

Abstract

Background

Neurocognitive impairment is one of the most common occurring treatment-related late effects as it occurs in approximately 40% of childhood cancer survivors. Neurocognitive impairment can negatively impact survivors' health-related quality of life. Despite this, late neurocognitive sequelae in long-term survivors of childhood cancer remain an under-researched topic in Asia including Japan.

Method

This study utilized a mixed method approach. Participant observation followed by semi-structured interviews with survivors and their parents were conducted in order to gain a deeper understanding of neurocognitive status among long-term survivors of childhood cancer survivors in Japan. Then, we performed a cross-cultural validation of the Childhood Cancer Survivor Study Neurocognitive Questionnaire (CCSS-NCQ), a self-report measure of neurocognitive functioning. The CCSS-NCQ has been found to assess neurocognitive concerns in these four domains: memory, task efficiency, organization, and emotional regulation. Construct validity of the Japanese-translated version of the CCSS-NCQ was evaluated by confirmatory factor analysis.

Results

The results from qualitative analysis revealed that cancer-related neurocognitive impairment caused significant problems among childhood cancer survivors in Japan. Survivors with neurocognitive impairment reported poor educational and vocational outcomes, prolonged dependence on their parents, and lower levels of emotional well-being. A four-factor structure identified in the CCSS-NCQ was not confirmed. These results warrant further investigation.

Conclusion

This study integrated both qualitative analysis and quantitative analysis to look at treatment-related neurocognitive outcomes in long-term childhood cancer survivors in Japan. Our results highlight the importance of public health effort in advocating regular monitoring of neurocognitive impairment among children to facilitate early identification and intervention.