

Intentional weight loss and risk of lymphohematopoietic cancers

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Abstract

Objectives We hypothesized that intentional weight loss may be associated with development of lymphohematopoietic cancers, based on observations of immune suppression following weight loss in short-term studies.

Methods At the baseline of the Women's Health Initiative Observational Study (1994–1998), participants reported information about intentional weight loss episodes in the past 20 years. We estimated hazard ratios (HRs) and 95% confidence intervals (CIs) among 81,219 women for associations between past intentional weight loss and risk of developing non-Hodgkin lymphoma (NHL), leukemia, and multiple myeloma during an average 9.9 years of follow-up.

Results The risk of NHL was associated with having lost a large maximum amount of weight (≥ 50 pounds, HR = 1.68,

95% CI 1.13–2.50). NHL risk also varied by the frequency of intentional weight loss; women had increased risk if they lost 50 pounds or more ≥ 3 times (HR = 1.97, 95% CI 0.93–4.16; p trend by frequency = 0.09) or 20–49 pounds ≥ 3 times (HR = 1.55, 95% CI 1.00–2.40; p trend = 0.05), but there was no risk associated with smaller amounts of weight loss (10–19 pounds ≥ 3 times, HR = 0.78, 95% CI 0.46–1.33). These associations persisted with adjustment for body mass index at different ages. We observed non-significant associations of similar magnitude for multiple myeloma, but past intentional weight loss episodes were not associated with leukemia.

Conclusion Further assessment of intentional weight loss as a possible risk factor for lymphomas may provide insight into the etiology of these cancers.

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