Determinants Of Blood Pressure In Prolanis Participants In The Tlogosari Kulon Community Health Center Area

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Abstract
Hypertension is one of the most common diseases in society and can occur in all age groups from teenagers to the elderly. As a basis for creating intervention activities to reduce blood pressure in Prolanis participants, a Prolanis data analysis study is needed to determine the determinants of blood pressure in Prolanis participants in the Tlogosari Kulon area. The aim of this data analysis study is to explain the relationship between gender, GDP and age with the blood pressure of Prolanis participants in the Tlogosari Kulon Community Health Center area simultaneously. This secondary data collection was carried out in order to identify blood pressure determinants of Prolanis participants in the Tlogosari Kulon Community Health Center area. The data collected was the result of prolanis activities in the Tlogosari Kulon Community Health Center area which was carried out on February 1 2023. The measurements of sphygmomanometers, body weight and height were carried out by Tlogosari Kulon Community Health Center Health personnel. Blood collection and GDP test by Cito Semarang Laboratory. Male Prolanis participants have a 3.5 risk of suffering from hypertension compared to female Prolanis participants. Prolanis participants who are classified as high GDP have a 2.3 risk of suffering from hypertension compared to prolanis participants who are classified as normal GDP. Prolanis participants aged >=60 years have a 1.1 risk of suffering from hypertension compared to prolanis participants aged <60 years

Keywords: *Blood Pressure, Prolanis Participants, Community Health Center Area*

I.   Introduction

Hypertension is one of the most common diseases in society and can occur in all age groups from teenagers to the elderly. According to the World Health Organization (WHO), high blood pressure is a condition in which the blood vessels continuously increase blood pressure (WHO, 2021). According to the American Society of Hypertension (ASH), normal blood pressure is systolic blood pressure <120 mmHg and diastolic blood pressure <80 mmHg (Ministry of Health of the Republic of Indonesia, 2019). According to (Hossain et al., 2019) hypertension is an important risk factor for non-communicable diseases which can cause death if not treated properly, and one third of the world's population has this disease. One of the determining factors for hypertension is the incidence of diabetes mellitus. Diabetes mellitus is a chronic metabolic disorder caused by the pancreas not producing enough insulin or the body being inadequate in utilizing insulin, characterized by an increase in blood glucose levels. Diabetes mellitus is divided into two, namely type I and type II. Type I diabetes mellitus is diabetes mellitus caused by a lack of insulin production. Meanwhile, type II diabetes mellitus is diabetes mellitus due to the body's inadequate use of insulin (Hestiana, 2017). Diabetes mellitus in the Tlogosari Kulon Community Health Center area is very high, based on the profile of the Tlogosari Kulon Community Health Center, the number of diabetes mellitus sufferers in this Community Health Center area is second highest after hypertension, namely approximately 500 cases per year. The majority of diabetes mellitus sufferers experience decreased productivity either due to symptoms of diabetes mellitus or as a result of diabetes mellitus complications (Kusumawardani et al., 2021).

The results of interviews and field observations show that there are many government programs to reduce the incidence of diabetes mellitus, namely prolanis, gendis ban, and independent community health center programs. Prolanis is a collaborative activity of community health centers, city health services and BPJS in dealing with diabetes mellitus, in the form of periodic visits once a month with routine checks for complaints and blood sugar. Prolanis Health Data includes the results of examinations of Fasting Blood Sugar (GDP), Blood Pressure, and characteristics of Prolanis participants such as gender and age. When analyzed, Prolanis data can produce information on the determinants of blood pressure for Prolanis participants in the Tlogosari Kulon Community Health Center area. Based on this background, it is necessary to study Prolanis data to

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produce information on the determinants of blood pressure of Prolanis participants in the Tlogosari Kulon Community Health Center Area.

The objectives of analyzing Prolanis data in the Tlogosari Kulon Community Health Center area are as follows: Explaining the characteristics of Prolanis participants in the Tlogosari Kulon Community Health Center Area, Explaining the relationship between gender, GDP, and age and blood pressure of Prolanis participants in the Tlogosari Kulon Community Health Center Area, Explaining the relationship between gender , GDP, and age with blood pressure of Prolanis participants in the Tlogosari Kulon Community Health Center area simultaneously.

II.   Method

This secondary data collection was carried out in order to identify blood pressure determinants of Prolanis participants in the Tlogosari Kulon Community Health Center area. This activity was carried out as a basis for planning material for community service activities for prolanis participants in the Tlogosari Kulon Community Health Center Area. The data collected was the result of prolanis activities in the Tlogosari Kulon Community Health Center area which was carried out on February 1 2023. The measurements of sphygmomanometers, body weight and height were carried out by Tlogosari Kulon Community Health Center Health personnel. Blood collection and GDP test by Cito Semarang Laboratory.

III.   Result and Discussion

Tlogosari Kulon Village is one of the sub-districts in Semarang City. Geographically, this sub-district is a lowland area with a height of 0-3 meters above sea level and an area of 278.5 Ha. Administratively, Tlogosari Village consists of 28 Neighborhood Units and 249 Neighborhood Units. Based on statistical data, the total population is 8,571 people consisting of 4323 men and 4248 women, consisting of 2702 families (Puskesmas-Tlogosari-kulon, 2018). The majority of the population is aged 40 years and over, so Tlogosari Kulon sub-district has the largest working-age population compared to other sub-districts in Pedurungan District. Most of the residents of this subdistrict earn their living from civil servants and laborers. This age composition and type of livelihood makes the population movement pattern in the Tlogosari Kulon Community Health Center area very fast. The development of an area as indicated by population growth and city activities also demands increasingly large land requirements. Even though it is based on level, the population of this sub-district is relatively homogeneous which can be seen from the type of house they live in. The average type of house in the Tlogosari Kulon Community Health Center area is type 21 and the largest is type 36, which is classified as a simple house (Rahati, Kahar and Subiyanto, 2015).

The infrastructure in this Community Health Center area is very adequate considering that the sub-district is an urban fringe area. However, the limited land area in the city causes the city to experience development to suburban areas. There is a conversion or change in land use, namely agricultural and dryland to non-agricultural in peri-urban areas, so that this sub-district has very minimal natural potential (Rahati, Kahar and Subiyanto, 2015). In the health sector, health infrastructure is adequate, both government and private. Government health infrastructure, namely Community Health Centers and Posyandu. Based on the profile of the Tlogosari Kulon Health Center, Semarang, the number of posyandu in the working area of this Puskesmas focuses on posyandu for toddlers, namely 76, but what is very worrying is that the number of posyandu for the elderly and posbindu is very small (Puskesmas-Tlogosari-kulon, 2018), considering the population aged 40 years and above in this Community Health Center Area is very large and dominates the population composition in the Tlogosari Kulon Community Health Center Area. Based on field observations, posyandu is a form of community participation in order to improve the health level of the surrounding community. It is still not optimal, especially posbindu and posyandu for the elderly. Posyandu supervisors must be able to empower community participation so that the health programs run by the Puskesmas can run well, and this has not been implemented well.

A. Characteristics of Prolanis Participants in the Tlogosari Kulon Community Health Center Area

The characteristics of Prolanis participants in the Tlogosari Kulon Community Health Center area show that the majority of Prolanis participants in the Tlogosari Kulon Community Health Center area are 67.8% female, 66.1% aged >= 60 years; those with GDP >=126 mg/dl were 54.2%; and those classified as hypertensive were 81.4%.

B. Relationship between Gender, GDP and Age with Blood Pressure of Prolanis Participants in the Tlogosari Kulon Community Health Center Area

The relationship between gender and age and blood pressure in Prolanis participants was tested using the Fisher Exact test, while the relationship between GDP and the incidence of hypertension was tested using the Khai Square test. There is a relationship between gender and the incidence of hypertension. Male Prolanis

participants had a 2.5 risk of suffering from hypertension compared to female Prolanis participants, but this risk was not statistically significant (OR=2.5; 95% CI OR= 0.5-12.8; p=0.476). There is a relationship between GDP and the incidence of hypertension. Prolanis participants who were classified as high GDP had a 1.5 risk of suffering from hypertension compared to prolanis participants who were classified as normal GDP, but this risk was not statistically significant (OR=1.5; 95% CI OR= 0.4-5.8; p=0.517). There is a relationship between age and the incidence of hypertension. Prolanis participants aged >=60 years had a 1.1 risk of suffering from hypertension compared to prolanis participants aged <60 years, but this risk was not statistically significant (OR=1.1; CI 95% OR= 0.3-4 .5; p=0.554).

C. Simultaneous Relationship between Gender, GDP, and Age and Blood Pressure of Prolanis Participants in the Tlogosari Kulon Community Health Center Area

The relationship between gender, GDP and age with blood pressure of Prolanis participants in the Tlogosari Kulon Community Health Center area was simultaneously tested using Multiple Logistic Regression. That there is a relationship between gender and the incidence of hypertension. Male Prolanis participants had a 3.5 risk of suffering from hypertension compared to female Prolanis participants, but this risk was not statistically significant (OR=3.5; 95% CI OR= 0.6-20.6; p=0.162). There is a relationship between GDP and the incidence of hypertension. Prolanis participants who were classified as high GDP had a 2.3 risk of suffering from hypertension compared to prolanis participants who were classified as normal GDP, but this risk was not statistically significant (OR=2.3; 95% CI OR= 0.6-9.8; p=0.246). There is a relationship between age and the incidence of hypertension. Prolanis participants aged >=60 years had a 1.1 risk of suffering from hypertension compared to prolanis participants aged <60 years, but this risk was not statistically significant (OR=1.1; CI 95% OR= 0.3-4 .6; p=0.246).

IV.   Conclusion

From the study of the results of health data analysis of Prolanis participants in the Tlogosari Kulon Community Health Center area, it was concluded as follows: Male Prolanis participants had a 3.5 risk of suffering from hypertension compared to female Prolanis participants. Prolanis participants who were classified as high GDP had a 2.3 risk of suffering from hypertension compared to with prolanis participants who are classified as normal GDP, Prolanis participants who are >=60 years old have a 1.1 risk of suffering from hypertension compared to prolanis participants who are <60 years old

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