ORIGINAL ARTICLE

Nurses' roles in continuity of care implementation for coronary artery bypass graft patients

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ABSTRACT

Introduction: The roles of nurses in implementing continuing care in Coronary Artery Bypass Graft (CABG) patients have an essential part in improving patients' quality of life. This study aims to determine nurses's roles in continuity of care implementation for CABG patients. Methods: This study employed a descriptive research design. The sample of this study was all nurses working at the CABG wards at the Arifin Achmad Hospital, who were selected using a total sampling technique. The variables measured in this study are the role of nurses, including caregivers, communicators, educators, client advocates, and counsellors. Data were collected using a questionnaire developed by the researcher that had been tested before use. The data analysis used is descriptive analysis, which presents the percentage of variables measured. Results: Demography characteristics from 37 nurses depict the majority of respondents in the age range of 36-45 years (45.4%), with the majority of women (81.1%), most nurses' education background is registered nurse (56.8%), and the majority of work experience is ≥ 12 years (64.9%). This study's findings showed the role of nurses as good caregivers (56.8%), good communicators (75.5%), good educators (67.6%), good client advocacy (73%), and good counsellors (51.4%). **Conclusions:** It can be concluded that most nurses perform an adequate role in implementing continuity of care in CABG patients. Then, it will reduce re-hospitalisation risk and improve the quality of life for patients with CABG.

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1. Introduction

Cardiovascular disease is the leading cause of death globally. Cardiovascular disease, namely coronary heart disease, is one of the diseases with the highest mortality in the world and is also the second highest cause of death in Indonesia after stroke, which is 12.9% (Kemenkes RI, 2017).

Coronary heart disease requires comprehensive treatment, both medical treatment in the form of surgery and rehabilitation, to prevent and control the level of morbidity and mortality as much as possible. The Global Burden of Disease states that management of coronary heart disease patients can be done with revascularisation intervention. Revascularisation is an action to open blockages in the coronary arteries. The actions can be in the form of thrombolytic therapy, Percutaneous Coronary Intervention (PCI) with balloons or stents and Coronary Artery Bypass Graft (CABG) (Oktaviono, 2020).

Based on data in Indonesia in 2021, 790 patients performed CABG and ToF Repair (Tetralogy of Fallot Repair), equivalent to the Asian figure of 755 patients who returned home

alive. Compared to the success rate of CABG and ToF Repair (Tetralogy of Fallot Repair) in 2020 (94.28%), there was an increase in the percentage of successful adult and pediatric surgical procedures by 1.29%. Efforts that can be made include CABG surgery, which can improve the quality of life of patients to reduce angina, reduce the risk of recurrent attacks, help to extend life expectancy, optimising heart function, protect myocardial tissue, and improve patient quality of life.

In addition to having a positive impact on the condition of coronary heart disease patients, patients undergoing CABG surgery are also at risk of developing complications after surgery that can affect outcomes, namely length of stay and increased mortality after surgery. (Almashrafi, Elmontsri, and Aylin 2016). Research conducted by Soares et al. (2011) stated that 58% of heart surgery patients experienced complications in the pulmonary system (31%), cardiovascular system (15.8%) and nervous system (13.9%). Complications include infection, bleeding, heart attack, decreased heart function, phrenic nerve paralysis, and respiratory system disorders such as atelectasis, pneumonia, pulmonary oedema, hemothorax, and bronchospasm (Galih et al., 2022). Therefore, it is necessary to anticipate, prevent and reduce problems that may occur in CABG patients and help accelerate the recovery process of CABG patients, one of which is by optimizing the role of health workers, including nurses, in implementing continuous care.

Nurses are responsible for providing optimal patient care by coordinating with the medical team in a collaborative effort to meet the needs of each Patient. Nursing interventions for patients who will undergo CABG surgery include preparing patients for surgery, providing care during and after surgery, and providing information and education to patients and family members about home care after discharge from the hospital (Aydin & Gürsoy, 2019).

After the Patient is discharged from the hospital, ongoing care is required, focused on the Patient's needs and resources. (Posadas-collado and Suleiman-martos 2022). This ongoing care aim is to improve adherence to pharmacological treatment, knowledge of the disease, prevention of complications, and avoid gaps in care after discharge and the possibility of re-hospitalization.

Patients are vulnerable to discontinuity of care when experiencing a change in health status or moving from one service to another. Several practices are in place by healthcare professionals to enable safe transitions of care between different levels of healthcare. Nurses are essential in ensuring patient care coordination and continuity, developing actions that involve care planning at discharge, health education, articulation between services and follow-up after discharge (Santos et al., 2022).

Nurses are one of the health workers who play a significant role in providing health services in hospitals because nurses interact with patients directly for twenty-four hours. Only now, the implementation pattern of continuing care at Arifin Achmad Hospital has been documented from standard operating procedures or devices that support the implementation of continuing care. One form of activity carried out at this time is the provision of information in discharge planning, which is one of the important tasks carried out by nurses. If discharge planning is insufficient, it may affect the implementation of continuity of care. Continuity of care ensures the patients' programs run well; thus, it improves the Patient's quality of life and self-care ability and reduces re-hospitalization (Akbari & Celik, 2015).

It is necessary to conduct research to investigate the role of nurses in implementing continuity of care in CABG patients during hospitalization. Therefore, this study aims to identify the role of nurses in implementing continuity of care in CABG patients in hospital.

2. Methods

This study used a descriptive research design. The sample of this study was all nurses at Arifin Achmad Hospital who were involved in the care of CABG patients, totalling 37 people selected using the total sampling technique. The variable measured in this study is the role of nurses, including *caregiver*, *communicator*, *educator*, *client advocate*, *and counsellor*. *Data were* collected using a questionnaire developed by the researcher that had been tested before use. Before commencing the study, all participants involved and participating in this study were given

sufficient and precise information regarding the purpose of the study, their involvement, and all related knowledge of the procedures and materials used in the study. The research team delivered and provided participants with an information sheet and an informed consent sheet to be signed if they volunteered to participate in the study. Then, all participants gave informed consent to participate in this study. All participants fulfilled all question items related to nurses' role in continuity of care implementation for CABG patients. After completing the questionnaire, the data collected was analyzed. The data analysis used was descriptive, which presents the percentage of the measured variables. Descriptive statistics were used to display an overview of the participants' socio-demographics related to age, gender, ward, education, and period of employment. Frequency and percentage were used to analyze demographic data and questionnaire items.

Before conducting the study, ethical approval from the Ethical Review Board from Nursing and Health Research Universitas Riau had been granted for this study with certificate number 80/UN19.5.1.8/KEPK.FKp/2023. The University's Ethics Committee approved the study materials (questionnaires and informed consent forms). All participants received written and oral information relevant to the study procedures, aims, and potential benefits to consent and participate in the study. We obtained written informed consent from all the participants. Moreover, the participants were assured about the confidentiality and anonymity of their information.

3. Results and Discussion

The results of this study are presented by first depicting the demographic characteristics of the respondents involved in this study. It is followed by the findings of variables measured in the study.

3.1 Demographic characteristics of respondents

The results of data analysis obtained general characteristics of 37 respondents involved in the study, as presented in table below. Table 3.1 shows the demography characteristics of respondents. It depicts that the majority of respondents in this study had an age range of 36-45 years, with a total of 17 people (45.4%), most of them are female, 30 people (81.1%), holding Bachelor of Nursing education with a total of 21 people (56.8%), Majority nurses work at inpatient ward (64.9%) and a working experience \geq 12 years with a total of 24 people (64.9%).

Respondent Characteristics		Frequency (f)	Percentage (%)
Age	17-25 years old (Late Teens)	1	2,7
	26-35 years old (Early adulthood)	15	40,5
	36-45 years old (Late adulthood)	17	45,9
	46-55 years (Early elderly)	4	10,8
	Total	37	100
Gender	Male	7	18,9
	Female	30	81,1
	Total	37	100
Education	Diploma of Nursing	16	43,2
	Bachelor of Nursing	21	56,8
	Total	37	100
Ward Name	Cardiac Surgery ICU	13	35,1

Table 3.1 Frequency Distribution of Respondent Characteristics

	Chrysanthemum	13	35,1
	Roses	11	29,7
	Total	37	100
Working experiences	< 12 years	13	35,1
	≥ 12 years	24	64,9
	Total	37	100

3.2 Nurses' role in implementing continuity of care for CABG Patients

Table 3.2 below shows that of the 37 respondents studied, the majority of respondents practice an excellent role as a caregiver as many as 21 people (56.8%), as a communicator counted 28 people (75.7%), an educator with 25 people (67.6%), as client advocacy with 27 people (73%), and as a counselor, 19 people (51.4%).

Table 3.2 Frequency Distribution of Nurses' Role in Implementing Continuing Care in CABG

Nurse's r		ents Frequency (f)	Percentage (%)
Caregiver	Good	21	56,8
	Deficient	16	43,2
	Total	37	100
Communicator	Good	28	75,7
	Deficient	9	24,3
	Total	37	100
Educator	Good	25	67,6
	Deficient	12	32,4
	Total	37	100
Client Advocacy	Good	27	73,0
	Deficient	10	27,0
	Total	37	100
Counsellor	Good	19	51,4
	Deficient	18	48,6
	Total	37	100

Based on the study's findings, most respondents were aged 36-45 years, with 17 people (45.4%). This average age is productive in work because increasing age can increase experience and maturity in making decisions (Wulandari & Purnamasari, 2019). Productive age can produce excellent nurse performance in patient care (Wollah, 2017). Age is associated with performance, physical ability, and intellectual and emotional intelligence; productive age nurses tend to be more critical in thinking and assessing health. In addition, knowledge about the context of care and professional practice is undoubtedly needed to implement continuity of care. It will be strength for nurses in successfully implementing continuity of care.

Furthermore, in this study, female nurses were (81.1%) dominant compared to male nurses. Female nurses psychologically have more nursing instincts in carrying out practices. They generally have the traits of patience, tenderness, and caring, and this follows the work of nurses in providing the best patient care (Ameliyah & Nursapriani, 2021).

Based on the study results, most respondents had a NERS education, as many as 21 people (56.8%). Education is one of the supporting factors in a person's thinking and behaviour (Saputra

et al., 2020). According to Febianti (2023), the higher the nurse's education, the more productive she will be at work because she has sufficient knowledge. Education affects a person's thinking process to be more logical, critical, and systematic in analyzing (Bernadetta et al., 2023). Education supports the success of the continuity of care that improves the quality of health services in hospitals.

In addition, in this study, nurses who served in the chrysanthemum and rose inpatient rooms were more dominant (64.9%) compared to the Cardiac Surgery ICU service room. According to the results of interviews conducted during the preliminary study, the chrysanthemum and rose rooms at RSUD Arifin Achmad Pekanbaru City are medical inpatient rooms that can accept BPJS class 2 and 3 patients who will perform CABG procedures from preoperative to postoperative.

Based on the study results, most respondents had a work period of≥ 12 years, as many as 24 people (64.9%). More experience will make a worker more skilled and trained in doing his job (Febianti et al., 2023). According to Sanjaya (2023), a person's tenure in an installation can affect the quality of a person's work, so nurses who have worked longer in nursing tasks will have better experience and skills in overcoming nursing problems and providing care to patients in the hospital.

This study describes the results of nurses performing the role of caregiver in the excellent category of as many as 21 people (56.8%). The role of nurses is categorized as good because nurses have adequate experience in providing care assistance to CABG patients. The relationship between patients and nurses is important and mutually beneficial because nurses carry out their rights and obligations to patients to improve their health according to their condition. According to Ebbeck (2022), the role of caregiver will be given to the patient until the patient feels comfortable again. So that when the patient is allowed to go home from the hospital, he will remain calm and comfortable because the nurse has done his role well. In addition, in this study, nurses carrying out the caregiver role were in the poor category, with as many as 16 nurses (43.2%). This is thought to be due to stress factors that arise in nurses due to workloads that exceed the capacity of nurses, so that nurses quickly feel tired and tense, which has the opportunity to perform nursing care poorly (Agustina et al., 2021).

This study describes the results of nurses performing the role of communicator in the excellent category of as many as 28 people (75.7%). The role of a communicator is crucial because this ongoing care requires interpersonal relationships between patients and nurses. In ongoing care, especially for CABG patients, they need accurate information (Dale et al., 2018). In addition, in this study, nurses carrying out the role of communicator were in the poor category, namely nine nurses (24.3%). According to Kristyaningsih (2021), there is a relationship between education and the implementation of therapeutic communication. The higher the education of a nurse, the better the knowledge. Better knowledge will improve the nurse's communication because communication is also influenced by a person's knowledge, attitudes, perceptions, and behaviour.

This study describes the results of nurses performing the educator role in the excellent category of as many as 25 people (67.6%). The role of the educator in the continuity of care of CABG patients is significant because nurses must provide explanations to patients and families regarding emergency signs and symptoms and related action plans, in addition to symptoms of common psychological syndromes such as 'cardiac blues' and the following path for treatment and support (Ski et al., 2023). In addition, in this study, nurses carrying out the educator role were in the poor category, with as many as 12 nurses (32.4%). This category is due to the nurse's perception of the role. According to Pakpahan (2020), there is a relationship between perceptions of the role of educators and the implementation of discharge planning. Moreover, it was found that most nurses had a negative perception of educators, and it was concluded that nurses considered their role as educators in discharge planning needed to be more necessary.

This study describes the results of nurses in carrying out the role of client advocacy in the good category of as many as 27 people (73.0%). Client advocacy in continuing care is a liaison between patients and other health workers (Posadas-Collado et al., 2022). According to Syukur (2023), the implementation of this role is said to be good because nurses always take the time to

communicate with patients in the room to create a harmonious environment. Nurses can report wishes from patients when doctors visit, always include the patient's family in planning nursing actions, and listen to complaints felt by patients during treatment. In addition, in this study, nurses carrying out the role of client advocacy were in the poor category, with as many as ten nurses (27.0%). This is thought to be due to factors of education level and nurse paradigm; in this study of 10 nurses who were not good at performing the role of client advocacy, the majority had a D3 nursing education, namely six people (16.2%). According to Sulistiyowati (2019), the need for more understanding of nurses is an obstacle to implementing advocacy in informed consent.

This study describes the results of nurses performing the role of counsellor in the good category of as many as 19 people (51.4%). The role of a counsellor is to help patients know and be able to deal with psychological and social problems that occur. According to (Zhang et al., 2022), patients need emotional, intellectual, and psychological support from nurses during recovery after CABG to reduce patient anxiety levels. In addition, in this study, nurses carrying out the role of counsellor were in the poor category, with as many as 18 nurses (48.6%). This is thought to be due to the nurse's education level. The role of nurses as counsellors who will provide education to patients must have the latest competencies and knowledge to ensure the quality of information provision. In the Ministry of Health of the Republic of Indonesia, nurses must reach the level of clinical nurse V with the ability to provide clinical consultation in speciality areas, carry out clinical governance in a transdisciplinary manner, and conduct clinical research to develop nursing practice, profession and education.

4. Conclusion

The results of this study describe nurses' role in carrying out Continuity of Care in Coronary Artery Bypass Graft (CABG) patients. A good nurse is a good nurse. Nurses who provide nursing services to CABG patients in the preoperative and postoperative phases understand the importance of implementing continuous care in CABG patients. Implementing continuous care is expected to provide patients with coordinated and consistent care. This approach can help reduce the risk of re-admission of CABG patients due to complications after discharge from the hospital.

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References

- Ameliyah, A. R., & Nursapriani. (2021). *Hubungan Kinerja Perawat terhadap Implementasi Penerapan Keselamatan Pasien di Masa Pandemi Covid-19. 15*(3), 288–294.
- Agustina, A. M., Pranatha, A., & Puspanegara, A. (2021). Faktor Faktor Yang Berhubungan Dengan Pelaksanaan Asuhan Keperawatan Berbasis Sdki, Slki Dan Siki Di Rumah Sakit Kuningan Medical Center Kabupaten Kuningan Tahun 2021. *Jurnal Ilmu Kesehatan Bhakti Husada: Health Sciences Journal*, 12(2), 149–159. https://doi.org/10.34305/jikbh.v12i2.325
- Akbari, M., & Celik, S. S. (2015). The effects of discharge training and counseling on post-discharge problems in patients undergoing coronary artery bypass graft surgery. *Iranian Journal of Nursing and Midwifery Research*, 20(4), 442–449. https://doi.org/10.4103/1735-9066.161007
- Almashrafi, A., Elmontsri, M., & Aylin, P. (2016). Systematic review of factors influencing length of stay in ICU after adult cardiac surgery. *BMC Health Services Research*, 16(1), 1–12. https://doi.org/10.1186/s12913-016-1591-3
- Ameliyah, A. R., & Nursapriani. (2021). *Hubungan Kinerja Perawat terhadap Implementasi Penerapan Keselamatan Pasien di Masa Pandemi Covid-19. 15*(3), 288–294.
- Aydin, A., & Gürsoy, A. (2019). The Care Needs and Care Dependency of Coronary Artery Bypass

- Graft (CABG) Patients After Hospital Discharge. *Journal of Education and Research in Nursing*, 16(1), 8–14. https://doi.org/10.5222/head.2019.008
- Bernadetta, Y., Hariyati, T. S., & Pujasari, H. (2023). Continuing Professional Development (CPD) Melalui Webinar dan Kompetensi Perawat. *Jurnal Keperawatan Silampari*, *4*(1), 88–100.
- Dale, J. G., Midthus, E., & Dale, B. (2018). Using information and communication technology in the recovery after a coronary artery bypass graft surgery: Patients' attitudes. *Journal of Multidisciplinary Healthcare*, 11, 417–423. https://doi.org/10.2147/JMDH.S175195
- Ebbeck, M., Yim, H. Y. B., Ho, S. Y., & Sharma, M. (2022). Continuity of Care: Primary Caregiving in Singapore. *Early Childhood Education Journal*, 50(2), 291–300. https://doi.org/10.1007/s10643-021-01156-7
- Febianti, A., Shulthoni, M., Masrur, M., & Safi'i, M. A. (2023). Pengaruh Tingkat Pendidikan, umur, jenis kelamin, dan Pengalaman Kerja Terhadap Produktivitas Kerja di Indonesia. *Jurnal Sahmiyya*, *2*(1), 198–204.
- Galih, A., Tjahjono, C. T., Rizal, A., & Martini, H. (2022). Phase I Cardiac Rehabilitation Intervention in Patients Undergoing Coronary Artery Bypass Grafting. *Heart Science Journal*, *3*(4), 4–8. http://www.heartscience.ub.ac.id/
- Kemenkes Kesehatan RI 2017. (2017). Kemenkes Kesehatan RI 2017. Jurnal Kesehatan, 12(4).
- Kristyaningsih, P. (2021). Penerapan Komunikasi Terapeutik Perawat di Ruang Rawat Inap. *Jurnal Ilmu Kesehatan*, 10(1).
- Mustikaningsih, D., Fatmawati, A., & Suniati, N. (2020). Pelaksanaan Perencanaan Pulang Oleh Perawat. *Jurnal Kepemimpinan Dan Manajemen Keperawatan*, *3*(2), 45–53.
- Oktaviono, Y. H. (2020). Komplikasi Pada Intervensi Koroner Perkuat. Airlangga University Press.
- Pakpahan, M., Rangga, F. D., Vasquien, S., & Octaria, M. (2020). Persepsi Perawat sebagai Edukator Berhubungan dengan Implementasi Discharge Planning. *Jurnal Kesehatan Holistic*, 4(2), 30–43. https://doi.org/10.33377/jkh.v4i2.81
- Posadas-Collado, G., Membrive-Jiménez, M. J., Romero-Béjar, J. L., Gómez-Urquiza, J. L., Albendín-García, L., Suleiman-Martos, N., & Cañadas-De La Fuente, G. A. (2022). Continuity of Nursing Care in Patients with Coronary Artery Disease: A Systematic Review. In *International Journal of Environmental Research and Public Health* (Vol. 19, Issue 5). MDPI. https://doi.org/10.3390/ijerph19053000
- Posadas-collado, G., & Suleiman-martos, N. (2022). *Continuity of Nursing Care in Patients with Coronary Artery Disease : A Systematic Review.* 19, 1–16.
- Sanjaya, W., & Sari, F. M. (2023). Hubungan Kepuasaan Kerja dengan Kinerja Perawat Pelaksana di Ruang Rawat Inap RSUD Palabuhan Ratu Kabupaten Sukabumi. *Junal Health Society*, *12*(1), 40–50.
- Santos, M. T. dos, Halberstadt, B. M. K., Trindade, C. R. P. da, Lima, M. A. D. da S., & Aued, G. K. (2022). Continuity and coordination of care: conceptual interface and nurses' contributions. *Revista Da Escola de Enfermagem Da USP*, *56*, 1–7. https://doi.org/10.1590/1980-220x-reeusp-2022-0100en
- Saputra, M. G., R. N. V., Kusdiana, A., & Rateh, N. (2020). Hubungan Pengetahuan Perawat Tentang Discharge Planning Dengan Pelaksanaan Discharge Planning: Literature Review. *Journal of Health Care*, 1(2), 1–8.
- Ski, C. F., Cartledge, S., Foldager, D., Thompson, D. R., Fredericks, S., Ekman, I., & Hendriks, J. M. (2023). Integrated care in cardiovascular disease: a statement of the Association of Cardiovascular Nursing and Allied Professions of the European Society of Cardiology. *European Journal of Cardiovascular Nursing*, 22(5), 39–46. https://doi.org/10.1093/eurjcn/zvad009
- Soares, G., Ferreira, D., Gonçalves, M., Alves, T., David, F., Henriques, K., & Riani, L. (2011). Prevalence of major postoperative complications in cardiac surgery. *International Journal of Cardiovascular Sciences*, *24*(3), 139–146.
- Sulistiyowati, M. A. E. T. (2019). Pelaksanaan Advokasi Perawat dalam Informed consent Di Rumah sakit Islam Sultan Agung Semarang. *Jurnal Ilmu Keperawatan Dan Kebidanan*, 2(4), 188–194.

- Syukur, S. B., Sudirman, A. N. A., & Harun, S. R. (2023). Peran Advokasi Perawat di Ruang Rawat Inap RSUD Dr. Hasri Ainun Habibie. *Journal of Educational Innovation and Public Health*, 1(2), 154–164. https://doi.org/https://doi.org/10.55606/innovation.v1i2.941
- Wollah, M. O. (2017). Hubungan Antara Stres Kerja Perawat dengan Kinerja Perawat di Instalasi Gawat Darurat dan Intensive Care RSU PPancaran Kasih GMIM Manado. *E-Journal Keperawatan*, 5(2).
- Wulandari, D., & Purnamasari, V. (2019). Hubungan Kinerja Perawat dengan Tingkat Kepuasan BPJS Rawat Inap di RS PKU Muhammadiyah Yogyakarta. *Unisa Digital Library-Repository*. http://digilib.unisayogya.ac.id/id/eprint/4590
- Zhang, L., Niu, G., & Zhang, G. (2022). Effect of continuity of care on quality of life and medication compliance of patients with ST-segment elevation myocardial infarction. *American Journal of Translational Research*, 14(2), 1354–1360.