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Action on Health Screening and Education to Disseminate and Improve the Health Status of the Elderly

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ABSTRACT

Indonesia has an alarming trend where from year to year the prevalence of degenerative diseases continues to increase, especially in the elderly. This condition is further exacerbated by the number of elderly people in Indonesia reaching 10.48% in proportion to 1 elderly person supported by the productive age population. In addition, there are still many elderly people who are vulnerable due to a lack of preparation both financially and non-financially. The implementation of this health screening action aims to stimulate the growth of disease prevention behavior in old age through education and disease screening activities. The methods used are counseling and health checks. As a result of this activity, 24 elderly people voluntarily participated in health screening. The health condition of the elderly in neighborhood V of Margodadi Village, South Metro District was identified. As many as 95.8% of the elderly are in an unhealthy condition. At least they have 1 problematic health indicator including BMI status, blood pressure, temporary blood glucose value, and uric acid. With details: hypertension 75% (18 elderly), high uric acid levels, 41.6% (10 elderly), and there is 1 elderly who has a malnutrition status based on BMI. It is important to provide assistance, especially for the elderly who are malnourished, to pay attention to food consumption that meets balanced nutritional standards. If possible, provide additional food such as mung bean porridge or other types and do physical activity to increase the metabolism of the elderly body which can support to improve the quality of life.

1. Introduction

Elderly is an individual who has reached the age of 60 years and over. Based on age, individuals who have entered the age of 45 - 59 years are pre-elderly, aged 60 - 69 years are young elderly, aged 70 - 79 years are middle elderly, and 80 - 89 years are old elderly (Stanley & Patricia, 2007). As age increases, the aging process occurs in the elderly. This condition has an impact or opportunity for problems related to health, economic, and social aspects (Papalia *et al.*, 2011).

Improving the health status and welfare of the population has increased life expectancy in Indonesia. This has caused the number and proportion of the elderly population in Indonesia and even in the world to increase. In 2020, the number of people aged 60 years and over exceeded the number of children aged less than 5 years. Between 2015 and 2050, the proportion of the world's population aged over 60 will almost double, from 12% to 22%. By 2050, in low- and middle-income countries it is predicted that 80% will be elderly (WHO, 2022). Indonesia 2021 has entered the old population structure, where about 1 in 10 people are elderly. This phenomenon makes Indonesia enter the old population structure, known as the aging population. This phenomenon makes Indonesia fall into the old population structure called the ageing population. Population aging refers to a phenomenon in which the elderly population (aged >65 years) in a country or region increases significantly. Meanwhile, the proportion of the productive-age population (aged 15-64 years) tends to decrease in relation to the total population. The young elderly group currently dominates with a range reaching 65.56% of all existing elderly, followed by the middle elderly at 27.76% and old elderly at 7.69% (Girsang *et al.*, 2022).

According to the World Population Review, global life expectancy (AHH) in 2023 will reach 70.8 years for men and 76.0 years for women, with an average life expectancy of 73.4 years (Worldpopulationreview, 2023). Indonesia itself is currently increasing its life expectancy. In 2019 it reached 71.1 years. For men, life expectancy in Indonesia reached 69.4 years while for women it reached 73.3 years. In Lampung Province in the same year, life expectancy for men reached 68.64 years and women reached 72.48 years. (BPS, 2019).

This demographic phenomenon provides its benefits and challenges in development. This is possible because there are still many elderly people who are vulnerable due to a lack of preparation both financially and non-financially. The elderly experience a decline in intrinsic capacities such as physical, mental, and cognitive capacities, thus affecting their functionality. The greatest hope for the elderly is to be able to live healthy and independent lives (Zhou & Ma, 2022) have a healthy cognitive mentality, and be able to participate socially (Briede-Westermeyer *et al.*, 2023; Rivadeneira *et al.*, 2021). However, not all elderly people can achieve this condition. Elderly health is a key indicator to support optimal quality of life in older age. The World Health Organization (WHO) states that degenerative diseases are the biggest cause of death in the world. This disease is becoming a global epidemic, especially in countries with medium and small income levels (WHO, 2023). Indonesia has an alarming trend where from year to year the prevalence of degenerative diseases continues to increase, especially in the elderly (Girsang *et al.*, 2022). Similar to the aging process, degenerative diseases naturally experience a decrease in the function of body cells which ultimately affects the overall organ function (Beard *et al.*, 2016).

Health care for the elderly is an effort to improve health and quality of life in the elderly. This group has a vulnerability to the onset of disease as a result of the aging process (Ekawanti *et al.*, 2018). Therefore, this group needs access to health information and services, both preventive and curative. Educational activities are one of the efforts that can be done to increase understanding of diseases and how to prevent them (Jepisa *et al.*, 2022). Health education is one of the efforts that can be taken to increase individual understanding (Asih & Rohimah, 2021). Educational activities are a routine program held every month by the Puskesmas with a target audience of 30% of the elderly. The main purpose of education is to provide stimulation to the target so that the thinking process of the individual can give birth to positive behavior (Bhisma, 2018).

Efforts can be made to reduce the prevalence of degenerative diseases by screening as early as possible or periodically so as to prevent the onset of disease or minimize the risks arising from the disease. Regular screening is a promotive effort in improving the quality of life of the elderly. At least the elderly are screened every 3-6 months to monitor health. Health screening is included in asymptomatic examinations to detect whether individuals have or do not have a disease. Screening is also an effective way of epidemiology to determine the prevalence of a disease that cannot be diagnosed or in conditions of high morbidity in a group of individuals / communities at risk, as well as in crisis conditions that require immediate treatment, but still require other supporting examinations to establish a definitive diagnosis (Putra *et al.*, 2022).

Other efforts that can be made to stay healthy in old age are to do physical activity for at least 30 minutes every day of the week and to have periodic health screenings (Widyawati, 2022). Physically and mentally healthy elderly can improve their quality of life and extend their life expectancy. A healthy lifestyle, disease prevention, and proper care can help maintain the health of the elderly. Preventing the onset of a disease is one of the efforts that can be made in the elderly. To maintain their health, some things to consider include immunization as an effort to prevent disease including routine early detection (Kemenkes, 2023).

Margodadi Village is one of the villages in the South Metro sub-district. Based on the population, the South Metro sub-district has as many as 2008 elderly people spread across 4 villages (BPS Kota Metro, 2023). Supporting the health of the elderly there is an Elderly Posyandu. The availability of Posyandu Lansia has not met the gold standard in providing services to the elderly so the 78th Indonesian Independence Day committee took the initiative to conduct social services to help improve the health of the elderly through education and health screening.

2. Methods

This health education and screening action was carried out in collaboration between the 78th Indonesian Independence Day Committee of Neighborhood V, Margodadi Village, Metro Selatan Subdistrict, and the Tanjung Karang Health Polytechnic Community Service team, especially the Metro Campus Midwifery Study Program lecturers. Implementation of activities in August 2023 is based on the results of a review of the committee team and the lecturer service team who consider it important to start changing people's behavior, especially the elderly, in overcoming a disease. On this basis, this activity aims to stimulate the growth of disease prevention behavior in old age through educational activities and disease screening. The methods used are counseling and health checks. The expected change from this activity is from treating behavior to preventive behavior towards a disease. Technically, the implementation of activities is carried out through three stages, namely planning, implementing activities and evaluating activities. The details of the activity implementation are illustrated in Figure 1.

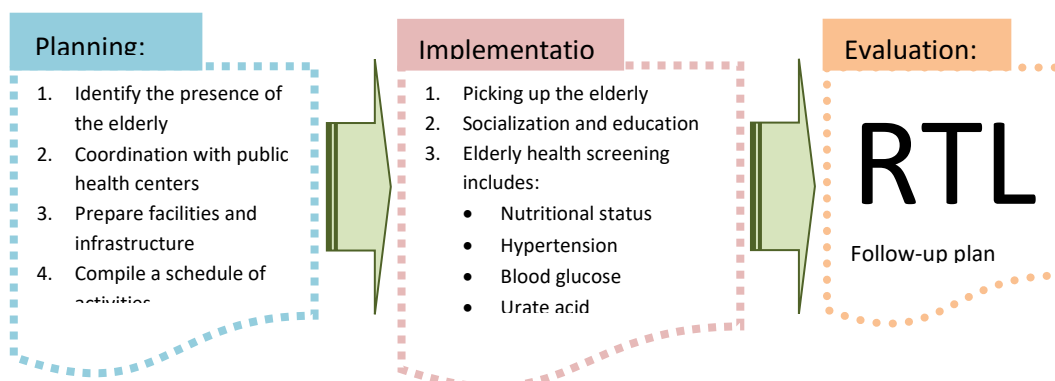


Figure 1. Flow of Implementation of Community Service Activities in the Context of Educational Action and Health Screening for the Elderly in Neighborhood V of Margodadi Village, South Metro District

Figure 1 shows the flow of implementation of community service activities in the form of social services starting from planning. The activities carried out at the planning stage include identifying the presence of the elderly, coordinating with the puskesmas, preparing facilities and infrastructure, and preparing an activity rundown. In the implementation activities, elderly pick-up, socialization and education, elderly health screening and ended with post-screening counseling. The final step is evaluation where a post-activity follow-up plan is carried out.

3. Results and Discussions

This community service activity in the form of social service was carried out for 10 days, starting from planning activities and ending with implementation and evaluation activities. In the planning stage, the committee and the service team held a focused discussion to get the problems faced by the elderly. The results of the discussion at the planning stage identified the lack of elderly participation during the elderly Posyandu activities and the presence of the elderly. Furthermore, the service team coordinated with the Puskesmas for the implementation of activities. Furthermore, the time for implementing the activity is determined which is outlined in the activity rundown and preparation of the facilities and infrastructure needed.

3.1. Education on the Importance of Periodic Screening in Older Age

The core implementation activities in the form of health screening and educational activities were carried out for 1 day to coincide with the Indonesian Independence Day on August 17, 2023 which started at 10.00 WIB until completion in the afternoon. Education was carried out through counseling delivered by lecturers of the Tanjung Karang Health Polytechnic Midwifery Study Program, Metro Campus to the elderly and elderly companions in neighborhood V of Margodadi Village, South Metro District (Figure 2). Participants were 24 people consisting of the elderly and their companions. The theme of the counseling carried out in this educational activity, namely the importance of periodic screening in old age. Through educational activities, it is hoped that information transfer will occur, so as to stimulate the elderly and their companions about the importance of conducting periodic health screening in the elderly so as to improve the quality of life of the elderly (Notoatmodjo S, 2014).



Figure 2. Implementation of Counseling in Educational Action in Community Service Activities for the Elderly in Neighborhood V of Margodadi Village, South Metro District.

The initial results of counseling activities which were also used as inform consent activities, as many as 24 elderly people voluntarily participated in health screening. There was 1 elderly who was not willing to be tested for blood glucose and uric acid (Figure 3).



Figure 3. Implementation of Health Screening in Community Service Activities for the Elderly in Neighborhood V of Margodadi Village, South Metro District.

Health Status

A long life is not necessarily always accompanied by a good quality of life. As a result of the aging process, the elderly will experience a decrease in body metabolism which affects the function of organs. As a result, degenerative diseases become more likely to appear in the elderly (Kemenkes, 2019). In addition to educating the elderly, the activities organized to enliven the 78th Indonesian Independence Day ended with checking the nutritional status of the elderly through Mini Nutritional Assessment (MNA), blood pressure, blood glucose, and uric acid. This activity is one of the efforts to support the health of the elderly through health screening and is also a form of appreciation for the elderly on Indonesia's beloved anniversary. The following are the results of health screening for the elderly.

Table 1. Health Status of the Elderly Based on Health Screening in Neighborhood V of Margodadi Village, South Metro Sub-district

No	Health Status	Man		Women		Total	
		Σ	%	Σ	%	Σ	%
1	Healthy	1	4,2	0	0	1	4,2
2	Unhealthy	10	42	13	54,6	23	95,8

Source: Primary Data Processing

Based on Table 1, the health condition of the elderly in neighborhood V of Margodadi Village, Metro Selatan Sub-district was identified. As many as 95.8% of the elderly are in an unhealthy condition. This assessment is based on the results of the examination which states that they have at least 1 problematic health indicator including BMI status, blood pressure, blood glucose values, and uric acid. Next, the results of the health check are presented in Table 2 and Table 3.

Table 2. Mean Value of Elderly Health Assessment Indicators in Neighborhood V of Margodadi Village, South Metro Subdistrict

Indikator Penilaian	Mean	Min	Max
Age (year)	67,7	60	90
Body Weight (kg)	54,8	30	80
Height (cm)	153	135	168
BMI (cm/kg ²)	23.6	16,4	34,5
Blood Pressure			
* Systole (mmHg)	161,3	89	210
* Diastole (mmHg)	86,1	56	122
Blood Glucose (mg/dl)	122,2	86	278
Urate Acid (mg/dl)	6,61	4,5	10,5

Source: Primary Data Processing

Based on Table 2, the maximum values of BMI, blood pressure, blood glucose, and uric acid were identified as being above the normal threshold. This value indicates that the elderly in Neighborhood V of Margodadi South Metro Village at least have nutritional status problems, and experience hypertension, Diabetes Mellitus, and Urate Acid. Furthermore, from the screening results based on the examination indicators, data interpretation is carried out through the assessment of skinning results based on normal limit values according to age groups. The results of data interpretation are presented in Table 3 below.

Table 3. Distribution of Interpretation of Elderly Health Screening Results by Category of Health Problems and Gender in Neighborhood V of Margodadi Village, South Metro Sub-district

No	Health Issues	Man		Women	
		Σ	%	Σ	%
1	BMI				
	* Skinny	0	0	1	4,2
	* Normal	7	29,2	7	29,2
	* Overweight (Gemuk)	2	8,4	3	12,6
	* Obesity	2	8,4	2	8,4
2	Hypertension	7	29,2	11	45,8
3	Blood Glucose	2	8,4	3	12,6
4	Urate Acid	5	20,8	5	20,8

Source: Primary Data Processing

Table 3. Informs that hypertension is the main problem suffered by the elderly, reaching 75% (18 elderly), followed by high uric acid levels at 41.6% (10 elderly). There is 1 elderly who has a nutritional status based on BMI assessment.

The normal BMI limit value for the elderly is 18.5 - 24.9 kg/m². In the elderly, BMI that is less or far beyond the normal threshold has a variety of health risks. Elderly BMI that is below the normal threshold or thin has health risks such as; chronic malnutrition, osteoporosis, anemia, the process of recovery from illness and infection is hampered, susceptible to several types of cancer, neurological diseases and digestive disorders. (Stibich, 2021; WHO, 2010).

Constraints

During the implementation of social service activities, there were no significant obstacles. It's just that the implementation of social service activities is delayed because the elderly who must be visited and picked up do not want to participate even though they have been given education. A special team to

pick up the elderly was formed to pick up the elderly, especially those who did not have a companion to participate in social service activities.

3. Conclusion

There is an increase in the awareness of the elderly about the importance of health screening after identifying the health status of the elderly who experience problems of under or over nutrition and problems of degenerative diseases. Preventive efforts through providing additional food such as mung bean porridge or other types and doing physical activity to increase the metabolism of the elderly body which can support to improve the quality of life, become a follow-up plan for activities that are scheduled in the future.

4. Acknowledgment

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