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Relationship of Patient Characteristics and Revisit of Outdoor Patients of Coronary Heart Disease in Hospitals

1st Desinta Aisyah Nur Dwi Azizah
Duta Bangsa University of Surakarta
Surakarta, Indonesia
desinta368@gmail.com

2ndAlvira Lendriana Scarletta
Duta Bangsa University of Surakarta
Surakarta, Indonesia
alviralendryana@gmail.com

3rd Arifa Putri Rismanti
Duta Bangsa University of Surakarta
Surakarta, Indonesia
arifahputri@gmail.com

4th Nabilatul Fanny
Duta Bangsa University of Surakarta
Surakarta,Indonesia
nabilatu@udb.ac.id

Abstract—Based on a survey at the hospital, outpatient visits with coronary heart disease had increased from the previous year, namely 50 patients (2017) and 120 patients (2018). This study aims to determine the relationship between patient characteristics and re-visit of outpatients with coronary heart disease. The type of research used in this research is quantitative research, the sample used is 120 patients. Data were collected by means of a questionnaire and then analyzed by using the Chi-Square test. The results showed that the highest age was 58-67 years (39.9%), the highest gender was male (73.3%), the highest payment method was general patients (63.3%), the highest patient origin was patients came of their own accord (63.3%) and complications of the disease, there were complications that existed in the amount of 72.1%. Chi-Square test results were age (p = 0.037), gender (p = 0.0001), method of payment (p = 0.0001), patient origin (p = 0.0001) and disease complications (p = 0.0001) there is a connection with a repeat visit. The most related logistic regression test results were the method of payment and the origin of the patient with a value of p = 0.0001. It is known that the characteristics of age, sex, method of payment, patient origin and disease complications are associated with repeat visits, while the most related ones are payment methods and patient origins. Suggestions that can be conveyed are to be able to maintain superior services that have been in great demand by patients for treatment.

Keywords—*Patient characteristics, repeat visits, outpatient care, and coronary heart disease*

I. INTRODUCTION

Coronary Heart Disease is one of the main health problems and the number one cause in the world. In Indonesia, the results of Basic Health Research (Riskesda) in 2018 showed that 1.5% or 15 out of 1000 Indonesians suffer from coronary heart disease. The Sample Regristration System (SRS) survey in 2014 in Indonesia showed that coronary heart disease (CHD) was the leading cause of death for all ages, amounting to 12.9%. According to the age group, most CHD occurred in the age group 65-74 years (3.6%) followed by the age group 75 years and over (3.2%), the age group 55-64 years (2.1%) and the age group 35-44 years (1.3%). Meanwhile, according to economic status, most were at the lower economic level (2.1%) and the lower middle class (1.6%). Data [1] in 2012 shows that 17.5 million people worldwide die from cardiovascular disease or 31% of the 56.5 million deaths worldwide. More than 3/4 of deaths from cardiovascular disease occur in low to moderate income developing countries. Death due to cardiovascular disease, 7.4 million (42.3%) of them were caused by coronary heart disease (CHD). Financing for catastrophic diseases according to data from the Social Security Administration (BPJS) in the Health sector in 2016, costs nearly 14.6 trillion rupiah. Meanwhile, in 2015, it spent nearly 14.3 trillion rupiah. The largest cost was for heart disease, where there was an increase in financing compared to 2015, which amounted to 6.9 trillion rupiah (48.25%) to 7.4 trillion rupiah (50.7%) in 2016.

The Central Java health pocket book in 2017 shows that heart disease is one of the top 5 non-communicable diseases, namely 34,551 patients. Whereas in 2018 people with heart disease experienced an increase of 2,913,304. According to the book Health Profile of Sukoharjo Regency in 2015, heart disease and blood vessels were 14,678 sufferers. In the preliminary survey results at the Sebelas Maret University Hospital (UNS) Sukoharjo, people with coronary heart disease from 2017 and 2018 have increased.

The purpose of this study was to determine the relationship between patient characteristics and re-visit of outpatients with coronary heart disease. According to the problems raised, the researchers were interested in raising the theme of the relationship between patient characteristics and re-visit of outpatients with coronary heart disease. The research was conducted at the Sebelas Maret University Hospital (UNS) Sukoharjo.

II. METHOD

This type of research used in this research is qualitative research with an analytic design. The approach used in this study is a cross sectional survey, which is a study to study the dynamics of the correlation between risk factors and effects, by means of approaching, observing or collecting data at once (point time approach) [2]. This approach aims to determine the relationship or influence of the independent variable (risk) and the dependent variable (effect), namely the relationship between patient characteristics and re-visit of outpatients with coronary heart disease.

The variables used in this study were patient characteristics including age, gender, method of payment, patient origin and disease complications, as independent variables. Patient re-visit as the dependent variable. The population used in this study is based on the patient index and the index of outpatient diseases for coronary heart disease

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2018 with a total of 120 patients. And the number of samples used is the same as the population. The data in this study are primary data and secondary data. Primary data was obtained from the collection process with a questionnaire and secondary data in this study were the patient index and outpatient disease index for patients with coronary heart disease in 2018.

The data collected was then analyzed using Univariate, Bivariate, and Multivariate Analysis.

1. Univariate Analysis (Descriptive Analysis)

The form of univariate analysis depends on the type of data. For numerical data, the mean or average, median and standard deviation values are used. In general, this analysis only produces a frequency distribution and percentage of each variable. This analysis is used to determine the percentage of the independent variables, namely patient characteristics consisting of age, gender, payment method, patient origin and disease complications.

2. Bivariate Analysis

This analysis is used in this study to analyze the relationship or difference between two variables and to analyze whether there is a difference or relationship using the chi-square or chi-square statistical test. Calculation of the chi-square analysis.

3. Multivariate Analysis

The results of the linear regression test, namely the variables that have an effect on the dependent variable, are known to determine the p value of each variable. The order of the relationship strength of the variables that affect the dependent variable.

III. RESULTS

A. Characteristics of Training Patients of Coronary Heart Disease at The University Of March (UNS) Sukoharjo In 2018

Univariate analysis was carried out to see the frequency distribution in the form of descriptive statistical images of each variable. Data on the characteristics of outpatients with coronary heart disease at the Sebelas Maret University (UNS) Sukoharjo Hospital in 2018 came from the patient index and disease index. One of the services at Sebelas Maret University Hospital is heart service. The results of interviews conducted by researchers showed that in the hospital the index had been computerized, namely by entering data into the SIR of UNS Hospital, but the data was still presented separately. The index is used to determine mortality and morbidity reports which are reported once a month to the President Director of the Hospital. The sample used in this study amounted to 120 patients who were the entire population of outpatients with coronary heart disease who made repeat visits in 2018.

1. Data on outpatient visits to coronary heart disease patients at Sebelas Maret University (UNS) Sukoharjo Hospital in 2018

Table 1. Number of Outpatients with Coronary Heart Disease at Sebelas Maret University Hospital (UNS) Sukoharjo in 2018

No.	Visit	Amount
1.	Prolonged repeat visit	34
2.	New repeat visit	96
Total		120

Source: Primary Data, 2019

2. Characteristics of outpatients with coronary heart disease at Sebelas Maret University (UNS) Sukoharjo Hospital in 2018

These characteristics were obtained from the patient index and the outpatient disease index. The characteristics obtained from the index are already in the SIM RS UNS. The characteristics in the tabulation of the index include:

a. Age

Table 2. Outpatient Allowances for Coronary Heart Disease Patients by age at Sebelas Maret University (UNS) Sukoharjo Hospital in 2018

No.	Gender	Patient Repeat Visits		Amount	percentage of visits (%)		Amount
		Long	New		Long	New	
1.	18-27	1	0	1	0,8	0	0,8
2.	28-37	1	1	2	0,8	0,8	1,6
3.	38-47	0	9	9	0	7,5	7,5
4.	48-57	10	29	39	8,3	24,1	32,1
5.	58-67	13	35	48	10,8	29,1	39,9
6.	68-77	9	8	17	7,5	6,6	14,1
No.	Gender	Patient Repeat Visits		Amount	Percentage of visits (%)		Amount
		Long	New		Long	New	
7.	78-87	0	4	4	0	3,3	3,3
Total		34	86	120	28,2	71,8	100

Source: Primary Data, 2019

Characteristics of outpatient visits with coronary heart disease in 2018 based on age, the number of patients aged 18-27 years 1 patient with a percentage of 0.8%. The number of patients aged 28-37 years was 2 patients with a percentage of 1.6%. The number of patients aged 38-47 years was 9 patients with a percentage of 7.8%. The number of patients at the age of 48-57 years was 39 patients with a percentage of 32.1%. The number of patients aged 58-67 years was 48 patients with a percentage of 39.9%. The number of patients aged 68-77 years was 17 patients with a percentage of 14.1%. The number of patients aged 78-87 years was 4 patients with a percentage of 3.3%. This is in line with research [3] in his study of non-communicable diseases in the age group 56-67 years which is the highest percentage, namely 55.88%. At this age the large arteries lose their flexibility so that the blood at the heart rate is forced through the vessels that are narrower than normal, causing the pressure to rise. Meanwhile, according to [4] states that according to the age group, most CHD occurs in the age group 65-74 years.

b. Gender

According to [5], the gender factor influences the occurrence of non-communicable diseases. Characteristics of the patient's outpatient return visit. Gender is a variable consisting of men and women [6]. Characteristics of outpatient re-visits with Coronary Heart Disease in 2018 based on gender, the number of male patients is 88 patients

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with a percentage of 73, 3%. The number of female patients was 32 patients with a percentage of 26.6%.

Table 3. Outpatient Allowances for Coronary Heart Disease Patients based on gender at Sebelas Maret University (UNS) Sukoharjo 2018

No.	Gender	Patient Repeat Visits		Amount	Percentage of visits(%)		Amount
		Long	New		Long	New	
1.	Man	28	60	88	23,3	50	73,3
2.	Girls	6	26	32	5	21,6	26,6
Total		34	86	120	28,3	71,6	100

Source: Primary Data, 2019

c. How to Pay

Table 4. Outpatient Allowances for Coronary Heart Disease Patients based on the payment method at Sebelas Maret University (UNS) Sukoharjo Hospital in 2018

No.	How to Pay	Patient Repeat Visits		Amount	Percentage of visits(%)		Amount
		Long	New		Long	New	
1.	General	33	43	76	27,5	35,8	63,3
2.	insurance	1	43	44	0,8	35,8	36,6
Total		34	86	120	28,3	71,6	100

Source: Primary Data, 2019

Characteristics of outpatient visits with coronary heart disease in 2018 based on how to pay for the number of patients by general payment of 76 patients with a percentage of 63.3%. The number of patients by paying insurance was 44 patients with a percentage of 36.6%. The results of the analysis of this study are in line with research [7], which states that based on the highest payment method for general patients, namely 42 people (54%), the lowest is using health insurance for 36 people (46%).

d. The origin of patient

Table 5. Outpatient Allowances for Coronary Heart Disease Patients based on the origin of the patient at Sebelas Maret University (UNS) Sukoharjo Hospital in 2018

No.	the origin of the patient	Patient Repeat Visit		Amount	Percentage of visits(%)			Amount
		Long	New		Long	New		
1.	Came of his own accord	33	43	76	27,5	35,8		63,3
2.	Reference	1	43	44	0,8	35,8		36,6
Total		34	86	120	28,3	71,6		100

Source : Primary Data,2019

Characteristics of outpatient visits with coronary heart disease in 2018 were based on the number of patients who came on their own accord 76 patients with a percentage of 63.3%. The number of referral patients was 44 patients with a percentage of 36.6%. Based on the origin of the highest patients, they came on their own accord, namely 63.3%, this is in line with research [8] which states that the origin of patients who came alone was 140 with a percentage of 70.70%.

e. Complications of the disease

Table 6. Outpatient Benefits for Coronary Heart Disease Patients based on disease complications at Sebelas Maret University (UNS) Sukoharjo Hospital in 2018

No.	complications of the disease	patient repeat visits		Amount	Percentage of visits(%) (%)		Amount
		Long	New		Long	New	
1.	there are complications	28	59	87	23,3	49,1	72,1
2.	No complications	6	27	33	5	22,5	27,5
Total		34	86	120	28,3	71,6	100

Source : Primary Data,2019

Characteristics of outpatient visits with coronary heart disease in 2018 based on disease complications, the number of patients suffering from disease complications was 87 patients with a percentage of 72.1%. The number of patients who did not suffer from complications of the disease was 33 patients with a percentage of 27.5%. Complications of patients with Coronary Heart Disease at the Sebelas Maret University Hospital (UNS) Sukoharjo in 2018 included Hypertension, Angina Pectoris, Subendocardial Acute Myocardial Infarction, Congestive Heart Failure, NIDDM without complications. This is in line with [9] which states that the stages of coronary heart disease, one of which is Angina Pectoris. [10] explained that the condition of Diabetes Mellitus (DM) can aggravate the condition of the coronary arteries.

C. Characteristic Relationship with Revisit of Outdoor Patients of Coronary Heart Disease in RS 2018

Bivariate analysis in this study using cross tabulation analysis (crosstab) to determine whether there is a relationship between the two variables. In the bivariate analysis, the Chi-Square test was used to test the hypothesis in this study. It is stated that there is a relationship if the p value is <0.05, which means that the hypothesis is accepted and there is no relationship if the p value is> 0.05, which means that the hypothesis is rejected. Based on the output process, it is known that there are 120 data which are all processed into analysis, so the validity level is 100.0%. The results of the bivariate analysis of the relationship between patient characteristics and outpatient visits with coronary heart disease at the Sebelas Maret University (UNS) Sukoharjo Hospital in 2018 are as follows:

1. Relationship between Age Characteristics and Return Visits

Decision making in the Chi-Square Test is based on a significance value of 0.05. The results of statistical tests with

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a significance level of 0.05 were obtained. Based on table 7, it is known that Asymp. Sig. the Chi-Square test is p = 0.037. The result of p = 0.037 <0.05, it can be concluded that based on the decision making, it can be concluded that Ho is rejected and Ha is accepted. This may imply that there is a relationship between age characteristics and outpatient visits with coronary heart disease at Sebelas Maret University (UNS) Hospital in 2018.

Table 7. Relationship Between Age Characteristics and Return Visits

Variable		*repeat visit*		*P* Value
		Long (f)	New (f)	
Age	18-27	1	0	0,037
	28-37	1	1	
	38-47	0	9	
	48-57	10	29	
	58-67	13	35	
	68-77	9	8	
	78-87	0	4	

Source : Primary Data, 2019

2. The Relationship between Gender Characteristics and Re-Visit

Table 8. Relationship Between Gender Characteristics and Return Visits

Variable		Repeat Visit		*P* Value
		Long (f)	New (f)	
Gender	Boy	28	60	0,0001
	Girls	6	26	

Source: Primary Data, 2019

Decision making in the Chi-Square Test is based on a significance value of 0.05. The results of statistical tests with a significance level of 0.05 were obtained. Based on table 8, it is known that Asymp. Sig. the Chi-Square test is p = 0.0001. The result of p = 0.0001 <0.05, it can be concluded that based on the decision making, it can be concluded that Ho is rejected and Ha is accepted. This means that there is a relationship between gender characteristics and re-visit of outpatients with coronary heart disease at Sebelas Maret University (UNS) Hospital in 2018.

3. Relationship between Paying Characteristics and Return Visits

Table 9. The Relationship Between the Characteristics of How to Pay with Revisit

Variable		Repeat Visit		*P* Value
		Long (f)	New (f)	
How to pay	General	28	60	0,0001
	Insurance	1	43	

Source : Primary Data, 2019

Decision making in the Chi-Square Test is based on a significance value of 0.05. The results of statistical tests with a significance level of 0.05 were obtained. Based on table 4.9, it is known that Asymp. Sig. the Chi-Square test is p = 0.0001. The result of p = 0.0001 <0.05, it can be concluded that based on the decision making, it can be concluded that Ho is rejected and Ha is accepted. This means that there is a relationship between the characteristics of how to pay and the return visit of outpatients with coronary heart disease at Sebelas Maret University (UNS) Hospital in 2018.

4. Relationship between Patient Origin Characteristics and Return Visits

Table 10. Relationship Between Characteristics of Patient and Origin Revisit

Variable		Repeat Visit		*P* Value
		Long (f)	New (f)	
The Origin of Patient	Came of his own accord	33	43	0,0001
	Reference	1	43	

Source : Primary Data, 2019

Decision making in the Chi-Square Test is based on a significance value of 0.05. The results of statistical tests with a significance level of 0.05 were obtained. Based on table 4.10, it is known that Asymp. Sig. the Chi-Square test is p = 0.0001. The result of p = 0.0001 <0.05, it can be concluded that based on the decision making, it can be concluded that Ho is rejected and Ha is accepted. This means that there is a relationship between the characteristics of the patient's origin and the return visit of outpatients with coronary heart disease at Sebelas Maret University (UNS) Hospital in 2018.

4. Relationship Characteristics of Disease Complications with Return Visits

Table 11. Relationship Characteristics of Disease Complications with Revisit

Variable		Repeat Visit		*P* Value
		Long (f)	New (f)	
complications of the disease	there are complications	28	59	0,0001
	No Complications	6	27	

Source: Primary Data, 2019

Decision making in the Chi-Square Test is based on a significance value of 0.05. The results of statistical tests with a significance level of 0.05 were obtained. Based on table 4.11, it is known that Asymp. Sig. the Chi-Square test is p = 0.0001. The result of p = 0.0001 <0.05, it can be concluded that based on the decision making, it can be concluded that Ho is rejected and Ha is accepted. This means that there is a relationship between the characteristics of disease complications and the return visit of outpatients with coronary heart disease at Sebelas Maret University (UNS) Hospital in 2018.

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C. Variables wThe Most Characteristic Relationship With Revisites of Outdoor Patients of Coronary Heart Disease at The University Of March (UNS) Sukoharjo in 2018

Multivariate analysis was carried out to see the relationship between the independent variables and the dependent variable and to find out which independent variables had the most influence on the dependent variable. The analysis used was logistic regression analysis with the enter method using SPSS 16.0. The independent variables that are used as candidates in this logistic regression test are those that in the Chi-Square analysis have a p value <0.25. There are 5 independent variables included in this logistic regression test, namely age (p = 0.037), gender (p = 0.0001), method of payment (p = 0.0001), patient origin (p = 0.0001) and complications. disease (p = 0.0001). The following are the results of the logistic regression test:

Table 12. Logistic Regression Test Results

Variable	*P* Value
Age	0,037
Gender	0,016
How to Pay	0,0001
The origin of patient	0,0001
Complications of the disease	0,129

Source: Primary Data, 2019

Decision making in the Logistic Regression Analysis Test is based on a significance value of p <0.25. Based on table 4:12, it is known that the five variables can be analyzed logistic regression. Age has a significance value of p = 0.037. Gender has a significance value of p = 0.016. The method of payment has a significance value of p = 0.0001. The patient origin had a significance value of p = 0.0001. Complications of disease have a significance value of p = 0.129. The most related variable is the method of payment and the origin of the patient because p = 0.0001.

IV. CONCLUSION

From the results of research at the Sebelas Maret University Hospital (UNS) Sukoharjo, it can be concluded that the number of outpatients with coronary heart disease at Sebelas Maret University (UNS) Sukoharjo Hospital based on the patient's return visit in 2018 was 120 patients. The results of the univariate analysis based on age found that the highest percentage was at the age of 58-67 years (39.9%). Based on gender, the highest percentage was male (73.3%). Based on the method of payment, the highest percentage was general patients (63.3%). Based on the patient's origin, the highest percentage was that the patients came on their own accord (63.3%). Then based on the complications of the disease, there were complications that were 72.1%. The results of bivariate analysis with the Chi-Square test were used to see the relationship between patient characteristics and outpatient visits to coronary heart disease patients at Sebelas Maret University (UNS) Sukoharjo Hospital, namely that there was a relationship between the independent variable and the dependent variable because of the sig value. <0.05. The independent variables included age (p = 0.037), gender (p = 0.0001), method of payment (p = 0.0001), patient origin (p = 0.0001) and disease complications (p = 0.0001). . The results of multivariate analysis with logistic regression test showed that the method of payment and the origin of the patient were the variables most related to the sig value. 0.0001.

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