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Comparison of Culture, Social-Economics, Attitude and Behavior of Diabetes Mellitus Patients Between Urban and Rural of Southeast Sulawesi

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Abstract

Diabetes mellitus is a serious health problem; the incidence of diabetes mellitus tends to increase, from 6.9% in 2013 to 8.5% in 2018. The difference in prevalence of diabetes mellitus in urban area is 14.7% and rural 7.2% by influenced lifestyle changes. The purpose of this study was to distinguish between culture, socio-economics, attitudes and behaviour of people with type 2 diabetes mellitus in urban and rural communities in Southeast Sulawesi, especially Kendari City and Konawe Islands. This research was a quantitative research, with a cross sectional approach. The research sample was 130 respondents with cluster techniques. Instrument used a questionnaire sheet. Data collection techniques were in form of interviews, observations and documentation. Analysis of calculations in this study used Mann Whitney and found that there were differences in cultural variables (p = 0,000), socioeconomic (p = 0,000), attitudes (p = 0,000) and behaviour (p = 0,000) in type 2 diabetes mellitus in urban and rural communities. The results shows that the incidence of type 2 diabetes mellitus is more increased in urban areas than rural areas due to food habit, socio-economic, attitudes, behaviour and as a consideration to improve health status by maintaining a healthy lifestyle such as exercise and nutritious food.

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INTRODUCTION

The American Diabetes Association (ADA) defines diabetes mellitus as a group of metabolic diseases with characteristics of hyperglycaemia that occur due to abnormal insulin secretions, insulin action, or both (Perkerni, 2015). The incidence of diabetes mellitus in Indonesia in 2013 was 6.9% and 8.5% in 2018, so that the estimated number of people with diabetes mellitus in Indonesia reached more than 16 million people at risk of developing diabetes mellitus (Ministry of Health, 2018). The prevalence of diabetes mellitus in urban areas is 14.7% while rural area is 7.2% (Ministry of Health, 2014). This is because the general risk factors for non-communicable diseases in Indonesia are still relatively high, namely 33.5% do not engage in physical activity, 95% do not consume fruits and vegetables, and 33.8% of the population over the age of 13 are acute smokers (Ministry of Health, 2018).

The incidence of diabetes mellitus in Southeast Sulawesi precisely in Kendari City ranks 5th out of 12 districts with a total of 2,983 cases in 2016, and in 2017 it increased to 3206 (Southeast Sulawesi Health Office, 2017). Type 2 diabetes mellitus in both urban and rural areas greatly affects one's lifestyle, and is largely due to interactions between genetic vulnerability factors and exposure to the environment. Type 2 diabetes mellitus is difficult to cure but is very potential to be prevented and controlled through 4 pillars, namely education, diet, exercise, and therapy. The purpose of this study is to distinguish the culture, socio-economic, attitudes and behaviour of people with type 2 diabetes mellitus in urban and rural communities.

Patients with type 2 diabetes mellitus in urban areas are independent variables, while the dependent variables are culture, socio-economics, attitudes and behaviours. The instrument in this study used a questionnaire sheet. Data collection techniques were carried out by means of interviews, observations and documentation. Data analysis used *Mann Whitney* analysis, namely differentiating on independent variables and dependent variables.

RESULTS AND DISCUSSION

Results

This research was conducted in Southeast Sulawesi Province, located in Kendari City and Konawe Islands, in September 2018 with the aim of distinguishing cultural, socio-economic, attitudes and behaviour of people with type 2 diabetes mellitus in urban and rural communities by using questionnaires.

Table 1. Frequency Distribution of Respondents of Type 2 Diabetes Mellitus in Urban and Rural Communities

Variable	Urban		Rural	
	N	%	n	%
Culture				
Bad	5	16.9	17	5.1
Good	95	83.1	13	24.9
Social-economics				
Low	10	17.7	13	5.3
High	90	82.3	17	24.7
Attitudes				
Lack	11	19.2	14	5.8
Good	89	80.8	16	24.2
Behaviour				
Lack	16	48.5	17	51.5
Good	84	86.6	13	1.4

The table above shows that out of 130 respondents who suffered from type 2 diabetes mellitus in urban and rural communities, patients with type 2 diabetes mellitus on urban culture an unfavourable category amounted to 5 respondents (16.9%), while type 2 diabetes mellitus sufferers from rural cultures with bad category, 17 respondents (5.1%).

The socio-economic conditions of urban communities were in the low category 10 respondents (17.7%), while those with type 2 diabetes mellitus on the socio-economic conditions of rural communities were 13 respondents (5.3%).

Patients with type 2 diabetes mellitus on the attitude in urban communities a less category has the number of 11 respondents (19.2%), while patients in rural communities less categories were 14 respondents (5.8%).

In behaviour variable, urban communities has less categories with 16 respondents (48.5%), while rural communities has less categories, namely 17 respondents (51.5%).

Table 2. The distinction in Cultural Variables, Socio-Economic, Attitudes, Behaviours of People with Diabetes Mellitus in urban and rural communities

Variable	Urban	Rural	*p*
	Average	Average	*Value*
Culture	73.25	39.67	0.000
Social-Economics	70.50	48.84	0.000
Attitude	70.85	47.76	0.000
Behaviour	71.60	45.17	0.000

Based on the results of the study showed that the average cultural rating of people type 2 diabetes mellitus in urban communities, namely 73.25, it is higher than the culture of people with type 2 diabetes mellitus in rural communities 39.67 from the results of the *Mann Whitney* test obtained a p value of 0,000 (p <0.05), it means that there is a difference between the culture of type 2 diabetes mellitus sufferers in urban communities and the culture of type 2 diabetes mellitus patients in rural communities.

The mean socio-economic rating in patients with type 2 diabetes mellitus in the urban area of 70.50 is higher than the socio-economic condition in patients type 2 diabetes mellitus in the village 48.84 from the results of the *Mann Whitney* test obtained p value 0.000 (p <0.05) it means there is a difference between the socio-economic status of people type 2 diabetes mellitus in urban and rural area.

The average attitude rating of people with type 2 diabetes mellitus in urban communities, which is 70.85 higher than the attitude of people with type 2 diabetes mellitus in rural communities, namely 47.67 from the results of the *Mann Whitney* test results obtained *p* value 0.000 (p <0.05) means there are differences attitude of type 2 diabetes mellitus sufferers in urban communities and attitudes of people with type 2 diabetes mellitus in rural communities.

The average rating of behaviour of people with type 2 diabetes mellitus in urban community was 71.60 higher than the attitude of people type 2 diabetes mellitus in rural communities, namely 45.17. From the results of the Mann Whitney test obtained p value of 0.000 (p <0.05) means there were differences in attitude type 2 diabetes mellitus in urban and the rural communities

Discussion

Culture is a complex whole that includes knowledge, belief, art, morality, law, customs and intolerance and other habits learned by humans as members of society. In achieving human/community or population targets, health efforts must be considered.

Based on the results of this study using the *chi square* test the results obtained *p* value 0,000 (p <0.05) then there is a relationship between the incidence of type 2 diabetes mellitus and the culture of the community both in urban and rural areas.

Another study conducted by Lukman (2017) stated that the occurrence of type 2 diabetes mellitus in several Bugis and Toraja tribes is caused by the pre-diabetes lifestyle in the form of not doing physical activity and smoking. The factors of the socio-cultural environment have considerable influence over other environmental factors.

Research by Abdulrehman et al. (2016) stated that socio-cultural sufferers of diabetes mellitus in self-management should not be underestimated, especially the coastal environment, because biomedical care cannot be reached by everyone.

Based on the results of the *chi square* test results obtained p value 0,000 (p <0.05), there is a relationship between the incidence of type 2 diabetes mellitus and the socio-economic

conditions of urban communities in rural communities.

The research of Duboz et al. (2017) stated that urban revenues are more irregular, socio-economic and health advice such as sanitation, medicines and health care are affordable so the mortality rate is lower than rural residents.

This is in line with the research of Gardiarini et al. (2017) stated that income and education have a significant influence on the quality of the diet of blood sugar levels in patients with type 2 diabetes mellitus.

Based on the results of the *chi square* test results obtained *p* value 0,000 (p <0.05), there is a relationship between the incidence of type 2 diabetes mellitus in urban and rural communities.

The changes in the attitude of respondents of type 2 diabetes mellitus in urban and rural communities to be good are not only influenced by increased knowledge. A good attitude is also influenced by the experience of respondents who have done treatment, because there were respondents who had not recognized suffering from type 2 diabetes mellitus when conducting an examination. From that experience, the respondents were motivated to have a positive / good attitude about the influence of the type 2 diabetes mellitus.

Based on the results of the chi square test results obtained p value 0,000 (p <0.05) then there is a relationship between the incidence of type 2 diabetes mellitus and the behaviour of urban and rural communities.

Anani et al (2012) stated that there is a relationship between behaviour with control of type 2 diabetes mellitus. Changing behaviour of urban and rural communities with unhealthy behaviour will lead to uncontrolled glucose levels and cause type 2 diabetes mellitus. Patients can live healthy with diabetes mellitus as long as you want to obey and control blood glucose regularly. Unhealthy lifestyles that are associated with increased blood sugar in patients with diabetes mellitus are among those types of lack of physical exercise, unhealthy diet, and cigarette and alcohol consumption.

Another research comes from Toharin et al. (2015), they stated that there was a relationship to provide guidance and counselling to people with diabetes mellitus about physical exercise, healthy diet, smoking cessation, the use of antibiotics and side effects, and the importance of blood glucose checks, improve information about diabetes mellitus, complications and prevention. So that both urban and rural communities can prevent excessive elevation of blood sugar levels.

Cultural Differences, Social-Economic, Attitudes, Behaviors in Urban and Rural Areas.

Health culture is the part of core values of norms and social organization that accompany it with health efforts, the spread of diseases and models of treatment and healing are influenced by the culture and civilization of local communities such as food selection.

Research by Nurhadelia et al. (2009) stated that eating habits and choosing food for families and individuals showed that culture played a role in determining the meaning in the community. This shows that the selection of food in a person does not just automatically occur. Socio-cultural factors are one element that is used as a guide for someone in choosing food.

Based on the results of this study using the Mann Whitney test, it was obtained the value of p 0,000 (p <0.05) means that there is a difference between the culture of type 2 diabetes mellitus patients in urban communities with the culture of type 2 diabetes mellitus patients in rural communities.

Increased diabetes mellitus in Kendari City is due to a lifestyle change that is in accordance with the increasing prosperity, per capita income, and lifestyle changes. The pattern of eating in the city has shifted from traditional food patterns that contain lots of carbohydrates and fibre from vegetables, to modern eating patterns that are so instant, with the composition of foods that contain too much protein, fat, sugar, salt and contain little fibre.

The composition of food like this especially in junk food is very popular.

Moreover, the way of life is getting busier from morning to evening and sometimes even at night sitting behind the desk causes no chance to react to exercise. This risky lifestyle causes the prevalence of diabetes mellitus to increase in urban areas rather than rural areas (Manurung et al., 2014).

In line with research by Karimuna et al. (2018) stated that it is better to regulate diet by consuming lower-carbohydrate traditional foods than consuming white rice. Then economic development leads to lifestyle changes and thus results in reduced physical activity and increased obesity (Whiting et al., 2011).

Based on the results of this study using the Mann Whitney test, it was obtained the p value of 0,000 (p <0.05) means that there is a difference between the socio-economic of type 2 diabetes mellitus patients in the urban and rural communities.

Low socio-economics based on personal or household income, education, employment and high-area areas are associated with low levels of physical and emotional health. This can cause an increased risk of cardiovascular disease and poor glycaemia control (Brown et al., 2004)

Anani et al. (2012) study states that diabetes mellitus can affect all age groups and socio-economic layers in rural and urban areas. If it is unchecked, this disease can cause other complications that endanger health. The difference in the socio-economic level underlies the impact on daily consumption patterns.

Dwiningsihet's Research (2013) stated that high socio-economic conditions usually support people to buy food in more than adequate quantities and tend to shift to more expensive food sources, namely animal protein. Social difficulties, such as unemployment cause migration from rural areas to urban area.

Lee et al. (2010) also stated that economic factors and lifestyle changes are one of the factors in the occurrence of type 2 diabetes mellitus so that there are differences in prevalence in urban and rural areas.

Based on the results of this study using the Mann Whitney test results, it was obtained *p* value of 0,000 (p <0.05) means that there are differences in behaviour of people with type 2 diabetes mellitus in urban communities and behaviour of people with type 2 diabetes mellitus in rural communities.

Health behaviour can be influenced by how a person believes in his ability to live, psychosocial, family support and level of knowledge. Behaviour and environment are quite dominant factors in influencing one's health status, according to Fenny Etrawati et al (2012).

This is reinforced by Lutfiyya's research (2012) which states that the existence of health inequalities such as health behaviour such as adequate fruit consumption and fulfilled varieties, so that the urban population is far better than the urban population.

CONCLUSION

The conclusions in this study can be taken as follows: there are differences in culture, socio-economic, attitudes and behaviour of people with type 2 diabetes mellitus in urban and rural communities.

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