

## KNOWLEDGE LEVEL RELATIONSHIP DISEASE IN GOUT PATIENTS ARTHRITIS IN THE PITU VILLAGE, THE WORK AREA PUBLIC HEALTH CENTER PITU, DISTRICT CENTRAL TOBELO, NORTH HALMAHERA

Susan Lataia<sup>1\*</sup>, Sarah Mapanawang<sup>1,2</sup>, Frangky Mapanawang<sup>1,2</sup>,  
Sifra Wahani<sup>1,2</sup>, Rasmin Hi. Abd. Mutalib<sup>1,2</sup>

<sup>1</sup>Nurse Program of STIKMAH Tobelo, North Halmahera, North Moluccas, Indonesia.

<sup>2</sup>Medika Mandiri Foundation Halmahera, North Halmahera, North Moluccas, Indonesia.

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#### \*Correspondence to Author:

Susan Lataia

Nurse Program of STIKMAH  
Tobelo, North Halmahera, North  
Moluccas, Indonesia.

#### E-mail:

susanlataia23@gmail.com

### ABSTRACT

Gout is one of degenerative diseases that occur due to elevated levels of uric acid in the blood limit of uric acid saturation in Serum in males is 7.0 Mg/Dl and in females, 5.7 Mg/Dl hyperuricemia occurs when a Have uric acid levels exceeding the saturation limit of the uric acid levels

Types of research using quantitative methods, with a Cross-Sectional approach (cut latitude) This goal with a view to knowing whether there is a relationship between levels of knowledge (independent variables) with the disease in patients with Arthritis Gout (Dependent variables) that are in observation of variable measurements once with at once at the same time or time Approach points. Samples are partially taken from the entire object being examined and considered to have an entire population. Samples in this study were patients with Gout Arthritis 65 people.

Analysis Results of statistical test (SPSS) by using the Chi-Square test It is known that the value ( $P = 0.00 < \text{Sig } 0.5$ ) can then be concluded that the level of knowledge of disease in patients is treated. Based on research has shown that there is a relationship between the level of disease knowledge in patients with Gout Arthritis. Recommended in patients with uric acid in order to avoid foods and living patterns that are not good so avoid Gout Arthritis disease.

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## INTRODUCTION

Gout or gouty arthritis is one category of non-communicable chronic diseases (PTM), characterized by the presence of hyperuricemia or elevated levels of uric acid in the blood. Hyperuricemia occurs when serum uric acid levels > 5.7 mg/dl in women and 7.0 mg/dl in men. Asam vein which is the end product of purine metabolism when it reaches physiological limits of solubility can be transformed into monosodium urate crystals in the tissues and cause disease gout.<sup>1</sup>

The predecessor of research ever undertaken by, Anisha MG Songgigilan, At the Center for Public Health Renotana questionnaire. Result data collection using a research test by using chi-square test at the significance level of 95%, found that significant value 0.000 < 0.05 for diet and 0.001 < 0.05. Conclusion there is a relationship between a diet with high levels of uric acid in the blood and there is a relationship between the level of knowledge den gan uric acid levels in darah<sup>2</sup>.

*gouty arthritis* is a rheumatic disease that ranks third after arthrosis and rheumatoid arthritis, the World Health Organization (WHO) estimates that about 335 million people worldwide suffer from rheumatic diseases. This number corresponds with the increase in aged humans lanjut.<sup>3</sup>

The prevalence of gout in the world, according to WHO (World Health Organization) has increased the number of 1370 (33.3%). The prevalence of gout also increased among adults in the UK by 3.2% and the US at 3.9% in Korea prevalence of gout has increased from 3.49% per 1000 people on being 7.58% per 1000 orang.<sup>4</sup>

Indonesia is the 4th largest country in the world population suffer from gout and natural resource-based Bulletin, in Indonesia 35% of gout in men under 34 years of normal levels of uric acid in men ranged from 3.5 to 7 mg / dL and in women from 2.6 to 6 mg / dL. tingkat abnormal uric acid called hyperuricemia.<sup>5</sup>

According to Riskerdas 2018, the prevalence of joint disease diagnosis by health workers in Indonesia 11.9% while based on symptoms of 24.7%. When viewed from characteristics of age, the highest prevalence in the age ≥ 75 years (54.8%). Patients are also more women (27.5%) compared to men (21.8%).<sup>6</sup>

Based on preliminary data obtained from Public Health Center Pitu, North Halmahera data Gout Arthritis Disease, Men 24 and Women 41 People Number 65, in the year 2019.<sup>7</sup>

Based on the description Above and theories that exist, and given the treatment of Gout Arthritis is important so the researchers are interested in Knowing "Knowledge Level Relationships Gout Arthritis Patients In Disease In Rural Pitu, North Halmahera".

### Formulation of the problem

Based on the description of the above background, the problems can be formulated by the authors is "Is there a relationship Sciences degree to patients on disease Gout Arthritis In Rural Pitu, North Halmahera? "

### Research purposes

#### General-purpose

Knowing the relationship to the level of knowledge of patients with diabetes Gout Arthritis In Rural Pitu, North Halmahera district?

#### Special purpose

To see the extent to which the level of knowledge of patients on gout arthritis Di (Rural Pitu) North Halmahera?

#### Benefits of Research

The results of this study are expected to provide the following benefits:

#### For the Community

Provide information to the public, especially in patients with Gout Arthritis sufferers, on the relationship level of knowledge of the disease in patients with gouty arthritis. The information is expected to help people who suffer from gout Arthritis so they can maintain uric acid levels remain within normal limits.

#### For Professionals

It is expected to be input for the profession of nursing and other health professionals in an effort to improve health services in order to provide the best services for people in need.

#### For Institutions

Can be used as a method to evaluate the extent to which students apply the theories that have been acquired during the lectures and students can further develop research or can be used as a reference for the study.

#### For researchers

This study is very useful for researchers because a lot of gained knowledge and the horizon becomes wider researchers in addition to knowing unification between education, nursing theory, and the theory of pharmaceutical practice found while in the field.

### Literature review

#### Gout Arthritis

##### Definition of gout arthritis

Gout is one of the degenerative diseases that occur due to elevated levels of uric acid in the blood. Saturation limit of serum uric acid in men was 7.0 mg/dl

and in women 5.7 mg/dl. Hyperuricemia occurs when a person has uric acid levels exceed the saturation limit of uric acid levels tersebut.<sup>8</sup>

Consumption of foods containing purine substances is one of the factors that influence the incidence of arthritis gout.<sup>10</sup>

*Gout Arthritis* is defined as one form of a metabolic disorder called hyperuricemia, where at any given moment to be high levels of uric acid, in this case, their blood. In the monosodium urate in the formation of leukocytes, often found in synovial fluid of joints, monosodium urate in the network (tophus), disease in renal interstitial, and nephrolithiasis due uric acid.<sup>11</sup>

### **Etiology Gout Arthritis**

The etiology of gouty arthritis include age, gender, medication history, obesity, consumption of purine and Alcohol. Men have serum uric acid levels are higher than in women, which increases their risk of developing gout arthritis. The development of gout arthritis before the age of 30 years is more common in men than in women. However, the incidence of gouty arthritis becomes equal between the sexes after age 60 years. The prevalence of gout arthritis in men increases with age and peaks between the ages of 75 and 84 years. Age-added is an important risk factor in men and women. This is probably due to many factors, such as elevated levels of serum uric acid (the most common cause is due to a decline in kidney function), increased use of diuretics,

### **Signs and symptoms**

Signs and symptoms are:

- a. inflammation of the joints that is depressed
- b. feel pain
- c. redness in the area that have occurred gout
- d. stiffness
- e. swelling of the joints tertekan.<sup>13</sup>

### **Treatment of gout arthritis**

Treatment of gout is usually done in medical (using drugs). Medical gout include:

- a. Nonsteroidal anti-inflammatory drug (NSAID). NSAIDs can control inflammation and pain in patients with gout effectively. Side effects that often occur because NSAIDs are gastrointestinal tract irritation, ulceration of the stomach and intestines, and even intestinal bleeding.
- b. Colchicine. Colchicine effectively used in acute gout, pain relief within 48 hours in most patients.<sup>10</sup> Colchicine controls gout effectively and prevent phagocytosis of urate crystals by neutrophils, but

often carry side effects, such as nausea and diarrhea.

- c. Corticosteroid. Corticosteroid usually in the form of pills or injections can also be directly injected into the joints of patients. The side effects of steroids among others Thinning of bones, hard to heal wounds and also a decrease in the body's defense against infection.
- d. Allopurinol. Allopurinol is drug of choice for people with excess uric acid, tophus formation, nephrolithiasis, or contraindication to therapy. In uricosuric the drug of choice in cases of renal insufficiency, but their toxicity is most common when the glomerular filtration rate reduced.<sup>14</sup>

### **Complications of gout arthritis**

Antihypertensive use because some gout patients had complications:

- a. Hypertension

From various studies were done, many health experts who concluded their world the relationship between uric acid and hypertension. However, this conclusion seems not yet final because there are Pros and cons. In the study using mice given the inhibitor urikase, systemic hypertension in rats with hyperuricemia occurred after a few weeks. Hypertension occurs because uric acid causes renal vasoconstriction through reduction of nitric oxidase enzyme in the capillary endothelium, resulting in activation of the renin-angiotensin system. Consistent with this research, increased uric acid in humans is also associated with endothelial dysfunction and renin activity.

- b. And renal impairment.

Complications of uric acid is the most common disorder of the kidneys. It occurs in patients with acute gout late. Broadly, disorders of the kidneys caused by uric acid include two things, namely the occurrence of kidney stones (uric acid stones) and the risk of kidney damage (renal failure). Uric acid stones occur in people who have gout is higher than 13 mg/dl.<sup>15</sup>

### **Management gouty arthritis**

Management in gout patients can educate diet, rest and treatment joints (collaborative). Treatment is done early in order to avoid damage pp joints or other complications, treatment of gout. Air-purpose complaint eliminate joint pain and Inflammation with medications. Indicates a moderate pain scale.

### **Factors affecting the level of Gout Arthritis.**

Factors that affect blood levels of gouty arthritis is heredity, gender, consumption of purine-rich foods, excessive alcohol consumption, obesity, kidney disorders resulting in inhibition of purine

disposal, use of certain medications that can increase levels uric acid.<sup>17</sup>

#### **Risk factors that cause gout disease.**

Risk factors that cause gout disease are: age, excessive intake of purine compounds, excessive alcohol consumption, obesity, lack of physical activity, hypertension and heart disease, certain drugs of drugs (especially diuretics) and malfunctioning Kidney.<sup>18</sup>

#### **Criteria for Food With Purin content.**

Almost all foods consumed by humans contains purines. Based on the levels of purines contained, groceries can be divided into three, namely food with high purine content (class A), foods with purines Content moderate (class B), and groceries with low purine content (Group C). Food was included in the group A has the highest potential to increase the levels of uric acid in the blood, followed by group B and group C.

**Table 1. Grouping based foods purine content (mg / 100g of material)**

Category A: High-purine (150-1000mg / 100 grams)			
Shellfish	Duck meat	mackerel	Kidney
Brain	Fish egg	Alcohol and yeast (tape)	Offal
Heart	Sardine	The food was	Extract
Heart	mussel	preserved/canned	Meat
lung	dried fish		goose meat
			Pigeon
Group B: The content of purine medium (50-150 mg / 100 g)			
Fish, except those included GroupA	Poultry, except those included GroupA	mushroom	Tofu
Beef, except for the parts that included GroupA	Shrimp	Spinach	Tempe
Chicken meat	Asparagus	papaya leaf	Kale
	Cassava leaves	Cauliflower	The leaves and seeds
		pease	melinjo
			Beans and legumes
Group C: Low Purin (0-15 mg / 100 g)			
Rice	Cheese		
Bread	Cereal		
Macaroni	oncom		
Noodles/vermicelli	egg		
crackers	all vegetables, but vegetables that go, GroupB,		
tuber	all fruits except durian and avocado		
Cassava			
Corn			
Milk			

#### **Knowledge concepts understanding Knowledge**

Knowledge is the result of the idea, and this occurs after the person doing the sensing of a particular object, sensing through the human senses, the senses of sight, hearing, smell, touch, and taste.

#### **The level of knowledge in the cognitive domain has six levels:**

##### **1. Know (know)**

Know interpreted as considering a previously learned material. Included in this is the level of

knowledge recall (recall) something specific and all the materials studied or stimuli that have been received. Therefore, knowing the lowest level of knowledge.

##### **2. Understand (comprehension)**

Understanding is defined as an ability to explain properly about the object known and can Interpret the material correctly. People who have understood the object of the material can be explained, Mention the example, infer, predict, and so forth of the object being studied.

### 3. Application (the Application)

Application is defined as the ability to use materials that have been studied in a situation or condition of real (true). Application here can be defined as the application or user laws, methods, principles, and so in the context or the other.

### 4. Analysis (analysis)

The analysis is the ability to describe material or an object into the components, but still within an organizational structure, and still something to do with each other.

### 5. Synthesis (synthesis)

Synthesis refers to an ability to lay or connect the parts in a whole new form. In other words, the synthesis is a form of ability compose new formulation of new formulations

### 6. Evaluation (evaluation)

Evaluation relates to the ability to perform Justification or assessment of a material or object. These assessments are based on self-determined criteria or using criteria that have been there.

Measurement of knowledge can be done using or poll interview asked about the content of the material you want to measure Inhibit of research subjects or respondents. The depth of knowledge we want to know or we measure can be adjusted to levels above.

## Factors Influencing Knowledge

There are several factors that affect a person's knowledge, namely:

#### a. Internal factors include:<sup>19</sup>

Age The age of maturity and strength will be a more mature person to think and work in terms of public confidence that more adults will have more confidence than those who have a high enough maturity. This is as a result of life experiences.

1. Experience is the best teacher (experience is the best teacher), the proverb could mean that the experience is a source of knowledge, or experience is a way to gain a knowledge of truth. Therefore, personal experience can be used as an attempt to gain knowledge. This is done by repeating back the knowledge gained in solving the problems faced in the past
2. The higher the education level of one's education the more knowledge. Conversely the lack of education that will Inhibit development of a person's attitude towards the values of the newly introduced

3. Works need to be done, especially to support life and family life, work is not a source of pleasure, but more a way of making a living the boring repetitive and many challenges.

4. Gender term gender is an inherent nature of men and women which is constructed socially and culturally.

#### b. external factors

1. Information is a vital function to help reduce anxiety. Someone who got the information would increase the level of knowledge of a thing.
2. Environment results of some experiences and observations occurred in the field (the public) that the person's behavior including the occurrence of health behavior, starting with the experiences of a person as well as any external factors (physical and non-physical environment)
3. The higher the level of socio-cultural education and social status, the level of knowledge will be higher as well.

## Research methodology

This type of research uses quantitative methods, with cross-sectional approach (cross-sectional) .with a view to determine whether there is a relationship between the level of knowledge (independent variables) with patients on disease gout arthritis (dependent variable) in the observation or measurement variables at once and simultaneously time the same or a point of time approach.

Data obtained from the survey results is further illustrated appropriate research that will be achieved.

## Place and time of research where research

Points of this research will be in (the village of Pitu) Tobelo conducted research on the relationship level of knowledge of patients on gout arthritis (Rural Pitu) Tobelo.

## Research time

Implementation of this research was planned for 1 month from the month of June -July this 2019. Research will be done in (the village of Pitu) Tobelo.

## Population And Sample

### Population

Population is the number which consists of the object or subject that has certain characteristics and qualities defined by the researchers to study and then withdrawn kesimpulannya.<sup>22</sup>

The population in this study are patients who have gout arthritis is the number of 65 people.

### **Samples**

Samples are partly taken from the whole object under study and is considered to have the whole Population. Sample in this study were 65 patients with gout arthritis.

The inclusion criteria are general requirements that must be met by the subject that can be followed to include in the study.

Characteristics of the samples included in the exclusion criteria for inclusion in the study include:

- a. The inclusion criteria are general requirements that must be met by the subject that can be followed to include in the study.  
criteria in this study are:
  1. Patients with gout arthritis in patients who are willing to become respondents.
  2. Patients with gout arthritis in patients who are in the area (village Pitu) Tobelo.
- b. Exclusion criteria are criteria in which research subjects may not represent a sample because it does not qualify as an exclusion Research. Criteria samples in this study are:
  1. Patients with gout arthritis in patients who were not in the Pitu Village area.
  - 2.

### **Data collection technique**

- a. Primary data
  1. Interview (interview)  
Researchers conducted interviews directly to the respondents to get regular data support this research.
  2. Observation (observation)  
Observations in the preparation of this report is done by observing and recording directly on the object of study so that the data obtained from the study can be used as a comparison to the one delivered from the respondents and developers.
- b. secondary data  
Secondary data were obtained from theory books, journals and supports research related to the study, and the data obtained from the data (Rural Pitu) Tobelo.

### **Data Collection Procedures**

Pengumpulan procedure data and research are as follows:

### **Administrative procedures**

1. Data collection was conducted after obtaining IZI of the director (Rural Pitu) Tobelo. (Permit Attached).
2. To disseminate the research plan to the patient in gout arthritis patients on the relationship level of knowledge of the disease in patients with gout arthritis in place Research. Explaining the research objectives, benefits, and research procedures.
3. Researchers gave information about the purpose and procedures performed researcher then asked the patients in rheumatoid gout patients to become respondents researchers to sign an informed consent sheet.

### **Data processing**

Management data will be done using a computer through a phase-stages as follows:

#### ***Editing***

Editing is this activity is done to check for any data at the time of data collection or when the data is collected so that all valid data to be processed and aims to re-examine the validity of data obtained.

#### ***Coding (encoding)***

Provide the code for any information that has been collected at each question in the questionnaire, so as to facilitate the processing of data.

Data in the form of letters changed in terms of numbers so it is easy to analyze the data and speed up the data entry process.

#### ***Data entry***

It is a process of entering data into the computer which then analyzes the data using SPSS (Statistical Program For Social Science) version of Windows.

#### ***Data cleaning***

Data in the check back to make sure that there is nothing wrong data before the data is analyzed by a computer program.

#### ***Tabulating***

The activities include the research data in the table is then processed by a computer.

### **Data analysis**

Data analysis is the process of simplifying the data into a more readable and interpreted form. In this process used statistics, one of which functions simplify the large amount of research data that is simple and easy to understand.

## Univariate analysis

Univariate analysis performed to get an overview of the distribution and frequency of the dependent variables and independent data presented in table form and interpreted.

## Bivariate analysis

The bivariate analysis was conducted to determine the form of relations between the two variables (independent and dependent), whether these variables have a significant influence or only influence kebetulan.<sup>23</sup>

Chi-square, also known as kai kuadrat. chi-square is one type of non-parametric comparative test conducted on two variables, where the scale of the data between the two variables is nominal.

## DISCUSSION

Based on the results of the study Gender Male 24 respondents with a percentage of 36.9%, and women 41 respondents with a percentage of 63.1%, this indicates that most respondents are Women. According to the theory that men are more at risk of disease Gout Arthritis, while in women the percentage is smaller and appear until Menopause. Tapi research that I get from the village of Pitu, District Central Tobelo, North Halmahera the most that the respondent women than men, because people in the village of Pitu, most often consumption for example, foods containing purine foods preserved / canned vegetables, for example green beans, cassava leaves, kale, and beans, therefore women who are most affected by gouty arthritis because of poor diet.

Based on the research results of respondents age that most of the respondents aged 35-45 years as many as 38 people (58.5%) and the fewest respondents age is the age of 25-30 years as many as 11 people (16.9%). According to the theory that uric acid can be experienced by anyone and uric acid is often experienced by older ages. But research that I found in the village of Pitu, District Central Tobelo, North Halmahera regency of gout is often experienced by age 35-45 year while some factors that can cause uric acid such as age, gender, uncontrolled diet, genetic obesity, because people in the village of Pitu, they are less maintain a good diet that is why in the 35-45 year age as it often gout arthritis because the age is they did not keep a good diet and do not control their diet.

Based on the results of educational research is the most respondents with low levels of education that is not school / not completed by 4 people (6.2%), while most are respondents with higher education levels ie SMP was 21 (32.4%). the theory states High Education Someone more easily accept information. Research which I found in the village of Pitu, District Central

Tobelo, North Halmahera regency education at most that of secondary school education Pitu Because people in the village, although the level of education was junior but their knowledge of Gout arthritis is already wider than the other education levels. and his knowledge is increasing and the lower the person will make a person's education may affect the ability to absorb information.

Based on the research work of most respondents are respondents with IRT work as many as 21 people (30.8%), while the least is the respondents with jobs Wiaswasta many as 11 people (16.9%), according to the theory expressed in everyday life work is first. Research thing that I found in villages Pitu, District Central Tobelo, North Halmahera most jobs IRT (housewife) but work as IRT did not affect the quality of their lives where that the higher the better the work of one's knowledge and the lower the job will get low knowledge.

Relationships level of knowledge on the disease gout arthritis patients in the village of Pitu, District Central Tobelo, North Halmahera.

From the research results obtained from 65 respondents 54 shows that the correlation between knowledge of disease in patients with gout arthritis, Good knowledge Quite a number of respondents 11 percentage of 16.9%, knowledge of the disease in patients with gout arthritis The Chronic knowledge Both the number of respondents 54 percentage of 83.1% and knowledge of the disease in patients with Acute and Chronic gout arthritis with Test Results Square scores ( $P, 0.00 < \text{sig } 0.05$ ) means there is a correlation indicates the level of knowledge of disease in patients with Acute and Chronic gout arthritis.

This study is in line with Anisha MG Songgigilan, At the Center for Public Health Renotana questionnaire. Result data collection using a research test by using chi-square test at the significance level of 95%, found that significant value  $0.000 < 0.05$  for diet and  $0.001 < 0.05$ . Conclusion there is a relationship between a diet with high levels of uric acid in the blood and there is a relationship between the level of knowledge den gan levels of uric acid in the blood.

This study is not in line with vivilian niken Hastuti, this study design was cross-menopausal women. sectional study with 62 subjects, the data collected from interviews intake, normourisemia subject as much as 96.8% with a mean uric acid levels of  $3.7 / 0.06 \text{ mg / etc}$ , as much as 71% of the subjects had excessive intake of soy protein, but only 17.8% with total protein intake more. Not there is a significant relationship between the intake of total protein and soy protein with blood uric acid levels in menopause women ( $p > 0.05$ ).

## CONCLUSION

Relations disease patients' knowledge levels in gout arthritis Pitu In the village, District Central Tobelo, Halmahera Utara. Result research.

1. The level of knowledge based on research results in gout arthritis disease patients was obtained from 65 respondents, 54 respondents who have this level of knowledge Good presentation (83.1%), while 11 respondents had knowledge Enough with the presentation (16.9%), and 0 respondents have less knowledge of the presentation (0%).
2. The results of Chi-square analysis showed no relationship between the level of knowledge of disease in patients with gouty arthritis at 65 respondents obtained, ( $p = .000$  where the  $p$ -value less than the value sig  $<0.05$ ).

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