Health-Related Unemployment among Survivors and Siblings in the Childhood Cancer Survivor Study (CCSS)


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Background

- 5-year relative survival of childhood cancer has improved from 30% in 1960 to 80% in 2004 due to improvements in therapy and supportive care.
- Late effects from treatment may continue throughout adulthood and are reported by 66% of survivors.
- Adult survivors are 2 times more likely to be unemployed in contrast to healthy comparisons.
- Employment has financial and social impacts.
- Female and central nervous system (CNS) tumor survivors may be at higher risk.

Results

Aim 1: Health-related unemployment for survivors compared to siblings

- In Figure 2, older age, female gender, black race/ethnicity, and CNS, sarcoma and bone cancers were associated with a significantly higher odds of 5-year relative survival of childhood cancer has improved from 30% in 1960 to 80% in 2004 due to improvements in therapy and supportive care.
- Late effects from treatment may continue throughout adulthood and are reported by 66% of survivors.
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Aim 2: Comparison of health-related unemployment among survivor groups

- In Table 2, health-related unemployment was reported by:
  - 25% of central nervous system tumor patients
  - 13% of bone tumor patients
  - 10% of soft-tissue sarcoma patients

Methods

- CCSS: 14,370 subjects diagnosed <21 years with cancer between 1970-1986 & randomly selected siblings (N=3418).
- Baseline questionnaire was completed in 1994-96.
- Current analyses were based on the 2002 follow-up, which had a response rate of 81%. Analyses were limited to survivors (N=6424) and siblings (N=1924) ages ≥25 years who were not unemployed by choice (unemployed but not seeking paid work, student, retired, or home-maker).
- Outcome of employment status obtained via questionnaire:
  - Health-related unemployment (being unable to work due to illness or disability)
  - Employment status was calculated using full-time (≥30 hours/week) or part-time (<30 hours/week), or unemployed but seeking work.
- Examined risk of health-related unemployment:
  - Multivariable logistic regression compared survivors to siblings using generalized estimating equations (GEE) to account for the case-sibling pairs.
  - Among survivors, multivariable logistic regression was used to assess demographic and diagnosis risk groups.

Conclusions and Implications

- Health-related unemployment disproportionately affects adult survivors of childhood cancer.
- Female and older age survivors and survivors of CNS, sarcoma and bone cancers are at an increased risk of not working because of health or disability.
- Assessment of treatment type & dose, late effects and psychosocial factors is in progress.
- Interventions to mitigate health-related work limitations are necessary, especially for high-risk demographic groups.

Limitations

- No childhood SES
- Part-time, home-maker or retired categories
- Current therapies less toxic

Next Steps

- NHANES comparison
- Explore variables in causal pathway & gender differences
- Interventions to mitigate health-related work limitations are necessary, especially for high-risk demographic groups.