

Latest data show a global increase of 13% in childhood cancer incidence over two decades

Lyon, France, 11 April 2017 – An international study¹ coordinated by the International Agency for Research on Cancer (IARC) and published today in *The Lancet Oncology* shows that in 2001–2010, childhood cancer was 13% more common than in the 1980s, reaching an annual incidence rate of 140 per million children aged 0–14 years worldwide. Part of this increase may be due to better, or earlier, detection of these cancers.

Based on information collected globally on almost 300 000 cancer cases diagnosed in 2001–2010, the study showed that leukaemia is the most common cancer in children younger than 15 years, making up almost a third of childhood cancer cases. Tumours of the central nervous system ranked second (20% of cases), and lymphomas accounted for 12% of cases. In children younger than 5 years, a third of the cases were embryonal tumours, such as neuroblastoma, retinoblastoma, nephroblastoma, or hepatoblastoma.

The article also reports, for the first time, on cancer occurrence in adolescents (age 15–19 years). The annual incidence rate was 185 per million adolescents, based on records of about 100 000 cancer cases. The most common cancers were lymphomas (23%), followed by the cases classified as carcinomas and melanoma (21%).

“Cancer is a significant cause of death in children and adolescents, in spite of its relatively rare occurrence before the age of 20 years,” says IARC Director Dr Christopher Wild. “This extensive new set of information on the pattern and incidence of cancer in young people is vital to raise awareness and to better understand and combat this neglected area of health early in life.”

Cancers developing in children are more likely to be triggered by genetic predisposition, compared with cancers in adults. This study suggests that the incidence of childhood cancers may be influenced by doctors’ changing awareness about childhood cancer or by effects of external factors, such as infection or some environmental pollutants. To enable the identification of causes that could possibly be avoided, high-quality information about cancer occurrence is needed for a representative proportion of the global population.

Data for this study were contributed by 153 cancer registries in 62 countries, departments, and territories, covering approximately 10% of the world’s population of children. However, the results reported are based on child population coverage of almost 100% in North America and western Europe and of 5% or less in Africa and Asia. Incidence rates, which indicate the number of new cases per population at risk per year, are the first piece of information needed to start fighting this disease.

¹ Steliarova-Foucher E, Colombet M, Ries LAG, Moreno F, Dolya A, Bray F, Hesselting P, Shin HY, Stiller CA, and the IICC-3 contributors. International incidence of childhood cancer, 2001–10: a population-based registry study. *Lancet Oncol*. Published online 11 April 2017. [http://dx.doi.org/10.1016/S1470-2045\(17\)30186-9](http://dx.doi.org/10.1016/S1470-2045(17)30186-9)

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In low-resource settings, cancer may go undiagnosed, because awareness is lacking or diagnostic equipment is unavailable. Also, social factors may explain the unexpectedly low rates reported particularly for infants or for girls in certain low-resource countries. Taking care of these population groups is challenging in settings with many competing socioeconomic needs. Dr Tezer Kutluk, a paediatric oncologist and past president of the Union for International Cancer Control (UICC), which also provided support to this study, notes its importance to improve childhood cancer care: "This study provides the essential data we need to offer early detection, treatment, and care programmes and services for children with cancer. It is very important that we improve global monitoring of cancer in children and address the gaps in surveillance data across regions."

In low-income countries, data collection is complicated by the lack of well-functioning health and statistical services, nonexistent health insurance policies, and population movements. Often, focusing on the small proportion of cancers occurring in children is not seen as a priority.

Comparative studies like this one depend not only on the availability of local data but also on the possibility of sharing the collected data internationally. Measures should be taken so that the increasingly stringent data-sharing requirements do not hamper large-scale collaborative studies, not least because participation in international studies helps to improve local data.

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The International Agency for Research on Cancer (IARC) is part of the World Health Organization. Its mission is to coordinate and conduct research on the causes of human cancer, the mechanisms of carcinogenesis, and to develop scientific strategies for cancer control. The Agency is involved in both epidemiological and laboratory research and disseminates scientific information through publications, meetings, courses, and fellowships. If you wish your name to be removed from our press release emailing list, please write to com@iarc.fr.