

## health economics

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### Incidence, epidemiology and outcome in adults and children with ALL: A review of population-based cancer registries (PBCRs), an experience from Eastern India

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**Background:** Acute lymphoblastic leukemia (ALL) is the most common cancer diagnosed in children. With the introduction of a classification system for hematopoietic and lymphoid neoplasms, assessment of ALL epidemiology is now possible. Our aim is to provide an updated overview of the incidence of cancer on the basis of the report from the National Cancer Registry Program (NCRP) for the years 2006–2015 that covered population aged 0 to 64 years.

**Methods:** The NCRP report (2013) provides data from PBCRs covering 70.45% of the state's population aged (0–75) years. Age-specific incidence data for ALL and data for incidence-mortality rates were collected. Based on Age-adjusted cancer incidence rates for children aged 0–14 years were collected.

**Results:** With significant age-related variations (0.53 at 40–65 years, ~1.0 at 54–73 years), overall survival (68%; 33%) or event-free survival (46%, 29%) with respective age groups, overall survival (OS) improved from 29.8% in the years 2000–2005 to 41.1% in 2010–2015 ( $P < 0.0001$ ). Compared with the reference group (age 14–39 years: OS >48%), OS was <28% in the 50–61 years age group and <20% in the  $\geq 63$  years age group (hazard ratios 2.69 and 3.69). ALL incidence is observed among children aged 2 to 3 years (>5 cases per 0.1 million per year). In 10 years a sharp peak in ALL incidence is observed among children aged 2 to 3 years (>5 cases per 0.1 million per year), with rates increasing more than 10 cases per 0.1 million by age 8 years. ALL among children aged 2 to 3 years is greater than that for infants and children aged 10 years and older. Cancer incidence AARpm is 28.6189.6 between age (0.58.8) years.

**Conclusions:** Childhood cancer contribute to 5.6% to 13.8% of all cancers (CCI as 5 to 15 per 0.1 million) in India for the years 2010–2015. Among children with ALL, more than 95% attain remission, 80% of patients aged 1 to 18 years with newly diagnosed ALL treated on current regimens are expected to be long-term event-free survivors. Childhood cancer in developing countries are increasing and sharper differences are seen than those of western countries due to exposures during prenatal development in low and middle income countries.

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