dewit & Kumagai, 2009).

Accoding to author the hypertension is a condition when person with high blood pressure is above normal because of an increase in systolic blood pressure of at least 140 mmHg and diastolic pressure of at least 90 mmHg.

2.4.3 Classification of Hypertension

High blood pressure limits on hypertension in the United States determine the different blood pressure limitations. In a 1993 report, known as JVC-V, blood pressure in 18-year-old adults was classified as follows:

Number	Critorio	Blood Pressure		
Nulliber	Cinteria	Sistolic	Diastolic	
1.	Normal Border (High normal)	< 130 130-139	< 85 85-89	
2	Hypertension Degree I : Low Degree II : Medium	140-149 160-179	90-99 100-109	
3.	Degree III : Weight	180-209	110-119	
	weight	≥210	≥120	

Table 2.3 Criteria of hypertension according to JVC-V AS

(Source, : Ardiansyah, 2012).

	(r	r
Catagory	Sistolic Pressure		Diastolic Pressure
Calegory	(mmHg)		(mmHg)
Optimal	< 120	And	< 80
Normal	120-129	And/or	80-84
High Normal	130-139	And/or	85-89
Hypertension Grade I	140-159	And/or	90-99
Hypertension Grade II	160-179	And/or	100-109
Hypertension Grade III	≥180	And/or	≥110
Sistolic Hypertension Isolated	≥190	And	< 90

 Table 2.4 Classification of hypertension according to European

 Society Of Cardiology :

Table 2.5 Classification based on degree of hypertension :

Degree	Sistolic Pressure (mmHg)	Diastolic Pressure (mmHg)
Normal	< 120	And < 80
Pre-Hypertension	120-129	Or 80 – 89
Hypertension degree I	140-159	Or 90 – 99
Hypertension degree II	≥ 160	$Or \ge 100$

(Source : JNC VII, 2003) in (Wijaya & Putri, 2013)

Classification based on etiology (Wijaya & Putri, 2013)

a. Hypertension (Primary Essential)

Is 90% of cases of hypertensive patients. Where until now not known the exact cause. Some of the factors that affect the occurrence of essential hypertension, such as: genetic factors, stress and psychological, as well as environmental and dietary factors. (Increased use of salt and reduced potassium or calcium intake).

An increase in blood pressure is not uncommonly the only sign of primary hypertension. Generally new symptoms seen after complications in target organs such as kidneys, eyes, brain and heart.

b. Secondary Hypertension

In secondary hypertension, the cause and pathophysiology can be clearly known so that it is easier to be controlled with drugs, secondary causes of hypertension include renal abnormalities such as tumors, diabetes, adrenal abnormalities, aortic abnormalities, other endocrine disorders such as obesity, insulin resistance, hyperthyroidism, And the use of drugs such as oral contraceptives and corticosteroids.

2.4.4 Etiology

According to (Nurarif & Kusuma,2015)The cause of hypertension in people with elderly is the occurrence of changes in:

- a. Elasticity of the aortic wall decreases.
- b. The heart valve thickens and becomes stiff
- c. The ability of the heart to pump blood decreases 1% every year after the age of 20 years the ability of the heart to pump blood decreases causing decreased contraction and volume.
- d. Loss of elasticity of blood vessels. This occurs because of the lack of effectiveness of peripheral blood vessels for oxygenation
- e. Increased peripheral vascular reordina- tion
- f. In general hypertension does not sound the specific cause. Hypertension occurs as a response to increased cardiac output or increased peripheral pressure. But there are several factors that affect the occurrence of hypertension:
 - Genetics : Neurological response to stress or abnormalities of excretion or Na transfor- mation.
 - 2. Obesity : Associated with high insulin levels that result in increased blood pressure.
 - 3. Stress because of the environment

4. Loss of tissue elasticity and arterosclerosis in the elderly as well as dilation of blood vessels.

In the elderly, the cause of hypertension caused by changes in aortic wall elasticity decreases, heart valve thickens and becomes stiff, heart's ability to pump blood, loss of elasticity of blood vessels, and increase resistance of peripheral blood vessels. After the age of 20 years the heart's ability to pump blood decreases by 1% annually resulting in decreased contraction and volume. Elasticity of blood vessels disappears because of the lack of effectiveness of peripheral blood vessels for oxygenation. (Aspiani, 2014)

According to (Ardiansyah, 2012), the cause of hypertension is divided into two major lines namely; Primary hypertension and secondary hypertension.

a. Primary Hypertension

Primary hypertension is essential hypertension or hypertension which is 90% unknown cause. Several factors suspected to be associated with the development of essential hypertension include:

- 1. Genetic; Individuals who have a family history with hypertension, are at higher risk of acquiring insufficient diseases.
- 2. Gender and age; Men aged 35-50 postmenopausal women postmenopause at high risk for experiencing hypertension.
- 3. Diet; Consumption of a diet high in salt or fat content, is directly related to the development of hypertension disease.
- 4. Weight / obesity (25% heavier than ideal body weight) is also often associated with hypertension.
- 5. Smoking lifestyle and alcohol consumption can increase blood pressure (if an unhealthy lifestyle is maintained).

b. Secondary Hypertension

Secondary hypertension is a known type of hypertension. Some of the symptoms or diseases that cause this hypertension disease, among others :

- 1. A congenital aortic narrowing that may (may) occur at some thoracic aortic level or abdominal aorta. This constriction inhibits blood flow through the aortic arch and results in an increase in blood pressure above the contraceptive area.
- 2. Renal parenchymal and vascular disease is the leading cause of secondary hypertension. Renovascular hypertension is associated with narrowing of one or more large arteries, which directly carry blood to the kidneys. About 90% of renal artery lesions in patients with hypertension are caused by atherosclerosis or fibrous dydplasia (abnormal growth of fibrous tissue). Kidney parenchymal disease associated with, infections, inflammation, as well as changes in the structure and function of the kidneys.
- Use of hormonal contraceptives (estrogen). Oral contraceptives containing estrogen can cause hypertension through the mechanism of renin-aldosterone-mediate volume expansion. With oral contraceptive cessation, blood pressure returns to normal after several months.
- 4. Endocrine disorders. Adrenal medullary dysfunction can cause secondary hypertension. Adrenal - mediate hypertension. Due to the primary excess of aldosterone, cortisol, and ketekolamine in primary aldosterone, excess aldosterone causes hypertension and hypokalemia. Primary aldosteronism usually arises from benign adenosal adenoma adenomas (benign). Pheochromocytonomas in the most common adrenal medulla and increased excessive secretion of ketekolamine. In cushing syndrome, an excess of excreted

gluukocorticoids from the adrenal cortex occurs. Cushing syndrome may be caused by adrenocortical hyperplasia or adrenocortical adenoma.

- 5. Obesity and an inactive lifestyle (lazy to exercise).
- Stress that tends to cause a rise in blood pressure for a while. If stress has passed, then blood pressure will usually return to normal.
- 7. Pregnancy
- 8. Increased intravascular volume
- smoke. Nicotine in cigarettes can stimulate catecholamine release. This increased aktekolamin results in myocardial irritability, increased heart rate, and causes vasoconstriction which then increases blood pressure.

Whereas according to (Martono & Pranaka, 2011), in old age the pathogenesis of hypertension of old age is slightly different from that happened in young adult. Factors that contribute to advanced follow-up are:

- a. Decreased levels of renin due to decreased number of nephrons due to aging process. This causes a vitiosus circulation: persistent hypertension-glomerulo-sclerosis-hypertension.
- b. Increased sensitivity to sodium intake. The more aged the more sensitive the increase / decrease in sodium levels.
- c. Decreased peripheral vascular elasticity due to aging process will increase peripheral vascular resistance which will eventually lead to sisitolic hypertension alone (= ISSH).
- d. Atheromous changes due to aging process cause endothelial dysfunction that continues in the formation of various cytokines and other chemical substances that subsequently cause sodium resorbtion in the renal tubules, improves peripheral vascular

sclerosis and other conditions resulting in increased blood pressure.

So, according to (Dallerd, *et al*,2017). The etiology in unknown, but it is believed to be related to alteration in the immune system (Madhur, 2014). Although the exact cause has not been identified, there are several known contribution factors. Secretion of excess sodium – retaining hormones and vasoconstriction substance, high sodium intake, obesity, diabetes mellitus, excessive alcohol intake, and sympathetic nervous system activity all contribute to elevated blood pressure.

2.4.5 Pathophysiology

A mechanism that controls constriction and relaxation of blood vessels lies at the vasomotor center of the brain's medulla. From this vasomotor center begins the sympathetic nerve distance, which continues downward into the spinal cord and exits from the spinal column of the spinal cord to the sympathetic ganglia in the thorax and abdomen. Central vasomotor stimuli are delivered in the form of impulses that move downward through the sympathetic nervous system into the sympathetic ganglia. At this point, the neurons to the ganglion release acetylcholine, which will stimulate the post-ganglion nerve fibers into the blood vessels. Various factors, such as anxiety and fear may affect the vascular response to vasoconstriction stimuli. Individuals with hypertension are very sensitive to norepinephrine, although it is not clear why this is so.

At the same time when the sympathetic nervous system stimulates the blood vessels in response to excitatory emotions, the adrenal glands are also stimulated, resulting in additional adrenal activity in apinephrine-inducing vasoconstriction. The adrenal cortex involves cortisol and other steroids, which can strengthen the vasoconstrictor response of the blood vessels.Vasoconstriction resulting in decreased blood flow to the kidneys causes renin release. The released renin stimulates the formation of angiotensin I which is then converted to angiotensin II, a strong vasoconstrictor which in turn stimulates aldosterone secretion by the adrenal cortex. This hormone causes sodium and water retention by the renal tubules, causing an increase in intravascular volume. All these factors tend to trigger hypertension. (Aspiani, 2014).

Certainty about the pathophysiology of hypertension is still uncertainty.

A small number of patients (between 2% to 5%) have renal or adrenal basic disease leading to an increase in blood pressure. However, there is still an identifiable singular cause and this condition is referred to as "essential hypertension". A number of physiological mechanisms are involved in regulating normal blood pressure, which can then contribute to the occurrence of essential hypertension.

Several interconnected factors may also contribute to an increase in hypertensive patient blood pressure, and their role differs among individuals. Among the factors studied intensively are salt intake, obesity and insulin resistance, the renin-angiotensin system, and the sympathetic nervous system. In recent years, other factors have been evaluated, including genetic, endothelial dysfunction. (Which appears in changes in endothelin and nitrous oxide).

A mechanism that controls the contraction and relaxation of blood vessels lies at the center of the vasomotor, in the medulla in the brain. At the center of the vasomotor begins a sympathetic nerve spacing, which progresses down the spinal cord and exits from the spinal column of the colullus to the sympathetic ganglia in the thorax and abdomen. Vasomotor center stimulation is delivered in the form of an impulse that travels downward through the sympathetic nerves to the sympathetic ganglia.

At this point, the preganglion neuron releases acetylcholine, which will stimulate the post-ganglion fibers into the blood vessels. Various factors such as anxiety and fear may affect vascular response to vasoconstrictive stimulation. Individuals with hypertension are very sensitive to norepinephrine, although they are not well understood why they occur.

At the same time the sympathetic nervous system stimulates the blood vessels in response to emotional stimuli, the adrenal gland also aroused resulting in additional vasoconstrictive activity. The adrenal medulla secretes cortisol and other steroids, which can strengthen the vasoconstriction response of the blood vessels. Vasoconstriction resulting in decreased blood flow to the kidneys, leading to renin release. Renin stimulates the formation of ngiotensin I which is then converted to angiotensin II, a powerful vasoconstrictor, which in turn stimulates aldosterone secretion by the adrenal cortex. This hormone causes retensinatrium and water by the renal tubules, causing an increase in intravascular volume. All these factors tend to trigger the state of hypertension.

Structural and functional changes in the peripheral vascular system are responsible for changes in blood pressure that occur in the elderly. These changes include atherosclerosis, loss of connective tissue elasticity, and decreased relaxation of smooth muscle of the blood vessels, consequently, the aorta and large arteries lessen the ability to accommodate the volume of blood pumped by the heart (stroke volume), resulting in decreased cardiac output and peripheral resistance (Brunner & Suddarth, 2005) in (Wijaya & Putri 2013).

Systemic arterial pressure is the result of multiplication of cardiac output with total peripheral resistance. Cardiac output (cardiac output) is obtained from multiplication between stroke volume (volume of blood pumped from ventricle to heart) with heart.

The setting of peripheral resistance is maintained by the autonomic nervous system and the circulation of hormones. Four control systems that play a role in maintaining blood pressure, including arterial baroreceptor systems, regulation of body fluid volume, renin angiotensin system, and vascular autoregulation.

Regulatory baroreceptor is found in the carotid sinus, but is often present in the aorta and left ventricular wall. This baroreceptor monitors the degree of arterial pressure. The baroreceptor system negates the increase of arterial pressure through the mechanism of cardiac slowing by the vagal response (parasympathetic stimulation) of vasodilation with decreased sympathetic tone.

Therefore, circulation control reflex increases systemic arterial pressure when turselan baroreceptor pressure decreases systemic arterial pressure when baroreceptor pressure is increased. Until now, it is not known exactly why this control fails on hypertension. This is shown to increase the re-setting of the baroreceptor sensitivity, so that the pressure increases inadequately, even if there is no pressure drop.

Fluid volume changes affect systemic arterial pressure. When the body has excess salt and water, blood pressure can be increased through a complex physiological mechanism that changes the venous return to the heart and results in increased cardiac output. When the kidneys are functioning appropriately, increased arterial pressure may result in dieresis and decreased blood pressure. Pathological conditions that alter the pressure threshold on the kidneys in excreting salt and water will increase systemic arterial pressure.

Renandan angiotensin plays a role in regulating blood pressure. The kidney produces renin, an enzyme acting on the plasma protein substrate to separate angiotensin I, which is then converted by a converting enzyme in the lung into an angiotensin II form, and then into angiotensin III. Angiotensin II and III have strong vasoconstrictor action on the blood vessels and are the control mechanisms for aldosterone release.

Aldosterone itself has a viral role in hypertension especially the primary aldosterone pad. Selin helps boost the activity of the sympathetic nervous system, angiotensin II and III also have an inhibiting or inhibiting effect on salt excretion (sodium) which results in an increase in blood pressure.

Inappropriate secretion of renin is thought to be the cause of increased vascular vascular pressure in essential hypertension. In high blood pressure, renin levels should be lowered because increased renal arteriolar pressure may inhibit the secretion of renin. However, most people with essential hypertension have normal renin levels.

The continuous increase in blood pressure in patients with essential hypertension will result in damage to blood vessels in vital organs. Hypertensiesensial also resulted in medial hyperplasia (thickening of arterioles). Because the blood vessel thickens, the tissue perfusion decreases and leads to organ damage. This causes myocardial infarction, stroke, heart failure, and renal failure.

Vascular autoregulation is another mechanism involved in hypertension. This vascular autoregulation is a process to maintain a relatively constant perfusion of tissue in the body. If the flow changes, the autoregulation processes will decrease the vascular resistance will increase as a result of increased flow. Vascular autoregulation appears to be an important mechanism in causing symptoms of hypertension associated with excess salt and water intake. (Ardiansyah, 2012).

2.4.6 Pathway



(Resource : Aspisni, 2014)

2.4.7 Sign And Symptom

According to (Nurarif & Kusuma,2015) Signs and symptoms of hypertension can be divided into:

2.4.7.1 No symptoms

There are no specific symptoms that can be associated with an increase in blood pressure, in addition to determining arterial pressure by the examining physician. This means arterial hypertension will never be diagnosed if arterial pressure is not measurable

2.4.7.2 Common symptoms

It is often said that the common symptoms accompanying hypertension include headache and fatigue. In reality this is a common symptom of most patients seeking medical help Some patients suffering from hypertension are:

- a. Complaining headaches, dizziness
- b. Nauseous vomit
- c. Limp, tired
- d. Out of breath
- e. Restless
- f. Epistaxis
- g. Awareness is decreasing

Some clinical manifestations arise after patients have hypertension for many years. Symptoms include:

- a. Headache when awake, sometimes accompanied by nausea and vomiting due to increased interacial blood pressure.
- b. Blurred vision because of damage to the retina as a result of hypertension.
- c. Chicken steps that are not steady because of damage to the central nervous system.

- d. Nocturia (frequent urination at night) due to increased renal blood flow and glomerular filtration. And
- e. Dependent edema and swelling due to increased capillary pressure.

In cases of severe hypertension, symptoms experienced by the patient include headache (severe feeling bent), alfitations, fatigue, nausea, vomiting, nervousness, excessive sweating, muscle tremors of chest pain, epistaxis, blurred or double vision, tinnitus) As well as difficulty sleeping. (Ardiansyah, 2012).

Clients who suffer from hypertension sometimes do not show symptoms for years. Symptoms if present indicate any vascular damage, with typical manifestations according to the organ system that is vascularized by the corresponding vein. Pathological changes in the kidneys may manifest as noctures (increased urine pda night) and azetoma (increased nitrogen, blood urea and cetatinin).

On physical examination, no abnormalities other than high blood pressure are present but retinal changes, such as bleeding, exudate, narrowing of blood vessels, and in severe cases, pupil edema (edema of the optic disc) are present. (Aspiani, 2014).

The common symptoms caused by hypertension are not the same in every person, sometimes even without symptoms.

According to Aspiani (2014) ,In general, symptoms that complained by people with hypertension as follows:

- a. Headache
- b. Feeling sore and uncomfortable on the nape
- c. Seemed to be spinning around seven like to fall
- d. Pounding or the heartbeat is fast

according to Brunner & Suddarth (2013) the clinical manifestations of hypertension are:

- a. Physical examination may reveal that there are no abnormalities other than high blood pressure.
- b. Changes in the retina are accompanied by hemorrhage, exudate, arteriolar narrowing, and cotton-wool spots (small infarction), and papilledema may be seen in cases of severe hypertension.
- c. Symptoms usually indicate vascular damage associated with organ systems that are flooded by impaired blood vessels.
- d. Coronary artery disease with angina or myocardial infarction is the most frequent impact.
- e. Left ventricular hypertrophy may occur; The next will happen heart failure.
- f. Pathological changes can occur in the kidneys (nocturia and increased BUN and creatine levels).
- g. Cerebrovascular disturbance (Transient ischemic stroke or groaning) is a change in vision or speech, penig, weakness, sudden fall or transient or permanent hemiplegia.

2.4.8 Supporting Investigation

Supporting investigation by (Nurarif & Kusuma, 2015)

- a. Laboratory examination
 - Hb / Ht: to examine the relationship of cells to fluid volume (viscosity) and may indicate risk factors such as: hypokoagulability, anemia
 - BUN / creatinine: provides information about perfusion / kidney function
 - Glucose Hyperglycemia (DM is the originator of hypertension) can be caused by expenditure of cadarketocolamine.

- 4. Urinalysis: blood, protein, glucose, kidney dysfunction and there is DM.
- b. CT Scan:

Examine the presence of cerebral tumors, encelopati

c. ECG:

Can show strain patterns, where broad, wave heightening Is one of the early signs of hypertensive heart disease

d. IUP

Identifies the causes of hypertension such as: Kidney stones, repair

e. Photo thorax:

Indicates the destruction of calcification in the valve area, cardiac renal enlargement

Supporting investigation by Ardiansyah (2012):

- a. Hemoglobin / hematocrit, not a diagnostic test but examine the relationship of cells to fluid volume (viscosity) and indicate risk factors, such as coagubility and anemia.
- b. BUN / creatinine, providing information about information about perfusion / kidney function.
- c. Glucose; Hyperglycemia (diabetes mellitus is the originator of hypertension) can be caused by elevated levels of catecholamines (increase hypertension).
- d. Serum calcium, elevated levels of calcium can increase hypertension.
- e. Cholesterol and serum trigeliseride; Elevated levels may indicate the formation of atheromatous plaques (cardiovascular effects).
- f. Thyroid examination; Hyperthyroidism can cause vasoconstriction and hypertension.

- g. VMA urine (catecholamine metabolite); An increase may indicate the presence of a phaeochromotisoma (cause). 24-hour urine VMA may be performed for feokromotisoma assessment when hypertension is lost.
- h. Uric acid ; Hyperuricemia has been implicated as a risk factor for hypertension.
- i. Chest photo; Can show classification obstruction in the valve area, deposit on and / or aortic notch, and heart enlargement.
- j. ECG; Can show heart enlargement, strain patterns, and conduction disturbances. Catatn: widespread and elevation p wave is one of the early signs of hypertensive heart disease.

While investigation, assessment and diagnostic methods by Brunner & Suddarth (2013):

- a. History and physical examination, including retinal examination; Laboratory tests to detect organ damage, including urinalysis, blood chemistry (sodium, potassium, creatinine, fasting glucose, total lipoproteins and low lipoproteins); EKG and echocardiography to assess left ventricular hypertrophy.
- b. Additional tests, such as creatinine clearance, renin levels, urine examination, and 24-hour urine protein, may be performed.

Investigations by Aspiani (2014) are:

- a. Laboratorium
 - 1. Albuminuria in hypertension due to renal parenchymal abnormalities.
 - 2. Serum creatinine BUN increases in hypertension due to renal parenchyma and acute renal failure.
 - 3. Complete peripheral blood.
 - 4. Blood chemistry (potassium, sodium, creatinine, fasting blood sugar).

- b. EKG
 - 1. Left ventricular hypertrophy.
 - 2. Ischemia or myocardial infarction.
 - 3. Wave elevation P.
 - 4. Conduction disturbance.
- c. Rontgen Photos
 - 1. Shape and large heart Nothing of the ribs in the coarctation of the aorta.
 - 2. Damming, the width of the lungs.
 - 3. Renal parenchymal hypertrophy.
 - 4. Renal vascular hypertrophy.
- 2.4.9 Management
 - a. Nonpharmacological management

Nonpharmacological management with lifestyle modification is very important in preventing high blood pressure and is an inseparable part in treating high blood pressure (Ridwanamiruddin, 2007). Management of nonpharmacology hypertension consists of various ways of modification gya life to lower blood pressure are:

- Maintain ideal body weight according to body mass index (BMI) with range 18.5-24,5 kg / m2 (Kaplan, 2006). BMI can be known by dividing your weight by your height that has been squared in meters. Overcome obesity (overweight) can also be done with melkuakn low cholesterol diet rich with protein and protein. And if successful weight loss 2.5-5 kg mka diastolic blood pressure can be decreased as much as 5 mmHg (Radmarssy, 2007).
- Reduce sodium intake (sodium) can be done by a low-salt diet of no more than 100 mmol / day (approximately 6 gr of NaCL or 2.4 grams of salt / day) (kaplan, 2006). Another

amount by reducing salt intake to less than 2300 mg (1 teaspoon) daily. Reduction of salt intake to 1/2 scoop / day, can decrease systolic pressure as much as 5 mmHg and diastolic pressure about 2.5 mmHg (Radmarssy, 2007).

- 3. Limiting consumption of alcohol, Radmarssy (2007) said that alcohol consumption should be limited because excessive alcohol consumption can increase blood pressure. Heavy drinkers have a risk of hypertension four times greater than those who do not drink alcoholic beverages.
- 4. Maintain potassium diet intake (> 90 mm0l (3500 mg) / day) by taking a high-fat diet and low-fat diet with reduced intake of saturated fat and total fat (Kaplan, 2006). Potassium can lower blood pressure by increasing the amount of sodium that is wasted with urine. With at least eating fruits sebnyak 3-5 times a day, a person can reach a sufficient potassium intake (Radmarssy, 2007).
- 5. Smoking does not directly correlate with the onset of hypertension, but cigarettes may increase the risk of complications in hypertensive patients such as heart disease and stroke, it is necessary to avoid tobacco consumption because it can aggravate hypertension (Dalimartha, 2008).
- 6. Stress does not cause persistent hypertension but if frequent stress episodes can lead to a very high temporary increase (Sheps, 2005). Avoid stress by creating a pleasant atmosphere for people with hypertension and introducing various relaxation methods such as yoga or meditation that can control the nervous system that can eventually lower blood pressure.

- 7. According to Dalimartha (2008), in principle, massage performed on hypertensive patients is to facilitate the flow of energy in the body so that hypertension disorders and complications can be minimized, the armpit of all open energy pathways and energy flow is no longer impeded by muscle tension and other obstacles hence the risk of hypertension Pressed.
- b. Pharmacological treatment
 - 1. Diuretics (hydrochlorothiazide), discharges body fluids so that the volume of body fluids is reduced which causes the pumping power of the heart becomes lighter.
 - 2. A sympathetic inhibitor (methyldopa, clonidine, and reserpine), inhibits sympathetic nerve activity.
 - 3. Betabloker (metoprolol, propanol, and atenolol). , Lower the pumping power of the heart. But it is not recommended for sufferers who have been known to develop respiratory disorders such as bronchial asthma. And in people with diabetes mellitus can mask the symptoms of hypoglycemia.
 - 4. Vasodilator (prasosin, hidralasin) works directly on the blood vessels by relaxing the smooth muscle of the blood vessels.
 - ACE inhibitor (captopril); Inhibits the formation of angiotensin II, but has side effects of dry cough, dizziness, headaches, and weakness.
 - 6. Angiotensin II receptor blockers (valsartan); Avoiding attachment of angiotensin II substance to the receptor so as to enhance the pumping power of the heart.
 - Calcium antagonists (diltiasem and verapamil); Inhibits heart contraction (contractility).(Wijaya & Putri, 2013).

According to Brunner & Suddarth, 2013, the goal of any therapy program is to prevent death and complications by achieving and maintaining arterial blood pressure at or less than 140-90 mmHg (130/80 mmHg for people with diabetes mellitus or people with chronic kidney disease), Whenever possible.

- a. Nonpharmacological approaches include weight loss; Limitation of alcohol and sodium; Sports teraur and relaxation. Dietery Approaches to Stop Hypertension diet high in fruits, vegetables, and low-fat dairy products has been shown to lower high blood pressure.
- b. Select the drug class that has the greatest effectiveness, the smallest side effects, and the greatest chance of being accepted by the patient. Two classes of drugs are available as a first-line therapy: deuretic and beta disease.
- c. Increase adherence by treating complex drugs.

Medical management by (Taufan, 2011):

- a. Diagnostic criteria
 - 1. Blood pressure above normal.
 - 2. Some small complain: headache, pounding, etc.
 - 3. Symptoms that occur depending on the affected organSymptoms that occur depending on the affected organ.
- b. Supporting investigation
 - 1. Looking for risk factors: serum cholesterol, triglycerides, blood sugar.
 - 2. Look for complications: urea, creatinine, proteinuria, ronsesn piston.

Diagnostic examination by (Muttaqin, 2009) :

Left ventricular hypertrophy can be studied with electrocardiography, the protein in the urine can be detected with urinalysis. There can be an inability to concentrate urine and increase blood urea nitrogen. Special examinations such as renogram, intravenous pyelogram, renal arteriogram, separate kidney function tests, and urine level determination can be performed to identify clients with renovascular disease. The presence of other risk factors should also be assessed and evaluated.

2.4.10 Complication

According to Wijaya and Putri (2013), High blood pressure if not treated and overcome, then in the long run will cause damage to the arteries in the body until the organ received blood supply from the artery. Complications of hypertension can occur in the following organs:

a. Heart

High blood pressure can lead to heart failure and coronary heart disease. In hypertensive patients, the workload of the heart will increase, the heart muscle will loosen and decrease its elatisitas, called decompensation. Consequently, the heart is no longer able to pump so much fluid retained diparu and other body tissues that can cause shortness of breath or oedem. This condition is called heart failure.

b. Brain

Complications of hypertension in the brain, causing a risk of stroke, if untreated the risk of stroke 7 times greater.

c. Kidney

High blood pressure also causes kidney damage, high blood pressure can cause damage to the filtering system in the kidney consequently gradually the cubicle is unable to dispose of substances that do not need the body entering through the bloodstream and there is accumulation in the body.

d. Eye

In the eyes of hypertension can lead to the occurrence of hypertensive retinopathy and can cause blindness. (Yahya, 2005).

Complications that may occur according to (Aspiani, 2014) are:

- a. Stroke can occur due to hemorrhage due to high blood pressure in the brain, or due to an embolus that is released from the vessels other than the brain exposed to high pressure. Stroke can occur in chronic hypertension when the artery that brings the brain into hypertrophy and thickening, so that blood flow to the brain diperdarahi reduced. Arteries of the brain that have atherosclerosis can weaken thus increasing the likelihood of aneurysm formation.
- b. Myocardial infarction may occur when an arterosclerotic coronary artery can not supply enough oxygen to the myocardium or when it forms a thrombus that blocks blood flow through the blood vessels. In chronic hypertension and vantricular hypertrophy, myocardial oxygen demand can not be met and cardiac ischemia may result in infarction. Likewise, ventricular hypertrophy can lead to changes in electrical conduction through the ventricles resulting in dysrhythmias, cardiac hypoxia, and increased risk of clot formation.
- c. Renal failure can occur due to progressive droplets due to high pressure on renal glomerular capillaries. With the breakdown of glomerular blood flow to the nephron will be disrupted and may progress to hypoxic and death. With the breakdown of the glomerular membrane, the protein will pass through the urine so that the plasma colloid osmotic pressure is reduced and cause edema, which is common in chronic hypertension.
- d. Encephalopathy (brain damage) can occur, especially in malignant hypertension (hypertension that increases rapidly and is dangerous). The very high pressure on this disorder causes an increase in capillary pressure and pushes fluid into interstitial space throughout the central nervous system. Surrounding neurons collapse and coma and death occur.

e. Seizures can occur in women with preeclampsia. The infant may have a small birth weight due to inadequate placental perfusion, then may have hypoxia and acidosis if the mother has a seizure during or before labor.

And complications according to (Ardiansyah, 2012):

- a. Stroke can arise from bleeding due to high pressure in the brain or due to an embolus released from the non-vessel vessels. Stroke can occur in chronic hypertension when the arteries that infuse the brain experience hypertrophy and thickening, so that blood flow to areas diperdarahinya become reduced. Cerebral arteries with atherosclerosis may weaken, increasing the likelihood of aneurysm formation.
- b. Myocardial infarction may also occur if the coronary arteries undergoing arterosclerosis are unable to supply sufficient oxygen to the myocardium or when thrombus is formed which may inhibit blood flow through the vessel. Because of chronic hypertension and ventricular hypertrophy, the need for myocardial oxygen can not be met and cardiac ischemia may result in infarction. Likewise, ventricular hypertrophy can lead to changes in electrical delivery time while crossing the ventrkel, resulting in dysrhythmia, cardiac hypoxia, and increased risk of blood clot formation.
- c. Renal failure can occur because of progressive damage due to high pressure in the glomerular capillaries. With the breakdown of the glomerulus, the blood will flow into the functional units of the kidney, the neurons will be disrupted and may progress to hypoxic and death. With the breakdown of the glomerular membrane, the protein will flue through the urine, resulting in reduced plasma osmotic coliid pressure. This leads to frequent edema in chronic hypertension.

d. Encephalopathy (brain damage) can occur primarily in hypertension maliga (rapidly increasing hypertension). The extremely high pressure due to this disorder causes an increase in capillary pressure and inducing ciran into the intertisium space throughout the central nervous system. Consequently, neurons around it become collapsed and there is coma and death. Women with PIH may experience seizures. Infants born may have low birth weight due to inadequate placental perfusion. Infants may also have hypoxia and acidosis if the mother has a seizure during or before labor.

2.5 Basic Concept of Nursing Care Plan

2.5.1 Assessment

2.5.1.1

2.5.1.2

On examination of the patient's medical history, there is usually a history of increased blood pressure, the presence of family rowayat with the same disease, and history of taking antihypertensive drugs. (Ardiansyah, 2012).

Acti	vity / rest					
a.	Symptoms	:	Weakness,	fatigu	ie, shortne	ss of
			breath, mor	notonou	s lifestyle.	
b.	Sign	:	Increased	heart	frequency,	heart
			rhyththm c	hanges,	and tachypno	bea.

Ciı	culation		
a.	Symptoms	:	History of hypertension,
			atherosclerosis, coronary heart disease
			and cerebrovascular disease. Also
			encountered episodes of palpitation
			and perspiration.

- b. Sign : An increase in blood pressure (a measurement of seril from a rise in blood pressure) is needed to make the diagnosis. Postural hypotension may be related to drug regimens.
- c. Pulse : The obvious throbbing of the carotid, jugular, radial, the difference in pulse as the femural pulse slows down as radialis / brakhialis pulsation compensation; The posterior tibial popliteal pulse, not palpable or weak.
- d. Apical : PMI is likely to shift or very strong. pulse
- e. Frequency : Tachycardia, various dysrhythmias /rhythm
- f. Heart : Sounds S2 at baseline, S3 (early CHF), sound and S4 (left ventricular shift ventricular hypertrophy).
- g. Valvular stenosis murmur
- h. Vascular rustling sounds above the carotid, vemoralis, or epigastrium (arterial stenosis)
- i. DVJ (jugular venous distention and venous congestion)
- j. Extremitas : Discoloration of cold temperature skin (vasokontriksi periver); Capillary refill may be slow / delayed (vasoconstriction).

Pale skin, sinosis, and daiphoresis (congestion, hypoxemia). Can also be reddish skin (phaeochromocytoma).

2.5.1.3 Ego's integrity

a. Sympto	oms : History to personality, anxiety, depression,
	euphoria, or marakronik (may indicate
	cerebral damage). There are also multiple
	factors such as relationships, finances, or
	work-related matters.
b. Sign	: Mood explosion, anxiety, continuous

. Sign	. Wood explosion, anxiety, continuous
	constriction, exploding cries, hand-gestures
	of empathy, tense facial muscles
	(especially around the eyes), rapid physical
	movement, respiratory breathing, and
	improved speech patterns.

2.5.1.4 Elimination a. Symptoms : The presence of current or past kidney disorders, such as infection / obstruction or a history of past renal disease.

2.5.1.5 Eat / fluid

- a. Symptoms
 - Preferable foods can include foods high in salt, high fat, high cholesterol (such as fried foods, cheese, eggs), black sugar and high calorie content.
 - 2. Nausea and vomiting
 - 3. Changes in weight (increased or decreased).
 - 4. History of drug diuretic use.

- b. Sign
 - 1. Normal weight, can also be obese.
 - The presence of edema (may be common or certain edema); Venous congestion, DVJ, and glycosuria (nearly 10% pasein hypertension is diabetic sufferers).

2.5.1.6 Neurosensory

- a. Symptoms : Dizziness, dizziness, suboxipital headaches (occurring on waking and disappearing spontaneously after several hours).
- 2.5.1.7 Hypertension
 - a. Symptoms :
 - Episodes of numbness or weakness on one side of the body.
 - 2. Impaired vision (diplopia, blurred vision).
 - 3. Epistaxis episode
 - b. Sign:
 - 1. Mental Status : Altertion of workmanship, orientation , pla or talk content, affection, thought process, or memory.
 - 2. Motor response : Decreased grasping hands or deep tendon reflexes. Optical retinal changes (from mild to severe arterial narrowing and sclerotic changes with edema or pupil edema, exudate, and hemorrhagic depending on the length or duration of hypertension.

2.5.1.9 Pain / Uncomportable

- a. Angina (coronary artery disease / cardiac involvement).
- b. Loss of pain in the limbs or claudication (atherosclerotic indication of the lower extremity artery).
- c. Severe occipital headache, as never before.
- d. Abdominal pain / period (phaeochromocytoma).

2.5.1.10 Breathing

In general, this disorder is associated with cardiopulmonary effects, advanced stage of hypertension.

- a. Symptoms :
 - 1. Dyspnea associated with activity or work.
 - 2. Tachypnea, orthopnea, paroxysmal nocturnal dyspnea.
 - 3. Cough with or without sputum formation.
 - 4. Smoking history

:

- b. Sign
 - 1. Respiratory distress / use of respiratory accessory muscle.
 - 2. Additional breath sounds (krakles / wheezing)
 - 3. Cyanosis

2.5.1.11 Security

- a. Impaired coordination / walk.
- b. Episode of unilateral transient parestresia
- c. Postural hypotension

2.5.1.12 Nursing Diagnosis

Possible nursing diagnoses with hypertensive patients according to Ardiansyah (2012) are:

a. There is a high risk of decreased cardiac output associated with increased cardiac load, vasoconstriction,

myocardial ischemia, and ventricular hypertrophy / rigidity (stiffness).

- Activity intolerance associated with general weakness, such as an imbalance between supply and oxygen demand.
- c. Headache (acute pain) associated with increased cerebral vascular pressure.
- d. Changes in nutrients more than the body's needs associated with excessive food intake, due to metabolic needs, lifestyle that monton, and cultural beliefs.
- e. Lack of knowledge about management of hypertension.

2.5.1.13 Nursing Intervention

- a. There is a high risk of decreased cardiac output associated with increased cardiac load, vasoconstriction, myocardial ischemia, and ventricular hypertrophy / rigidity (stiffness).
 - 1. Data

Can not be applied, because of the signs and symptoms that establish the actual dignosis.

2. Purpose :

The workload of the heart (after load) does not increase, there is no vasoconstriction, no myocardial ischemia and no ventricular hypertrophy / rigidity (stiffness) occurs.

- 3. Criteria Result :
 - Patients participate in activities that can lower blood pressure.
 - b) Maintaining blood pressure within an acceptable individual vulnerable.
 - c) Rhythm and heart rate within normal limits.

Table 2.6 Nursing Intervention Diagnose 1

Intervention	Rasional
Independent	
Monitor blood pressure,	1. Pressure comparisons will provide a
measure on both hands or	more complete picture of the
thighs for a preliminary	involvement of the vascular or problem
evaluation. Use the right	areas. Hypertension is classified in
mansed sizes and accurate	adults as an increase in diastolic
techniques.	pressure up to 130 mmHg.
	2. Diastolic measurements above 130
	mmHg. Considered as an increase in
	the prior to the <i>malignant</i> .
	3. Systolic hypertension is also a
	prescribed risk factor for
	cerebrovascular disease and ischemic
	heart disease when diastolic pressure is
	90-115.
Note the presence, quality of	Carotid, jugular, radial and femural throbbing
central pulsation, and	may be observed. The pulse rate may decrease,
peripheral.	(increased SVP) and venous congestion
Augustation (listaning to the	(increased $S \vee K$) and venous congestion.
sounds of the patient's body)	1. 54 is common in patients with severe hypertension due to atrial hypertrophy
on the tone of the heart and	(increased atrial volume /atrium
the sound of breath	pressure)
the sound of breath.	2 S3 development indicates ventricular
	hypertrophy and malfunction. The
	presence of <i>crackles</i> and <i>wheezing</i> may
	indicate pulmonary congestion
	secondary to the occurrence of chronic
	heart failure.
Observe skin color,	The presence of pale, cold, moist skin and slow
moisture, temperature, and	kpiler filling period, may be related to
capillary fill time.	vasoconstriction or reflect decompensation or
	decrease in cardiac output.
Note general / specific	Can indicate heart failure, kidney / vascular
Provide a quiet comfortable	Ualliage.
anyironmont and reduce	improves relevation
environmental activity / fray	improves relaxation.
L imit the number of visitors	
and length of stav	
Maintain activity	Reduce stress and tension that affect blood
restrictions. such as bed /	pressure and hypertensive travel.
chair rest. create an	r
uninterrupted rest period	
schedule, help the patient	
perform self-care activities	
as needed.	
Perform comfortable	Reduce discomfort and can decrease
actions, such as a back and	sympathetic stimulation.

neck massage or elevating	
Suggestrelaxationtechniques,imaginationguides and vision activities.Monitorthe response tomedications to control blood	Can reduce the stimuli that cause stress and create a calm effect, so it will lower blood pressure. The gradual response of drug therapy (consisting of deuretic, inhibitor, sympathetic,
pressure.	the synergistic effects of the drug. Because of these side effects it is important to use the drug in the least amount and the lowest dose.
Colllaboration	
Giving medications as indivate	ed.
Diuretitiazid, eg chloritiazid (diuryl) hydrochlorothiazide (esidrx / hydrodiuril).	To lower blood pressure in patients with relatively normal kidney function. This type of diuretic drug strengthens other antihypertensive agents by limiting fluid retention.
Duiuretic loops, eg furosemide (lasix); Etacrinic acid (edecrin), bumetanid (burmex).	It produces strong diuresis by inhibiting sodium reabsorption and sretic chloride is another antihypertensive by limiting fluid retention.
Potassium-sparing diuretics such as sprinolactone (Aldectone), triamterence (dyrenium), amiloride (midamor).	Can be administered in combination with thiazide diuretics to minimize potassium loss.
Sympathetic inhibitors such as propanolol (inderal), metoprolol (lopressor), atenolol (tenormin), nadolol (corgard), mitildopa (aldomed), reserpine (serpasil), and clonidine (catapres).	The specific work of these drugs varies, but is commonly used to lower blood pressure by decreasing the combined effect of decreasing total peripheral resistance, decreasing cardiac output, inhibiting sympathetic activity, and suppressing renin release.
Vasodilators for example, minoxidine (loniten), hydralazine (apresoline) calcium channel blocking drugs, eg nifedipine (procardia) and verapamil (calan).	This type of drug may be necessary to treat severe hypertension, when a combination of diuretic and sympathetic inhibitor drugs fails to control blood pressure. Healthy heart vascular vsodilation and increase coronary blood flow to secondary advantage of vasodilator therapy.

(Resource; Ardiansyah, 2012)

- b. Activity intolerance associated with general weakness, such as an imbalance between supply and oxygen demand.
 - 1. Data :
 - a) Subjective data :

Verbal reports about fatigue and weakness.

- b) Objective data
 - Heart frequency or blood pressure response to abnormal activity.

:

- 2) Discomfort while moving or dyspnea.
- ECG changes reflect ischaemia or dysrhythmias.
- 2. Purpose : Able to move without significant complaint.
- 3. Criteria Result :
 - a) Reported an increase in measurable activity tolerances.
 - b) Shows a decrease in signs of physiological intolerance.

 Table 2.7 Nursing Intervention Diagnose 2

Intervention	Rational	
Independent		
Review the patient's response to the activity, note the pulse frequency more than 20 times / min above the resting frequency, a marked increase in blood pressure during / after activity (systolic pressure increased 40 mmHg or diastolic pressure increased 20 mmHg) dyspnea or chest pain, fatigue and weakness Excessive daphoresis, dizziness or fainting.	Mentioning parameters helps in assessing physiological responses to activity and when there is an indicator of overloaded work with activity levels.	
Review the readiness to increase activity, for example decreased weakness / fatigue, stable blood pressure / pulse rate, increased attention to activity and self- care.	Physiological stability at rest is important to advance the level of individual activity.	
Plan treatment with periods of rest / sleep without interruption.	Provides balance in need, where activity rests on the heart, improves healing process and emotional coping abilities.	
Instruct the patient to practice energy saving techniques, such as using a chair while bathing, and doing activities slowly.	Energy saving techniques or reduced energy use help balance the supply and oxygen demand.	
Give encouragement to the patient to do the activity or self care gradually, if it can be tolerated, provide assistance to the	The progress of activity gradually prevents the sudden increase of heart work. Medical personnel provide	

patient as needed.	assistance to the extent necessary to
-	encourage independence in activities.

(Resource; Ardiansyah, 2012)

- c. Headache (acute pain) associated with increased cerebral vascular pressure.
 - 1. Data
 - a) Subjective data :

:

Patients reported on the presence of intermittent pain located in the suboxipital region. This pain appears on waking and will disappear spontaneously after the patient stands for some time.

:

b) Objective data

The patient is reluctant to move his head, scratching his head, avoiding bright lights and keributam, frowning and grasping hands. Patients also reported neck stiffness, dizziness, blurred vision, nausea and vomiting.

- 2. Purpose : Cerebral vascular pressure does not increase.
- 3. Criteria result :
 - a) Reduce pain and reduce the pressure of blood vessels of the brain.
 - b) Reveals methods that provide subtraction.
 - c) Following a prescribed pharmacological regimen.

Table 2.8 Nursing Intervention Diagnose 3

Intervention	Rational	
Independent		
Maintain bed rest during the acute	Minimizing stimulation or enhancing	
phase.	relaxation.	
Give nonpharmacological actions to relieve headaches, eg cold compresses on the forehead, back and neck massage, dim the room lights, relaxation techniques (imagination guide, distraction) and activity in leisure.	Action that lowers cerebral vascular pressure and which slows or blocks the effectiveness of sympathetic responses in relieving headaches and complications.	
Eliminate or minimize	Activity that increases vasoconstriction	
vasoconstriction activity that may	causes headaches due to an increase in	
during bowel movements long	cerebrai vascular pressure.	
coughing and straining).		
Assist ambulatory patients as	Dizziness and blurred vision are often	
needed.	associated with headaches. The patient	
	may also experience episodes of	
	postural hypotension.	
Administer soft food fluids, regular	Improve general comfort. Nasal	
occurs, nose compresses to stop	swallowing activity or require breath	
bleeding.	by mouth. This can lead to stagnation	
	of oral secretions and dry the mucous	
	membranes.	
Collaboratiaon : giving medication as indicated		
1. Analgesic	1. Lowering or controlling pain	
	and decreasing excitatory	
2 Antiansietas such as	2 Can reduce tension and	
lorazepam (atiyan) and	discomfort exacerbated by	
diazepam (valium).	stress.	

(Resource; Ardiansyah, 2012).

d. Changes in nutrients more than the body's needs associated with excessive food intake, due to metabolic needs, lifestyle that monton, and cultural beliefs.

- 1. Data
 - a) Subjective data :Verbal reports about the patient's diet.

:

:

- b) Objective data
 - 1) 10-20% weight more than ideal for height and body shape.
 - The triceps skin fold is larger than 15 mm in males and 25 mm in women (maximum for age and sex).
- 2. Purpose : Nutrition input is not excessive and the pattern of life is not monotonous.
- 3. Criteria result :
 - a) Identify the relationship between hypertension and obesity.
 - b) Shows changes in diet, such as select foods, quantities and so forth.
 - c) Maintain the desired weight with optimal health care.
 - d) Perform or maintain the right sports program individually'

Table 2.9 Nursing Intervention Diagnose 4

Intervention	Rational
Independent	
Review the patient's understanding of the direct link between hypertension and obesity.	Obesity is an added risk of high blood pressure, because disproportion between aortic capacity and increased cardiac output is associated with increased body mass.
Talk about the importance of lowering	Errors in dietary habits support the
calorie intake to patients. Limit the input of	occurrence of atherosclerosis and
fat, salt, and sugar as indicated.	obesity, which is a predisposition for
	hypertension and its complications,
	such as stroke, kidney disease, and

Consolidate the patient's desire to lose weight. Review daily calorie intake and dietary	heart failure. Salinity intake can increase the volume of intravascular fluid, thus damaging the kidneys. This damage in turn will also aggravate hypertension. The motivation to lose weight is internal. Individuals should be willing themselves to lose weight. If not, then the program simply does not work. Identify strengths or weaknesses in
options.	the last diet program. It helps in determining the individual's need for adaptation.
Set a realistic weight loss plan with the patient, for example a weight loss of 0.5 kg / week.	A decrease in caloric intake of 500 calories per day in theory can lose weight 0.5 kg / week.
Instruct and help patients to choose the right foods, avoid foods with high saturated fats (butter, cheese, eggs, ice cream, meat) and cholesterol (fatty meats, egg yolks, canned products and offal).	Avoiding foods high in saturated fat and cholesterol, is very important in preventing the development of atherogenesis.
Collaboratiaon	Provide counceling and assistance by
Kerer to a nutritionist as indicated.	meeting individual dietary needs.

(Resource ; Ardiansyah, 2012).