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THE EFFECT OF HEALTH COUNSELLING USING EDUCATIONAL VIDEOS ON CHANGES IN ELDERLY KNOWLEDGE ABOUT GOUTY ARTHRITIS IN KUTA KRUENG VILLAGE

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ABSTRACT

Elderly people are individuals over 60 years old, who are susceptible to various diseases due to declining body function. The increasing number of elderly people is accompanied by the risk of degenerative diseases, such as hypertension, stroke, gouty arthritis, and heart disease. Gout arthritis is caused by high levels of purine in the body and can affect all ages if the diet is unhealthy. The purpose of this study was to determine the effect of health education using educational videos on changes in elderly knowledge about gout arthritis in Kuta Krueng village. This study is an experimental study with a One-Group Pre-post Test Design approach, the number of samples in this study was taken from the elderly population in Kuta Krueng village as many as 47 respondents. In this study, a bivariate analysis was conducted to prove the research hypothesis. The results of the T-test obtained a P value = 0.000. meaning that there is an effect of health education using educational videos on changes in elderly knowledge about gout arthritis in Kuta Krueng Village. Using the Dependent T-test at a significance level of 95% (= 0.05) and a paired t-test with a p-value of 0.000, the results showed a significant difference in the knowledge of the elderly before and after counseling. It is recommended to provide health education about gout to the elderly periodically through counseling and educational media. This step aims to increase the elderly's knowledge and reduce the prevalence of gout in the future.

INTRODUCTION

The elderly population continues to grow in line with advances in health, marked by rising life expectancy and declining mortality rates (Central Statistics Agency, 2020). With increasing age, the prevalence of degenerative diseases such as high blood pressure (hypertension), stroke, gout, arthritis, and coronary heart disease also increases. Degenerative diseases will become the leading cause of death in the future.

Gout, also known as gout, is a common condition. Gout is generally only seen in older adults, but if a healthy diet isn't followed, it can also affect teenagers and young adults. Gout occurs when the body's purine levels exceed normal limits (Sakinah, 2017).

Gout arthritis can lead to increased morbidity or complications, even mortality. According to a 2019 report by the World Health Organization (WHO), life expectancy (UHH) is estimated to be 71.7 years, and WHO estimates that approximately 335 million people worldwide suffer from gouty arthritis, a figure consistent with the increasing number of elderly people. According to data from the Indonesian Ministry of Health (2019), gouty arthritis ranks second after osteoarthritis, with an estimated prevalence of 1,613 per 100,000 people in Indonesia, and this prevalence increases with age (Indonesian Ministry of Health, 2019).

According to data obtained from the 2018 Basic Health Research (Riskesdas) results, the prevalence of joint disease in Indonesia based on the highest doctor's diagnosis is in Aceh (13.26%), Bengkulu (12.11%), Bali (10.46%), Papua (10.43%), and West Kalimantan (9.57%) (Ministry of Health of the Republic of Indonesia, 2018). Based on data obtained from the Samudera Community Health Center in North Aceh Regency in 2023, there were 292 people who experienced gout arthritis (Puskesmas Samudera, 2023).

Gout is a manageable, though incurable, condition. However, if left untreated, it can progress to debilitating arthritis (Gustomi, MP, & Wahyuningsih, 2016). Treatment for gout arthritis focuses more on managing pain, a common problem experienced by gout sufferers, reducing joint damage, and improving quality of life.

Treatment includes pharmacological and non-pharmacological therapy, pain management consists of independent or non-pharmacological interventions and collaborative interventions or individual approaches. One of the non-pharmacological measures for gout arthritis sufferers includes warm water compresses. The role of nurses in treating gout arthritis sufferers is to provide health education to sufferers such as how to handle gout flare-ups, nurses provide information or knowledge to sufferers about the causes and treatment of gout arthritis pain reduction (Mulfianda, R., & Nidia, 2019).

Elevated blood uric acid levels (hyperuricemia) are a major factor in the development of gouty arthritis (Widyanto, 2014). Uric acid levels in the blood are determined by the balance between production (10% of patients) and excretion (90% of patients). If this balance is disturbed, it can lead to elevated blood uric acid levels, known as hyperuricemia. Clinically, hyperuricemia is important because it can cause gouty arthritis, nephropathy, cap, and nephrolithiasis (Sholihah, 2014).

Gout arthritis is one of the most common inflammatory joint diseases, characterized by the accumulation of monosodium urate crystals in and around the joints (Sholihah, 2014). Monosodium urate crystals form when plasma concentrations exceed 7.0 mg/dL. Plasma monosodium urate levels are not the only factor contributing to crystal formation.

This is evident in some hyperuricemia sufferers who show no symptoms for a long time before their first gouty arthritis attack. The contributing factors are not yet fully understood. It is suspected that uric acid solubility is influenced by pH, temperature, and the binding between uric acid and plasma proteins. Women experience an increased risk of gouty arthritis after menopause, and the risk begins to increase at age 45 with decreasing estrogen levels because estrogen has a uricosuric effect, making gouty arthritis rare in young women (Widyanto, 2014).

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Addressing public health issues requires knowledge to facilitate community response. Knowledge is a crucial domain for developing open behavior, and this behavior naturally begins with an attitude toward a particular object (Notoatmodjo S., 2014). This knowledge is expected to assist the community in prevention, treatment, and health maintenance. It is also hoped that it will influence public attitudes toward maintaining a quality of life without health problems such as gout.

Educational videos are a learning medium that uses a combination of visuals and audio to convey specific information or material to an audience. In an educational context, educational videos are often used as an effective tool in improving understanding of material because the combination of visuals and sound can attract attention and facilitate comprehension. According to Mayer (2020), educational videos are effective in conveying information because they utilize the principles of dual coding theory, which states that

humans more easily understand and remember information when presented in visual and verbal formats. Based on research conducted by Farida, F. et al. (2023).

The results of the study showed that the attitudes of the elderly in handling gout arthritis before health education were mostly negative, namely 22 respondents (75.9%), and after health education, almost all respondents, namely 22 respondents (75.9%) had positive attitudes. The results of the Wilcoxon test obtained a P Value = 0.000 <0.05, meaning that there was an influence of health education on the attitudes of the elderly in handling gout arthritis at the Sugihwaras Integrated Health Post, Bangunmulyo Village, Pakel District, Tulungagung Regency in 2022.

Based on research conducted by Ferdiani, FDN, & Yuliana, N. (2021), the results showed that the average level of knowledge of the elderly before counseling was 11.84, then increased to 15.72 after counseling. Data processing results obtained a p-value of 0.000 or p<0.05, thus concluding that there was an effect of gout arthritis diet health counseling on the level of knowledge of the elderly in Karangmojo Village.

Kuta Krueng Village is located in Samudera District, North Aceh Regency. It is situated on the coast of the Strait of Malacca. It borders the sea to the north and has a long coastline. The majority of the population is Muslim, and the languages spoken are Acehnese and Indonesian. Most residents work as farmers and fishermen. The residents of Kuta Krueng Village, most of whom work in rice fields, are at high risk of developing gout.

This risk is caused by several factors, such as strenuous physical activity performed without rest periods and regular exercise, which can trigger increased uric acid levels. Furthermore, dehydration due to exposure to hot and humid weather while working in the rice fields also worsens gout symptoms. The diet of farmers, who frequently consume foods high in purines, such as fish, shellfish, and shrimp, and consume little fruit and vegetables, further increases the risk of this disease. Other factors include stress caused by economic pressures and unstable weather changes, which also worsen health conditions.

Local factors also contribute to the high prevalence of gout in this village. Poor groundwater quality, limited health facilities, lack of public awareness about gout, and an unbalanced lifestyle are the main triggers. Based on interviews conducted by researchers with 10 elderly people in Kuta Krueng village, 50% of respondents still lack knowledge about gout arthritis. Based on the information obtained, health education about gout arthritis has never been conducted. Counseling tools are one of the factors needed to increase knowledge.

Based on the above background, the purpose of this study is to determine the effect of health education using educational videos on changes in knowledge of gout arthritis in the elderly in Kuta Krueng village. The researcher is interested in conducting research on the effect of health education using educational videos on changes in knowledge of gout arthritis in the elderly in Kuta Krueng village.

RESEARCH METHODS

This research is a Quasi Experimental research with a One-Group Pre-post Test Design approach. The population in this study were all elderly people in Kuta Krueng Village, totaling 90 people. The sampling technique in this study was purposive sampling. Determination of the number of samples refers to (Nursalam, 2021) obtained samples in this study as many as 47 samples. The sample criteria in this study were (1) Elderly who are in the integrated health post (posyandu) in Kuta Krueng Village (Aged 60 years and above), (2) Elderly who are willing to be respondents, (3) Elderly with Gout Arthritis, (4) Elderly with good general condition. This research was conducted in October 2024 in Kuta Krueng Village, Samudera District, North Aceh Regency.

The data collection technique uses a survey method and provides direct intervention to respondents in stages by using a data collection tool in the form of a questionnaire as primary data that is developed independently according to the dimensions adopted in each variable. Questionnaire A (Respondent Characteristics Questionnaire) Contains data on name, age, gender, education, occupation and Questionnaire B (Knowledge Level Questionnaire) The education level questionnaire contains the level of knowledge of the elderly about gout arthritis.

Nursalam (2016) stated that the level of knowledge uses 3 assessment categories, namely (1) Less: <56% or <19 (2) Sufficient: 56% - 75% or 19-25 (3) Good: 76% -100% or 26-34. The results of the validity test were carried out on 30 respondents who had met the requirements with a calculated r value > from the r table based on a significant test of 0.05 meaning that the question items were valid, the results of the reliability test using the alpha cronbach technique to determine reliability were 0.6. This study conducted a pre-test by giving a questionnaire sheet to respondents, before the questionnaire sheet was given, it was explained how to fill out the questionnaire, then respondents answered each statement listed in the questionnaire, then counseling interventions were carried out to respondents and finally a post-test was carried out by collecting the results of the questionnaire given to respondents.

This study used descriptive statistical analysis, namely univariate analysis to describe the characteristics of age and gender in gout arthritis with the mean, median, standard deviation, min, max test, and gender characteristics using categorical with frequency distribution and proportion. Bivariate analysis was conducted after the data normality test, first conducted an equality test before conducting the study. After that, to conduct each treatment using the Dependent T-test.

RESULTS AND DISCUSSION

Table 1. Frequency of Respondent Characteristics

No.	Characteristics	Category	f	%
1	Age	45-59 years	0	0
		60-74 years	28	59.6
		75-90 years	19	40.4
	Total		47	100
2	Gender	Man	20	42.6
		Woman	27	57.4
	Total		47	100
3	Work	Doesn't work	17	36.2
		Farmer	19	40.4
		Housewife	4	8.5
		Government employees	1	2.1
		Private employees	1	2.1
		Laborer	1	2.1
		Businessman	4	8.5
	Total		47	100
4	Education	No school	202	42.6
		Elementary Education (SD)	24	51.1
		Secondary education (junior high school, senior high school)	2	4.3
		University (D3, D4, S1, S2, S3)	1	2.1
	Total		475	100

Primary Data Sources Processed in 2025

Table 1 shows the characteristics of the respondents. The average age of respondents was 60-70 years, namely 27 people (57.4%). The average gender in the sample was female, with 27 people (57.4%). The average occupation in the sample was farmers, with 19 people (40.4%). The average education of the elderly was elementary school, with 24 people (51.1%).

Table 2. Average Respondent Knowledge

Knowledge	N	Mean	Standard Deviation
Level of knowledge before health education	47	16.5106	7.38939
Level of knowledge after health education	47	20.9789	6.26755

Primary Data Sources Processed in 2025

Table 2 shows that the average level of knowledge of respondents before the counseling was 16.5 with a Std. Deviation of 7.38939. After the counseling, the level of knowledge increased to an average of 20.9 with a Std. Deviation of 6.26755. This shows that health counseling is effective in increasing the level of public knowledge.

Table 3. The Effect of Health Education Using Educational Videos on Changes in Elderly Knowledge About Gout Arthritis in Kuta Krueng Village

Knowledge	Mean	Pairet differences				t	df	P
		Mean Difference	Standard Deviation	Std. Error Mean	95% Confidence Interval of the Difference			
Pre-test	24.43	-2,851	4,382	0.639	-3,598 to	-	46	0,000
Post-test	27.28		3.126	0.456	-2.104	7,680		

Table 3. Shows that from the results of the paired sample T Test, a significant value of 0.000 was obtained, which is smaller than alpha 0.05 or with a significance of 95% and the knowledge value before being given the educational video was 24.43 with a standard deviation of 4.382. While the mean value of knowledge after being given the educational video was 27.28 with a standard deviation of 3.126. It can be seen that the mean value is different between before and after being given the educational video so it can be concluded that there is an effect of health education using educational videos on changes in the knowledge of the elderly in Kuta Krueng village.

DISCUSSION

This study has respondent characteristics based on Table 1. The average age of respondents is 60-74 years, namely 28 people or 59.6%. This is in accordance with Ferdianil's (2021) study entitled "The Effect of Health Counseling on Gout Arthritis Diet on the Level of Knowledge of the Elderly in Karangmojo Village." In this study, the majority of respondents were female, aged 60-74 years, and the majority of respondents had a history of elementary school education. Most of the elderly's level of knowledge before receiving health counseling was sufficient, and after health counseling, it had an effect on increasing the elderly's knowledge about gout arthritis diet in Karangmojo Village.

The average gender in this study was female, with 27 people (57.4%). This is in line with research conducted by Ayu T (2020) which found that gout arthritis is more common in women, with results showing that women (75.8%) and men (24.2%). With aging, uric

acid levels increase in women due to decreased estrogen levels. This is because the hormonal system can affect joint disease and also poses unpreventable risk factors.

The effect of estrogen on uric acid levels in the blood is associated with uric acid excretion through the kidneys. Uric acid excretion in women who still produce estrogen can be normal, but in women who no longer produce estrogen, uric acid excretion is not helped and can cause hyperuricemia. Estrogen increases renal excretion of uric acid, specifically estrogen type estradiol which suppresses protein levels of URAT1 and Glut9, thereby increasing uric acid excretion from the blood through the kidneys so that hyperuricemia does not occur (Moriwaki, 2014).

The average education level of 24 elderly people was elementary school, or 51.1%. According to Perry and Potter (2005), education can improve health knowledge. Education is crucial in influencing a person's thinking. When faced with a problem, an educated person will strive to solve it as best as possible. Through the educational process, which involves a series of activities, an individual will gain better knowledge, understanding, skills, and insights, including knowledge and attitudes. This also aligns with the theory that a person's education level will influence their knowledge. The more information that influences or increases a person's knowledge, the more likely they will behave in accordance with that knowledge (Notoatmodjo, 2010).

The average occupation in the sample was 19 people, or 40.4%. According to Pangesti (2012), a person's occupation will influence their knowledge and experience. The explanation for this influence is that the job involves more brain use than muscle. A person's brain performance and ability to store (memory) increases with frequent use, which is directly proportional to when a person's job uses more brain power than muscle power.

Demographic characteristics such as age, gender, education, and occupation influence older adults' knowledge about gout arthritis. Advanced age can reduce cognitive abilities, while education and brain-intensive occupations have the potential to improve information retention. The author also believes that health education through educational videos can improve older adults' knowledge, as demonstrated by research by Ferdianil (2021). Furthermore, women are considered more susceptible to gout arthritis due to decreased estrogen levels, thus requiring more information about its management. Higher education is assumed to improve health literacy, while brain-intensive occupations have the potential to improve health literacy compared to physically

demanding occupations. Counseling is expected to improve older adults' knowledge about how to manage gout arthritis, as supported by previous research.

Differences in Average Knowledge Before and After Health Counseling Using Educational Videos Regarding Changes in Elderly Knowledge About Gout Arthritis in Kuta Krueng Village

In this study, the results of statistical analysis showed a significant change between measurements before and after treatment. In the previous measurement, the average was 16.5 with a Std. Deviation of 7.38939. After counseling, the level of knowledge increased to an average of 20.9 with a Std. Deviation of 6.26755. This shows that health counseling is effective in increasing the level of community knowledge.

This result is in line with Utomo's research (2016) entitled The Effect of Providing Gout Health Education on the Knowledge and Attitudes of Gout Sufferers in the Gatak Sukoharjo Community Health Center Work Area. The results of the study showed an average value in the knowledge pretest of 11.17 while the average value of the knowledge posttest was 16.60 and a probability of 0.000 was obtained. shows 0.000. Research conducted by Oktavia et al. (2023) "The Effectiveness of Health Education Using Audio Visual Media on the Knowledge of Gout Arthritis in the Elderly at the Community Health Center". From the results of the analysis, it is known that the average value after the post test is 15.08 ≥ the pretest value of 6.00. The results of the bivariate analysis obtained a p value of 0.000. This means that there is a difference in the average value of the elderly before and after counseling.

Nurses help the community improve their knowledge. The difference in knowledge levels before and after the intervention is due to information and communication factors that influence knowledge formation. Information provided directly and indirectly influences knowledge development. Through routine educational activities, public awareness of healthy living is indirectly increased. The researcher's assumption in this study is that health education using educational videos can improve respondents' knowledge, as reflected in the increase in the average pretest and posttest scores. The researcher assumes that educational videos are effective in conveying information, making it easier for respondents to understand and remember the health messages conveyed. Furthermore, the researcher also assumes that this significant increase in knowledge can contribute to better health behavior changes in the future.

The Effect of Health Counseling Using Educational Videos on Changes in Elderly Knowledge About Gout Arthritis in Kuta Krueng Village.

The results of the paired sample T-Test showed different mean values between before and after being given educational videos so it can be concluded that there is an effect of health counseling using educational videos on changes in the knowledge of the elderly in Kuta Krueng village. Based on the results of the statistical analysis of the effect of health counseling using educational videos on changes in the knowledge of the elderly about gout arthritis in Kuta Krueng village using the Dependent T-test at a significance level of 95% ($\alpha = 0.05$) it was found that there is an effect of providing health counseling on the knowledge of the elderly about gout arthritis. Statistically obtained p value = 0.000 ($\alpha < 0.05$).

The results of this study are supported by previous research conducted by Sunarti et al (2020) entitled Gout Risk Education through Audio Visual Media for the Elderly in Kertabuana Village, the results of statistical evaluation of elderly knowledge increased after socialization through audio visual media p = 0.000 and supported by research by Oktavia et al (2023) entitled the effectiveness of health counseling using audio visual media on elderly knowledge on gout arthritis at the community health center. From the results of the analysis, it is known that the average value after the post test is 15.08 ≥ pretest value of 6.00. The results of the bivariate analysis obtained a p value of 0.000. This means that there is a difference in the average value of the elderly before and after counseling. There is an Effect of Health Counseling Using Audio Visual Media on Elderly Knowledge on Gout Arthritis at the Pulau Panggung Community Health Center, Muara Enim Regency in 2023 with the statistical results of the paired t test p value of 0.000.

The results of the study above support research conducted in Kuta Krueng village, which found that respondents who received education improved their lifestyles, which could effectively control uric acid levels. This also serves as a reminder that health education will be more effective if health workers understand the client's level of knowledge and daily habits. Knowledge is the client's understanding and comprehension of gout arthritis. This knowledge includes the definition, causes, risks, signs and symptoms, blood sugar levels, treatment, and prevention. Increased knowledge will lead to a more cautious approach to health and will strive to prevent it. The results of this study indicate that respondents who have participated in health education have better knowledge than those who have not received health education (Kurniawati, 2014).

Based on the research results, it can be concluded that health education using educational videos significantly increased the knowledge of the elderly about Gout Arthritis in Kuta Krueng Village. The results of the Dependent T-test showed a p-value of 0.000, which indicates a significant difference between the knowledge of the elderly before and after the education. This increase in knowledge includes understanding the definition, causes, risks, signs and symptoms, and preventive measures for Gout Arthritis.

These findings align with previous research, which also demonstrated the effectiveness of audiovisual media in increasing elderly knowledge about gout arthritis. This increased knowledge is expected to influence the attitudes and lifestyles of the elderly to be more careful in maintaining health, especially in controlling uric acid levels. Researchers assume that the use of video-based educational media has the advantage of conveying health information clearly and attractively, making it more effective in increasing elderly understanding compared to conventional methods such as lectures. Increased knowledge gained from counseling will influence changes in attitudes and behavior of the elderly in managing their health conditions, especially in terms of preventing and managing gout arthritis.

The effectiveness of health education can be further enhanced if health workers understand the client's background knowledge, attitudes, and daily habits, thereby making the educational material more relevant and applicable. Therefore, this study emphasizes the importance of innovative and adaptive education methods to increase public awareness and knowledge, particularly in disease prevention and control efforts in the elderly.

CONCLUTION

Based on the research results, the conclusion of this study is that after the health education intervention using educational videos, it was effective in increasing the knowledge of the elderly and reducing the prevalence of gout.

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