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## **Impact of Health Literacy via Leaflets on Preventing Multimorbidity Non-Communicable Diseases in Tanggobu Village**

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### **ABSTRACT**

**Background:** Health literacy is closely related to multimorbidity. Health Literacy is defined as the extent to which an individual has the capacity to obtain, process and understand basic health information and the need for services to make appropriate health decisions. Tanggobu Village is an area which is a mining area which is a village in Morosi District, Konawe Regency. Based on the results of previous research, it was found that 90.9% of elderly people suffer from multimorbid diseases in the Tanggobu Village community, that the majority of people suffer from hypertension. Efforts to prevent multimorbidity from non-communicable diseases can be done by increasing health literacy, which is a concept consisting of four competencies, namely the process of accessing, understanding, assessing and applying information.

**Objective:** To determine the effect of health literacy on preventing multimorbidity from non-communicable diseases in the Tanggobu village community, Morosi District, Konawe Regency.

**Method:** This type of research is quantitative, Experimental research with one group pretest-posttest design. The population and sample were 30 respondents with sampling using total sampling. Statistical analysis uses a paired t-test (paired sample t-test).

**Results:** The results of the paired sample t-test show (p-value = 0.000), where the p-value <  $\alpha$  value.

**Conclusion:** There is influence of health literacy through leaflet media about preventing multimorbidity of non-communicable diseases on the knowledge of the Tanggobu village community, Morosi District, Konawe Regency. recommendations from research results are distributing leaflets more widely, including in health centers, schools, workplaces and local communities to reach more people, apart from leaflets, integrate health literacy through various media such as educational videos, social media and health applications to reach people with various media preferences.

**Keywords:** Health Literacy; Multimorbidity; Leaflets

## INTRODUCTION

Multimorbidity is a condition in which a person suffers from two or more chronic diseases simultaneously (1)(2). This condition is becoming increasingly common, especially among the elderly (elderly). According to research, the prevalence of multimorbidity increases with age, with major risk factors including hypertension, diabetes, heart disease and respiratory disorders (2)(3). This condition requires special attention in prevention and management efforts to improve the quality of life of affected individuals. People with multimorbidity (PwM) often have highly complex healthcare needs, are at increased risk of depression, and are more likely to rely on informal family carers to assist in the management of their conditions (4).

Health literacy plays an important role in the prevention and management of multimorbidity. Health literacy is defined as an individual's ability to obtain, understand, and use health information in making appropriate decisions regarding their health. In Indonesia, public health literacy is still relatively low, which contributes to the high number of non-communicable diseases (NCDs) (5). The prevalence of chronic non-communicable diseases (NCDs) has increased with global population aging. The phenomenon of multimorbidity, i.e., co-existing diseases in patients with NCDs, has also increased (6). Data from WHO in 2018 shows that 73% of deaths in Indonesia are caused by NCDs, with 35% of them caused by heart disease, 12% by cancer, and 21% by a combination of factors such as maternal and child deaths, infectious diseases, and nutritional problems (7). A better understanding of the prevalence and patterns of multimorbidity across different regions and population subgroups is essential to enable reasonable resource allocation (6).

Health literacy is defined as the social and cognitive skills that determine a person's motivation and ability to gain access to, understand, and use information in ways that promote and maintain good health. However, to the best of our knowledge, the association between health literacy and treatment burden has not yet been explored (8). Higher eHealth literacy was associated with better healthy aging in older Chinese people, and health behaviors mediated this relationship (9).

Tanggobu Village, Morosi District, Konawe Regency, is an area where the majority of the population works in the mining sector. Based on previous research, 90.9% of elderly people in this village suffer from multimorbidity, with the majority of cases being hypertension (10). This condition shows the need for effective interventions to increase public health literacy to prevent NCDs. Increasing health literacy can be done through various methods, one of which is the use of leaflet media. Leaflets as a health education tool have proven effective in conveying information that is clear and easy to understand by the public. Research shows that leaflets can increase public knowledge and awareness about health, as well as encourage positive behavioral changes (11).

Based on the results of health examination activities carried out in Tanggobu village, blood pressure checks from 32 residents of Tanggobu Village Morosi District. The majority of Konawe who had blood pressure checks were respondents in the hypertension category, namely the average blood pressure was above 140/90 mmHg, this was caused by factors of age > 45 years and diet. Cholesterol Examination of 32 residents of Tanggobu District. Morosi District. Konawe who had cholesterol checks had normal test results, namely with cholesterol levels < 200 mg/dl. Uric Acid Examination of 32 residents of Tanggobu District. Morosi District. Konawe, which tested uric acid levels, had normal test results, namely with uric acid levels < 7.0 mg/dl. Examination of Blood Glucose Levels from 32 residents of Tanggobu District. Morosi District. Konawe who checked their blood sugar levels had a normal glucose level of < 200 mg/dl.

One of the main challenges in effective prevention of non-communicable diseases at the individual level is the lack of awareness about symptoms and risk factors and self-management strategies to reduce risk. To overcome the increasing number of sufferers, public awareness of non-communicable diseases is very important. Apart from the individual, the family has an important role in preventing disease. Efforts to prevent non-communicable diseases can be made by increasing health literacy, which is a concept consisting of four competencies, namely the process of accessing, understanding, assessing and applying information (12).

This research aims to measure the influence of health literacy through leaflet media on the knowledge of the Tanggobu Village community about preventing NCD multimorbidity. The method used was pre-experiment with a one group pretest-posttest design. It is hoped that the research results will provide an overview of the effectiveness of leaflet media in increasing health literacy and preventing NCDs in village communities.

## METHOD

This type of research is pre-experimental research using a one group pretest-posttest design approach. The population in this study was 30 elderly people. This research sample took the entire population, namely 30 respondents, using total sampling techniques. people who were able to attend because of their busy schedule during the research period. The extension method uses leaflet media. The information in the leaflet is the definition of multimorbidity, impact, principles of prevention of non-communicable diseases, goals of family assistance. The

instrument used to measure changes in knowledge is a pretest-posttest questionnaire. Data analysis used a paired sample t-test.

## RESULTS

Based on the results of the research and data processing carried out, the research results are presented as follows.

**Table 1.** Respondents Characteristics

Characteristics	Frequency (n)	Percentage (%)
<b>Age (Years)</b>		
55-64	8	26.7
65-74	16	53.3
75-85	6	20.0
<b>Gender</b>		
Man	14	46.7
Woman	16	53.3
<b>Education</b>		
Elementary School	6	20.0
Junior High School	5	16.7
Senior High School	14	46.7
College	2	6.7
No School	3	10.0
<b>Total</b>	<b>30</b>	<b>100.0</b>

Based on Table 1, it shows that of the 30 research respondents, the largest number of respondents were in the 65-74 year age group, 16 people (53.3%). Then, there were 16 female respondents (53.3%), most of the respondents' last education was high school with a frequency of 14 people (46.7%).

**Table 2.** Analysis Differences in Knowledge Before and After Leaflet Media Intervention Concerning Prevention of Multimorbidity of Non-Communicable Diseases on the Knowledge of the Community inTanggobu Village Morosi District Konawe Regency 2024

Group	Knowledge Score		p-value
	Pre-Test (Mean)	Post-Test (Mean)	
Leaflet Media Intervention	3.77	6.73	0,000

Based on Table 2, it shows that the knowledge score before counseling using leaflet media obtained a mean value of 3.77, while the average score after counseling was 6.73. This shows that there is an increase in knowledge scores. The results of the paired t test analysis produced p-value = 0.000 < 0.05. This shows that there is a regulationand significant knowledge scores before and after counseling using leaflet media.

## DISCUSSION

This research shows that health literacy through leaflet media has a significant effect on increasing the knowledge of the Tanggobu Village community about preventing multimorbidity from non-communicable diseases. Before the intervention, public knowledge about preventing non-communicable diseases was at a low level, as evidenced by the average pre-test score of 3.77. After the intervention, the mean score increased to 6.73, indicating a significant increase in knowledge.

These results are in line with health literacy theory which states that health literacy is an individual's ability to access, understand, assess and apply health information in making appropriate health decisions (13). Good health literacy allows individuals to be more proactive in maintaining their health, reducing the risk of disease, and improving quality of life(14)(15).

Knowledge is the result of knowing and occurs after someone senses a particular object. Sensing occurs through the five human senses, namely the senses of sight, hearing, smell, taste and touch. Most knowledge is acquired through the eyes and ears (16). Knowledge can also be defined as information or understanding obtained from experience or education, which influences a person's ability to make decisions and act (17).

Leaflets as an information medium have advantages in conveying health messages because they are simple, easy to carry, and can be read at any time (18). Leaflets are effective in conveying clear and concise information so that they can increase public knowledge and awareness (19)(20). The effectiveness of leaflets as a health education medium is supported by previous research which shows that the use of leaflets can increase public health knowledge and behavior (21).

Previous research that was carried out in Besu Village, neighboring Tanggobu Village, also showed that access to health information and family support were related to the incidence of multimorbidity. The level of health literacy, whether functional, communicative or critical, influences an individual's ability to manage their health condition. The capacity and role of adolescents in comprehending health and disease prevention information are still very low. Due to a lack of knowledge and motivation in going to health services, as well as healthcare that can be done by individuals in an effort to prevent disease, adolescents' abilities to apply information remain low (22).

Additionally, research of Friis et al, emphasizes the importance of health literacy in the management of chronic medical conditions(23). People who have good health literacy tend to be better able to manage their health conditions and take necessary preventive measures (8)(24). Increasing health literacy among the population empowers individuals to make informed health decisions, engage in lifestyle changes, and navigate the health system effectively. This involves educational campaigns, community programs, and the incorporation of health education into school curricula (25).

Health literacy is also very important in preventing morbidity in the elderly. The elderly are a group that is vulnerable to various chronic diseases and multimorbidity. Research conducted by Berkman et al, shows that low health literacy in the elderly is associated with an increased risk of morbidity, functional limitations and mortality(26). With good health literacy, seniors can better understand their health conditions, follow medical instructions better, and take the necessary preventative steps to manage their health (27).

## CONCLUSION

Based on the results of this research, it can be concluded that health literacy through leaflet media has a significant effect on increasing the knowledge of the Tanggobu Village community about preventing multimorbidity of non-communicable diseases. Interventions using leaflet media are effective in increasing public awareness and understanding about the importance of preventing non-communicable diseases.

## SUGGESTION

Based on the results and conclusions of this research, it is recommended that the use of this media be expanded to other areas with similar characteristics to Tanggobu Village considering the effectiveness of leaflet media in increasing community knowledge. Distributing leaflets more widely, including in health centers, schools, workplaces and local communities to reach more people. Apart from leaflets, integrate health literacy through various media such as educational videos, social media and health applications to reach people with various media preferences. Providing training to health instructors on effective ways to convey information through leaflets so that the messages conveyed are more effective and easier for the public to understand. Conduct regular evaluations of community knowledge and behavior after the intervention to ensure that increased health literacy has a positive impact in the long term. Apart from that, involving local health institutions in the outreach program to get further support and ensure the sustainability of the health literacy program.

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