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Case Study: Nursing Care for a Patient with Coronary Artery Disease (CAD) Using Benson Relaxation Technique to Reduce Pain

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Abstract: Coronary artery disease (CAD) is a condition characterized by the narrowing or blockage of the coronary arteries, which are responsible for supplying oxygen-rich blood to the heart muscle. This condition is primarily caused by the accumulation of atherosclerotic plaque, including cholesterol and other substances, which progressively limits blood flow to the myocardium and may result in chest pain (angina) or even myocardial infarction. The purpose of this study is to explore the application of the Benson relaxation technique as a complementary intervention to reduce pain in patients diagnosed with CAD. This study employs a descriptive case study design, focusing on the nursing care of one patient using the nursing process approach to guide the intervention. The results of the case study indicate that prior to the implementation of Benson relaxation on June 24, 2024, the patient's reported pain level was at a scale of 4. After three consecutive days of applying the Benson relaxation technique, the pain scale decreased to 2. This demonstrates a reduction in perceived pain. However, the findings suggest that while Benson relaxation may contribute to pain reduction, its effectiveness as a standalone intervention is limited. Therefore, it is recommended that Benson relaxation be used as an adjunct to pharmacological therapy in managing pain among CAD patients.

Keywords: Coronary artery disease, CAD, pain management, Benson relaxation technique

1. Introduction

Heart disease is generally caused by dysfunction in the arterial system, particularly due to blockages. Obstructed arteries hinder the flow of oxygen and nutrients to the heart. Diets high in

cholesterol can increase the risk of arterial blockage, leading to heart attacks (Ridwan, 2017, as cited in Mumpuni et al., 2023). Cardiovascular disease is a type of degenerative disease resulting from the decline in the function of the heart and blood vessels. Examples include coronary artery disease, heart failure, stroke, and hypertension (Priyambodo et al., 2022).

Coronary artery disease (CAD) is a heart condition caused by a reduced oxygen supply to the heart due to narrowing or blockage of the coronary arteries, which may result from atherosclerosis, arterial spasms, or a combination of both (Priyambodo et al., 2022). CAD is one of the most common forms of heart disease, typically caused by the buildup of plaque within the coronary arteries. Therefore, preventive and promotive efforts are prioritized to address the increasing prevalence of this condition (Purnama, 2020).

Coronary artery disease is a disorder characterized by the narrowing or obstruction of coronary arteries that supply blood to the myocardium. It is considered a myocardial disorder caused by insufficient coronary blood flow, with dyslipidemia being the most prominent contributing factor. Patients with CAD often experience two major physical problems: acute pain and decreased cardiac output (Penelitian et al., 2023)..

2. Methods

This study employs a descriptive method combined with a literature review approach. The descriptive method is implemented through a case study design, focusing on the comprehensive management of one patient using the nursing process approach, which includes assessment, nursing diagnosis, planning, implementation, and evaluation. The literature review serves to support the analysis and discussion by referencing current and relevant scientific literature related to coronary artery disease and non-pharmacological interventions for pain management, particularly the Benson relaxation technique.

3. Results and Discussion

3.1. Analysis of Nursing Care for Patients with CAD

The initial step in providing nursing care to patients with coronary artery disease is the assessment phase. In this phase, no significant obstacles were encountered, largely due to the cooperative attitude of the patient.

Based on the assessment conducted on Mr. N, a 46-year-old male, it was found that he had a history of coronary artery disease (CAD). Age is a significant risk factor for cardiovascular disease, as aging contributes to various changes in the heart and blood vessels. The absolute risk of developing coronary artery disease increases progressively in both men and women aged 71–75 due to the cumulative progression of atherosclerosis in the coronary arteries. Aging in the cardiovascular system leads to a decline in heart function and narrowing of the coronary artery lumen, which disrupts blood flow to the myocardium, resulting in damage and impaired cardiac muscle function (Melyani et al., 2023).

This section presents a case analysis based on several factors influencing coronary artery disease, in order to identify the most dominant contributing factors in the case of Mr.

N. The assessment data were collected using interviews, observations, and physical examinations to obtain the necessary information for the nursing process.

3.2. Effect of Benson Relaxation Technique on Pain Scale

Benson relaxation therapy was administered in three sessions. Prior to each session, the patient's pain scale and vital signs were assessed to obtain baseline data. The therapy session lasted approximately 20 minutes per session and was conducted in a calm, quiet environment to maximize its effectiveness.

After each therapy session, pain levels and vital signs were reassessed to evaluate any changes or improvements. The results showed a reduction in the pain scale, indicating that Benson relaxation had a positive effect on pain perception in patients with coronary artery disease.

However, while Benson relaxation therapy was shown to assist in alleviating pain, it was not fully effective as a standalone intervention. Therefore, it is recommended that Benson relaxation be used as a complementary therapy alongside pharmacological treatment to achieve optimal outcomes in pain management for patients with coronary artery disease

3.3. Pain Scale Analysis After Benson Relaxation

Table 1. Pain Scale Before and After Benson Relaxation Therapy

No	Date	Pain Scale			
		Time	Pretest	Time	Posttest
1.	June 24, 2024	09.00	4	09.20	3
2.	June 25, 2024	09.00	3	09.20	2
3	June 26, 2024	09.00	2	09.20	2

Source: Primary Data, 2024

Table 1. shows the pain scale before and after the application of Benson relaxation therapy. On June 24, 2024, the initial pain scale was 4, and by the third day, it had decreased to a pain scale of 2. This indicates a reduction in pain levels over the course of the therapy. However, the decrease in pain was not significant enough to conclude that Benson relaxation is fully effective as a standalone intervention. The findings suggest that while Benson relaxation therapy can help reduce pain in patients with coronary artery disease, it remains insufficient without the support of pharmacological therapy to achieve optimal pain management outcomes.

Over the course of three consecutive days (June 24–26, 2024), Benson relaxation therapy was administered to Mr. N for 20 minutes per session. The pain scale showed a gradual decrease from 4 on the first day to 2 by the third day. This suggests that the Benson Relaxation Technique had a positive effect on pain perception. However, it is important to note that the pain reduction plateaued on the third day, with no further decrease in the pain scale. This indicates that while the intervention helped alleviate discomfort, it may not be sufficient as a standalone therapy.

These findings are consistent with previous research that supports the use of Benson relaxation as a complementary method to reduce anxiety, blood pressure, and pain perception in patients with cardiovascular conditions. However, optimal outcomes are typically achieved when non-pharmacological methods are combined with pharmacological pain management under medical supervision.

In addition to pain management, patient education was also provided to address cognitive deficits regarding the disease process, lifestyle modification, and the importance of adherence to medical treatment. The patient's cooperative attitude and willingness to participate in therapy were crucial to the success of the intervention.

Therefore, while the Benson Relaxation Technique demonstrates potential as part of holistic nursing care for patients with CAD, it should not replace pharmacological treatment. Further research involving a larger sample size and longer intervention periods is recommended to evaluate the long-term effectiveness of this therapy in diverse clinical settings.

4. Conclusions

Based on the nursing care provided to the client with Coronary Artery Disease (CAD), through the application of Benson Relaxation Therapy for pain reduction at RSUD Kotal Banjar from June 24-26, 2024, the following conclusions can be drawn:

- Nursing care was implemented for a patient with Coronary Artery Disease (CAD) using Benson relaxation technique to reduce pain at the hospital
- Nursing diagnoses included acute pain and cognitive deficit related to the patient's condition.
- The non-pharmacological intervention provided was the Benson relaxation therapy, along with health education. This intervention was effectively implemented and showed positive results in managing the patient's pain.
- The implementation of the Benson relaxation therapy was conducted over three days with effective results in reducing pain. Additionally, health education was given to address the cognitive deficit before the relaxation therapy was applied.
- Evaluation after three days of relaxation therapy revealed a reduction in pain levels in the patient with coronary artery disease, although the results were not fully optimal. While Benson relaxation is a promising non-pharmacological technique for pain reduction, the results were not fully normalized, indicating that it remains less effective without pharmacological support. Further medical treatment and adjustments are necessary, in consultation with the attending physician, to achieve optimal pain management. The final evaluation also included education about CAD and appropriate medical follow-up.

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Limitation: This study has several limitations. First, the case study design focuses on a single patient, which limits the generalizability of the findings. Second, the short duration of the intervention—conducted over only three consecutive days—may not be sufficient to observe the long-term effects of Benson relaxation therapy on pain management. Additionally, the absence of a control group and the reliance on subjective pain scale assessments may affect the accuracy and objectivity of the results. Future research with larger sample sizes, longer intervention periods, and comparative designs is recommended to validate and expand upon these findings.

References

Al-Zalhral, R. A., & Salri, P. I. (2023). Pengaruh teknik relaksasi Benson terhadap penurunan nyeri pada pasien dengan diagnosis Unstable Angina Pectoris (UAP) di ruang Jantung Rumah Sakit Abdul Malang Kota Jambi. Jurnal Ilmu-Ilmu Kesehatan, 9(1), 38. https://doi.org/10.52741/jiikes.v9i1.65

Alnggralini, D. T., & Utalmi, T. (2023). Pengaruh teknik relaksasi Benson terhadap nyeri akut pada pasien. Jurnal Penelitian Perawatan Profesional, 6(2), 647–658. https://doi.org/10.37287/jppp.v6i2.2124

AlR, D., & Indralwaln, B. (2014). Hubungan usia dan merokok pada penderita penyakit jantung koroner di Poli Penyakit Dalam RS MHPallembang Periode Tahun 2012. Syifal' MEDIKAL: Jurnal Kedokteran dan Kesehatan, 5(1), 16. https://doi.org/10.32502/sm.v5i1.1420

Alyu, G., Palrwalti, P., Alyu, G., Purnal, K., Purwalnti, R. B., Alryalwaln, K. Y., Kaldek, N., Purnalmalyalnti, D., Tinggi, S., Kesehaltaln, I., & Singalraljal, B. (2020). Studi Kasus: Manajemen nyeri pada klien infeksi saluran kemih di ruang Anggrek Rumah Sakit Umum. Jurnal Kesehatan Midwinerslion, 5(1), 21–26.

Balhrudin, M. (2018). Patofisiologi nyeri (Pain). Salintikal Medikal, 13(1), 7. https://doi.org/10.22219/sm.v13i1.5449

Chalnialgo, N., Alyubbalnal, S., & Utalmi, I. T. (2024). Pengaruh relaksasi Benson terhadap nyeri pada pasien dengan Coronary Artery Disease (CAD) di ruang Penyakit Jantung RSUD Jend. Alhmad Yani Metro. Jurnal Cendikia Mudal, 4(September), 426–432.

Defronzo, R. A., & Thier, S. O. (1980). Pathophysiologic approach to hyponatremia. Archives of Internal Medicine, 140(7). https://doi.org/10.1001/archinte.1980.00040020897004

Lins, C. C. D. S. A., de Morales Ralmos-Perez, F. M., dos Anjos Pontual, A., dos Anjos Pontual, M. L., & do Nascimento, E. H. L. (2021). Digital oral radiography. In Digitization in Dentistry: Clinical Applications (pp. 65–88). https://doi.org/10.1007/978-3-030-65169-5_3

Faldhilal, A., & Alsriyaldi, F. (2020). Hubungan pengetahuan dengan kesalahan penerapan evidence-based practice pada mahasiswa profesi Ners UMKT tahun 2019. Borneo Student Research, 2(1).

Fikih, N., & Wijalyal, I. K. (2020). Literature Review: Analisis masalah keperawatan pada pasien penyakit jantung koroner dengan nyeri akut. Jurnal Keperawatan, 14, 1–17.

Insalni, N., Palskal, F. T., Noviyalnto, F., & Kholifalh, E. (2024). Analisis penggunaan antibiotik pada pasien Poli Bedah Orthopedi Rawat Jalan Di RSUD Dr. Drajat Prawironegoro Periode Oktober – Desember 2022. 13(2), 222–227.

Isriani, N. I. N. N., Ismayanti, I., Firmansyah, A., & Noviati, E. (2022). The Effect Of Warm Compresses Of Red Ginger On Reducing Pain In Rheumatoid Arthritis. *Bina Generasi: Jurnal Kesehatan*, *14*(1), 64-70.

Kalryaltin, K. (2019). Faktor-faktor yang berhubungan dengan kejadian penyakit jantung koroner. Jurnal Ilmiah Kesehatan, 11(1), 37–43. https://doi.org/10.37012/jik.v11i1.66

Lufritalyalnti, & Alnnisal. (2013). Asuhan keperawatan keluarga dengan masalah gizi kurang. Penelitian dan Sikalp Dalam Penelitian Kesehatan, 11150331000034, 1–147. https://stp-matalralm.e-journall.id/JIP/article/view/2143/1667

Malnallu, N. V. (2016). Pelaksanaan pemeriksaan fisik oleh perawat rumah sakit Advent Blundar Lampung. Jurnal Skolastik Keperawatan, 2(1), 13. https://doi.org/10.35974/jsk.v2i1.234

Malrdialh, M., & Rivalny, R. (2017). Cost recovery rate of hospitals and INAl-CBG's tariff based on clinical pathway of coronary artery disease in a public hospital, Pallembang, 2015. Jurnal Ekonomi Kesehatan Indonesia, 1(4), 175–184. http://jurnallkesmals.ui.alc.id/jurnall-eki/article/view/1782

Malrlindal, R., Dalfrialni, P., & Irmaln, V. (2020). Hubungan pola makan dan aktivitas fisik dengan penyakit jantung koroner. Jurnal Kesehatan Medikal Salintikal, 7(2), 108–113.

Malrvellal Alrsaln Salnthials, Miralsalri Putri, & Eval Rialnti Indralsalri. (2024). Gambaran konsumsi kalium dengan derajat depresi. Bandung Conference Series: Medical Science, 4(1), 231–236. https://doi.org/10.29313/bcsms.v4i1.10687

Melyalni, M., Talmbunaln, L. N., & Balringbing, E. P. (2023). Hubungan usia dengan kejadian penyakit jantung koroner pada pasien rawat jalan di RSUD dr. Doris Sylvanus Provinsi Kalimantan Tengah. Jurnal Suryal Medikal, 9(1), 119–125. https://doi.org/10.33084/jsm.v9i1.5158

Monical, R. F., Lalksono Aldiputro, D., & Malrisal, D. (2019). Hubungan hipertensi dengan penyakit jantung koroner pada pasien gagal jantung di Rsud Ulin Banjarmasin. Hemeostasis, 121–124.

Muchid, A., Umalr, F., & Chusun. (2006). Pharmaceutical care for patients with acute coronary syndrome. 1–3.

Mumpuni, I., Kusumalstuti, S., Malnurung, J., Keperawatan, P., & Kemenkes, J. (2023). The relationship level of nutrition knowledge and diet compliance to blood cholesterol levels in coronary heart disease patients. Jurnal Medikes (Medical Informatics Kesehatan), 10(2), 279–294.

Nalomi, S. W., Picaluly, I., & Toy, S. M. (2021). Faktor risiko kejadian penyakit jantung koroner (Studi Kasus di RSUD Prof. Dr. W. Z. Johannes Kupang). Medial Kesehatan Malasyarkalt, 3(1), 99–107.