

# Symptom Clusters in Lymphoma Survivors Before, During, and After Chemotherapy: A Prospective Study

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**OBJECTIVES:** To explore symptom clusters (SCs) in lymphoma survivors before, during, and after chemotherapy.

**SAMPLE & SETTING:** 61 lymphoma survivors from a medical center in central Taiwan were enrolled in the study.

**METHODS & VARIABLES:** A prospective observational study design was adopted. The MD Anderson Symptom Inventory was used to measure symptoms. The 13 symptoms assessed by the MD Anderson Symptom Inventory were evaluated after diagnosis and before chemotherapy (T1), after the fourth cycle of chemotherapy (T2), and after completion of chemotherapy (T3). Data were analyzed using mean, frequency, and latent profile analysis.

**RESULTS:** Three SCs were identified at T1, four at T2, and three at T3. Fatigue was the predominant symptom in each SC for the participants over time. Fatigue, disturbed sleep, and numbness constituted an SC at T2 and T3. An SC consisting of multiple psychological symptoms was found only at T1.

**IMPLICATIONS FOR NURSING:** This study describes methods for grouping SCs. An SC of fatigue, disturbed sleep, and numbness was identified at T2 and T3. By familiarizing themselves with this SC, clinicians can be attentive to patients' concurrent symptoms and implement early prevention measures and timely symptom management.

**KEYWORDS** symptom cluster; fatigue; disturbed sleep; numbness; lymphoma survivor

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Taiwan's 2,967 new cases of and 1,275 deaths from lymphoma in 2019 indicate the increasing prevalence of the disease (Health Promotion Administration, 2022). Worldwide, 544,352 new cases of and 259,793 deaths from the disease were reported in 2020 (Sung et al., 2021). As the American Cancer Society (2022) observed, treatment for lymphoma differs from that for other types of solid cancer. Chemotherapy, the sole form of treatment, shows a greater than 70% overall five-year survival rate. Because lymphoma is not among the five most severe types of cancer in terms of incidence or mortality, relatively less attention has been paid to the clinical care of lymphoma survivors and research into the disease. However, the medical cost of lymphoma care is still considerable (National Health Insurance Administration, 2022). In addition, even when treatment eases the progression of the disease, patients with lymphoma often continue to experience short- and long-term physiologic and psychological symptoms (Troy et al., 2019).

The consensus in the literature is that cancer survivors experience an average of 10–15 symptoms during treatment (Lin et al., 2020). These overlapping symptoms may impede survivors' physical functioning, interfere with the effects of treatment, or cut treatment short, in addition to reducing patients' daily living function and quality of life (Ciavarella et al., 2017; Ji et al., 2017; Spichiger et al., 2011). However, most clinical cancer care emphasizes the management of individual symptoms, although the Oncology Nursing Society proposed that symptom clusters (SCs) be identified as a research priority in symptom science (Knobf et al., 2015; Von Ah et al., 2019).

Lenz et al. (1997) and Armstrong (2003) proposed the theory of unpleasant symptoms and the symptom experience model, respectively, as frameworks for