

CASE REPORT

Chemotherapy-related Distress in an Adolescent with Cancer Receiving Chemotherapy: A Case Report

Azalia Melati Putri¹, Hartiah Haroen², Citra Windani Mambang Sari²

¹ Nursing Professional Program, Faculty of Nursing, Universitas Padjadjaran, Sumedang 45363, Indonesia

² Community Health Nursing Department, Faculty of Nursing, Universitas Padjadjaran, Sumedang 45363, Indonesia

ABSTRACT

The intense and prolonged nature of cancer treatment causes adolescent cancer patients to suffer from physical and psychological distress throughout the disease trajectory. Given the unique developmental challenges in dealing with a life-limiting illness, enhancing personal coping skills as an integral part of holistic palliative care is necessary to alleviate this distress. A 16-year-old boy diagnosed with osteosarcoma was admitted to the pediatric ward for his final cycle of chemotherapy, experiencing nausea. His condition worsened into severe nausea and vomiting after chemotherapy and did not subside despite maximum doses of antiemetics being administered. Prolonged chemotherapy-related distress, including intense emotional distress, severe physical discomfort, and disruption of adolescent developmental milestones, may lead to maladaptive coping responses, thereby worsening patient outcomes. This highlights the need for continuity in palliative care to manage both physical and psychological distress by providing comprehensive psychosocial support during chemotherapy.

Malaysian Journal of Medicine and Health Sciences (2025) 21(5): 425-427. doi:10.47836/mjmhs.21.5.47

Keywords: Adolescent, Cancer, Palliative care, Distress, Psychosocial support

Corresponding Author:

Azalia Melati Putri, RN

Email: azalia19002@mail.unpad.ac.id

Tel: 0838-6325-0469

INTRODUCTION

The intense and prolonged nature of cancer treatment, including a combination of chemotherapy, radiation, and surgery, may cause significant physical and psychological distress. While most adolescents with cancer may cope and adapt to this stressful condition, approximately 20-30% of patients still experience severe psychological problems (1). Prolonged exposure to severe life events during cancer treatment along with maladaptive coping response may increase the risk of mental health problems. Coping promotion, as an integral part of holistic care for adolescent cancer patients, is beneficial in reducing psychological distress and alleviating physical symptoms associated with cancer treatment (2). Previous studies highlight that a combination of pharmacological and non-pharmacological interventions is required to effectively manage this symptom (3).

Unlike adult cancer patients, nausea and vomiting in adolescents are often influenced by psychological aspects (4). Effective coping strategies is considered

in alleviating stress, anxiety, reduce the impact of chemotherapy induced nausea and vomiting (CINV) and reduce the risk of developing anticipatory nausea (ANV). Given the physical and emotional suffering that can affect physical and psychological well-being and worsen patient prognosis, symptom management as an important part of palliative care needs to be provided throughout the disease course to optimize quality of life in adolescent cancer patient (3). Thus, this case report highlighted the need for continuing palliative care by providing comprehensive psychosocial support during chemotherapy.

CASE REPORT

A 16-year-old boy, diagnosed with left knee osteosarcoma in August 2023, has been admitted for his last chemotherapy session. During the visit, he and his family were also informed about the surgery plan after completing the entire session of chemotherapy. He had received oral opioid agent and one counselling session with psychologist to manage his unrelieved severe pain, sleep disturbance, and anxiety at first chemotherapy visits. Symptoms of nausea and vomiting was developed on his subsequent visits since September 2023 even before the cycle started and usually appeared when he arrived at the hospital and saw the healthcare workers performing invasive procedures. His complaint worsened into

severe nausea and vomiting after chemotherapy and did not subside despite maximum doses of antiemetics was administered. The Generalized Anxiety Disorder (GAD-7) to assess anxiety and the Rhodes Index of Nausea and Vomiting (RINV) to measure nausea and vomiting were used to assess patient complaints (see Figure 1).

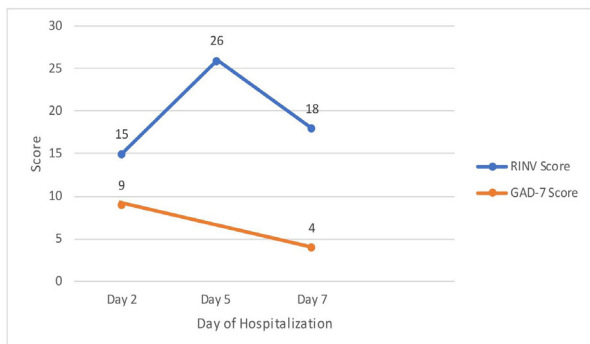


Figure 1: RINV and GAD-7 Score

Before deciding to undergo chemotherapy, he had faced decision-making conflicts with his parents, unrelieved severe pain, and stress. He became extremely depressed and irritable after learning that his parent had committed medical collusion and ignored his treatment preferences, as he only got information from the internet that osteosarcoma is a life-limiting disease requiring long-term treatment with no guaranteed cure. Meanwhile, his parents expressed confusion about starting chemotherapy due to its dangerous side effects and regretted delaying treatment, believing his condition might not have been so severe. His treatment schedule necessitates him to postpone his formal education. The patient who was an outstanding student in academic/school felt isolated and left behind by his peers with the abrupt changes. Although his friends occasionally visited, he still experienced loneliness during hospitalization. He reported having feelings of fear and helplessness due to his upcoming surgery plan. He said he was worried about the results of the surgery which might make him unable to walk again. He adopted coping mechanism by spending most of his time sleeping as a distraction when he feels scared or anxious. His parents said he spent most of his time alone, lacking peers and refusing to go outside. The patient reported drastic physical changes including weight loss and an enlarged cancer on the left knee which made him embarrassed and less confident. In the pediatric ward, diverse age group patients were treated together with no specific facilities or activities for adolescents and there is only a playroom designated for toddlers and preschool children. The exposure to other patients visibly distressed by severe side effects of chemotherapy cause him to feel uncomfortable and anxious. The patient also reported experiencing more frequent nausea and vomiting in the hospital than at home. At home, he had a supportive younger sister, a loving parent who always take care of him, and friends

who occasionally visited him.

In the first two days of hospitalization, nurses assessed patient nausea and vomiting complaint, coping difficulty, anxiety level, and need for psychosocial support. The intervention focused on anxiety reduction, coping promotion, and nausea vomiting management. Anxiety-reducing interventions include providing support during invasive procedures (e.g., drug injections) and identifying stressors that trigger anxiety and exacerbate nausea and vomiting. Meanwhile, coping promotion interventions were implemented through health education related to patient curative plans and achievable realistic outcomes. This intervention includes motivating patients to communicate with peers via social media, and facilitating patients in the use of relaxation techniques, specifically the grounding technique 54321. In this case, the patient was scheduled to undergo a surgical procedure after his last chemotherapy cycle. Thus, the intervention was focused on patient readiness for the procedure by maintaining his realistic expectations. Despite having an avoidant coping style, the patient has started to develop problem-focused coping by seeking information about the disease and its treatment on the internet. Therefore, addressing the patient’s informational needs is essential. On day three, the intervention focused on reducing nausea and anxiety prior to chemotherapy by facilitating the expression of feelings, identifying distraction activities (e.g., watching movies), and providing prescribed oral antiemetics. Unfortunately, the patient reported worsening nausea and vomiting on the fifth day, so additional interventions, including the use of air fresheners and eucalyptus oil, were implemented. An air freshener was placed on the patient’s room curtain, while eucalyptus oil was administered through direct inhalation. Previous interventions were continued after the patient’s symptoms improved. Prior to discharge, he reported decreased nausea along with improved coping, communication, and social activities through social media. The patient reported feeling more comfortable and calmer with nurse accompaniment during chemotherapy.

Establishing a therapeutic relationship with adolescent patients is a challenge for nurses because of differences in age, gender, and developmental stage. On the first day, the patient appeared isolated, hopeless, and uncommunicative, making it difficult to approach patient. An observation revealed that the patient rarely spoke to his mother and only provided brief responses in conversations involving two or more people. The nurse then asked the patient to speak privately and explained the importance of communication with his parents. After several attempts, a therapeutic relationship was successfully established the following day.

DISCUSSION

Nausea experienced by patients on the first day is

known as an anticipatory phenomenon which is often influenced by psychological aspects (3). As described earlier, the patient experienced a severe life event related to the diagnosis, treatment decision-making conflict, and persistent nausea and vomiting from chemotherapy that continued for several months. The patients may also experience greater anxiety when they are exposed to other patients who experiencing severe side effects of chemotherapy. Several strategies such as creating an adolescent-friendly environment, providing psychosocial support, facilitating family involvement and peer support along with maintaining routine activities may be beneficial to overcome this problem (3).

In this case, the patient developed non-adaptive coping response by avoiding stressors. Although adolescents become emotionally and cognitively mature to develop adaptive coping strategies, adolescent undergoing treatment struggled to build effective coping mechanism due to significant distress and social isolation (5). Avoidance coping responses may hinder adolescents' ability to process emotions and cope with the reality of their illness, leading to increased anxiety and depression over time. In addition, these maladaptive responses may also disrupt social support and hinder open communication between patients, family, and healthcare providers

Recognizing the patient's maladaptive coping responses, which may be triggered by chemotherapy-related stress, an intervention focused on anxiety reduction and coping promotion was implemented. This was accompanied by other intervention, such as the use of air fresheners and inhaled aromatherapy (eucalyptus oil) in addition to antiemetics. The calming effects of these scents may make the chemotherapy experience more tolerable for adolescent patients and soothe the digestive system thereby relieve discomfort (5). Consistent with this evidence, patients reported better outcomes after receiving inhaled aromatherapy (eucalyptus oil) intervention. Therefore, effective communication with healthcare providers, engaging patient in positive distracting activity, and reconnecting patient with family and peers appeared to be helpful in overcoming adolescent psychosocial problem during chemotherapy.

CONCLUSION

Prolonged chemotherapy-related distress including intense emotional strain, severe physical discomfort, and disruption of adolescent developmental milestones may lead to maladaptive coping responses that worsen patient outcomes. Coping promotion and anxiety-relieving activities, along with the use of air fresheners and inhaled aromatherapy (eucalyptus oil), may yield promising results for adolescent patients undergoing chemotherapy. Although specific study in this context is limited, there is a noticeable reduction in anxiety and

symptoms of nausea and vomiting. The administration of appropriate antiemetic agents for managing nausea and vomiting, along with the enhancement of adaptive coping strategies, environmental modifications, health education, therapeutic communication, and peer support involvement are essential to help adolescent cancer patients manage their distress and improve their overall quality of life during chemotherapy.

ACKNOWLEDGEMENT

The author would like to express their utmost gratitude to the Faculty of Nursing, University of Padjadjaran, which has facilitated and supervised the process of case reporting to completion.

REFERENCES

1. Wiener L, Kazak AE, Noll RB, Patenaude AF, Kupst MJ. Standards for the psychosocial care of children with cancer and their families: an introduction to the special issue. *Pediatr Blood Cancer*. 2015;62(S5):S419–24. doi:10.1002/pbc.25675
2. Quinn GP, Murphy D, Knapp CA, Christie J, Phares V, Wells KJ. Coping Styles of Female Adolescent Cancer Patients with Potential Fertility Loss. *J Adolesc Young Adult Oncol*. 2013 Jun;2(2):66–71. doi:10.1089/jayao.2012.0038
3. Postovsky S, Lehavi A, Attias O, Hershman E. Easing of physical distress in pediatric cancer. *Palliat care Pediatr Oncol*. 2018;119–57. doi:10.1007/978-3-319-61391-8_7
4. Kamen C, Tejani MA, Chandwani K, Janelsins M, Peoples AR, Roscoe JA, et al. Anticipatory nausea and vomiting due to chemotherapy. *Eur J Pharmacol*. 2014;722:172–9. doi:10.1016/j.ejphar.2013.09.071
5. Lua PL, Zakaria NS. A brief review of current scientific evidence involving aromatherapy use for nausea and vomiting. *J Altern Complement Med*. 2012;18(6):534–40. doi:10.1089/acm.2010.0862