Assessment of trends in cervical cancer and its precursors to monitor screening policies in developing settings

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Methods

The 1996-2013 database from the Aracaju Cancer Registry and from the Brazilian Mortality Information System (SIM) were used to calculate age-standardized rates (ASR) for all invasive tumors, ICD-10: C53 and preinvasive lesions, ICD-10: D06. Rates were calculated for the age groups 0-24, 25-34, 35-44, 45-54, 55-64, and 65+. Trends were assessed by calculating the annual percent change (APC) using the Joinpoint Regression Program.

Results

We have assessed 1,030 incident cancer cases, 1,871 incident in situ lesions, and 334 deaths, as distributed by age groups: 0-24: 1.5%, 11.7%, 0.6%; 25-34: 11.5%, 37.9%, 9.5%; 35-44: 20.6%, 29.1%, 14%; 45-54: 23.2%, 12.9%, 20.3%; 55-64: 17.4%, 5.1%, 26%; 65+: 25.7%, 3.2%, 28.5% (Figure 3). Considering morphology, 80% of invasive neoplasms are squamous cell carcinoma (Figure 1). Table 1 depicts annual numbers of cases and deaths, ASRs and their confidence intervals, where we observe data stability with discrete fluctuation. ASRs showed a decreasing but non-significant trend up to 2008, and then a rising but also non-significant trend until 2014. Carcinoma in situ has demonstrated an inverse pattern. Mortality has shown a decreasing trend throughout the time series (Table2 and Figure 2).

Conclusions

Trend analysis have shown that Pap smears are effective in diminishing cancer incidence and mortality. However, decreasing trends in in situ lesions signal that health policies should be reassessed; otherwise, invasive tumors will recover high rates.

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