

Knowledge of Cardiovascular Emergency Management Among Posbindu Cadres

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Abstract

Non-communicable diseases (NCDs) are becoming an increasingly troubling health problem. Every year, the number of cases continues to increase, causing deep concern, especially those related to the cardiovascular system remain the leading cause of death and remains top-ranked in East Java. Integrated Community Post for Non-Communicable Disease Control (Posbindu) cadres have a very important role in Non-Communicable Diseases cardiovascular emergencies. The purpose of the study was to determine the level of knowledge of cardiovascular emergencies in the posbindu cadres. The method that has been used in this study is descriptive quantitative, with a total of 30 respondents taken with a total sampling technique. Data collection instruments in the form of questionnaire sheets containing knowledge of cardiovascular emergencies. Based on research conducted in March 2024 at Posbindu 2 Pakunden Village, Blitar City. The results of this study showed that the level of knowledge of cardiovascular emergencies in the posbindu cadres was mostly good. Knowledge in cardiovascular emergencies that is still lacking is about cardiovascular risk factors. The lack of action in conveying information and the internet causes most respondents to lack understanding, and it has never been done, such as education or training, so they cannot implement it.

Keywords: Knowledge, Cardiovascular Emergencies, Cadres, Posbindu

1. INTRODUCTION

Non-communicable diseases (NCDs) have become a major global health problem in many countries, particularly in developed and developing nations, due to their increasing prevalence and mortality each year (World Health Organization, 2025b). Globally, NCDs are responsible for approximately 43 million deaths annually, accounting for around 75% of all deaths worldwide, making them the leading cause of morbidity and mortality (Magwaza, 2025; World Health Organization, 2024).

The burden of NCDs continues to increase due to demographic transitions, population aging, urbanization, and unhealthy lifestyle behaviors such as physical inactivity, unhealthy diets, tobacco use, and harmful alcohol consumption (Sapkota, Baral, Rehfuess, Parhofer, & Berger, 2023; World Health Organization, 2025b). These risk factors contribute significantly to metabolic disorders including hypertension, obesity, hyperglycemia, and dyslipidemia, which increase the risk of developing chronic diseases (Bhuiyan, Galdes, Cuschieri, & Hu, 2024). Among all NCDs, cardiovascular diseases, cancers, chronic respiratory diseases, and diabetes are the most common causes

of death globally (Roth et al., 2020). Cardiovascular diseases alone account for approximately 19 million deaths each year, making them the leading contributor to global mortality among NCDs (Roth et al., 2020).

The increasing prevalence of NCDs has become a major public health challenge worldwide and places a significant burden on health systems, especially in low- and middle-income countries. Studies show that mortality from NCDs continues to rise globally and currently represents the majority of deaths worldwide, highlighting the urgent need for prevention strategies, early detection, and effective management (Gowshall & Taylor-Robinson, 2018). Recent data indicate that cardiovascular diseases account for approximately 38% of total deaths in Indonesia, with stroke and ischemic heart disease being the two leading causes of mortality (Ramadani, Svensson, Hassler, Hidayat, & Ng, 2024). Furthermore, the prevalence of heart disease in the Indonesian population was reported to be around 1.5% according to the 2018 National Basic Health Survey (Riskesdas), indicating a substantial number of affected individuals in a country with a large population (Wicaksono, Burahman, & Lestari, 2025). These findings highlight the growing burden of cardiovascular diseases and emphasize the importance of strengthening prevention, early detection, and community-based interventions to reduce morbidity and mortality associated with cardiovascular conditions in Indonesia.

Emergencies can occur not only as a result of road traffic accidents but also in daily activities within the home or community environment. For instance, individuals may suddenly experience a cardiac event after physical activity or during routine activities. Such situations require immediate response within minutes or even seconds, as delays in treatment can significantly increase the risk of mortality. Therefore, adequate community knowledge regarding emergency first aid is essential to provide early assistance before professional medical help arrives. First aid is defined as the initial assistance provided to individuals experiencing sudden illness or injury in order to preserve life, prevent the condition from worsening, and promote recovery (Panchal et al., 2020).

Cardiac arrest and respiratory arrest are critical medical emergencies that require immediate intervention by both healthcare professionals and members of the public. These events frequently occur outside hospital settings, a condition commonly referred to as Out-of-Hospital Cardiac Arrest (OHCA). In such circumstances, bystanders or community members often become the first responders at the scene. Studies show that delayed or inadequate intervention in cases of cardiac arrest can lead to death within minutes due to the cessation of blood flow to vital organs. Conversely, early recognition and prompt cardiopulmonary resuscitation (CPR) performed by bystanders can significantly improve survival rates among OHCA patients (Ong et al., 2015; Perkins et al., 2021).

Cardiopulmonary resuscitation (CPR) is an essential emergency intervention and a core component of Basic Life Support (BLS). Knowledge and skills in CPR are crucial not only for healthcare professionals but also for community members, including community health volunteers or cadres who actively participate in promoting health programs at the community level. Empowering community members with knowledge of CPR and emergency response can increase the likelihood of immediate assistance in emergency situations occurring outside healthcare facilities. An emergency condition is defined as a life-threatening situation that requires immediate action to prevent death or serious long-term health consequences (Perkins et al., 2021).

2. METHODS

This study employed a quantitative research design using a descriptive cross-sectional approach to assess the level of knowledge regarding cardiovascular emergencies among Posbindu cadres. The study was conducted at Posbindu Pakunden, Blitar City, Indonesia, in March 2024. The study population consisted of all Posbindu cadres actively involved in community health activities in the area. The sampling technique used was total sampling, in which all members of the population were included as research participants. A total of 30 respondents participated in this study.

The inclusion criteria were Posbindu cadres who were actively involved in Posbindu activities, willing to participate in the study, and able to complete the questionnaire independently. Meanwhile, the exclusion criteria included cadres who were absent during the data collection period or those who did not complete the questionnaire. Data were collected using a structured questionnaire adapted from Rahma Hidayati, (2020) that measures knowledge of cardiovascular emergencies. The questionnaire covering several aspects of cardiovascular emergency knowledge, including recognition of emergency symptoms, initial response, and basic life support measures. Each correct answer was scored 1, while incorrect answers were scored 0. The knowledge level was then categorized into good, moderate, and poor knowledge based on predetermined score intervals. The data collection process was conducted by distributing questionnaires directly to respondents during Posbindu activities after obtaining informed consent. Respondents were given sufficient time to read and complete the questionnaire independently. The collected data were analyzed using descriptive statistical analysis, including frequency distribution and percentage to describe the level of knowledge among respondents.

3. RESULTS

The respondents in this study were Posbindu cadres from Pakunden Village, Blitar City, who participated in community health activities. A total of 30 cadres were involved as research participants. The characteristics of respondents, including gender, age, and others, are presented in Table 1.

Table 1. Characteristics of Respondent

Characteristic	Frequency	Percentage (%)
Gender		
Male	5	17
Female	25	83
Age (year)		
Adult	9	30
Pre-elderly	17	57
Elderly	4	13

Characteristic	Frequency	Percentage (%)
Occupation		
Housewife	10	33
Trader	6	20
Self-Employed	10	33
Farmer	3	10
Retiree	1	3
Education		
Bachelor	2	7
High School	21	70
Junior High School	5	17
Elementary School	2	7
Long time as a cadre (year)		
1-5	22	73
6-10	7	23
11-20	1	3
Cardiovascular Training		
Never	30	30

Table 1 showed the demographic characteristics of the respondents involved in this study. The majority of respondents were female, accounting for 25 respondents (83%), while 5 respondents (17%) were male. In terms of age distribution, most respondents were in the pre-elderly age group, totaling 17 respondents (57%), followed by the adult group with 9 respondents (30%), and the elderly group with 4 respondents (13%). Based on occupation, the respondents were mainly housewives and self-employed workers, each representing 10 respondents (33%), followed by traders with 6 respondents (20%), farmers with 3 respondents (10%), and retirees with 1 respondent (3%). Regarding educational background, most respondents had completed high school education, accounting for 21 respondents (70%), while 5 respondents (17%) had junior high school education, and 2 respondents (7%) each had elementary school and bachelor's degree education. In terms of experience as Posbindu cadres, the majority of respondents had served for 1–5 years, totaling 22 respondents (73%), followed by 7 respondents (23%) who had served for 6–10 years, and 1 respondent (3%) who had served for 11–20 years. Additionally, all respondents had never participated in cardiovascular emergency training.

Table 2. Distribution of Level of Knowledge

Level of Knowledge	Frequency	Percentage (%)
Good	17	56
Enough	5	16
Less	8	26

The level of knowledge of respondents regarding cardiovascular emergencies is presented in Table X. The results show that the majority of respondents had a good level of knowledge, accounting for 17 respondents (56%). Meanwhile, 8 respondents (26%) were categorized as having low knowledge, and 5 respondents (16%) had a moderate level of knowledge.

4. DISCUSSION

The results of this study showed that the majority of respondents were aged 41–50 years, accounting for 50% of the total respondents, and most respondents were female (83%). The majority had completed high school education (70%), and the most common occupations were housewives and self-employed workers. In addition, most respondents had served as Posbindu cadres for 1–5 years (73%), indicating that many cadres were relatively new in their roles. Interestingly, the study also revealed that none of the respondents had previously participated in cardiovascular emergency training. Despite this, more than half of the respondents (56%) demonstrated a good level of knowledge regarding cardiovascular emergencies, while 26% had low knowledge and 16% had moderate knowledge.

The predominance of female respondents in this study is consistent with the characteristics of community health volunteers in many countries, particularly in community-based health programs. Women tend to be more actively involved in health promotion and community health activities, including programs related to the prevention and control of non-communicable diseases (NCDs). Community health volunteers, especially women, play a crucial role in increasing community awareness and supporting early detection of chronic diseases (World Health Organization, 2025b). Age is also considered an important factor influencing knowledge. Most respondents were in the middle adulthood stage, which is often associated with stable cognitive abilities, greater life experience, and stronger social involvement. Individuals in this age group generally have better capabilities in receiving and processing health information, which may contribute to higher knowledge levels (Tobaldini et al., 2017).

Educational level may also contribute to the knowledge level observed in this study. The majority of respondents had completed high school education, which may support their ability to understand health information. Previous studies have shown that higher educational attainment is associated with better health literacy and greater ability to access, understand, and use health information effectively (Linden & Yarnold, 2016). The finding that more than half of respondents had good knowledge is consistent with previous studies that reported moderate to good knowledge levels among community members regarding emergency health conditions (Rahul et al., 2020). A study found that community health volunteers demonstrated moderate knowledge of basic life support, although many had not received formal training (Blomberg et al., 2019). This suggests that informal sources of information such as media, social interactions, and previous experiences may contribute to knowledge acquisition.

Similarly, increased public knowledge regarding cardiopulmonary resuscitation (CPR) and cardiac arrest can be influenced by exposure to health information through mass media and digital platforms. Access to information from television, the internet, and social media enables individuals to learn about emergency response and basic life support

more easily. Previous studies have shown that media exposure plays an important role in improving community awareness and knowledge related to emergency health situations. A study reported that some individuals obtained CPR knowledge through media sources such as television and the internet, indicating that media can function as an important channel for disseminating information about life-saving procedures to the public (Jarrah, Judeh, & AbuRuz, 2018).

Increased access to health information through digital media may therefore contribute to better community understanding and preparedness in responding to cardiac emergencies. However, despite the relatively good knowledge observed in this study, a considerable proportion of respondents still demonstrated moderate or low knowledge levels. This finding may be related to the absence of formal training in cardiovascular emergency management among the cadres. Previous studies have highlighted that individuals who receive structured training in basic life support (BLS) and cardiopulmonary resuscitation (CPR) demonstrate significantly higher levels of knowledge and confidence in responding to cardiac emergencies (Perkins et al., 2021).

The lack of training among Posbindu cadres in this study indicates the need for capacity-building programs focused on cardiovascular emergency management. Considering that cardiovascular diseases remain the leading cause of death globally, strengthening community-based health workers' knowledge and skills is essential (Hassen et al., 2022). Community health volunteers such as Posbindu cadres can play an important role in recognizing early symptoms of cardiovascular emergencies and providing immediate assistance before professional medical help arrives (World Health Organization, 2025a). Therefore, providing structured education and training programs on cardiovascular emergencies, including basic life support and cardiopulmonary resuscitation, is essential to improve the preparedness of community health volunteers. Enhancing the capacity of Posbindu cadres may contribute to improved community awareness and faster response to cardiovascular emergencies, which can ultimately reduce morbidity and mortality associated with cardiovascular diseases.

5. CONCLUSION

This study found that the majority of Posbindu cadres had a good level of knowledge regarding cardiovascular emergency management, although a smaller proportion still demonstrated moderate and low levels of knowledge. Exposure to health information through mass media, such as television and the internet, appears to contribute to improved knowledge among cadres. However, a considerable number of respondents reported that they had never received formal education or training related to cardiovascular emergency management. These findings highlight the importance of strengthening community-based education and training programs for Posbindu cadres to improve their preparedness and ability to provide early responses to cardiovascular emergencies within the community.

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