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# The Effect Of Post-Operative Care Education On Patients' Knowledge After Percutaneous Coronary Intervention (Pci) In The Icvcu Room At Dr. Iskak Tulungagung Hospital

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## ABSTRACT

Coronary heart disease is caused by the narrowing of blood vessels due to atherosclerotic plaque. Percutaneous Coronary Intervention (PCI) is used to improve myocardial perfusion. Nursing education is crucial in enhancing patient understanding, preventing non-compliance with treatment, and helping them maintain a healthy lifestyle while preventing complications. This study aims to determine the effect of post-operative Percutaneous Coronary Intervention (PCI) care education on the knowledge level of patients in the ICVCU Room at dr. Iskak Tulungagung Hospital. This study employed a quasi-experimental method. The sample was selected using consecutive sampling, consisting of 30 respondents. The instruments used were questionnaires, leaflets, and educational videos. Data analysis was conducted using the Wilcoxon signed-rank test. The findings indicate that before the education was provided, most respondents had a moderate level of knowledge, with 19 respondents (63.3%). After the education, there was an increase, with the majority of respondents (63.3%) demonstrating good knowledge. The Wilcoxon Signed Ranks Test showed an Asymp. Sig. (2-tailed) value of 0.000, indicating a significant effect of education on increasing patient knowledge in the ICVCU Room at dr. Iskak Tulungagung Hospital.Improved understanding of post-PCI care plays a crucial role in reducing the risk of complications, such as bleeding at the puncture site or side effects from the prescribed medications

**Keywords:** Education, Knowledge, Percutaneous Coronary Intervention (PCI).

## INTRODUCTION

Cardiovascular disease refers to disorders of the heart and blood vessels. One form is Acute Coronary Syndrome (ACS), which is included in coronary heart disease (CHD). ACS consists of several conditions, namely unstable angina pectoris (UAP), ST-Elevation Myocardial Infarction (STEMI), and non-ST-Elevation Myocardial Infarction (NSTEMI) (Smit et al., 2020). Coronary heart disease (CHD) is a heart disorder caused by insufficient blood flow to the heart muscle due to narrowing of the coronary arteries. Clinically, this condition is characterized by chest pain or discomfort, often felt as a heavy pressure during activities such as climbing, strenuous exercise, or brisk walking over long distances (Sinaga et al., 2022).

According to a 2018 report by the World Health Organization (WHO), the death rate from cardiovascular disease reached 17.9 million. The term "heart disease" encompasses a variety of disorders affecting the heart, with global cases reaching 550 million (Roth et al., 2020). Data from the Basic Health Research (Riskesdas) shows that the prevalence of coronary heart disease (CHD) in Indonesia is 1.5%. The province with the highest prevalence is East

Nusa Tenggara (4.4%), and the lowest is Riau (0.3%). Based on the data, North Kalimantan has the highest prevalence (2.7%), while East Nusa Tenggara (NTT) and DKI Jakarta have the lowest prevalence (0.7%) and 1.5%, respectively. In 2014, CHD was the second-highest cause of death after stroke, reaching 12.9%. The risk of CHD based on a doctor's diagnosis was 0.5%, while based on symptoms it reached 1.5%. CHD ranks seventh among non-communicable diseases (NCDs) in Indonesia. In East Java Province, 2-3 out of 1,000 people suffer from coronary heart disease (Ministry of Health of the Republic of Indonesia, 2018). A preliminary study conducted by researchers found that between April and May 2024, 318 heart patients were treated in the ICVCU at Dr. Iskak Tulungagung Regional Hospital.

One effective treatment for preventing and reducing the impact of heart disease is Percutaneous Coronary Intervention (PCI). (Reviansyah et al., 2022). Percutaneous Coronary Intervention (PCI) is performed to improve blocked coronary blood flow by inserting a balloon catheter or stent in the narrowed area, restoring blood flow. PCI is a relatively safe intervention with low risks, a quick recovery time, and a short hospital stay of approximately 3-4 days, compared to coronary artery bypass grafting (CABG) (Apriyani et al., 2021).

After undergoing Percutaneous Coronary Intervention (PCI), patient education regarding the procedure is crucial to improve their knowledge of post-procedure care and minimize the risk of complications. PCI, which involves arterial access, has the potential to cause complications such as bleeding, hematoma, coronary artery rupture, aneurysm, and arteriovenous fistula. Therefore, patients need to be informed about the importance of lying in a supine position or bed rest for 8-12 hours after the procedure to prevent complications. During this period, regular hemodynamic monitoring is necessary to ensure patient stability and reduce discomfort (Ulinnuha, 2017).

A preliminary study conducted by researchers found that 147 patients underwent PCI between April and May 2024, with an average of 73 patients per month. Although medical personnel had provided pre-procedure education (IEC), interviews with eight post-PCI patients revealed that six of them had low levels of knowledge regarding post-procedure care. The importance of this education also includes understanding the role of nurses in the management of Acute Coronary Syndrome (ACS), which can occur in various care settings such as the Emergency Department, inpatient wards, and outpatient settings. Nurses must be skilled at monitoring hemodynamic parameters, such as blood pressure, respiration, pulse, oxygen saturation, and pain symptoms, as well as providing post-PCI rehabilitation (Smit et al., 2020).

During prolonged periods of bed rest, patients should be aware of the effects of sustained stress on muscles, such as fatigue, muscle spasms, tingling, and back pain. Nurses in critical care units play a key role in monitoring and identifying vascular complications and ensuring hemostasis. Monitoring includes observation of the puncture site and evaluation of peripheral vascular features, including skin temperature, color, sensation, movement, distal pulses, and capillary refill time (CRT) (Harmayetty et al., 2018). With a comprehensive understanding of post-PCI care, patients can better prepare for the recovery process and reduce the risk of complications.

## METHODS

This research is a quantitative research with Quasy-Experiment, One group pretest-posttest design. The population of this study were all patients who underwent PCI in the ICVCU Room of Dr. Iskak Tulungagung Hospital from November to December 2024 with consecutive sampling method. The independent variable in this study is post-PCI surgery care education and the dependent variable is the level of knowledge. The researcher has received a letter of ethical feasibility from the Health Research Ethics Committee of STRADA Indonesia University in the effort to protect the rights and welfare of research subjects of health No. 001740/EC/KEPK/I/10/2024.

## RESULTS

Knowledge before receiving post-operative Percutaneous Coronary Intervention (PCI) care education was generally sufficient, with 19 respondents (63.3%). Knowledge after receiving post-operative Percutaneous Coronary Intervention (PCI) care education was generally good, with 19 respondents (63.3%). The results of the Wilcoxon Signed Ranks Test statistical test obtained an Asymp. Sig. (2-tailed) value of 0.000, because Pvalue <α (α = 0.05) then H1 is accepted and H0 is rejected which means the Effect of Providing Post-Operative Percutaneous Coronary Intervention (PCI) Care Education on the Level of Patient Knowledge in the ICVCU Room of Dr. Iskak Tulungagung Regional Hospital. This can be seen from the results of negative ranks or the difference (negative) between knowledge after and before, where there were 25 respondents who experienced an increase in knowledge after being given education about Post-Operative Percutaneous Coronary Intervention (PCI) Care.

## DISCUSSION

Based on the research results, it shows that knowledge before being given post-operative Percutaneous Coronary Intervention (PCI) care education, the majority of respondents had sufficient knowledge, namely 19 respondents (63.3%). Based on research findings and related sources, researchers believe that patients' knowledge levels prior to receiving post-PCI care education are generally limited, which can impact their readiness to undergo the recovery process. Lack of understanding of the procedure and post-procedure care can increase the risk of anxiety and non-compliance with medical recommendations. Appropriate education plays a crucial role in helping patients understand the importance of preventive measures, such as maintaining proper posture after the procedure and regularly monitoring their health. With increased patient understanding, they can be more proactive in maintaining their health, reducing the risk of complications, and improving their quality of life after PCI. Previous research has also shown that post-procedure education can reduce anxiety and increase patient compliance. Therefore, the role of medical personnel, especially nurses, is crucial in providing clear and comprehensive information to ensure patients receive optimal care.

Knowledge levels are also influenced by age, gender, and education level. The results showed that before receiving postoperative percutaneous coronary intervention (PCI) care education, of the 30 respondents, 25 respondents aged >45 years had a knowledge level in the sufficient category, with 17 respondents (68%). Based on the research results and related theories, researchers argue that before being given post-PCI surgery care education, most patients with a high school education level had knowledge in the sufficient category, this shows that the level of education is related to the level of patient knowledge.

Based on the research results, it shows that after being given education on post-operative care for Percutaneous Coronary Intervention (PCI), the majority of respondents had good knowledge, namely 19 respondents (63.3%). The results of the study showed that after being given Post-Operative Percutaneous Coronary Intervention (PCI) Care Education from 30 respondents, 25 respondents aged >45 years showed an increase where the majority had a level of knowledge in the good category, namely 18 respondents (72%).

The results of the study showed that after being given Post-Operative Percutaneous Coronary Intervention (PCI) Care Education from 30 respondents, 22 male respondents showed an increase where the majority had a level of knowledge in the good category, namely 15 respondents (68.2%). Based on research results and existing theories, researchers believe that gender is a factor influencing patients' knowledge levels after education. In this study, there were more men than women, so the majority of knowledge gains were driven by male

respondents. However, female patients also showed increased knowledge after education, indicating that education is effective for all genders. In line with Farmasita and Veronica's opinion, gender can influence knowledge levels due to differences in roles, responsibilities, and experiences between men and women, which affect their ability to access and understand information. Furthermore, according to Notoatmodjo's theory, different life experiences and social roles between men and women also influence how they receive and process information. Therefore, it can be concluded that gender is a factor influencing increased patient knowledge after education.

Based on the research results, it shows that the Wilcoxon Signed Ranks Test statistical test results obtained an Asymp. Sig. (2-tailed) value of 0.000, because Pvalue $<\alpha$ ($\alpha = 0.05$) then H1 is accepted and H0 is rejected, which means the Effect of Providing Post-Operative Percutaneous Coronary Intervention (PCI) Care Education on the Level of Patient Knowledge in the ICVCU Room of Dr. Iskak Tulungagung Regional Hospital. This can be seen from the results of negative ranks or the difference (negative) between knowledge after and before, where there were 25 respondents who experienced an increase in knowledge after being given education about Post-Operative Percutaneous Coronary Intervention (PCI) Care.

Based on research findings and related sources, researchers believe that post-PCI care education significantly improves patient knowledge. This demonstrates that providing appropriate information can help patients understand the importance of post-procedure care, thus better preparing them for recovery. The education provided not only improves understanding of medical procedures but also helps patients realize the importance of ongoing health monitoring. A better understanding of post-PCI care also plays a role in reducing the risk of potential complications, such as bleeding at the puncture site or side effects from drug therapy. Therefore, the involvement of healthcare professionals, particularly nurses, in providing comprehensive education is a crucial factor in improving the quality of patient care.

## CONCLUSION

The Effect of Providing Post-Operative Percutaneous Coronary Intervention (PCI) Care Education on the Level of Patient Knowledge in the ICVCU Room of Dr. Iskak Tulungagung Regional Hospital. This can be seen from the results of negative ranks or the difference (negative) between knowledge after and before, where there were 25 respondents who experienced an increase in knowledge after being given education about Post-Operative Percutaneous Coronary Intervention (PCI) Care.

## REFERENCES

Apriyani, S., Nurachmah, E., & Maria, R. (2021). Efektivitas Edukasi Berbasis Multimedia Terhadap Peningkatan Kepatuhan Dalam Pengobatan Dan Perawatan Diri Pada Pasien Pasca Percutaneous Coronary Intervention (PCI). Journal of Telenursing (JOTING)Volume 3, Nomor 2, Desember 2021, 4(1), 6.

Arikunto. (2018). 'Panduan Penelitian Kesehatan : Kuantitatif.' PT Gramedia.

Benjamin, E. J., Virani, S. S., Callaway, C. W., Chamberlain, A. M., Chang, A. R., Cheng, S., Chiuve, S. E., Cushman, M., Delling, F. N., Deo, R., De Ferranti, S. D., Ferguson, J. F., Fornage, M., Gillespie, C., Isasi, C. R., Jiménez, M. C., Jordan, L. C., Judd, S. E., Lackland, D., … Muntner, P. (2018). Heart Disease and Stroke Statistics - 2018 Update: A Report From the American Heart Association. In Circulation (Vol. 137, Issue 12). https://doi.org/10.1161/CIR.0000000000000558

Darsini, Fahrurrozi, & Cahyono, E. A. (2019). Pengetahuan ; Artikel Review. Jurnal Keperawatan, 12(1), 97.

Direktorat Pencegahan dan Pengendalian Penyakit Tidak Menular. (2019). Buku Pedoman Manajemen Penyakit Tidak Menular. Kementerian Kesehatan Republik Indonesia.

Ekawati, E., Ariastuti, N. P., & Fitriyanti, D. (2024). Pengaruh Edukasi Perawatan Postpercutaneous Coronary Intervention(PCI) Terhadap Tingkat Pengetahuan Pasien Penyakit Jantung. Konferensi Nasional Dan Call Paper Stikes Telogorejo Semarang, 3(3), 1–9.

Farmasita, R., & Veronica, A. (2024). Hubungan Usia, Jenis Kelamin Dan Tingkat Pendidikan Orang Tua Terhadap Pengetahuan Swamedikasi Pemberian Paracetamol Padaanak. Jurnal Insan Farmasi Indonesia, 7(1), 105–113. https://doi.org/10.36387/jifi.v7i1.1838

Harmayetty, Sriyono, & Fajarianto, A. C. (2018). Modified Left Lateral and Head Elevation Reduces Post Percutaneous Coronary Intervention Back Pain. Jurnal Ners, 2(2), 67–61.

Haryanto, B. (2018). Percutaneous Coronary Intervention (PCI). Pusat Jantung Nasional Harapan Kita.

Hasan M. (2014). Analisa Data Penelitian Dengan Statistic. PT Bumi Askara.

Irmalita, Dafsah, A., Andrianto, Budi, Y., Daniel, P., & Doni, F. (2015). Pedoman Tatalaksana Sindrom Koroner Akut (3rd Editio). PERKI.

Kemenkes RI. (2018). Hasil Riset Kesehatan Dasar Tahun 2018. In Kementrian Kesehatan RI (Vol. 53, Issue 9).

Kurniyati, E. (2020). Efektivitas Edukasi Menggunakan Media Sosial Whatsapp Terhadap Tingkat Pengetahuan Pada Pasien TB Paru Di Poliklinik DOTS RSUP Dr. Soeradji Tirtonegoro. In Skripsi. STIKES Muhammadiyah Klaten.

Muliantino, M. R., Mailani, F., & Dafris, W. (2023). Efektivitas Edukasi Pra-Kateterisasi terhadap Pengetahuan Pasien PJK yang akan Menjalani Tindakan Kateterisasi Jantung. REAL in Nursing Journal, 6(2), 127. https://doi.org/10.32883/rnj.v6i2.2477

Notoatmodjo Soekidjo. (2018). 'Buku Ajar Metode Penelitian Kesehatan.' PT : Rhineka Cipta.

Nursalam. (2016). Metodologi Penelitian Ilmu Keperawatan : Pendekatan Praktis. Salemba Medika.

PERKI. (2018). Pedoman Tatalaksana Sindrome Koroner Akut. Indonesian Heart Assoiation. https://doi.org/10.5694/j.1326-5377.2007.tb01292.x

Pradana, F. R., & Widiyati, S. (2020). Hubungan Karakteristik dengan Tingkat Pengetahuan Perawat Tentang Tuberculosis (TB) Paru pada Anak. Jendela Nursing Journal, 4(2), 113–121.

Rahmanisa, T. A., & Abdur Rasyid, T. (2024). Efektivitas Tindakan Ambulasi Dini Terhadap Penurunan Nyeri Punggung Post Kateterisasi Jantung Klien Dengan Sindrom Koroner Akut (SKA): Sebuah Studi Kasus Di Rsud Arifin Achmad Provinsi Riau. Jurnal Ilmiah Keperawatan IMELDA, 10(1), 22–34. http://jurnal.uimedan.ac.id/index.php/JURNALKEPERAWATAN

Reviansyah, M., Rosyid, F. N., & Sugimin. (2022). Hemodinamik Pada Pasien Post PCI (Percutaneous Coronary Intervention) Di Ruang ICCU. Prosiding Seminar Nasional Keperawatan Universitas Muhammadiyah Surakarta (SEMNASKEP) 2022 No 1, 63–70.

Rochfika. (2019). Percutanius Coronary Intervention. Uwais Inspirasi Indonesia.

Roth, G. A., Mensah, G. A., Johnson, C. O., Addolorato, G., Ammirati, E., Baddour, L. M., Barengo, N. C., Beaton, A., Benjamin, E. J., Benziger, C. P., Bonny, A., Brauer, M., Brodmann, M., Cahill, T. J., Carapetis, J. R., Catapano, A. L., Chugh, S., Cooper, L. T., Coresh, J., … Fuster, V. (2020). Global Burden of Cardiovascular Diseases and Risk Factors, 1990-2019: Update From the GBD 2019 Study. Journal of the American College of Cardiology, 76(25), 2982–3021. https://doi.org/10.1016/j.jacc.2020.11.010

Sinaga, E., Manurung, S., Zuriyati, Z., & Setiyadi, A. (2022). Pengaruh Edukasi Kesehatan Terhadap Tingkat Kecemasan Tindakan Kateterisasi Jantung di Rumah Sakit Omni Pulomas Jakarta Timur. Journal of Nursing and Midwifery Sciences, 1(1), 1–7. https://doi.org/10.54771/jnms.v1i1.487

Sjamsuhidajat, R., & Jong, D. (2017). Buku Ajar Ilmu Bedah (4th ed.). EGC.

Smit, M., Coetzee, A. R., & Lochner, A. (2020). The Pathophysiology of Myocardial Ischemia and Perioperative Myocardial Infarction. Journal of Cardiothoracic and Vascular Anesthesia, 34(9), 2501–2512. https://doi.org/10.1053/j.jvca.2019.10.005

Sugiyono. (2017). Metode Penelitian Kuantitatif, Kualitatif, dan R&D – MPKK. Alfabeta.

Ulinnuha, D. Y. L. (2017). Perbedaan Rerata Profil Lipid Pada Pasien Stemi Dan Non Stemi Di RSUD Kota Yogyakarta Tahun 2016. In Skripsi. Universitas Aisyiyah Yogyakarta.

Wawan, A., & Dewi, M. (2018). Teori dan Pengukuran Pengetahuan, Sikap, dan Perilaku Manusia. Nuha Medika.

Yasuki, M. (2021). Asuhan Keperawatan Kardiovaskuler Pada Pasien Tn.A Post- Percutaneous Coronary Intervention (PCI) Dengan Diagnosa Medis Angina Pectoris Stabil Ccs Ii Dan Coronary Artery Disease (CAD) 3vd. In Skripsi. universitas Hasanuddin Makassar.