IMPLEMENTATION OF PROGRESSIVE MUSCLE RELAXATION (PMR) ON FATIQUE PATIENT WITH CANCER

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Abstract
Cancer is a disease that can affect individuals of all ages and backgrounds, with diverse characteristics and risk factors (Wagih et al., 2025) It is classified as a chronic illness that impacts both physical and psychological conditions. One of the most common psychological effects experienced by cancer patients undergoing chemotherapy is fatigue. Non-pharmacological interventions such as Progressive Muscle Relaxation (PMR) can be applied to reduce fatigue levels among cancer patients. Method: This study employed a case study design involving one cancer patient undergoing chemotherapy who was diagnosed with nursing problems related to fatigue. The patient received Progressive Muscle Relaxation (PMR) intervention for three consecutive days in the Jasmin Ward of Arifin Achmad Regional Hospital, Pekanbaru. Result: After the PMR intervention, the patient showed a decrease in verbal expressions of fatigue, reduced lethargy, and improved appetite. Conclusion: Progressive Muscle Relaxation (PMR) was found to be effective in reducing fatigue levels in cancer patients undergoing chemotherapy. It can be used as a beneficial and simple non pharmacological nursing intervention to support patient comfort and recovery.
Keyword: Cancer; Chemotherapy; Fatigue; Progressive Muscle Relaxation (PMR).

INTRODUCTION

Cancer is a disease that can affect all groups regardless of age. Cancer has different characteristics and risk factors (Wagih et al., 2025). Cancer is classified as a chronic disease that affects the physical condition and psychological well-being of sufferers. Cancer is classified as a chronic disease that impacts the physical condition and psychological well-being of patients. The prevalence of cases and deaths due to cancer according to the World Health Organization (WHO) in 2020 was 396,914 new cases and 234,511 deaths (Kementrian Kesehatan RI, 2024). Data on cancer patients who underwent chemotherapy at Arifin Achmad Regional General Hospital in 2024 showed that there were 214 out patients undergoing chemotherapy. Chemotherapy is the primary method for preventing the spread of cancer cells. Chemotherapy can slow down the growth and kill cancer cells. Chemotherapy is cytotoxic to all cells, including normal cells. There are various side effects of chemotherapy, such as hair loss nausea, vomiting, difficulty sleeping, anorexia, and fatigue (Wardani, 2022)

One of the psychological effects commonly experienced by cancer patients undergoing chemotherapy is fatigue. Fatigue is the most common complaint experienced by chemotherapy patients, causing some people to give up and stop the treatment that should be done, which has a negative impact on the progression of the disease.

According to the National Comprehensive Cancer Network, Cancer Related Fatigue (CRF) is a subjective condition characterized by persistent feelings of fatigue directly related to cancer and its treatment (Barton et al., 2020). Fatigue in patients undergoing chemotherapy is frequently experienced; however, it is often underreported, underdiagnosed as a significant clinical problem, and consequently inadequately addressed by healthcare professionals (Marco et al., 2018). This condition affects the functioning and daily activities of patients, especially

those who have undergone chemotherapy. Even patients who have been declared cured report that fatigue due to cancer can persist for months to years after treatment is completed. In Indonesia, approximately 67% of cancer patients undergoing palliative care or who have been declared cured experience fatigue due to cancer (Park et al., 2020).

Complementary and alternative therapies are in high demand among cancer patients and are often used to help manage the side effects of cancer treatment. Nurses not only perform basic care, but also contribute to health promotion and disease prevention, cost savings, efficient resources, and competence (Liu et al., 2020). Progressive Muscle Relaxation (PMR) is one effective way to reduce muscle tension through simple, structured (Sinha et al., 2021). Progressive muscle relaxation exercises are included in complementary interventions in nursing practice. A study conducted by Suryani et al., (2022) concluded that Progressive Muscle Relaxation (PMR) interventions significantly reduced fatigue levels in patients with cancer.
The results of a study by Harini et al., (2023) show that Progressive Muscle Relaxation (PMR) can reduce fatigue in breast cancer patients at the Taman Husada Bontang. Previous research conducted by (Amelia et al., 2025) on lung cancer patients at Dr. M. Djamil General Hospital in Padang also showed the effect of Progressive Muscle Relaxation (PMR) on reducing fatigue scores.

RESEARCH METHODS

Implementation of Evidence-Based Nursing Practice (EBN) using the case study method. The main focus is the intervention of Progressive Muscle Relaxation (PMR) therapy for cancer patients undergoing chemotherapy and experiencing fatigue. The case study approach was chosen to describe in depth the implementation of nursing care based on the following steps: assessment, diagnosis, intervention, implementation, and evaluation. The subject of the application was one patient with fatigue.

The intervention consisted of Progressive Muscle Relaxation (PMR) therapy administered for 3 consecutive days, once a day for 15 minutes each session. The intervention was carried out in the Jasmine Room of Arifin Achmad Regional General Hospital, Riau Province, from August 19 to 21, 2025.

The success of the intervention was measured by the decrease in fatigue scores using the Fatigue Severity Scale (FSS) with success criteria from the Indonesian Nursing Outcome Standards, specifically such as verbalization of increased energy recovery, increased strength, increased motivation, decreased verbalization of fatigue, and improved appetite (PPNI, 2018).

RESEARCH RESULTS

Based on the assessment of Mr. C on Tuesday, August 19, 2025, Mr. C is a 45 year old male with a diagnosis of T2N3M1c2 lung cancer (kidney, liver). The patient was admitted for the second cycle of first-line chemotherapy. At the time of assessment, the patient complained of fatigue due to having to under go continuous chemotherapy, feeling that his energy had not recovered even though he had slept. The patient said he had no appetite and appeared lethargic, complaining of nausea but no vomiting. The patient can mobilize independently. Based on these complaints, a nursing diagnosis of fatigue can be established.

The main intervention was the provision of Progressive Muscle Relaxation (PMR) therapy to cancer patients who had nursing problems related to fatigue. Progressive Muscle Relaxation (PMR)was given once a day for 3 days with a duration of 15 minutes. The patient complained of fatigue due to having to undergo continuous chemotherapy, feeling that her energy did not recover even after sleeping, the patient said she had no appetite and appeared lethargic,

complained of nausea but did not vomit. During the assessment, the average Fatigue Severity Scale (FSS) score was 5.88 (Severe Fatigue).

The implementation was to provide Progressive Muscle Relaxation (PMR) therapy to one cancer patient undergoing chemotherapy at Arifin Achmad Provincial Hospital in Riau Province with nursing problems of fatigue by explaining the benefits and procedures of Progressive Muscle Relaxation (PMR) and demonstrating it together. Then, fatigue levels were observed by asking about complaints again and reassessing them using the Fatigue Severity Scale (FSS).

Evaluation obtained from the application of Progressive Muscle Relaxation (PMR) with fatigue nursing problems. On the first day of Progressive Muscle Relaxation (PMR) for 15 minutes, there was adecrease in the average Fatigue Severity Scale (FSS) score from (FSS) from 5.88 (severe fatigue) to 5 (severe fatigue). On the second day of Progressive Muscle Relaxation (PMR) application, there was adecrease in the average Fatigue Severity Scale (FSS) score from 5 (severe fatigue) to 3.88 (moderate fatigue). On the third day of Progressive Muscle Relaxation (PMR) application, there was adecrease in the average Fatigue Severity Scale (FSS) score from 3.88 (moderate fatigue) to 3.22 (moderate fatigue).

DISCUSSION

The results of this study show that Progressive Muscle Relaxation (PMR) therapy can significantly reduce fatigue levels in cancer patients undergoing chemotherapy at Arifin Achmad Regional General Hospital in Riau Province (decreased verbalization of fatigue, decreased appearance of lethargy) and a decrease in the average Fatigue Severity Scale (FSS). These results are consistent with the study conducted by (Amelia et al., 2025) which showed the effect of Progressive Muscle Relaxation (PMR) therapy on fatigue scores in lung cancer patients at Dr. M. Djamil General Hospital in Padang. Similarly, a study conducted by Anggraini et al., (2023) demonstrated a reduction in fatigue scores in patients undergoing chemotherapy following Progressive Muscle Relaxation interventions.

Progressive Muscle Relaxation (PMR) can reduce fatigue in patients with cancer because this therapy decreases the activity of the sympathetic nervous system, which is often heightened by psychological or physiological stressors. Reduced sympathetic nervous system activity results in lower heart rate (HR), decreased respiratory rate (RR), and reduced blood pressure. Furthermore, muscle relaxation therapy effectively regulates both the peripheral and central nervous systems, thereby reducing stress, anxiety, and depression, and has demonstrated effectiveness in the management of various health-related conditions (Riwayati et al., 2018).

CONCLUSION

The application of Progressive Muscle Relaxation (PMR) as a non-pharmacological therapy in cancer patients undergoing chemotherapy with fatigue problems has shown significant benefits. Through the Evidence-Based Nursing Practice approach, this intervention not only successfully reduced fatigue levels as measured by the Fatigue Severity Scale (FSS), but also improved the quality of life of patients.

The Progressive Muscle Relaxation (PMR) therapy procedure, which is simple, safe, and performed once a day for three days, is also able to reduce verbalization of fatigue and apparent lethargy. Progressive Muscle Relaxation (PMR) therapy in reducing fatigue in cancer patients undergoing chemotherapy is related to physiological processes involving muscle tension reduction and stimulation of the parasympathetic nervous system. Relaxation (PMR) therapy in reducing fatigue in cancer patients undergoing chemotherapy is related to physiological

processes involving reduced muscle tension, stimulation of the parasympathetic nervous system, and improvement in sleep quality and mood.

This therapy can help reduce physical and mental fatigue, therapy improving the quality of life of patients undergoing treatment. Progressive Muscle Relaxation (PMR) Relaxation therapy can be part of a holistic approach to managing fatigue in cancer patients. The results of this application can serve as a reference for the development of nursing science and can provide additional data for learning about non-pharmacological therapies to address nursing issues related to fatigue in cancer patients undergoing chemotherapy.

REFERENCES

1. Amelia, W., Yusriana, & Ningsih, Rista, W. (2025). Pengaruh Terapi Progressive Muscle Relaxation (PMR) terhadap Fatigue Pada Pasien Kanker Paru Di RSUP DR. M. Djamil Padang. *Jurnal Pengembangan Ilmu Dan Praktik Kesehatan*, *4*(3), 200–211.
2. Anggraini, D., Rayasari, F., Fauziah, M., Jumaiyah, W., & Komalawati, D. (2023). Penurunan Fatigue Pada Pasien Kanker Paru Dengan Progresive Muscle Relaxation. *Journal of Telenursing (JOTING)*, *5*(2), 2594–2602.
3. Barton, D. L., Brooks, T., Zick, S. M., Arbor, A., Arbor, A., & Arbor, A. (2020). Integrative Therapies for Cancer Related Fatigue. *HHS Public Access*, *25*(5), 349–356. https://doi.org/10.1097/PPO.0000000000000396.Integrative
4. Harini, Purwanto, E., & Hidayat, A. (2023). Teknik Relaksasi Otot Progresif Menurunkan Skala Kelelahan (Fatigue) Pada Pasien Kanker Payudara. *Jurnal Cakrawala Ilmiah*, *3*(4), 1103–1112.
5. Kementrian Kesehatan RI. (2024). Rencana kanker nasional 2024-2034. *Kementrian Kesehatan Republik Indonesia*, *September*, 93–94.
6. Liu, K., Chen, Y., Wu, D., Lin, R., Wang, Z., & Pan, L. (2020). Effects of Progressive Muscle Relaxation on Anxiety and Sleep Quality in Patients with Covid-19. *Complementary Therapies in Clinical Practice*, *January*.
7. Marco, M. Di, Rubbi, I., Baldi, A., Lorenzo, R. Di, Magnani, D., Cremonini, V., Sarli, L., Artioli, G., & Ferri, P. (2018). *Evaluation of fatigue in patients with pancreatic cancer receiving chemotherapy treatment : a cross-sectional observational study*. *89*(4), 18–27. https://doi.org/10.23750/abm.v89i4-S.7063
8. Park, S., Sato, Y., Takita, Y., & Tamura, N. (2020). Mindfulness-Based Cognitive Therapy for Psychological Distress , Fear of Cancer Recurrence , Fatigue , Spiritual Well-Being , and Quality of Life in Patients With Breast Cancer d A Randomized Controlled Trial. *Journal of Pain and Symptom Management*, *60*(2), 381–389. https://doi.org/10.1016/j.jpainsymman.2020.02.017
9. PPNI, T. P. S. D. (2018). *Standar Luaran Keperawatan Indonesia (SLKI) Edisi 1 Cetakan 2* (1st ed.). Persatuan Perawat Nasional Indonesia (PPNI).
10. Riwayati, S., Musa'adah, & Fitriyanti, D. (2018). Riset Kesehatan Dasar (Riskesdas) Badan Penelitian dan Pengembangan Kesehatan Kementerian RI tahun 2018. *Pengaruh Progressive Muscle Relaxation (PMR) Terhadap Fatigue Pasien Kanker Payudara Yang Menjalani Kemoterapi*, *2*(1), 674. http://labdata.litbang.kemkes.go.id/images/download/laporan/RKD/2018/Laporan_Nasional_RKD2018_FINAL.pdf
11. Sinha, M. K., Barman, A., Goyal, M., & Patra, S. (2021). *Progressive Muscle Relaxation and Guided Imagery in Breast Cancer : A Systematic Review and Meta-analysis of Randomised Controlled Trials*. *27*(2), 336–344. https://doi.org/10.25259/IJPC

12. Suryani, D., Nuraini, T., & Gayatri, D. (2022). Intervensi Relaksasi Otot Progresif (Progressive Muscle Relaxation) pada Pasien Kanker yang Mengalami Fatigue. *Journal of Telenursing (JOTING)*, *4*(2), 668–674. https://doi.org/10.31539/joting.v4i2.4247
13. Wagih, W., Esmail, L., Ibrahim, A., Elkader, A., Gewily, G. A., Elaziz, A., Abd, A., Sherief, E., & Elsayed, S. (2025). *Effect of Progressive Muscle Relaxation Technique on Fatigue and Sleep Quality among Colorectal Cancer Patients Undergoing Chemotherapy*. *16*(2), 1079–1097.
14. Wardani, W. N. A. & E. K. (2022). Efek Samping Kemoterapi mual muntah Pasien Penderita Kanker Servik. *Prosiding Seminar Nasional & Internasional*, *2*(2), 97–106.