

Predilection in Knowledge and Skills of Elderly Posyandu Cadres with Health Examination Training in Tulusrejo Village Lowokwaru Sub-District Malang City

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ABSTRACT

The aging process causes many changes in the body of the elderly, such as psychological changes, social changes, and functional decline in the body. As a result of this reduced functional capacity, the elderly generally do not respond to various stimuli as effectively as can be done on younger people. Decreased capacity to respond to stimuli makes it difficult for older people to maintain physical and chemical status in the body or maintain homeostasis. This disruption to homeostasis causes dysfunction of various organ systems and increases susceptibility to various diseases. Cell setbacks occur in old age because of the aging process which can result in organ weakness, physical deterioration, also the emergence of various diseases such as increased uric acid levels (hyperuricemia), increased blood sugar levels (hyperglycemia), and increased cholesterol levels (hyperlipidemia). The elderly also tend to experience an increase in blood pressure. This is due to the degenerative processes of elderly bodily functions. Community service was carried out through 4 stages, namely: site survey, stakeholder mapping, coaching and training, and evaluation. From the evaluation results, the findings revealed that after training in between, there was an increase in knowledge and understanding as well as an increase in the skills of the elderly Posyandu (*Pos Pelayanan Terpadu* or Integrated Service Post) cadres regarding blood pressure measurement and examination of blood sugar, uric acid and cholesterol.

Keywords: Elderly, Blood Pressure, Hyperglycemia, Blood Sugar, Hyperuricemia, Gout, Hyperlipidemia, Cholesterol

INTRODUCTION

The attempt of aging or growing old is a condition that occurs in the life cycle of a human being. The stage of development of old age, a person will experience a physical setback which is characterized by lack of skin elasticity, hair that was originally black to turn white, changes in the teeth and a decrease in the function of the five senses (eyes, blurred hearing, reduced sensitivity to taste, etc.). Increasing the number of elderly population (elderly) will have an impact on the social economy both in the family, community and in the government. An important economic implication of an increase in population is an increase in the dependency ratio of the number of elderly people (Old Age Ratio Dependency). Every productive age population will bear more and more elderly population, this dependence is caused by the condition of many elderly people experiencing physical and psychological setbacks (Cho et al., 2008).

Increased life expectancy indicates an increase in the number of the elderly population resulting in an increase in health problems in the elderly due to an aging process that causes many changes in the body of the elderly, such as psychological changes, social and functional decline in the body. Decreased capacity to respond to stimuli makes it difficult for older people to maintain physical and chemical status in the body or maintain homeostasis. This disruption to homeostasis causes dysfunction of various organ systems and increases susceptibility to various diseases (Banurea et al., 2012; Hayati, 2010; Komalasari & Wihaskoro, 2019; Marmer, 2011).

One of the disturbed homeostasis is the system of regulating blood glucose levels. Disruption of the blood glucose regulation system results in an increase in blood glucose more than normal (Marty et al., 2007; Paolisso et al., 1990; Rodgers et al., 2005; Rosen & Spiegelman, 2006; Thomas et al., 2009). Blood glucose increases with age. Along with the aging process more and more elderly people are at risk of developing diabetes mellitus. Diabetes Mellitus in the elderly is generally asymptomatic or asymptomatic, although there are symptoms often in the form of symptoms that are not typical such as weakness, lethargy, changes in behavior, decreased cognitive status or functional ability, which is very normal in normal elderly people in general.

Cell setbacks occur in old age because of the aging process which can result in organ weakness, physical deterioration, as well as various diseases such as elevated uric acid levels (hyperuricemia) (Rosen & Spiegelman, 2006).

Uric acid is the product of production by the body, so that its presence can be normal in the blood and urine. The rest of the metabolism of protein foods that contain high purines, such as extracts of meat, shellfish and innards such as liver, kidney, spleen, lung, brain (Setiyorini et al., 2018). Age around 40 years increased uric acid levels in the blood are usually found in men, whereas in women usually occur after menopause. This age factor also affects the decline in kidney function, especially in men (Setyoningsih, 2009). This happens because the degenerative process causes kidney function to decline. Decreased kidney function will inhibit the excretion of uric acid and eventually cause hyperuricemia (Carafoli, 1987).

Gout arthritis is a disease caused by the accumulation of monosodium urate crystals in the body (Janssens et al., 2008; Schlesinger, 2004; Wallace et al., 1977). Uric acid is the result of the final metabolism of purines, which is a component of nucleic acids found in the body's cell nucleus. Consumption of high fat or oil such as fried foods, coconut milk, margarine or butter and fruits that contain high fat such as durian and avocado also affect the release of uric acid (Marmer, 2011). Meanwhile, hypercholesterolemia is a condition where there is an increase in cholesterol levels in the blood. Hypercholesterolemia causes atherosclerosis (blockage) of the cerebral arteries which will cause disruption of blood circulation to the brain so that the intake of oxygen and nutrients in the brain decreases.

Health services provided for the elderly in Indonesia are still very limited. Old age is an age that is prone to various diseases. In the elderly with many changes (physical, cognitive, mental, psychosocial and spiritual), it will be better if the elderly get good service. Old age is not just a time to face a death, but a time that should be fun to prepare for the end of one's life (Komalasari & Wihaskoro, 2019). Services in all aspects for the elderly in Indonesia, have not received the maximum touch from the government. The purpose of this empowerment is; 1) Increased knowledge and skills of elderly health cadres in managing elderly Posyandu, 2) Establishment of an orderly and smooth system of five elderly Posyandu service tables, 3) Facilitation of elderly examination aids such as standardized scales, sphygmomanometer as a means of blood pressure measurement, a tool to measure height and order of the elderly, Blood Sugar, Uric Acid, and Cholesterol gauges along with Stick and Blood Lancet, as well as accessories such as Alcohol Swab.

The elderly Posyandu in the Tulusrejo district is a form of concern for the citizens of the elderly. Many changes that occur when you become elderly, such as changes (physical, cognitive, mental, psychosocial and spiritual), with the many changes needed more optimal service. Health cadre training is an activity in order to prepare health cadres so they are willing and able to participate in developing health programs in their regions. Based on the data in the field, there are still some that lack knowledge and skills of cadres in carrying out their tasks. Mainly related to blood sugar, uric acid, cholesterol, and BMI calculation, it is still lacking, this is seen from the examination of blood sugar, gout, cholesterol and BMI calculation, which is rarely done in elderly Posyandu activities. The activity is only carried out when the elderly has a meaningful complaint and the examination will be directed to the nearest Puskesmas or other health services. During this time, Posyandu cadres are more likely to be executing activities, not Posyandu managers, meaning not only carrying out Posyandu activities, but also planning activities and organizing them because they are the ones who best understand the conditions of the needs of the community in their area.

Consequently, related to the above conditions, it is felt necessary to equalize perceptions and increase knowledge and skills of elderly Posyandu cadres in terms of health checks including measurement of Blood Sugar, Gout, Cholesterol, and Calculation of BMI. The significance of this study was determined by the respective Posyandu. Tulusrejo village has an elderly Posyandu that actively implements the program once a month. There are elderly Posyandu cadres who actively carry out their duties around 10 cadres. The elderly Posyandu cadre has several permanent programs which are carried out every month. The activities of the elderly Posyandu carried out in the Tulusrejo district include: body weight checks, blood pressure measurements, and stomach circumference measurements. This does not reflect the condition of the health status of the elderly. For example, there are elderly people who have complaints that they will be directed to the nearest health center or health service.

MATERIALS AND METHOD

This research used descriptive analysis with Participatory Action Research (PAR) method. Basically, PAR is research that actively involves all relevant parties (stakeholders) in assessing ongoing actions (where their own experience is a problem) in order to make changes and improvements for the better. For this reason, they must reflect critically on the historical, political, cultural, economic, geographical and other related contexts. Underlying the study of PAR is our need to get the desired change after the treatment given to participants. There are several principles of

PAR work that become the main character in the implementation of PAR work with the community (Wallace et al., 1977).

PAR is a practice to improve and improve social life and practices, by changing it and reflecting on the effects of these changes to take further action on an ongoing basis. The second is to make awareness efforts to the community about the situation and conditions they are experiencing through their involvement in participating and collaborating on all research processes, starting from planning, implementing, evaluating, and reflecting. This study was done through four stages of research. Community service in this study was carried out through 4 stages, namely: site survey, stakeholder mapping, coaching and training, and evaluation. Thus the follow up was done after the end of cycle.

RESULTS AND DISCUSSION

The results and discussion of this study was described in four stages of research. Each stage will be discussed further after the findings stated.

A. The Analysis of Site Survey and Its Description

This stage was carried out by involving the team of devotees and staff of Tulusrejo Village, Lowokwaru District, Malang City (week 1). The findings in this stage were the description of the respective site survey. Tulusrejo Village is a village located in the Lowokwaru District, Malang City. This sub-district consists of 16 RW (Rukun Warga) and 75 RT (Rukun Tetangga). Administratively, Tulusrejo Village is surrounded by other villages in Malang City (Statistik, 2016). In the north, Kelurahan Tulusrejo is directly adjacent to Mojolangu Kelurahan, Lowokwaru District. Whereas in the east, this village is also directly adjacent to Purwantoro village, Blimbing district. In the south, Tulusrejo Village is bordered by Lowokwaru Village, Lowokwaru District. Then, in the west, Tulusrejo Village is bordered by Jatimulyo Village, Lowokwaru District. Tulusrejo is led by a village chief. In carrying out his daily duties, Lurah Tulusrejo is assisted by a number of staff. To take care of population administration, local residents can come to the Tulusrejo Village Office which is located on Jl. Bantaran Barat II, Lowokwaru District (Malang, 2016).

Tulusrejo sub-district has active cadres in every Posyandu for the elderly. These cadres are scattered throughout the RW and RT in the Tulusrejo Village area. This Posyandu cadre was very active in participating in the training and training held in the Tulusrejo District. Tulusrejo village has an elderly Posyandu that actively implements the program once a month. There are elderly Posyandu cadres who actively carry out their duties around 10 cadres. The elderly Posyandu cadre has several permanent programs which are carried out every month. The activities of the elderly Posyandu carried out in the Tulusrejo district include: body weight checks, blood pressure measurements, and stomach circumference measurements. This does not reflect the condition of the health status of the elderly. Suppose there are elderly people who have complaints that they will be directed to the nearest health center or health service (Risksedas et al., 2017).

The implementation of Posyandu for the elderly can play an active role in detecting early abnormalities suffered by the elderly. Often complaints of diseases such as Diabetes Mellitus, Hyperuricemia, and Hypercholesterolemia are not specific. A normal thing in the elderly experiencing various kinds of decline in body function is happened, so some complaints that are felt by the elderly are considered as normal and normal. But this cannot be underestimated, because for example a complaint that leads to an illness will be very dangerous if not addressed. The earlier the disease is found the more complications will be caused, the treatment will be easier. Especially in the elderly with the deterioration of various bodily functions, certainly treatment also requires a long time when compared to adult patients in general (Cho et al., 2008; Singer & Manton, 1998).

B. The Process of Stakeholder Mapping

At this stage there was a discussion between the servants, village officials and PKK cadres to plan activities and stakeholder mapping that will be involved during training and guidance on basic physical examination and examination of blood sugar, uric acid and cholesterol in Tulusrejo Village, Lowokwaru District, Malang City (week to -2). The service team will first go to the service location to determine the service activity targets and the place used for the service activities. In addition, the service team also coordinated with Tulusrejo Urban Village Head, Nina Sudiarty and cadre associate head Mrs. Din Widiyarsari to obtain permits, determine the necessary infrastructure, and determine the time to carry out community service activities.

It is very important to train cadres to understand and be skilled in conducting basic physical examinations, calculating BMI, measuring Blood Sugar, Uric Acid, and Cholesterol in the elderly in the Tulusrejo District. Collaboration to make changes: involves all parties who have the responsibility (stakeholders) for changes in efforts to improve their abilities and continually expand and multiply cooperation groups to solve problems in the problems at work. A process to build an understanding of the situation and Critical social conditions that is, efforts to create a shared understanding of the situations and conditions that exist in society in a participatory way using intelligent reasoning in discussing their actions in an effort to make significant social change. Improving health status and providing health education is one of the PAR techniques conducted by groups to elderly Posyandu cadres in Tulusrejo village. The elderly feel an unbalance in their bodies as they age. So they feel the need to do an examination related to changes in their metabolic functions. With early prevention it will be easier to cope if there is interference. Health cadre's training is an activity in order to prepare health cadres to be willing and able to participate in developing health programs in their villages.

This community service activity will be carried out by choosing a location in Tulusrejo Sub-District, Lowokwaru District, Malang City, with consideration that the community is enthusiastic and active elderly to Posyandu around 35 people. A total of 18 cadres with minimal knowledge and skills regarding health checks were joined, while the facilities at the Posyandu are complete enough that no one has been able to operate them so there are some broken tools and expired materials. With this problem, our community service team from the Department of Pharmacy, UIN Maulana Malik Ibrahim Malang, seeks to collaborate with related parties, in this case Lowokwaru District and Tulusrejo Village to carry out community service by empowering elderly health cadres. Community service activities were carried out for approximately 3 months from August 2019 to October 2019. Empowerment involved 18 Posyandu cadres in the Tulusrejo Village area.

C. The Coaching Schedule and Its Findings

1. Counseling and Training for Elderly Posyandu Cadres regarding Basic Physical Examinations

The counseling was carried out by a guest speaker from the community service team of UIN Maulana Malik Ibrahim Malang. Resource persons provide knowledge about basic physical examination to detect abnormalities or health problems through the patient's Vital Signs (TTV).

2. Counseling of Elderly Posyandu Cadres concerning Calculation of BMI

The counseling was carried out by a guest speaker from the community service team of UIN Maulana Malik Ibrahim Malang. The resource person will explain the formula and method of calculating BMI in adult patients and then the cadres will practice to calculate BMI in patients.

3. Elderly Posyandu Cadre Training

Posyandu cadre training was carried out for 3 times involving speakers from the UIN Maulana Malik Ibrahim Malang community service team and the Tulusrejo Urban Village health sector. This community service activity also involved policy makers from the elements of Kelurahan Tulusrejo and Lowokwaru District. Training materials include: how to check blood sugar, uric acid, and cholesterol with a simple examination using a stick.

4. Optimizing the Use of Facilities and Infrastructure for the Elderly Posyandu Services

Optimization here is by procurement of tools that are really needed such as leaflets about degenerative diseases such as hypertension, diabetes, hyperuricemia, hypercholesterolemia, ways of prevention and treatment; Sphygmomanometer (blood pressure measuring devices), blood sugar measuring devices, gout gauges and cholesterol measuring devices.

5. Posyandu Cadre Assistance in the Implementation of Services for the Elderly

Assistance to partners is carried out at the location of the two partners when providing services at the elderly Posyandu. The assistance involved speakers from the community service team of UIN Maulana Malik Ibrahim Malang. Posyandu assistance activities in the form of direct guidance in the use of health care tools such as how to use scales,

how to measure height, how to measure blood pressure, blood sugar, gout, cholesterol and how to do simple counseling for the elderly.

D. The Evaluation in the End of Cycle

This stage is carried out by filling out the questionnaire to get an evaluation of stakeholder understanding in a basic physical examination, as well as blood sugar, uric acid and cholesterol tests. The data obtained in filling out this questionnaire can be used as data for research. Besides that, the stakeholders were also evaluated to what extent they were able to demonstrate how to check blood pressure, blood sugar, uric acid and cholesterol (week 4). From the service activities carried out, in general the service participants understood the material presented by the speakers, but there were a small number of participants who needed further explanation and needed to be trained again to carry out the examination, bearing in mind the age of the cadres varied. To find out the extent of the results obtained from community service activities, the community service team conducted an evaluation to the community service participants regarding the training and training materials provided by the resource persons to community service participants.

The evaluation was conducted in the form of a question and answer session between the community service team and the community service participants about the material that was given. In addition, the evaluation was also carried out by looking at people's skills in checking blood pressure, blood sugar, uric acid and cholesterol during the simulation.

From the results of the evaluation, in general the participants were quite understanding and able to carry out the examination, but there were still some participants who still needed a re-explanation from the dedication team. The community service team will explain and demonstrate the material that has been given to participants who still need an explanation or are still not skilled at checking blood pressure, blood sugar, uric acid and cholesterol. For the examination skills, there are still some cadre participants who are afraid and need special assistance in order to dare to examine their friends. After several attempts all cadres were able to carry out checks properly.

E. Discussion and Theory Findings

From the service activities that have been carried out, there are several things related to conditions in Jatimulyo Village, namely: 1) The level of knowledge and understanding of the elderly Posyandu cadre in Tulusrejo Village regarding blood pressure measurement has increased after receiving guidance and training from the speakers, 2) The level of knowledge and understanding of elderly Posyandu cadres in Tulusrejo Village regarding blood sugar, uric acid and cholesterol tests has increased after getting guidance and training from resource persons, and 3) The skills of elderly Posyandu cadres on how to check blood sugar, uric acid, and cholesterol using a stick with an autocheck or easy touch has improved after getting guidance and training from speakers and direct demonstrations to other cadres (Cho et al., 2008; Singer & Manton, 1998; Wallace et al., 1977).

In this activity involves several scientific disciplines in the field of medicine, namely: anatomical physiology, pathophysiology, clinical pathology and pharmacology. Anatomy of Physiology is the study of organ systems that work normally. This science is important so that someone has a basis on how the body's system works normally, so that it will understand if there is a system that is not functioning normally. The field of pathophysiology is the science that explains the process of disease, this is necessary to explain the causes of the emergence of diseases that often suffer by the elderly. Clinical pathology is the study of various diseases, and in this science also studies various kinds of investigations or early detection of the emergence of various types of disorders in the elderly by using examinations ranging from simple to complex. Pharmacology is needed to explain the basic treatment needed by the elderly to overcome various disorders such as hyperglycemia, hyperuricemia, and hyperlipidemia.

CONCLUSION

The results and discussion of this study were narrowed into two main conclusions, which were: 1) Community service activities that have been carried out can increase the knowledge and understanding of elderly Posyandu cadres in Tulusrejo Village on how to check blood pressure, blood sugar, uric acid and cholesterol, and 2) Community service activities that have been carried out can improve the skills of elderly Posyandu cadres in Tulusrejo Village on how to check blood pressure, blood sugar, uric acid and cholesterol. For further research, it is necessary to conduct coaching and retraining activities to increase public knowledge and awareness about lifestyles that can improve the quality of

public health and avoid the risk of disorders and degenerative diseases in the elderly and training on the use of non-pharmacological therapies in the elderly who experience various kinds of disorders and degenerative diseases.

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