



**COMPLIANCE OF GERIATRIC PATIENTS WITH A HISTORY OF  
CARDIOVASCULAR DISORDERS WITH PRE-ANESTHESIA PREPARATION**

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**ABSTRACT**

Geriatric patients undergoing surgical procedures are required to strictly comply with regulations related to pre-anesthetic preparation. Intraoperative and postoperative complications occur relatively frequently, particularly among elderly patients. To date, there has been limited research examining compliance with pre-anesthetic preparation among geriatric patients with a history of cardiovascular disorders. This study aimed to determine the level of compliance with pre-anesthetic preparation among geriatric patients with a history of cardiovascular disorders at Sanjiwani Regional General Hospital, Gianyar. This study employed a descriptive design with a cross-sectional approach. The sample was obtained using a consecutive sampling technique, with a sample size of 102 geriatric patients. The questionnaire used was a standard questionnaire with a Cronbach's Alpha value of 0.80. Data were collected using a questionnaire and analyzed using descriptive statistics. Result: The results showed that the majority of respondents had a moderate level of compliance with pre-anesthetic preparation, accounting for 64 respondents (62.7%), while 10 respondents (9.8%) demonstrated a low level of compliance. Collaboration among various parties is expected, not only involving healthcare professionals but also emphasizing the importance of family involvement, to improve patient compliance and ensure that surgical and anesthetic procedures during the intraoperative period can be carried out smoothly.

Keywords: compliance, geriatric patients, pre-anesthetic preparation

**How to cite (in APA style)**

Dewi, N. N. A. K., Parwati, A., Suyasa, A. B., Devi, N. L. P. L., & Maharyawan, I. W. A. (2025). Compliance of Geriatric Patients with a History of Cardiovascular Disorders with Pre-Anesthesia Preparation. *Indonesian Journal of Global Health Research*, 7(5), 1193-1198. <https://doi.org/10.37287/ijghr.v7i5.7477>.

**INTRODUCTION**

Anesthetic procedures are an integral part of surgical services and consist of pre-anesthetic, intra-anesthetic, and post-anesthetic phases. The pre-anesthetic phase plays a crucial role as it serves as the main foundation in ensuring the safety and success of anesthesia and surgical procedures. Pre-anesthetic preparation includes a series of medical actions performed prior to surgery, such as comprehensive pre-anesthetic assessment, obtaining informed consent, and administering premedication according to the patient's condition. A thorough evaluation of the patient's condition at this stage is essential to identify risk factors, determine an appropriate anesthetic plan, and minimize the potential for complications during and after surgery. Therefore, pre-anesthetic assessment aims not only to evaluate the patient's readiness for anesthesia but also to ensure physiological and psychological stability prior to anesthetic administration.

The geriatric population represents an older age group that has become one of the main focuses of national health development. According to data from the Indonesian Central Bureau of Statistics (Badan Pusat Statistik, 2022), the elderly population in Indonesia is projected to continue increasing and is expected to reach approximately 25% of the total population, or around 80 million people, by 2050. This demographic shift directly impacts the growing demand for healthcare services, including surgical procedures. Studies indicate that approximately 53% of all surgical procedures are performed on individuals aged over 65 years (Yang et al., 2021). This condition necessitates continuous, coherent, and high-quality

perioperative management, as geriatric patients have more complex healthcare needs compared to younger age groups.

This complexity is closely related to the aging process, which leads to a decline in the function of various organs and is accompanied by a high prevalence of chronic diseases among the elderly. The combination of age-related physiological changes and comorbid conditions increases the risk of intraoperative and postoperative complications. In addition, geriatric patients generally have a lower capacity to withstand surgical trauma, experience slower recovery processes, and exhibit higher morbidity and mortality rates compared to younger patients undergoing similar surgical procedures. Consequently, geriatric patients are considered a high-risk group in anesthesia and surgical interventions.

Several studies have reported a high incidence of complications among elderly patients undergoing surgery. Widiyono et al. (2020) reported that most elderly patients experienced hypothermia and prolonged recovery times following surgery. Anesthetic complications may occur at any time, both intraoperatively and postoperatively, and are more frequently observed in older age groups. Age above 70 years is recognized as a major risk factor for surgical complications. During the intraoperative period, elderly patients are at risk of experiencing severe bleeding, hypotension, and hypocapnia, while postoperative complications commonly include severe pain and delayed recovery (Maharani et al., 2021). These issues have become increasingly significant in line with the growing elderly population and the rising number of surgical procedures worldwide. Data from the World Health Organization (WHO) indicate a substantial global increase in the number of patients undergoing surgery, reaching 140 million in 2021 and increasing to 148 million in 2022. In Southeast Asia, the number of surgical patients in 2022 reached 77 million, while in Indonesia it was approximately 1.2 million (WHO, 2024).

Geriatric patients commonly present with multiple medical conditions and comorbidities, one of which is cardiovascular disease, including hypertension, arrhythmia, coronary heart disease, stroke, and other cardiovascular disorders. The presence of these comorbidities significantly increases the risk of complications during the perioperative period, both during the intra-anesthetic and post-anesthetic phases. Therefore, geriatric patients with cardiovascular disorders require special attention from the medical team, particularly anesthesia providers, to ensure that all stages of pre-anesthetic preparation are carried out optimally and in accordance with medical instructions. Preventive efforts can be undertaken by identifying and managing risk factors during the preoperative, intraoperative, and postoperative phases (Maharani et al., 2021).

In addition to physiological risks, geriatric patients are also at high risk of experiencing cognitive and psychological disturbances prior to surgery. Preoperative stress and anxiety are common among elderly patients and may affect their compliance with pre-anesthetic preparation. Ramadhyansah et al. (2023) reported that 61.3% of geriatric patients experienced preoperative stress. Such psychological conditions can influence patients' understanding of medical instructions as well as their readiness to undergo anesthesia and surgical procedures.

Considering the high risk of complications and the complexity of health problems among geriatric patients with cardiovascular disorders, compliance with pre-anesthetic preparation is a critical factor in improving patient safety. However, studies that specifically examine the level of compliance with pre-anesthetic preparation among geriatric patients with a history of cardiovascular disorders, particularly in regional hospitals, remain limited. Therefore, this study aims to investigate "Pre-Anesthetic Preparation Compliance Among Geriatric Patients With A History Of Cardiovascular Disease at Sanjiwani Regional General Hospital, Gianyar." This study is expected to provide an overview of patient compliance levels and identify

potential risks that can be prevented by healthcare providers in order to improve the quality and safety of anesthesia and surgical services.

## METHOD

This study is a quantitative research employing a descriptive design with a cross-sectional approach. Data collection was conducted using a test instrument in the form of a questionnaire. The questionnaire used was a standard questionnaire with a Cronbach's Alpha value of 0.80. The sample in this study consisted of 102 respondents, selected using a consecutive sampling technique. The collected data then underwent a cleaning process to ensure completeness and accuracy, followed by data entry into a computer using a coding system. The gathered data were subsequently analyzed using descriptive statistics. This study has obtained ethical clearance under number: 56/PEPK/IX/2025.

## RESULT

Table 1.  
General characteristics of respondents (n=102)

Karakteristik Umum	Parameter	Frekuensi	Persentase
Age	Elderly	67	65,7
	Old	27	26,5
	Very Old	8	7,8
Gender	Male	37	36,3
	Female	65	63,7
Medical History	Hypertension	69	67,6
	Coronary Artery Disease	7	6,9
	Arrhythmia	23	22,6
	Cardiomyopathy	3	2,9
ASA Physical Status	ASA 2	60	58,8
	ASA 3	40	39,2
	ASA 4	2	2,0

Based on the data in Table 1, it can be observed that the majority of respondents' age ranges fall into the Elderly category, with 67 respondents (65.7%), followed by Old with 27 respondents (26.5%), and Very Old with 8 respondents (7.8%). In terms of gender characteristics, the majority of respondents were female, totaling 65 (63.7%), while males accounted for 37 (36.3%). Regarding medical history, the majority had hypertension, with 69 respondents (67.6%), while others included arrhythmia, CAD, and cardiomyopathy, with 23 (22.6%), 7 (6.9%), and 3 (2.9%) respondents, respectively. Based on the ASA physical status, the majority were in the ASA 2 category with 60 respondents (58.8%), followed by ASA 3 with 40 (39.2%), and ASA 4 with 2 (2.0%).

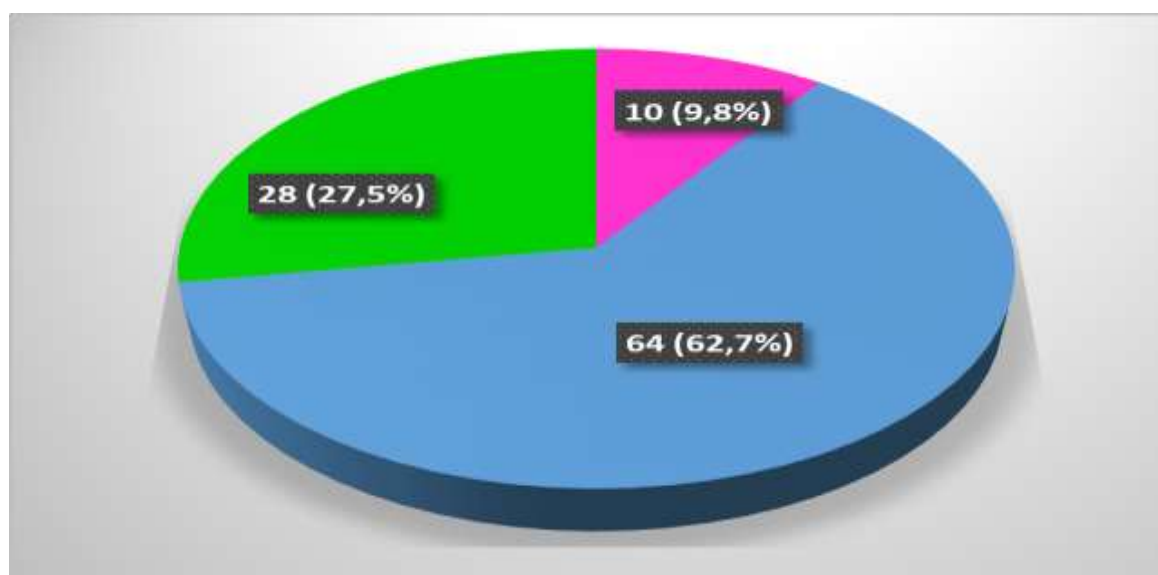


Figure 1. Frequency distribution of respondent compliance (n=102)

The research results, as illustrated in Figure 1, indicate that the compliance of respondents with a history of cardiovascular disorders toward pre-anesthesia preparation at Sanjiwani Gianyar Regional General Hospital still requires improvement. The data show that the majority of respondents fall into the moderate compliance category, with 64 individuals (62.7%), while the low compliance category accounts for 10 respondents (9.8%). Only 28 respondents (27.5%) are in the high compliance category.

## **DISCUSSION**

The results of this study show that the majority of respondents fall into the elderly category (65.7%), followed by the old category (26.5%) and the very old category (7.8%). This age distribution confirms that the elderly population constitutes the largest group of patients with a history of cardiovascular disease undergoing pre-anesthesia preparation at RSUD Sanjiwani Gianyar. This condition reflects the increasing trend of elderly patients requiring surgical intervention as life expectancy rises. These findings are consistent with data from the Ministry of Health of the Republic of Indonesia (2023), which states that the prevalence of cardiovascular disease increases significantly in individuals over 60 years of age. This increase is closely related to degenerative processes in the cardiovascular system, such as reduced vascular elasticity, increased peripheral resistance, and a tendency for elevated systolic blood pressure, all of which heighten the risk of perioperative complications.

Regarding gender characteristics, the majority of respondents in this study were female (63.7%). This result supports the research by Rahmawati and Prasetya (2022), which reported that elderly women have a higher prevalence of hypertension and cardiovascular disorders compared to men. This condition is associated with postmenopausal physiological changes, specifically the decline in estrogen levels, which previously played a role in maintaining vascular elasticity and providing a protective effect on the cardiovascular system. The loss of this hormonal protection makes elderly women more susceptible to heart disease and hypertension, thereby necessitating special attention during pre-anesthesia preparation.

In terms of medical history, hypertension was the most common comorbidity found among respondents (67.6%), followed by arrhythmia (22.6%), coronary artery disease (6.9%), and cardiomyopathy (2.9%). This finding is in line with research by Hidayati et al. (2021), which mentions that hypertension is the most common comorbid in patients with cardiovascular disorders and serves as a major risk factor for pre-anesthetic complications. Uncontrolled hypertension can lead to blood pressure fluctuations intraoperatively, increase cardiac workload, and potentially cause myocardial perfusion disorders. Therefore, optimal blood pressure control is a vital component in the success of pre-anesthesia preparation, particularly in elderly patients with cardiovascular comorbidities.

Based on the ASA (American Society of Anesthesiologists) physical status, most respondents were in the ASA II (58.8%) and ASA III (39.2%) categories. This indicates that the majority of patients have mild to severe systemic diseases that are still tolerable but remain at risk for anesthetic complications. According to Butterworth et al. (2018), the ASA classification is a crucial indicator for assessing anesthetic risk levels and assists healthcare providers in planning appropriate perioperative management strategies. Patients with a higher ASA status require more comprehensive monitoring and pre-anesthetic preparation to minimize risks during surgical procedures.

The primary finding of this study indicates that the level of respondent compliance with pre-anesthesia preparation remains in the moderate category (62.7%), with only 27.5% of respondents demonstrating high compliance. This finding suggests a gap between medical

instructions provided and the patients' understanding and behavior in following pre-anesthesia protocols. Low compliance in elderly patients is often linked to various factors, such as limited knowledge, low perception of anesthesia risks, educational levels, and lack of family support during the care process (Fitriani et al., 2020).

Beyond these factors, patients with a history of cardiovascular disease also tend to experience higher levels of anxiety and concern regarding anesthesia and surgical procedures. This psychological state can affect a patient's ability to comprehend and adhere to pre-procedural instructions, such as fasting rules, medication consumption, and other supporting examinations (Siregar & Dewi, 2021). In this regard, effective and therapeutic communication between healthcare providers and patients plays a pivotal role in enhancing patient understanding, reducing anxiety, and building trust in the pre-anesthesia process.

Therefore, structured and sustainable educational interventions are required, such as the implementation of pre-anesthetic counseling, the use of easily understood visual educational media, and the involvement of family members as companions for elderly patients. This approach has proven effective in improving patient compliance with medical therapies and instructions, particularly in the elderly population (WHO, 2021; Notoatmodjo, 2019).

Overall, the results of this study indicate that the compliance of elderly patients with a history of cardiovascular disorders toward pre-anesthesia preparation still needs improvement. Factors such as advanced age, female dominance, and the high prevalence of hypertension contribute to increased anesthetic risk. Consequently, strengthening pre-anesthesia education, accompanied by therapeutic communication and family support, serves as a key strategy to improve patient compliance and ensure the safety and success of anesthesia and surgical procedures.

## **CONCLUSION**

The results of this study indicate that the majority of respondents have a moderate level of compliance with pre-anesthesia preparation, while a portion remains in the low compliance category. These findings suggest that the compliance of respondents with a history of cardiovascular disorders toward pre-anesthesia preparation at RSUD Sanjiwani Gianyar still requires improvement. It is expected that collaboration among various parties be established; not only from healthcare professionals but also through the crucial involvement of family members to enhance patient compliance, ensuring that surgical and anesthetic procedures during the intraoperative period proceed smoothly.

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