

# Chemotherapy-Induced Alopecia: Examining Patient Perceptions and Adherence to Home Haircare Recommendations

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**BACKGROUND:** Chemotherapy-induced alopecia is one of the most distressing side effects experienced by patients with cancer. Although most chemotherapy-induced alopecia is temporary, this side effect can cause significant anxiety and may lead to refusal of curative treatment.

**OBJECTIVES:** The purpose of this study was to examine patient perceptions and measure adherence to haircare recommendations throughout the course of treatment while using scalp cooling therapy in addition to learning which haircare recommendations were the most onerous.

**METHODS:** This was a cross-sectional observational and descriptive study that used repeated-measures survey data. Participants completed electronic surveys during each treatment corresponding with the current treatment phase.

**FINDINGS:** Final survey results revealed that most participants adhered to haircare recommendations with little difficulty and that the recommendations had an insignificant impact on daily lives.

## KEYWORDS

scalp cooling; chemotherapy-induced alopecia; hair care; self-care

## DIGITAL OBJECT IDENTIFIER

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**CHEMOTHERAPY-INDUCED ALOPECIA IS ONE OF THE MOST DISTRESSING** side effects experienced by about 65% of patients with cancer undergoing treatment (Dua et al., 2017; Paterson et al., 2021). As an acquired, sudden, and severe form of alopecia, chemotherapy-induced alopecia can have a negative impact on body image, sexuality, self-esteem, and quality of life and is often a visible confirmation and constant reminder of a cancer diagnosis (Nangia et al., 2017; Paterson et al., 2021; Zdenkowski et al., 2016). For some women with breast cancer, losing their hair is reported to be more traumatizing than losing a breast to mastectomy and can cause patients to refuse curative treatment (Nangia et al., 2017). In addition, the incidence of permanent chemotherapy-induced alopecia or incomplete hair regrowth in patients at three years postchemotherapy is about 40% (Kang et al., 2018).

## Background

Cancer cells often have excessively high metabolic rates, division rates, and energy demands. Similarly, hair follicle cells rapidly divide, with more than 80% of hair follicles growing at any given time. Chemotherapy agents target cells with these characteristics, which makes hair follicles vulnerable to chemotherapy (Dunnill et al., 2017).

Scalp cooling is an optional treatment to prevent chemotherapy-induced alopecia and focuses on reducing the effects of chemotherapy agents on hair follicles. Cold caps, such as the Penguin Cold Cap® or Chemo Cold Cap®, are similar to ice hats that are placed on the head during scalp cooling therapy. These caps are changed routinely by the patient as the cap warms. Patients independently rent these caps and associated freezer units from outside vendors and bring them to the infusion center for each treatment (Katz, 2017; Kruse & Abraham, 2018).

Scalp cooling systems, such as the DigniCap® and Paxman®, use cooling caps with temperature-regulating sensors. These sensors allow scalp temperatures to be continuously monitored and evenly regulated. These caps remain intact throughout treatment as coolant is circulated through the cap from a base control unit. Scalp cooling systems are purchased by cancer treatment centers and rented to patients during chemotherapy infusions (Dignicap, 2020; Katz, 2017; Kruse & Abraham, 2018).