

## Young adults: A unique group in cancer epidemiological research

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We read with great interest the results of the population-based study by Fidler and colleagues quantifying the global cancer burden among young adults.<sup>1</sup> The authors show that cancer incidence and mortality among 20–39 year-olds differs from that of younger and older age groups. They also illustrate the heterogeneity of cancer types in young adults when stratified by age, sex, development level and geographical region. However, based on the ICD-10 classification, the authors describe the cancer burden of the 27 major cancer types in adults, resulting in an overrepresentation of tumours common among older adults (e.g. prostate cancer) and underrepresentation of pediatric tumours and cancers typical in young adults. For example, sarcomas other than Kaposi sarcoma are not presented, despite being among the 10 most common cancer types in young adults.<sup>2,3</sup>

In those aged 20-39 years, the overall incidence of cancer increases exponentially as a function of age, with most tumours, including carcinomas and non-Hodgkin lymphoma, following this pattern. In contrast, pediatric cancers such as acute lymphocytic leukaemia and (embryonal and alveolar) rhabdomyosarcoma exhibit a decreasing incidence in young adults, while other tumours have a peak incidence between 20-39 years of age (e.g. Hodgkin lymphoma and germ cell testicular malignancies).<sup>4</sup> The ICD-10 categorises malignancies according to organ of origin, as adult cancers are predominantly epithelial neoplasms arising from a certain organ. However, this does not accurately depict the distribution of malignancies in the young adult age group. For example, the ICD-10 registers ovarian cancer but does not have a specific category of germ cell tumours, which are more typical among young adults and have a distinct biology, chemo-sensitivity and prognosis. The histology-based adolescent and young adult tumour classification system, developed by Birch and colleagues, takes into account the unique features of this age-group<sup>4,5</sup> and should be recommended in young adult cancer epidemiological research.

Although the authors mention their cancer selection and classification as a study limitation, they do not acknowledge that it may lead to underestimation of malignancies that are common and well-known in this age group. Given the challenges of early detection, diagnosis, treatment and follow-up in young adult oncology patients and the need to develop cost-effective young adult care programs, the number and distribution of tumors must reflect the reality. This may also help to determine appropriate resource allocation for age-adjusted research and ultimately improve outcomes for this unique population.

### References

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