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Overview of Heart and Vascular Disease Patients at Lamaddukelleng Sengkang Hospital in 2023

[*1] Muh.Pasca Rivaldi
[*1]Fakultas Kedokteran, Universitas Muslim Indonesia, Indonesia

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Correspondence :
Muh.Pasca Rivaldi

Email :
pascarivaldi@gmail.com

ABSTRACT

Cardiovascular disease (CVD) remains one of the significant health challenges in the world. This type of research uses a quantitative descriptive research design. This study used a total sampling of 200 patients with heart and blood vessel disease. Data were analyzed using Microsoft Excel by dividing the data into 5 parts of heart disease: coronary heart disease, heart failure, arrhythmia, stable angina pectoris, and other heart diseases. The age of majority of patients aged 41-60 years, amounting to 89 patients (44.5%), and those aged> 60 years (44.5%). The most common heart disease treated at RSUD lamaddukkelleng Sengkang in 2023 is coronary heart disease, with a total of 95 patients (47.5%), followed by heart failure cases and cases of stable angina pectoris with a total of 44 patients (22%). The most common comorbidity in heart disease patients treated at RSUD Lamaddukkelleng Sengkang in 2023 is hypertension, with a total of 74 patients (51.7%). The length of hospitalization of heart disease patients treated at Lamaddukkelleng Sengkang Hospital in 2023 was primarily for 3 days, namely 72 patients (36%), followed by 4 days, namely 53 patients (26.5%), and the most extended treatment was 13 days as many as 1 patients (0.5%). The number of heart disease patients who died at Lamaddukkelleng Hospital in 2023 was 29 people, or 14.5% died during treatment at Lamaddukkelleng Hospital in 2023. The average age of heart patients treated was 89% aged 41 - 60. While based on gender, male heart patients are more than female heart patients. The most common heart disease is Coronary Heart Disease (CHD). The length of hospitalization of heart patients varied from 1 day to the longest of 13 days. About 36% of cardiac patients were treated for 3 days, and 26.5% were treated for 4 days. Cardiac patients who died during treatment at Lamaddukkelleng Hospital in 2023 there were a total of 29 patients (14.5%).

INTRODUCTION

Cardiovascular disease (CVD) remains one of the significant health challenges in the world, including in Indonesia. The 2019 Global Burden of Disease Study reported that CVD was responsible for 18.6 million global deaths in 2019, confirming its status as the leading cause of death worldwide (1). In Indonesia, a similar situation occurred with the prevalence of heart disease based on physician diagnosis in the population of all ages increasing from 1.5% in 2018 to 1.7% in 2021 (2). Lamaddukkellleng Hospital in Sengkang, a referral hospital in Wajo Regency, South Sulawesi, has a crucial role in managing CVD patients in the region. However, until now, there has been no comprehensive data on the characteristics of CVD patients in this Hospital. This study aims to provide an overview of the profile of heart and vascular disease patients at Lamaddukkellleng Hospital in 2023.

An in-depth understanding of the characteristics of CVD patients is essential to optimize prevention and treatment strategies. Recent studies have shown that CVD risk factors in Indonesia have a unique pattern, with the prevalence of hypertension, diabetes, and obesity continuing to increase(3). Research by Naomi et al. (2021) revealed that risk factors such as smoking, obesity, and hypertension have a significant contribution to the incidence of coronary heart disease in Indonesia(4). In a global context, Virani et al. (2021) emphasized the importance of a comprehensive approach to CVD management, including primary and secondary prevention(5). Meanwhile, in Indonesia, Siswanto et al. (2020) reported significant changes in the care patterns and outcomes of CVD patients during the COVID-19 pandemic, potentially increasing the risk of long-term complications(6).

A better understanding of the characteristics of CVD patients can be useful to plan more effective and efficient healthcare services. Several recent studies have shown the importance of understanding risk factors and disease patterns at the local level to develop appropriate prevention and treatment strategies (3,7). In addition, the identification of factors such as age, gender, comorbidities, and clinical manifestations can be helpful to set risk stratification and optimization of patient management (5,8).Furthermore, understanding the factors that influence the quality of life of CVD patients is becoming increasingly important. The study by Rachmi et al. (2020) in

Indonesia showed that in addition to clinical factors, psychosocial aspects, and social support also have an essential role in determining the outcome of CVD patients (9).Finally, this study is relevant to achieving Universal Health Coverage (UHC) in Indonesia. The survey by Mahendradhata et al. (2021) showed that although health insurance coverage has increased, there are still gaps in access and quality of CVD services, especially in remote areas(10). This is reinforced by the findings of Maharani et al. (2020), which revealed disparities in the prevalence of cardiometabolic risk factors across different regions of Indonesia (11). By understanding the picture of CVD patients in Lamaddukkellleng Hospital Sengkang, this study hopes to contribute to the development of health policies that are more responsive to the needs of local communities and support more effective CVD management efforts at the local and national levels.

METHODS

This research uses a quantitative descriptive research design. It aims to describe the characteristics of heart and blood vessel disease patients based on medical record data at Lamaddukkelleng Sengkang Hospital in 2023. The population in this study were all patients diagnosed with heart and vascular disease who were treated at Lamaddukkelleng Sengkang Hospital from January to December 2023. This study uses total sampling, where all patients with heart and vascular disease recorded in the medical record in 2023 will be included in the study, and a total of 200 cardiac patients admitted to Lamaddukkelleng Sengkang Hospital during 2023 were obtained. If there is incomplete or unqualified data, the data will be excluded from the analysis. Data were taken from patients' medical records at Lamaddukkelleng Sengkang Hospital in 2023. Data to be collected include Demographic Data, Type of Heart Disease, History of Disease / Comorbidities, Triage of patients at admission, Duration of Hospitalization, and Patient Condition at Discharge.

For the division of cardiac cases, researchers divided it into 5 parts, namely: Coronary Heart Disease (CHD) which includes the diagnosis of CAD, ACS, STEMI, NSTEMI, UAP. Heart Failure Cardiac arrhythmias (Atrial Fibrillation, Atrial Flutter, VT, VF), Other heart diseases (congenital heart disease, cardiogenic shock, etc.) Stable Angina Pectoris.Researchers also apply ethical principles in research. in general, the research ethics used by researchers are: Confidentiality: The researcher guarantees the confidentiality of respondents' information. Only certain groups of data are reported as research results. After the researcher obtains complete data and the research is completed, the data file is stored in a place where only the researcher knows it. The files obtained are not placed anywhere.

Anonymity: To maintain confidentiality, the researcher did not include the respondent's name but was given a code. The researcher did not give or include the patient's name but only wrote the code on the data collection or research results.

RESULT AND DISCUSSION

RESULT

Table 1. Characteristics of Heart Disease Respondents at Lamaddukelleng Hospital in 2023

Characteristics	n (200)	%
Age		
< 20 Years	4	2
20-40 Years	18	9
41-60 Years	89	44.5
> 60 Years	89	44.5
Gender		
Male	115	57.5
Female	85	42.5
Education		
Elementary	135	67.5
Junior High	18	9
Senior High	26	13
Bachelor	20	10
Master	1	0.5
Occupation		
Self Employed	55	27.5
Housewife	64	32
Farmer	36	18

Retired	10	5
Trader	1	0.5
Military/ Police	1	0.5
Civil servant	11	5.5
Teacher	2	1
Unemployed	20	10

Source: Primary Data 2024

Based on Table 1, it can be seen that the majority of patients aged 41-60 were 89 patients (44.5%) and age> 60 (44.5%). Gender is dominated by men, as many as 115 respondents (57.5%). The patients' education was mostly in elementary school, with as many as 135 patients (67.5%), and the most occupations of patients were housewives, as many as 64 patients (32%), and self-employed 55 patients (27.5%).

Table 2. Overview of heart disease patients at Lamaddukkelleng Hospital in 2023

Heart disease	n	%
Coronary Heart Disease (CHD)	95	47.5
Heart Failure	44	22
Heart arrhythmia	11	5.5
Other heart diseases	6	3
Stable Angina Pectoris	44	22
Total	200	100

Source: Primary Data 2024

Table 2 shows that the most common heart disease treated at RSUD lamaddukkelleng Sengkang in 2023 was coronary heart disease with a total of 95 patients (47.5%), followed by heart failure cases and stable Angina Pectoris cases with a total of 44 patients (22%).

Table 3. Overview of comorbidities of heart disease patients at Lamaddukkelleng Hospital in 2023

Comorbidities	n	%
Diabetes Mellitus	38	26.5
Kidney Disorders(Chronic/Acute)	20	13.9
Hypertension	74	51.7
Tuberculosis	7	4.8
Thyroid Function Disorder	4	2.7
Total	143	100

Source: Primary Data 2024

Table 3 shows that the most common comorbidities in heart disease patients treated at the Lamaddukkelleng Sengkang Hospital in 2023 were hypertension, with 74 patients (51.7%), followed by diabetes mellitus, with 38 patients (26.5%).

Table 4. Overview of Triage of Heart Disease Patients at Lamaddukkelleng Hospital in 2023

Triage	n	%
Green (Third Priority)	176	88
Yellow (Second Priority	4	2
Red (First Priority)	20	10
Total	143	100

Source: Primary Data 2024

Table 4 shows that the TriageNumber of heart disease patients treated at the Lamaddukkelleng Sengkang Hospital in 2023 was, on average, in the Green Zone, 176 patients (88%), which means that patients enter with stable conditions and not emergency conditions; in the yellow zone, as many as 4 patients (2%); and in the red zone, as many as 20 patients (10%), which means that patients enter with Emergency conditions and need immediate treatment.

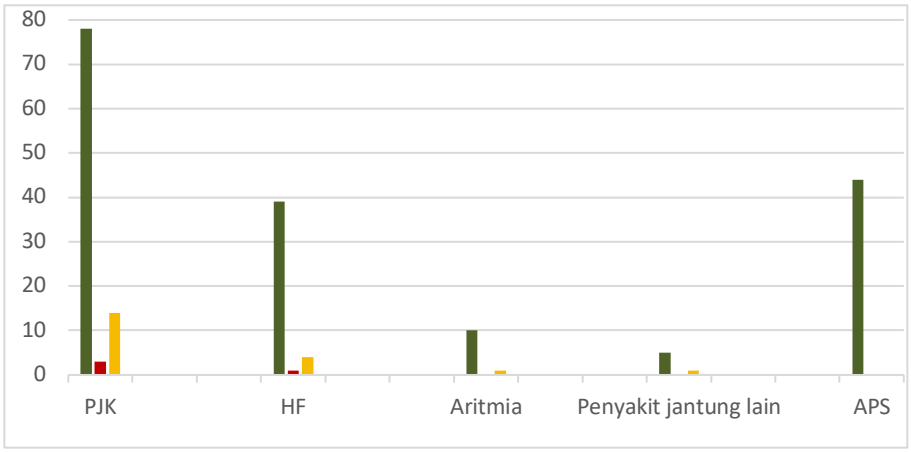

Figure 1. Overview of Triage of Heart Disease Patients per Category at Lamaddukkelleng Hospital in 2023

Figure 1 details the triage of heart disease patients at Lamaddukkelleng Hospital in 2023. The CHD category has the most red triage patients. In the HF category, most patients were in green Triage. The arrhythmia category has a green triage of 10 patients and a red triage of 1 patient. The other heart disease category has a green triage of 5 patients and a red triage of 1 patient. In the category of stable Angina Pectoris, all patients are included in the green triage zone, namely 44 patients.

Table 5. Overview of the length of hospitalization of heart disease patients at Lamaddukkelleng Hospital in 2023

Length of Hospitalization	n	%
1	5	2.5
2	4	2
3	72	36
4	53	26.5
5	27	13.5
6	23	11.5
7	8	4
8	2	1
9	2	1
10	0	0
11	1	0.5
12	2	1
13	1	0.5
Total	200	100

Table 5 shows that the length of hospitalization of heart disease patients treated at the Lamaddukkelleng Sengkang Hospital in 2023 was primarily for 3 days, namely 72 patients (36%), followed by 4 days, namely 53 patients (26.5%).

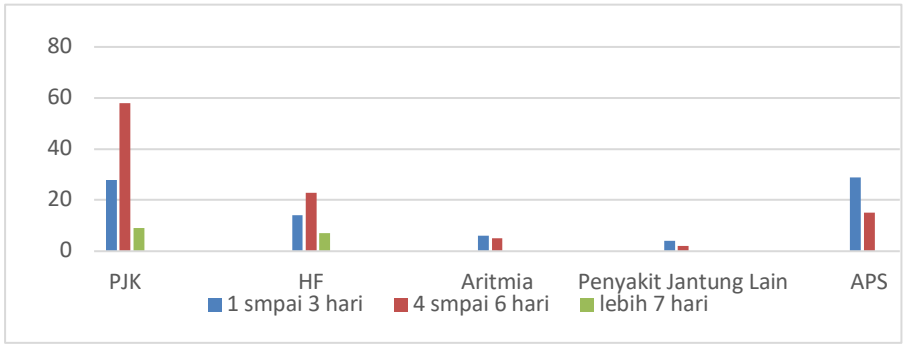

Figure 2. Overview of the length of hospitalization of heart disease patients per category

Figure 2 shows details of the length of hospitalization of heart disease patients at Lamaddukkelleng Hospital during 2023. In the CHD category, most hospitalizations were between 4-6 days for as many as 58 patients and more than 7 days of treatment for as many as 9 patients. In the HF category, most hospitalizations were 4-6 days, with as many as 23 patients. In artemia patients, the highest number was between 1-3 days, namely 6 patients. In the other heart disease category, the length of hospitalization was mostly between 1-3 days, with 4 patients. In the APS category, most patients were treated for 1-3 days, namely 29 patients.

Table 6 Number of heart disease patients who died at Lamaddukkelleng Hospital in 2023

Heart disease	n	%
Coronary Heart Disease (CHD)	14	7
Heart Failure	9	4.5
Heart arrhythmia	4	2
Other heart diseases	2	1
Stable Angina Pectoris	0	0
Total	29	14.5

Table 6 shows the number of heart disease patients who died at Lamaddukkelleng Hospital in 2023; out of 200 heart disease patients, 29 people, or 14.5%, died during treatment at Lamaddukkelleng Hospital in 2023. CHD patients had the highest number of patients who died, namely 14 patients (7%), while patients with a diagnosis of stable angina pectoris had no patients who died during treatment.

DISCUSSION

These results provide a significant picture of patients with heart and vascular disease (CVD) characteristics. This finding is in line with data from the Ministry of Health, which states that CVD remains the leading cause of death in Indonesia, with coronary heart disease and stroke contributing to high mortality rates (12).

Patient Demographic Characteristics

Most patients were between 41 to 60 years old, with a predominance of male patients. This reflects a typical epidemiologic pattern, where men tend to have a higher risk of heart disease than women. Research shows that demographic factors such as age and gender play an essential role in the incidence of CVD. Most of the patients' primary school education suggests the need for increased health awareness and education regarding CVD risk factors in the community (13).

Types of Heart Disease

Coronary heart disease (CHD) was the most common diagnosis, followed by heart failure and stable angina pectoris. This finding is consistent with national data showing that CHD is the leading cause of death from CVD in Indonesia, with a mortality rate of 245,343 per year.12 The high rate of hypertension as a comorbidity (51.7%) indicates the need for better management of hypertension to prevent cardiac complications. Research by Fadlilah et al. (2019) emphasized that hypertension is a significant risk factor that can worsen the condition of patients with CVD (14).

Patient Triage

Most patients fell into the green triage category (88%), indicating they were stable when admitted. However, the high percentage of red Triage (10%) in CHD patients emphasizes the importance of rapid treatment to reduce the risk of death and further complications. Studies have shown that rapid intervention can improve clinical outcomes for CVD patients (15).

Length of Hospitalization

Length of hospitalization varied, with most patients being treated for 3 to 4 days. This data suggests that heart disease management at Lamaddukkelleng Hospital is effective, but challenges remain for patients with more severe conditions who require longer stays. Previous studies have shown that shorter hospitalization is often associated with better disease management and reduced complications (16).

Patient Mortality

The mortality rate of 14.5% during treatment at Lamaddukkelleng Hospital indicates serious challenges in the management of CVD patients. The high mortality rate in CHD patients highlights the need for more aggressive interventions and better prevention strategies for this high-risk group. Other studies have also shown that multidisciplinary management can reduce mortality from CVD (17).

CONCLUSIONS

Primary data results are obtained from various data and characteristics of heart patients treated at the Lamaddukkelleng Hospital during 2023. Starting from demographic data in the form of age, the average age of heart patients treated 89 percent is between 41 and more than 60 years. While based on gender, male heart patients are more than female heart patients. For their education, most heart patients have an elementary school education compared to other levels of education. For their occupation, 27.5 percent of heart patients work as self-employed, and as many as 32 percent are homemakers.

For the division of heart disease categories themselves, the most common heart disease treated at Lamaddukkelleng Hospital during 2023 is Coronary Heart Disease (CHD), which was 95 patients or 47.5% of the total heart patients during 2023. This was followed by heart disease in the categories of Heart Failure and stable angina pectoris, with 44 patients per category or about 22% of the total heart disease patients. In patients diagnosed with heart disease, it is not uncommon to find comorbidities that can aggravate or worsen the patient's condition during treatment. From the data above, it was found that 51.7% of heart patients had comorbidities of hypertension, and as many as 26.5% of heart patients had comorbidities of diabetes mellitus.

Researchers also sorted out the Triage of heart patients when they entered the ER; there are 3 Triage, namely Green (third priority), Yellow (second priority), and Red (top priority). A total of 88% of cardiac patients were admitted with Green Triage, and around 10% of cardiac patients were admitted with Red Triage during 2023. Of the 5 categories of heart disease, it can be seen that CHD heart disease has the most red triage patients, namely 14 patients, and it can also be seen that all APS (Stable Angina Pectoris) patients have green Triage. The length of hospitalization for cardiac patients at Lamaddukkelleng Hospital during 2023 varied from 1 day to the longest of 13 days. About 36% of cardiac patients were treated for 3 days, and 26.5% of cardiac patients were treated for 4 days. For the division by category, only CHD and heart failure patients had more than 7 days of treatment, while heart patients with the categories of Arrhythmia, Other heart disease, and APS were treated for 1-3 days or 4-6 days on average.

For the number of heart patients who died during treatment at lamaddukkelleng Hospital in 2023, a total of 29 patients were obtained, which means 14.5% of heart patients who died who were treated at lamaddukkelleng Hospital during 2023 and among these 29 patients, there were 14 CHD patients, 9 heart failure patients, 4 arrhythmia patients, and 2 other heart disease patients. This research can be used as a reference for future research. It can also be further developed by examining the relationship of the above variables with the incidence of heart disease. Overall, the results of this study provide important insights into the characteristics of CVD patients at Lamaddukkelleng Hospital Sengkang and can be the basis for developing health policies that are more responsive to the needs of the local community. Further research is needed to explore other factors influencing patient outcomes and design more effective preventive interventions.

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