

Reviewer Comments

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Article title: Examining the impact of a cancer diagnosis on non-fatal self-injury: a matched cohort study in Ontario

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Reviewer 1: Zachary Klaassen

Comments to the Author

Nguyen et al. evaluated and compared non-fatal self-injury rates among individuals in Ontario diagnosed with cancer against matched controls with no history of cancer. Among 803,740 persons with cancer and 1,607,480 matched controls, in the first year after diagnosis, individuals with cancer had a 1.17-fold increase in NFSI rates compared to matched controls, after accounting for pre-existing differences in rates of NFSI and other clinical characteristics between the groups.

This is a very methodologically sound and robust manuscript with an important message: although the literature has previously focused on suicidal outcomes among cancer patients, this is the first manuscript assessing non-fatal self-injury. As follows are several recommendations for perhaps improving the manuscript:

1) Methods - is there an idea what the capture rate is for an emergency department visit for self-injury (including physical injury or self-poisoning) of intentional (ICD 10- CA codes X61-X84) or undetermined intent (ICD-10-CA codes Y10–Y19, Y28)?

Based on hospitalizations, ED data, and vital statistics from 2009-2010, the Canadian Institute for Health Care Information reported a conservative estimate of self-injury in Canada to be approximately 140 per 100,000 population.³ This number was thought to still underestimate the true rate of self-injury in Canada.³ In this study, over the same time period, we captured non-fatal self-injury events for 1,973 out of 662,099 individuals in the cohort, or 298 per 100,000 population. Estimating the true rate of self-injury is difficult as many cases will not be captured by hospital data, however, as our rate is higher than the conservative estimate provided by CIHI we can be confident that we are capturing a sizeable proportion of self-injury events in Ontario.

2) Methods - although it is presumed that ALL patients with cancer were included in this study, the authors should list (perhaps in an appendix) which disease sites were included

Cancer sites included in this study are presented in Table 1. Supplemental Table 1 has been added to include the ICD-O-3 codes used define cancer sites in this study.

3) The authors mention that a limitation of the study was that they did not account for rates of self injury by cancer type or stage. However, with stage data available, it would strengthen the study to consider III-IV vs I-II and perhaps solid vs blood malignancies

We are limited in our ability to perform such an analysis as, depending on the type of cancer, stage may be missing in nearly 50% of cases. We now elaborate on this in the Discussion in the manuscript (Page 10 Lines 190—196). This is further complicated as there are systemic reasons for missing data. Future studies could look at the risk by stage within cancer subtypes for which complete stage data are available. This intersection is important, because stage IV in one cancer subtype may look very different than in another and may differently affect the risk, so averaging wouldn't be appropriate (thinking metastatic breast cancer where people can live for 10 years vs metastatic pancreas where people are living weeks). These are complex clinical scenarios for consideration and fall outside the scope of this foundational study.