

# International Cancer Survivor Symposium, February 3<sup>rd</sup> 2022, Bern

## Abstract submission – Oral presentation

**Deadline:** November 21<sup>st</sup>, 2021

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**Title (22/25 words):** RISK FACTORS FOR OVERWEIGHT AND OBESITY AFTER CHILDHOOD ACUTE LYMPHOMBLASTIC LEUKEMIA IN NORTH AMERICA AND SWITZERLAND: A COMPARISON OF TWO COHORT STUDIES

**Topic:** Epidemiology

**Abstract (295/300):**

**Background and aims:** Survivors of childhood acute lymphoblastic leukemia (ALL) are at increased risk for obesity. We aimed to identify differences between the cohorts in the prevalence of overweight and obesity in childhood ALL survivors compared to siblings; identify risk factors for overweight and obesity, and compare the direction and strength of associations between cohorts.

**Methods:** The North American Childhood Cancer Survivor Study (CCSS) and the Swiss Childhood Cancer Survivor Study (SCCSS) include  $\geq 5$  years survivors of childhood cancer. Adult survivors of childhood ALL diagnosed prior to age 21 years between 1976-1999 were included. CCSS participants were individually matched (3:1) to SCCSS participants on sex and age at assessment. Self-reported heights and weights were used to calculate BMI for 429 Swiss and 1287 North American survivors and compared with 678 Swiss and 2034 North American siblings. We assessed risk factors for being overweight (25-29.9 kg/m<sup>2</sup>) and obese ( $\geq 30$  kg/m<sup>2</sup>) by using multinomial logistic regression.

**Results:** Overweight and obesity were more common in North American than in Swiss survivors (overweight: 30 vs. 24 %; obesity: 29 vs. 7%) and siblings (overweight: 30 vs. 25%; obesity: 24 vs. 6%). North American survivors were more likely to be obese than their siblings (OR=1.26; 95%CI: 1.03-1.55). In Switzerland, we found the same trend (1.25; 0.72-2.16). Among all survivors, risk factors for obesity were: residency in North America (5.8; 3.7-8.9), being male (1.6; 1.2-2.1), having an older attained age ( $\geq 45$  years: 5.5; 2.6-11.5), black race (3.2; 1.6-6.4), a low household income (2.2; 1.4-3.6), and age  $< 5$  years at diagnosis (1.6; 1.1-2.3). Interaction tests found no difference in risk factors effect between cohorts.

**Conclusions:** Obesity after childhood ALL is more prevalent in North America compared to Switzerland and seems to be explained mostly by socio-economical than treatment differences.