

# LATE EFFECTS OF ANTINEOPLASTIC TREATMENT AND BODY MASS INDEX EVOLUTION AMONG BRAZILIAN CHILDHOOD CANCER SURVIVORS

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## Abstract

**Background:** Advances in cancer treatment have caused the population of childhood cancer survivors (CCSs) to increase. CCSs are at risk of multiple therapy-related late effects (LEs). This study aims to evaluate the LE incidence and to assess how the body mass index (BMI) evolved in a CCS cohort from a Brazilian tertiary center. **Methods:** Retrospective cohort study with CCSs who received chemotherapy, radiotherapy, or both, seen in a follow-up clinic from 2002 to 2017. Anthropometric and clinical data were analyzed as descriptive statistics and hypothesis tests. LE cases were defined according to specific guidelines and classified into grades 1 to 4. The Z-scores of the participants' BMI at diagnosis, treatment completion, and the last appointment at the clinic were compared. **Results:** The final sample included 245 CCSs; the median ages at diagnosis and recruiting were 7 and 16 years, respectively; the median follow-up period was 8.5 years. The most frequent diagnoses were acute lymphoblastic leukemia, central nervous system (CNS) tumors, and lymphomas. The LE incidence was 53.8% and included overweight/obesity (36.6%), hearing loss (34%), and thyroid gland abnormalities (32.8%). Treatment for medulloblastoma, Ewing sarcoma, and CNS tumors led to the highest LE incidence. In 66% of the participants, LEs were mild or moderate. The prevalence of overweight and obese participants was 24.4% and 12.2%, respectively. After treatment, the Z-scores of the participants' BMI tended to increase over time, particularly in the groups aged 5–9 and 10–19 years. **Conclusion:** The LE incidence resembled the incidence reported in previous studies.

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