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DESCRIPTION OF URIC ACID LEVELS IN THE ELDERLY IN UPT PUSKESMAS RANTANG MEDAN

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Abstract

In the elderly over the age of sixty, physical and mental health often deteriorates, after which the body's ability to withstand various attacks of disease decreases. Uric acid is the end product of purine metabolism in the body. Excess uric acid is not absorbed by the body and is not completely metabolized, causing an increase in uric acid in the blood called hyperuricemia. Gout is diagnosed when laboratory results show fatty acid levels of more than 7 mg/dl in men and more than 6 mg/dl in women. Generally, this disease affects the elderly, where the body's ability to metabolize purines decreases, both those found in food and from the breakdown of purines from nucleic acids. In serum, urate is in the form of sodium urate, while in the urine channel, urate is in the form of uric acid. The type of research used is quantitative with a descriptive approach, namely to determine the description of uric acid levels in the elderly at UPT Puskesmas Rantang Medan. Research sampling was carried out on elderly people aged 60-74 years totaling 30 samples using the Stick (Accu Check) method. In research that has been conducted on 30 samples shows the results of elevated uric acid levels in 21 samples (70%) and normal uric acid levels in 19 samples (30%). Normal uric acid levels based on gender in men were 5 samples (16.66%) and women were 4 samples (13.33%). Uric acid levels increased based on male gender 4 samples (13.33%) and female 21 samples (69.99%). It can be concluded that based on research uric acid levels will increase in the elderly, especially in women as many as 21 samples (69.99%).

Keywords: *Elderly, uric acid, POCT.*

1. INTRODUCTION

Elderly people are those who have reached the age of 60 years and above. When they have entered the aging phase, they will experience various physical and physiological disorders. Physical endurance decreases and worsens with age. Thus, the body's ability to fight various diseases begins to weaken. Ageing is the process of changes in cells and tissues. Which can increase the susceptibility to disease.[1]

The elderly experience various health problems. The higher the age, the more health problems there will be in the elderly. Because during aging, there will be a decrease in the body's metabolism, especially excretory substances. Gout is often known as Gouty arthritis. Gout is one of the diseases that affect the elderly. Gout disease is generally found when someone has entered the aging stage or the elderly.[2]

Where this disease is found in men at the age of 30 to 40 years and women at the age of 55 to 70 years. in women, this disease is mostly found after entering the menopause phase or the end of women experiencing menstruation. This decrease in functional capacity makes elderly people unable to stimulate stimuli when compared to younger people.[3]

The presence of excess purine substances in the body causes gout. The cause of gout is when too often consume foods that contain high purines, such as meat, offal, crabs, and peanuts.[1][4] In 2005 and 2010, about 19.3 million adults were equal to the number of children under five. In fact, Indonesia will rank as the third country with a life expectancy of over 70 years in 2020-2025. According to data from the Central Bureau of Statistics, there were 18,282,107 elderly people in Indonesia in 2005. This number will increase to 33.2 million elderly people or 12% of the total population. [5]

2. METHODOLOGY

The type of research conducted is quantitative research using a descriptive approach to determine uric acid levels in the elderly at UPT Puskesmas Rantang Medan.

3. RESULTS

Based on the results of research conducted on 30 samples on the examination of uric acid levels in the elderly aged 60-74 years at UPT Puskesmas Rantang Medan, the uric acid levels were obtained as follows:

Table 4.1: *Results of examination of uric acid levels in the elderly at UPT Puskesmas Rantang Medan.*

No	Code Sample	Type Gender	Age	Weight (Kg)	Uric Acid Levels (mg/dl)	Description
1	S1	Female	73	44,5	7,2	High
2	S2	Female	61	63	6,8	High
3	S3	Female	60	64	5,0	Normal
4	S4	Male	63	58	9,4	High
5	S5	Male	70	64	9,1	High
6	S6	Male	63	51	8,3	High
7	S7	Female	63	52	6,6	High
8	S8	Female	61	59	6,3	High
9	S9	Male	63	70	5,0	Normal
10	S10	Female	60	58	4,5	Normal
11	S11	Male	62	67	8,1	High
12	S12	Female	61	63	5.0	Normal
13	S13	Female	72	68	8,0	High
14	S14	Female	65	75	7,3	High
15	S15	Female	61	64	7,9	High
16	S16	Female	64	71	6,6	High
17	S17	Male	67	63	6,8	Normal
18	S18	Female	70	64	7,4	High
19	S19	Female	62	71	8,2	High
20	S20	Male	73	61	6,0	Normal
21	S21	Female	65	67	7,5	High
22	S22	Male	62	67	6,4	Normal
23	S23	Female	60	65	6,6	High
24	S24	Female	73	58	7,3	high
25	S25	Female	69	63	8,5	High
26	S26	Male	64	62	6,7	Normal
27	S27	Female	73	62	7,4	High
28	S28	Female	65	62	7,3	High
29	S29	Male	63	67	6,7	Normal

30	P30	Female	73	62	6,9	High

Description:

Male = 9 People = 30%

Female = 21 People = 70%

Table 4.2: *Results of Normal Uric Acid Level Examination in the elderly at UPT Puskesmas Rantang Medan*

No	Code Sample	Type Gender	Age	Weight (Kg)	Uric Acid Levels (mg/dl)	Description
1	S3	Pr	60	64	5,0	Normal
2	S9	Pr	64	61	5,0	Normal
3	S10	Pr	60	58	4,5	Normal
4	S12	Pr	61	63	5,0	Normal
5	S17	Lk	67	63	6,8	Normal
6	S20	Lk	73	67	6,4	Normal
7	S22	Lk	62	67	64	Normal
8	S26	Lk	64	62	6,7	Normal
9	S29	Lk	63	67	6,7	Normal

From the results of the examination on 30 samples, the results of normal uric acid levels were obtained as many as 9 samples, so the presetation is:

$$= \frac{\text{Number of normal samples}}{\text{Total number of samples}} \times 100\%$$

$$= \frac{9}{30} \times 100\%$$

$$= 30\%$$

Table 4.3*: Results of examination of elevated uric acid levels in the elderly at UPT Puskesmas Rantang Medan*

No	Code sample	gender	Age	weight (Kg)	Uric Acid Levels (mg/dl)	Description
1	S1	Pr	73	44	7,2	High
2	S2	Pr	61	63	6,8	High
3	S4	Lk	63	5,8	9,4	High
4	S5	Lk	70	64	9,1	High
5	S6	Lk	63	51	8,3	High
6	S7	Pr	63	52	6,6	High
7	S8	Pr	61	59	6,3	High
8	S11	Lk	62	67	8,1	High
9	S13	Pr	72	68	8,0	High
10	S14	Pr	65	75	7,3	High
11	S15	Pr	61	64	7,9	High
12	S16	Pr	64	71	6,6	High
13	S18	Pr	70	64	7,4	High
14	S19	Pr	62	71	8,2	High

15	S21	Pr	65	67	6,4	High
16	S23	Pr	60	65	6,6	High
17	S24	Pr	70	64	7,4	High
18	S25	Pr	69	63	8,5	High
19	S27	Pr	73	62	7,4	High
20	S28	Pr	65	62	7,3	High
21	S30	Pr	73	62	6,9	High

From the results of the examination of 30 samples, the results of uric acid levels High by 21 samples, so the presetation is: [6]

$$= \frac{\text{Number of samples increased}}{\text{Total number of samples}} \times 100\%$$

$$= \frac{21}{30} \times 100\%$$

$$= 70\%$$

***Table 4.4**: Frequency Distribution of Normal and Increased Uric Acid Kadas Based on Gender in the Elderly at UPT Puskesmas Rantang Medan:*

Gender	**Uric Acid Level Results**		**Percent (%)**	
	High	Normal	High	Normal
Male	4	5	13,33%	16,66%
Female	17	4	56,66%	13,33%
In Total	21	9	70%	30%

Based on table 4.4 shows that the results of the examination of uric acid levels based on gender, the majority of which increased in women as many as 21 samples (56.66%), men 4 samples (13.33%). Normal based on gender, women 7 samples (13.33%) and men 5 samples (16.66%).

4. DISCUSSION

According to Julianti R (2011) Increased uric acid in the elderly, generally this disease attacks the elderly. The elderly face health problems due to physical deterioration, weakness in the organs, resulting in various diseases, such as increased uric acid levels which can cause diseases such as kidney stones, gout and rheumatism. Gout or commonly known as gout is a disease that attacks the elderly, especially men. However, from the results of research on uric acid levels in the elderly carried out at the Rantang Health Center UPT Medan, many of the people who experienced increased uric acid levels were women. This disease often causes problems in one joint, for example most often at the base of the big toe, although it can Attacking more than one joint, this disease often attacks the elderly and is rarely found in people under 60 years of age with the average age being most commonly found at 65-75 years of age, and increasingly common with increasing age. [7]

Based on research on uric acid levels in elderly people aged 60-74 years which was carried out at the UPT Puskesmas Rantang Medan, it can be concluded that uric acid levels have increased, especially in women. Because in women after entering menopause, the estrogen hormone which helps in eliminating uric acid through urine decreases drastically, so that uric acid increases more dominantly in women after entering menopause compared to men. Based on observations of the condition of the respondents in this study, uric acid levels

increased and some elderly people were overweight. If an elderly person is overweight, the uric acid level will increase more compared to an elderly person who has a normal body weight.[7]

5. CONCLUSIONS

In conclusion, the present study showed that uric acid levels using the point of care testing (POCT) method have increased uric acid levels in the elderly, especially in women as many as 17 samples (56.66%).

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