

Abstract #89

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Background

- Cancers in adolescents and young adults (AYA) represent a unique spectrum of malignancies distinct from those found in either younger children or older adults
- Epidemiologic studies of cancer incidence and trends often group AYAs together with younger or older populations, thus obscuring patterns specific to this population
- In this study, we examine trends in AYA cancer incidence across 41 countries

Methods

- AYA cancers were defined as those that occur between the ages of 15 and 39 years
- Annual cancer incidence and population at risk data for the period of 1998-2012 were obtained for 86 registries from the IARC's *CI5plus* database
- Data was available for all AYA cancers combined except non-melanoma skin cancer (NMSC) and 28 cancer sites/types
- Truncated age-standardized incidence rates were calculated using the World Standard Population
- Average annual percentage change (Average APC) was calculated by fitting the natural logarithm of the incidence with diagnosis year using generalized linear regression models

Conclusions

- Decreasing trends in lung and cervical cancer highlights the success of past interventions on smoking and certain infections
- Increases in thyroid cancer likely relate to overdiagnosis
- Increases in the incidence of specific cancers may be partly due to changing profiles of risk factors, such as obesity
- Efforts targeting obesity prevention, widespread access to HPV vaccination, smoking cessation, and appropriate prevention of sun exposure are likely to further decrease AYA cancer incidence rates

Worldwide trends in cancer incidence among adolescents and young adults (15-39 years-olds) between 1998-2012

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Results

- From 1998-2012, we observed **1.8 million new cancer cases** and **3 billion person-years** among 15-39 year-olds
- The ASR for all cancer cases (except NMSC) ranged from **26.7 per 100,000 in India** to **66.4 per 100,000 in Italy**
- Global variations in the AYA cancer burden were noted:

1. The ASR for **cervical cancer** ranged from 0.9 per 100,000 in Bahrain to 17.1 per 100,000 in Uganda
2. The ASR for **testicular cancer** ranged from 0.3 per 100,000 in Uganda to 21.2 per 100,000 in Norway
3. The ASR for **thyroid cancer** was highest in the Republic of Korea (ASR=20.0), where the ASR was 40-times higher than that observed in Uganda (ASR=0.5)

- Overall, the incidence of AYA cancer significantly **increased in 26 countries**, significantly **decreased in 2 countries**, and **remained stable in 13 countries**

