



Community empowering models to gout management: A study among Indonesian cadres and elderly

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ABSTRACT

The incidence of physical mobility impairment and pain that caused by excess of uric acid in the joints is on the increase. Uric acid is a product of purine metabolism that tends to occur in the elderly but now is common in younger men and women. The purpose of this activity is to prevent the excess of uric acid, complaint of pain and maximize the quality of life independently through Posyandu cadres optimizing. This is a health intervention to improve the knowledge and skills of cadres and the elderly in the Gunung Lurah Village, Banyumas through lectures, discussions, practice, technology transfer and mentoring of uric acid examination. Implementation method consists of problem identification, formulating intervention, and implementation of cadre empowerment and mentoring package. Pre and post data were analyzed quantitatively. The results showed that there were significant differences in the ability of cadres in managing gout. Cadres can apply their knowledge and skills in empowering elderly to reduce pain and prevent gout. The empowerment package model of cadres and elderly is effective in reducing pain and preventing the incidence of gout in rural area.

Keywords: pain, gout, cadres, elderly, empowerment

INTRODUCTION

Gout is more common in men than women, which is about 90% of the total patients. In women, the risk of gout increases after menopause. Hyperuricemia occurred in 5%-30% of the general population and the prevalence can be further increased in certain racial groups (1). The prevalence of hyperuricemia in Central Java was 24.3% in men and 11.7% in women. This case is related to the average of gout patients who already took the treatment after having the disease for more than five years. Many of gout patients treat themselves (self medication) because the complaint is intermittent, non-specific, chronic and feeling no harmless. High uric acid content causes severe pain in the joint (2). Preliminary study in the health center of Cilongok, shows that joint and bone pain and gout are part of the top ten diseases that often occur in health centers.

Gunung Lurah village, Cilongok subdistrict, Banyumas has two Posyandu which was established since 2014. Posyandu Mugiwaras I and II have around 70 and 80 members respectively. Many inactive members and some volunteers have low knowledge regarding gout prevention and management. Data in the patient visit books, bone, muscle and joint pain are the largest health problems in the Gunung Lurah village. Lacking of knowledge about handling goat at home, unavailability of uric acid measuring instrument and dietary guidelines for gout patients are the major problems in society in giving counseling to the community. Elderly Posyandu is under coordination of the Village Health Forum (FKD). The high level of uric acid in the bloodstream (hyperuricemia) can cause pain in the joints and muscles, and has a risk to form uric crystal of urinary stones. The purpose of this activity is to create a

model of community empowerment to prevent the enhancement of uric acid level and pain, moreover to maximize the quality of life independently through optimizing the Posyandu cadres.

MATERIALS AND METHODS

This is a health intervention to improve the knowledge and skills of partners in the gout management independently. The method was participatory rural appraisal (PRA), the data collection was done through measurement and observation. Community empowerment was done through lectures, discussions, demonstrations, practice and technology transfer of uric acid examination and also mentoring. The subjects consisted of 35 Posyandu cadres with 80 Posyandu members. The implementation method consisted of identifying the problem, the revitalization of health cadres, empowerment package of gout management and cadre mentoring in the application of knowledge in the elderly. The knowledge and skill improvement activities were carried out throughout six meetings while the mentoring had been doing during three months. Data analysis used pre and post test.

RESULTS

1. Identifying problems

Hyperuricemia is a state of high uric acid in the blood as a result of purine metabolism disorder. One of waste purine metabolism is uric acid which is difficult to dissolve in water. Accumulation of uric acid in the body can be caused by excessive production, decreasing disposal through the kidneys, or intake enhancement of high-purine food. When uric acid level exceeding the solubility threshold, uric acid will crystallize in the tissues and joints causing inflammation called gouty arthritis. The disease are characterized by recurrent attacks of acute inflammatory arthritis, sometimes accompanied by the formation of large crystals of sodium urate called tophus, deformity (damage), chronic joint and injury to the kidneys. The results of microscopic examination of joint fluid or tophus (lumps of uric acid) found that there were the crystal of needle-shaped uric acid (3).

Problem identification is required to determine the availability of resources and to prioritize of elderly and cadres needs in overcoming health problems. Some of the problems that occur are the high pain of muscles, bones and joints of community, the cadre knowledge level about gout prevention and treatment is low (knowledge, diet, physical exercise and therapy) and also bad habit of consuming high-uric acid foods in the population. The number of gout patients are high, causing pain in muscles, bones and joints. The knowledge level about the gout treatment in elderly is still low. The training of complementary therapies is not yet such as guided imagery and herbal therapy to reduce the pain. Unavailability uric acid measurement instrument. Lack of dietary guidelines for the prevention of uric acid disease.

2. Model implementation

Community empowerment model about gout management was done by optimizing the role of cadres, midwives from health centers and communities. Other ways were through some activities such as gout counseling, Prevention of Gout Training, Guided Imaginary Therapy Training, Herbs Therapy Training and Herbs Plots, Elderly Gymnastics Training (prevention and treatment of arthritis), Warm Compresses Therapy Training, Range of Motion Training, Low Uric Acid Diet Modification Training, Activity Group Therapy Training, Uric Acid Examination Screening and Hipnorelaxing Training. The activities to increase the knowledge and skills was conducted for 6 meetings then continued by mentoring. Empowerment package model is done gradually through lectures, discussions, practice and technology transfer of uric acid measurement using a variety of instructional media. Multimedia interactive method was used to improve elderly and cadres's knowledge in the gout management and prevention.

3. Assistance and elderly cadres Posyandu

Lifestyle changes and gout treatment has been done for three months. The cadres taught about healthy lifestyles to the elderly. Cadre is as a partner of elderly in discussing problems and others related to gout. Cadre's performance become more optimal because cadre are well known and respected by the elderly. The ability and knowledge of health cadre was much more than knowledge of the elderly. If there was a problem that can not be resolved by cadres, cadres would be consult to the midwife or other health care workers.

The assistance of cadres was needed to monitor cadre's practice in improving the elderly health. Every problem can immediately be tackled by discussion with cadre as a mentor. Results of activity were evaluated and compared from the initial investigation of the problem, before and after mentoring process. The results showed that the average of knowledge and skills level of the elderly was 63 and increasing after training package to 76. The ability of cadres also increased significantly from 70 to 81. After mentoring, the average of elderly knowledge was increased to 78 (Figure 1).

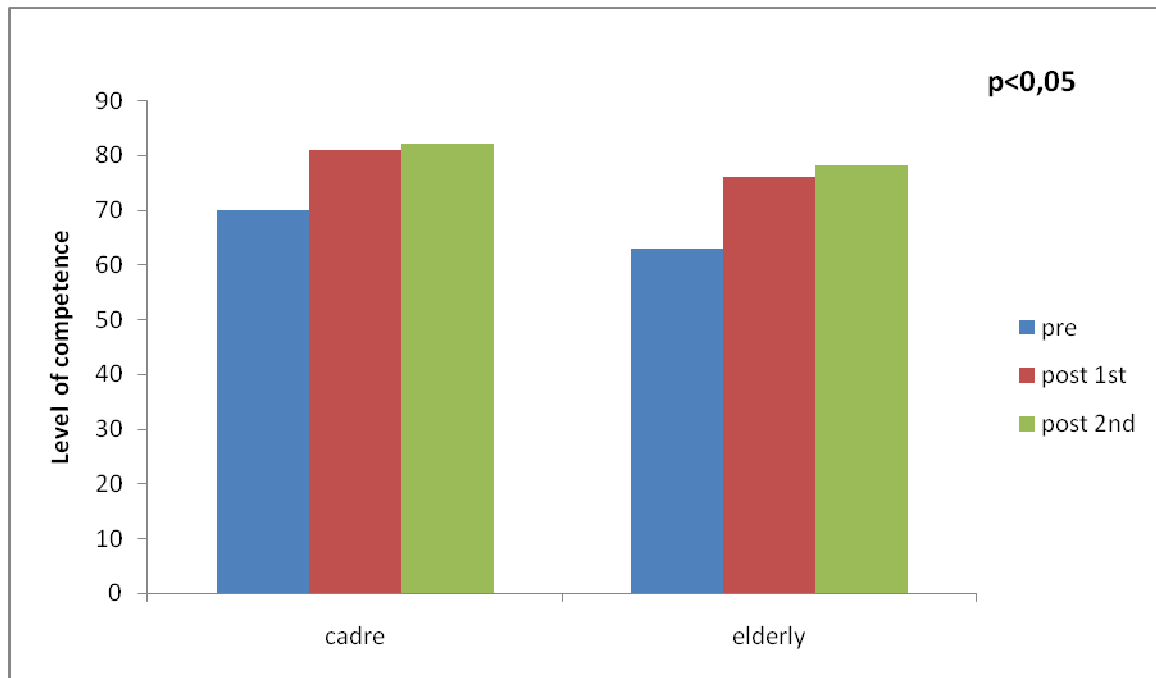


Figure 1. Changes in the ability of cadres and the elderly in preventing and dealing gout

DISCUSSION

Uric acid is a product of purine metabolism that is not soluble in water, so it tends to accumulate in the body in the joints. Uric acid crystals can form tophi, causing inflammation to the sensation of pain and mobility impaired (4). The increasing of uric acid is caused by high consumption of food sources of uric acid (spinach, chips, offal, durian and others), cell damage, impaired of uric acid excretion and metabolism. It has not be found effective therapies to cure gout. Prevention of hiperuricemia preferably before causing gout and tophi.

Hyperuricemia has a high risk for gout arthritis disease, kidney stones, kidney damage, high blood pressure, high blood fat levels, and stroke, diabetes mellitus, nonetheless was not associated with coronary heart disease (5). The manifestation of hyperuricemia may various, which can be either a joint inflammation (arthritis gout), the formation of tofus (deposition of uric acid) in the bone and cartilage (eg, on the ears), or urinary stones (urolithiasis). Accumulation of uric acid in the skeletal tissue can cause defects, whereas urinary stones can lead to kidney failure (6).

Along with the increase in age, the metabolic ability in the elderly was decrease. Purine diet restriction was excellent for the elderly who tend to experience in hiperuricemia (7). Uric acid monitor regularly in the body is an important effort to control uric acid levels. Pain management through guided imagery techniques, warm compresses and herbal therapy can reduce pain, swelling and inflammation (8) (9). Healthy lifestyle with exercise movement, elderly gym and hipnorelaxing can improve the quality of life of patients and to prevent gout at a young age (10) (11).

Mentoring has effectively proven in improving the knowledge and skills of their peers as well as the elderly. Mentor characteristics greatly affect the obedience of the elderly in participating in mentoring (12). Therefore, the selection of cadres as a mentor is very appropriate because cadre is the nearest and already known by the elderly and have more capabilities than the elderly. The results of these activities in accordance with the Chang et al., opinion that the provision model of information, motivation and behavioral (IMB) is effective in the behavior changing of an individual (13). Mentoring that done for 3 months was effective to change behavior and lifestyle of elderly. Mentoring can be an alternative program to change people's behavior (14).

CONCLUSION

Gout is a disease of uric acid metabolism disorders. Excess of uric acid in the body will accumulate in tissues and joints, causing swelling, pain and joint mobilization impaired. Intake many sources of uric acid, increased of cell damage and uric acid excretion disruption will cause high uric acid levels in the body. Community empowerment model through increasing the knowledge, skills and mentoring, has effectively proven in the treatment and prevention of gout at the community level.

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Ethical considerations

The study was approved by the ethical review board of the University of Jenderal Soedirman. To ensure ethical clarity, all cadre and elderly who participated in the study were fully informed about the nature and purpose of the study, and an emphasis was put on the voluntary nature of their participation. Oral consent was obtained from the cadre before collection of the data.

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