COMPARISON OF HEALTH CONDITIONS BASED ON DEGENERATIVE DISEASES IN RURAL AND URBAN ELDERLY

ABSTRACT

As they age, elderly people naturally experience a decline in physiological and cognitive function, making them vulnerable to various health problems. The process of decreasing body organ function, which generally occurs in old age, can cause degenerative diseases. The health condition of the elderly can be seen from two basic health indicators, namely the percentage of elderly people who experience health complaints and the morbidity rate of the elderly, namely the condition when an elderly person experiences health complaints and causes disruption to their daily activities or activities. The research aims to analyze the comparison of the incidence of degenerative diseases, especially hypertension and diabetes mellitus in the elderly in rural and urban areas. This research was descriptive research(cross sections study) carried out in Tiong Ohang Village, Long Apar District, Mahakam Hulu Regency, and Samarinda City. This research involved 88 respondents selected using the Consecutive sampling method, consisting of 44 respondents from Tiong Ohang Village, Long Apari District, Mahakam Ulu Regency, and 44 respondents from Samarinda City. The data collected consists of primary data taken based on the results of interviews with respondents, secondary data taken from literature studies and research reports related to research, and data analysis using the T-test. The research results showed that as many as 70.45% of elderly people in urban areas and 72.73% of elderly people in rural areas had health problems in the form of degenerative diseases (hypertension and diabetes mellitus). The results of statistical tests show that there are no real differences in the health conditions of the elderly in urban and rural areas.

Keywords: Health Conditions Based on Degenerative Diseases, hypertension, diabetes mellitus,Urban and Rural

1. INTRODUCTION

The aging population is the impact of health success which can increase life expectancy and reduce fertility rates. This condition is a collective success from several aspects, such as reducing the infant mortality rate, improving access to education, increasing job vacancies, increasing gender equality, intensifying reproductive health programs, and increasingly affordable health facilities for as many people as possible (Heryanah, 2015). By 2030, it is estimated that at least 1 in 6 people in the world will be aged 60 years or older (WHO, 2022). Currently, the proportion of people aged 60 years and over will increase from 1 billion in 2020 to 1.4 billion. The population aged 60 years and over in the world will double (2.1 billion) by 2050. Not only is the number and proportion of elderly people increasing, in fact along with increasing life expectancy, the proportion of elderly people (80 years and over) will also increase, even from 2020 to 2050 it is estimated to increase threefold to reach 426 million (Central Statistics Agency, 2023).

As they age, elderly people naturally experience a decline in physiological and cognitive function, making them vulnerable to various health problems. The health burden of the elderly in various low- and middle-income countries comes from diseases such as heart disease, stroke, visual impairment, and hearing impairment. Development achievements have indeed succeeded in increasing life expectancy, but Indonesia's healthy life expectancy still tends to be low. Longevity in the elderly population is not meaningful enough without being balanced with quality of life, one of which is the health aspect, which is the target of all countries in the world (WHO, 2021).

Degenerative disease is a process of decreasing the function of body organs which generally occurs in old age. However, there are times when it can occur at a young age, the result is a decline in health which is usually followed by disease. The most dangerous consequence of this disease is pain and it is also very costly, especially in old age, and can also end in death. Hypertension and diabetes mellitus are the two most common diseases experienced by the elderly in Indonesia (Fatihaturahmi et al., 2023).

The health condition of the elderly can be seen from two basic health indicators resulting from the National Economic Census activities in March 2022. The first indicator is the percentage of elderly people who experience health complaints, namely the condition of an elderly person who experiences health or mental disorders, either due to frequently experienced disorders/illnesses. Such as fever, cough, cold, diarrhea, headache, due to acute illness, illness due to accidents, crime, or other health complaints. The complaints recorded are physical and psychological complaints experienced by the elderly during the last

month. The second indicator is the morbidity rate of the elderly, namely the condition when an elderly person experiences health complaints and causes disruption to their daily activities or activities. The morbidity rate is one of the indicators used to measure the health status of the population (Ministry of Health, 2021). The higher the morbidity rate, the worse the population's health status, conversely, the lower the morbidity rate, the better the population's health status.

Apart from the large population size and sociocultural diversity, Indonesia is facing demographic, epidemiological, and nutritional transitions. Economic growth resulted in a significant increase in life expectancy and several lifestyle changes. Increasing life expectancy has led to rapid growth of the elderly population. This trend adds new burdens to governments as more resources and services are needed for the elderly than ever before, while problems arising from high birth rates remain unresolved. The increasing number of elderly people, together with the trend towards a more sedentary lifestyle, has increased the incidence of degenerative diseases. Based on data from the Central Statistics Agency in 2023, it was recorded that 23.54% of rural elderly had health complaints and 18.37% of urban elderly had health complaints. Based on the background above, research was conducted that aimed to analyze the comparison of the incidence of degenerative diseases, especially hypertension and diabetes mellitus in the elderly in rural and urban areas.

2. LITERATURE REVIEW
2.1. Elderly
According to the World Health Organization (WHO), an elderly person is someone aged 60 years or more. WHO also groups the elderly into several categories, namely: (1) middle-aged aged 45 - 59 years; (2) elderly aged 60 – 74 years; (3) old age aged 75 - 90 years; and (4) very old, over 90 years old.

Aging is a natural phase in life. At the organismal level, the body tends to experience and accumulate changes over time and these changes are usually degenerative. The body will experience a decline from its previous prime condition, especially in terms of speed, efficiency, and repair. Unfortunately, there are also cases when certain individuals experience degenerative changes prematurely (Budiman, 2022).

The problem of elderly people according to Kuntjoro (2007) and Kartinah (2008) is that they are vulnerable to various life problems. Common problems faced by the elderly include economic problems, social problems, and health problems. Suardiman (2011) stated that increasing old age will be followed by increasing health problems. Advanced age is characterized by decreased physical function and susceptibility to disease. Kartinah (2008) further stated that psychosocial health problems are things that can cause balance disorders, thereby leading the elderly towards progressive damage or decline, especially sudden psychological aspects, for example, confusion, panic, depression, and apathy. This usually originates from the emergence of the most severe psychosocial stressors, such as the death of a spouse, the death of a close relative, or psychological trauma.

Factors that influence the psychosocial health of the elderly according to Kuntjoro (2002), include: (1) decline in physical condition (changes in skin, hair, muscles, eyes, ears, and breathing); and (2) decreased sexual function and potency.

2.2. Degenerative Diseases
It was stated by Mas'ud (2023) that degenerative diseases are health conditions that cause tissues or organs to deteriorate over time. There are quite several types of generative diseases that are related to aging or worsen during the aging process, as well as genetic problems and lifestyle choices. Many of these diseases cannot be cured and can only be managed to relieve and improve symptoms.Degenerative diseases are caused by various factors. These factors are a direct effect of the body's normal use, while others are caused by poor health or an unhealthy lifestyle. Most degenerative diseases can be cured, but some cases cannot be cured.

According to Budiman (2022), degenerative diseases are classified into three main groups, namely: (1) Cardiovascular such as high blood pressure, coronary disease, and myocardial infarction; (2) Neoplastic such as cancer; (3) Nervous systems such as Parkinson's, Alzheimer's, Huntington's, amyotrophic lateral sclerosis, multiple sclerosis, and batten. Several other types of degenerative diseases are macular degeneration, osteoarthritis, osteoporosis, and Duchenne muscular dystrophy.

Mas'ud (2023) stated that several types of degenerative diseases are most commonly suffered by the elderly, including hypertension, heart disease, osteoporosis, diabetes mellitus, and cancer.

Hypertension is a disease in which arterial blood pressure is abnormally high during systole or diastole. This condition must be diagnosed and treated because it causes permanent damage to the arteries. If not treated properly, hypertension can cause serious complications, such as coronary heart disease, heart failure, stroke, kidney failure, and blindness. Diabetes mellitus (high blood sugar) is a chronic (long-term) disease that you need to be aware of. The main symptom of this disease is an increase in blood sugar (glucose) levels above normal. Uncontrolled diabetes can have serious consequences and damage various organs and body tissues. For example, body organs such as the heart, kidneys, eyes, and nerves.

According to Pittara (2023), the treatment of degenerative diseases carried out by doctors will be adjusted to the type of degenerative disease experienced by the patient. Treatment aims to relieve symptoms, prevent the worsening of the disease, and help patients be able to carry out normal activities. Some treatment methods that can be used by doctors are medication, physiotherapy, and surgery. It is also stated that to help with treatment, patients are advised to change their lifestyle to be healthier in the following ways: consuming complete and balanced nutritious food, reducing their intake of foods high in sugar and saturated fat, losing weight if they are obese, doing light exercise regularly, and play games that can sharpen the brain regularly.

2.3. The relationship between degenerative diseases and the elderly

According to Ardenari (2018) humans will eventually age on their own, and at a certain point, will be accompanied by various health problems due to body performance that is no longer at its best. The elderly usually experience various health problems. Health problems in the elderly are called Geriatric Syndrome. The presence of this syndrome is an accumulation of unhealthy lifestyle habits carried out during youth, such as consuming junk food, high-fat foods, and alcohol. Apart from that, Geriatric Syndrome can also be caused by physiological changes in the sufferer's body as a result of the aging process. This syndrome can turn into a serious health problem if not treated immediately. Several diseases will appear in the elderly, these diseases are called degenerative diseases.

Furthermore, Mas'ud (2023) stated that as people get older, a person's health will decline and they become more susceptible to various diseases. This also puts the elderly at risk of developing degenerative diseases, namely health conditions caused by damage to body tissues and organs over time. The body will experience a decline from its previous peak condition, especially in terms of speed, efficiency, and repair. Over time, these degenerative changes cause symptoms and disease. There are several types of generative diseases associated with aging. Degenerative diseases are caused by various factors. Some of these factors are a direct effect of normal body use, while others are caused by poor health or an unhealthy lifestyle.

3. METHODOLOGY

This research is descriptive research (cross sectional study) carried out in Tiong Ohang Village, Long Apari District, Mahakam Hulu Regency, and Samarinda City. The stages of research activities include research preparation, observation, sample determination, data collection, data analysis, and reporting.

This research involved 88 respondents selected using the Consecutive sampling method, consisting of 44 respondents from Tiong Ohang Village, Long Apari District, Mahakam Ulu Regency, and 44 respondents from Samarinda City.

The data collected consists of primary data taken based on the results of interviews with respondents and questionnaires, and secondary data taken from literature studies and research reports related to the research.

Data analysis uses the T-test which aims to compare the same variable, namely the health condition of two different sample groups.

4. RESULTS AND DISCUSSION
4.1. General description of Tiong Ohang Village

Tiong Ohang is a village in Long Apari District, Mahakam Ulu Regency, East Kalimantan Province, Indonesia, with an area of 849.62 km^2. The distance between the village and the sub-district capital is 0.1 km, and 335 km from the village capital. The population is 634 people, consisting of 375 men and 259

women. The population density is 0.751 people km^{-2}.   Health facilities only exist in the sub-district capital, namely 1 community health center, 2 auxiliary community health centers, 2 practicing doctors, and 1 midwife. Most residents throw rubbish and defecate into the river (West Kutai Central Statistics Agency, 2023).

4.2. General description of Samarinda City

Samarinda City is the capital of East Kalimantan Province and has an area of 718.00 km^2 which is divided into 10 sub-districts, 59 sub-districts, and 1,975 neighborhood units. The population in 2023 will be 850,629 people, consisting of 432,638 men and 717,991 people. The population density is 1200.29 people km^{-2}.   The population classified as elderly aged > 45 years is 236,793 people (27.84%). Health facilities in Samarinda City consist of 10 general hospitals, 5 special hospitals, 3 maternity hospitals, 106 clinics, and 26 community health centers (Samarinda City Central Statistics Agency, 2024).

4.3. Health Status of Urban Elderly

The research results showed that 31 respondents (70.45%) had health problems in the health condition of urban elderly, and only 13 respondents (29.55%) had no health problems.   The research results are presented in Figure 1.

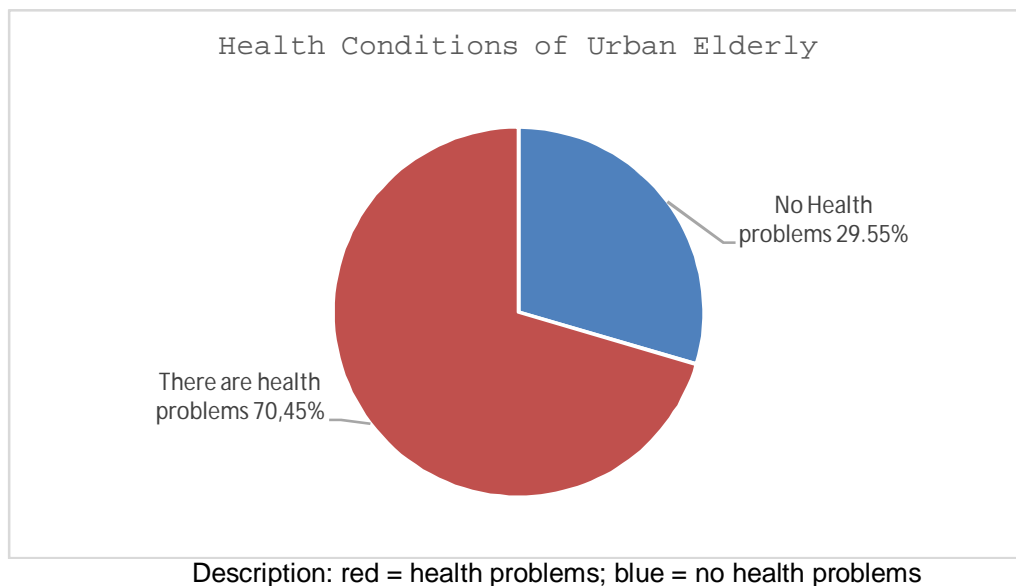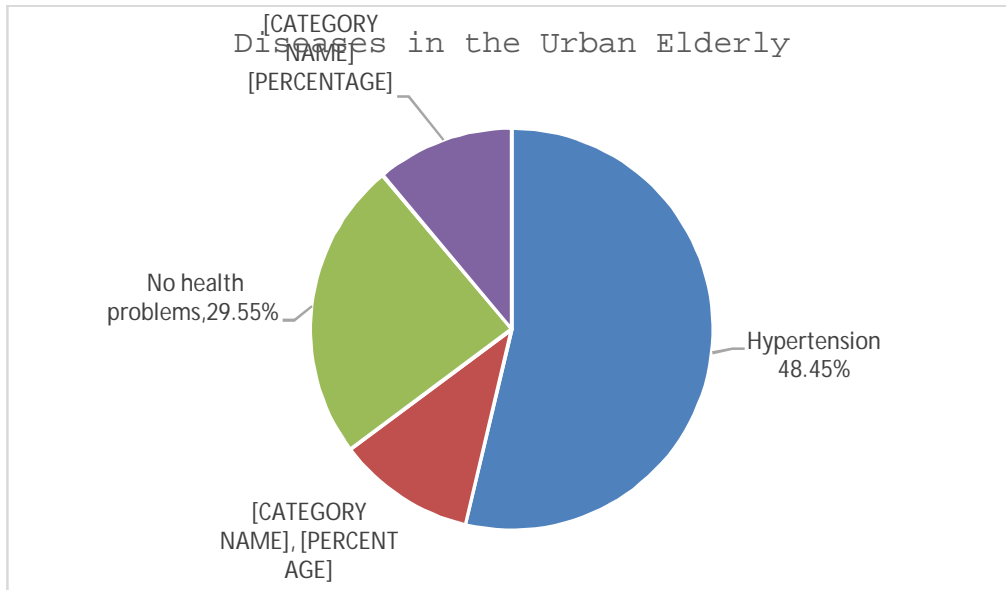Description: red = health problems; blue = no health problems

Figure 1. Health Conditions of the Elderly in Urban Areas

The health problems of the elderly include hypertension as much as 48.45% diabetes mellitus as much as 11%, hypertension, and diabetes mellitus as much as 11% (Figure 2).

Diseases in the Urban Elderly

[CATEGORY NAME]
[PERCENTAGE]

No health problems,29.55%

Hypertension
48.45%

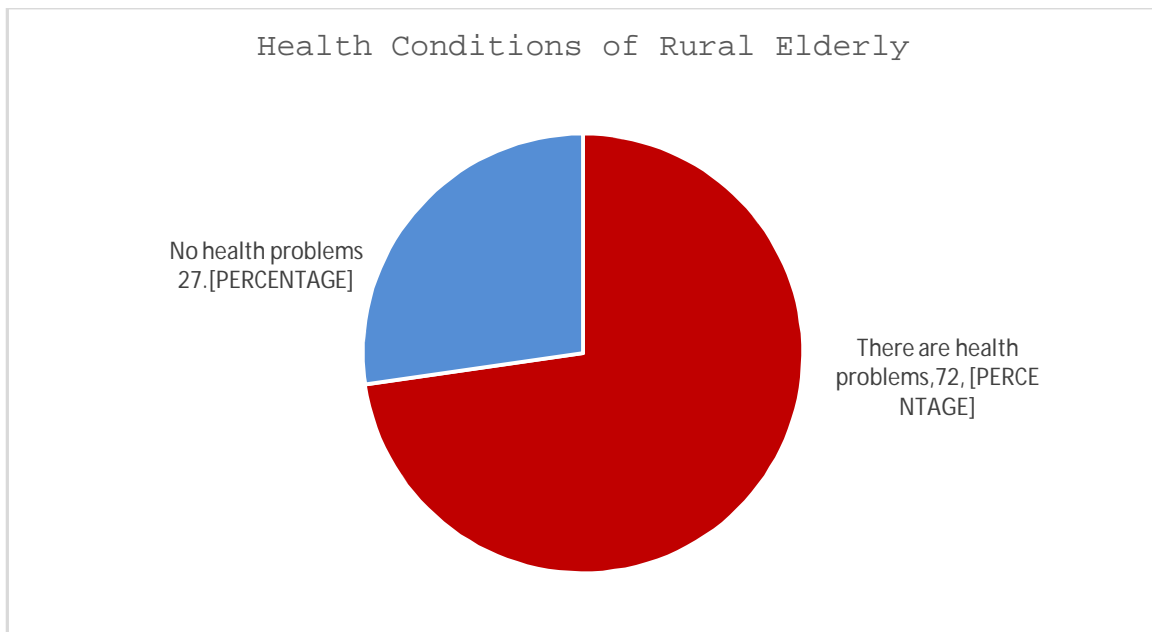[CATEGORY NAME], [PERCENTAGE]

Description: blue = hypertension; red = diabetes mellitus; violet = hypertension and diabetes mellitus; green = no health problems.

Figure 2. Conditions of Elderly Diseases in Urban Areas

4.4. Health Status of Rural Elderly

The results of the study showed that 32 respondents (72.73%) had health problems in the health status of elderly people in rural areas, and only 12 respondents (27.27%) had no health problems. The research results are presented in Figure 3.

Health Conditions of Rural Elderly

No health problems
27.[PERCENTAGE]

There are health problems,72, [PERCENTAGE]

Description: red = health problems; blue = no health problems

Figure 3. Health Conditions of the Elderly in Rural Areas

The health problems of the elderly include hypertension as much as 44,73%, diabetes mellitus as much as 28.00%, and no health problems as much as 12.27% (Figure 4).

Diseases in Rural Elderly

No health problem 27.27%

[CATEGORY NAME], [PERCENTAGE]
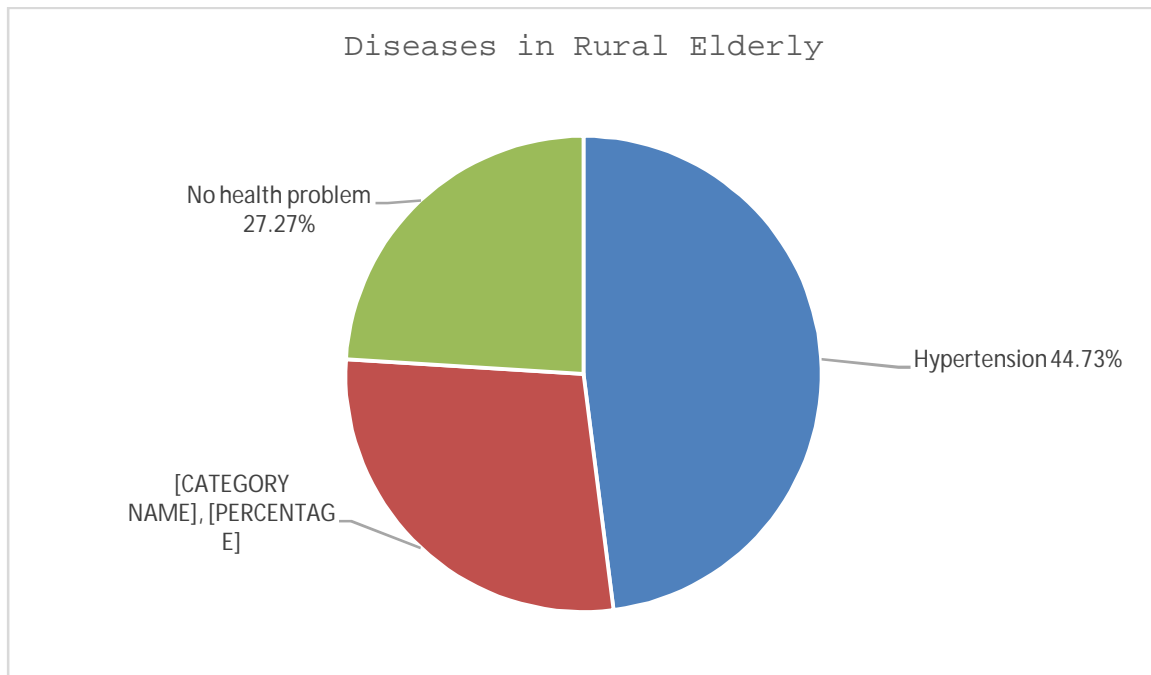
Hypertension 44.73%

Keterangan : blue = hypertension; red = diabetes mellitus; green = no health problems.

Figure 4. Conditions of Elderly Diseases in Rural Areas

The results of data analysis using the T-test are presented in Table 1.

Table 1. Data Analysis Results

Characteristics	Urban		Rural		Total		Mean	SD	P value
	n	%	n	%	n	%			
No health problems	13	29.55	12	27.27	25	28.4			
							-,023	0.628	0,812
There are health problems.	31	70.45	32	72.73	63	71.6			

Source: Primary data processed (2024)

The results of the t-test data analysis in Table 1 show that the p-value is 0.812>0.05, so Ha is rejected, and Ho is accepted, which means that there is no difference in health conditions based on degenerative diseases in urban and rural elderly. Researchers assume that in this study there is no difference in health conditions based on degenerative diseases in urban and rural elderly, Researchers assume that in this study there is no difference in health conditions based on degenerative diseases in urban and rural elderly, this is because government programs, especially in the health sector, such as the implementation of posyandu for the elderly, posyandu for non-communicable diseases (NCDs) have been implemented well in urban and rural areas.

The research results show that the majority of elderly people have health problems in both urban (70%) and rural areas (73%), and the disease that most elderly people suffer from is hypertension, namely 54% in urban areas and 48% in rural areas. Apart from being caused by advanced age, the high number of hypertension cases is also caused by risk factors. As stated by Afni and Triana (2021) that the aging process is the most common cause of degenerative diseases. As we get older, the function of the body's tissues and organs will increasingly decrease. That is why elderly people are more likely to experience various types of degenerative diseases compared to younger people.

Furthermore, it was stated by Fatihaturahmi et al. (2023) that the main risk factors for degenerative diseases are unhealthy eating patterns, lack of physical activity, cigarette consumption, as well as increased stress and exposure to causes of degenerative diseases. This change in lifestyle in terms of food consumption is mainly triggered by an increase in economic income, high work activity and the promotion of trendy western foods, especially fast food which is popular in America and Europe, but this is not balanced with nutritional knowledge and awareness. Eventually the food culture changed to one high in saturated fat and sugar, and low in fiber and low in micronutrients. Socio-economic changes and food tastes will result in changes in people's eating patterns which tend to move away from the concept of a balanced diet, thus having a negative impact on health and nutrition. A diet high in saturated fat and sugar, as well as low in fiber and low in micronutrients will cause problems of obesity, excess nutrition, and increase free radicals which ultimately result in changes in disease patterns from infections to non-infectious chronic diseases or the emergence of degenerative diseases.

Various efforts have been made by both the government and private institutions to increase the elderly's knowledge and access to information about health, one of which is the establishment of an elderly posyandu service. Posyandu for the elderly is one of the platforms that can be used by the elderly to reach health services, as well as information and education about the health of the elderly, including degenerative diseases (National Population and Family Planning Agency, 2023). Providing health information is carried out to build awareness of the elderly so that they are invited to think about the problems they face, and open up realistic hopes based on their physiological conditions. When awareness and knowledge have been formed, mobilizing the elderly to increase their capacity and ability to maintain their health will be easier to do (Hidayah et al., 2022).

5. CONCLUSION AND RECOMMENDATIONS
5.1. Conclusion
Based on the results of the research and discussion, conclusions can be drawn, namely as follows:
1. As many as 70.45% of elderly people in urban areas and 72.73% of elderly people in rural areas have health problems in the form of degenerative diseases (hypertension and diabetes mellitus)
2. The results of statistical tests show that there are no real differences in the health conditions of the elderly in urban and rural areas.

5.2. Suggestion
1. Integrated Service Posts for the elderly should provide more education about the independence of the elderly so that the elderly can carry out more productive activities and not depend on other people.
2. Continuous intervention by health workers is needed in treating the elderly.

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1.
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