

Social and Psychological Effects of Childhood Cancer

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Introduction

Literature on mental health among childhood cancer survivors is limited, and much more research in this area is needed considering the substantial impact it has on their lives. The National Health and Nutrition Examination Survey (NHANES), which is conducted every two years, shows that those who have had cancer exhibit higher rates of anxiety, depression and reduced cognitive functioning with 14-24% experiencing symptoms of clinical depression, 10% with clinical levels of anxiety, and around 75% report difficulties with cognitive functioning (3). This study also pinpoints younger age at the time of diagnosis as a risk factor which makes child/adolescent survivors a point of interest when considering these impacts.

For example, children who are diagnosed with cancer often spend a significant amount of time in the hospital, depending on their condition, for treatment or high-risk traits that require observation. This severely cuts down on class time where they could be strengthening foundational educational elements for higher levels of education (elementary, middle, high school or college). Further, according to Cancer Research UK, treatments such as chemotherapy, immunotherapy, hormone therapies, and others can cause sudden and persistent fatigue in many patients (4). According to the American Childhood Cancer Organization (ACCO), these patients include over 300,000 children a year globally with 15,780 of those being in the United States (11). This lack of energy may affect class participation when patients are able to attend school, and overall performance on homework, projects, presentations, and other types of schoolwork. However, the effects do not end in the educational sector; cancer survivors also exhibit higher rates of social and psychological difficulties, which heavily manifest in their familial and romantic relationships. Every single one of these children is at risk for the physical, mental, and social outcomes of childhood cancer mentioned above. Individuals who have or are currently experiencing some form of childhood cancer, especially those with central nervous system (CNS) tumors, leukemia, non-Hodgkin lymphoma, and neuroblastoma, typically face educational, social, and developmental/sexual setbacks stemming from mental or physical issues.

Literature Review

While survivors of CNS tumors and leukemia face the highest risk for stunted educational achievement, recent observations show that survivors of non-Hodgkin lymphoma and neuroblastoma have an increased chance of not graduating high school (2). According to the Childhood Cancer Survivor Study, those experiencing childhood cancer typically show a higher use of special education services compared to their siblings: 23% of patients versus 8% of siblings (2). This is most likely a direct result of the physical and mental limitations related to cancer or occurs as a result of missing large amounts of class time and crucial educational opportunities. According to parents of childhood cancer patients and survivors, they were also significantly more likely to repeat a grade in high school than those without a history of cancer (21% compared to 9%) (7). Falling behind in aspects of learning and socialization can subsequently reduce the number of leadership roles cancer patients are able to hold during or post-treatment. In fact, these educational difficulties often follow survivors into adulthood where they are two times more likely to be unemployed than the general population (15% compared to 8%) (8). A lack of work coupled with costs for mental health services, necessary for most cancer survivors who face symptoms of depression, anxiety, or other mental illnesses, is a detrimental

combination that only hurts this already vulnerable population. In most areas of the US, therapy costs around \$100-\$200 per session, but prices can range from \$65 to \$250 per hour or more based on the experience and education of the therapist and the specialization of the therapist (6). As per the ADA, all insurance plans must cover mental health services; however, coverage varies by company, and many therapists don't accept insurance due to the complications that come along with it, leaving low-income members of the community, such as cancer survivors unable to afford it.

Some survivors demonstrate difficulties in social areas, such as a lack of empathy, manipulative tendencies, and irresponsible or angry behavior, during or after treatment, which, if not recognized and provided the correct treatment for, can last into early adulthood (1, 2). Exhibiting antisocial traits may make it difficult to form relationships, even with family. This leads to not only fewer friendships but scarce relationships and lower rates of marriage. While it is difficult to pinpoint exactly where antisocial traits manifest from, it likely stems from a lack of similarities and connections with peers during treatment along with missed social opportunities on account of physical limitations. Along with more antisocial behaviors, anxiety, depression, and inattention are also more prominent in children and adolescent survivors (2). This is likely brought on by poor physical health, including physical impairment or mobility issues seen in survivors of bone tumors, and leads to an increase in post-traumatic stress symptoms (2). There have also been reports of increased development of harmful health-related habits such as drinking and drug use. Despite the known detrimental health effects of drug and alcohol use, a recent study shows that rates of alcohol use are more prevalent in adult and adolescent survivors of childhood cancer than the general population (22% compared to 12%), with monthly binge drinking seen in 18% of survivors as opposed to 9% of the general public (2).

Substandard physical health also increases rates of codependency and contributes to a lower marriage rate. It is shown that both females and males face difficulty in their sexual lives with females describing lower sexual functioning, pleasure, desire, and activity and males reporting low sexual activity and a 2.6 times risk of erectile dysfunction (2). These difficulties can come as a consequence of psychosocial issues, such as a distorted body image, fear of the future, and changing intimate and friendly relationships, working hand in hand with medically relevant difficulties such as interruptions in pubertal development and premature ovarian failure (5). Premature ovarian failure, also known as primary ovarian insufficiency (POI), is when the female ovaries stop working at a normal rate before the age of 40, causing the woman to have irregular periods as she transitions to menopause (10). The inability to procreate or bear children may create a sense of insecurity in place of a future that they might have previously created for themselves. The growing insecurities that patients may develop over time make it more difficult to form strong relationships, romantic or otherwise.

Conclusion

Based on the research discussed throughout this paper, general risk factors for lowered mental, physical, and psychological health include CNS tumor diagnosis, CRT treatment for CNS tumors, and being younger at the age of diagnosis. Educational difficulties, as a direct consequence of mental health issues or indirectly as a result of increased hospitalization, follow survivors into the workplace, given that they have stable jobs, which is not the case for an alarming amount of people. These are most likely the general outcomes of physical impairments, requiring additional medical benefits, skewed cognitive abilities, and issues forming healthy relationships with friends and co-workers.

The most efficient way to address such problems is to increase research focusing on mental health problems in childhood cancer patients to better understand the psychosocial and psychological implications of childhood cancer and deduce the types of resources needed to appropriately address this problem through and post-treatment. Physical health is usually the primary concern and of course, it is crucial to make sure that patients and former patients stay healthy enough so as to not develop physical impairments or other illnesses that would affect their quality of life. However, as has been seen over the past decade, mental health concerns have grown to the point that in October 2021, the American Academy of Pediatrics, the American Academy of Child(AAP) and Adolescent Psychiatry(AACAP), and Children’s Hospital Association(CHA) declared youth mental health a national emergency (9). All this only highlights that more effort is needed to make a difference in the seemingly tragic mental health future of young people, especially those who are put in vulnerable situations, such as being diagnosed with cancer.

References

1. “Antisocial Personality Disorder.” *NHS Choices*, NHS, 23 Dec. 2021, www.nhs.uk/mental-health/conditions/antisocial-personality-disorder/.
2. Brinkman, Tara M, et al. “Psychological Symptoms, Social Outcomes, Socioeconomic Attainment, and Health Behaviors among Survivors of Childhood Cancer: Current State of the Literature.” *Journal of Clinical Oncology : Official Journal of the American Society of Clinical Oncology*, U.S. National Library of Medicine, 20 July 2018, www.ncbi.nlm.nih.gov/pmc/articles/PMC6053297/.
3. Fardell, Joanna E, et al. “Anxiety, Depression, and Concentration in Cancer Survivors: National Health and Nutrition Examination Survey Results.” *Supportive Care in Cancer : Official Journal of the Multinational Association of Supportive Care in Cancer*, U.S. National Library of Medicine, 15 Apr. 2023, www.ncbi.nlm.nih.gov/pmc/articles/PMC10105664/.
4. “Fatigue and Cancer Drugs.” *Treatment for Cancer | Cancer Research UK*, 22 Sept. 2023, www.cancerresearchuk.org/about-cancer/treatment/cancer-drugs/side-effects/fatigue.
5. Ford, Jennifer S, et al. “Psychosexual Functioning among Adult Female Survivors of Childhood Cancer: A Report from the Childhood Cancer Survivor Study.” *Journal of Clinical Oncology : Official Journal of the American Society of Clinical Oncology*, U.S.



- National Library of Medicine, 1 Oct. 2014,
www.ncbi.nlm.nih.gov/pmc/articles/PMC4171357/.
6. "GoodTherapy | How Much Does Therapy Cost?" *Good Therapy*, 2014,
www.goodtherapy.org/blog/faq/how-much-does-therapy-cost.
 7. Gurney, James G, et al. "Social Outcomes in the Childhood Cancer Survivor Study Cohort." *Journal of Clinical Oncology : Official Journal of the American Society of Clinical Oncology*, U.S. National Library of Medicine, 10 May 2009,
www.ncbi.nlm.nih.gov/pmc/articles/PMC2677924/.
 8. Kirchhoff, Anne C, et al. "Unemployment among Adult Survivors of Childhood Cancer: A Report from the Childhood Cancer Survivor Study." *Medical Care*, U.S. National Library of Medicine, Nov. 2010, www.ncbi.nlm.nih.gov/pmc/articles/PMC3428202/.
 9. Modi, Hemangi, et al. "Exploring Barriers to Mental Health Care in the U.S." *Research and Action Institute*, 10 Oct. 2022,
www.aamc.org/advocacy-policy/aamc-research-and-action-institute/barriers-mental-health-care.
 10. "Primary Ovarian Insufficiency | Poi." *MedlinePlus*, U.S. National Library of Medicine, 24 June 2020, medlineplus.gov/primaryovarianinsufficiency.html.
 11. "US Childhood Cancer Statistics." *ACCO*, 3 Mar. 2021,
www.acco.org/us-childhood-cancer-statistics/.