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The Cancer Control Challenge:
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# EPIDEMIOLOGICAL PROFILE OF CERVICAL CANCER IN THE STATE OF PARÁ: A POPULATION-BASED ANALYSIS BETWEEN 2010 AND 2019

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**Introduction:** Cervical cancer (CC) remains a significant public health challenge in Brazil, ranking as the fifth most frequent malignant neoplasm among women. Despite established screening strategies such as the Cervical Cancer Prevention Exam, the country continues to report high incidence and mortality rates, particularly in the Northern and Northeastern regions. Since 2014, Brazil has implemented Human Papillomavirus (HPV) vaccination through its Unified Health System (SUS, as per its Portuguese acronym). Persistent socioeconomic inequalities and limitations in ensuring early diagnosis and appropriate treatment contribute to this ongoing burden. **Objectives:** To analyze the epidemiological profile of cervical cancer in the municipalities of Belém and Ananindeua from 2010 to 2019. **Methods:** This epidemiological, descriptive, and retrospective study adopts an ecological approach using secondary data. Incidence data encompass new cervical cancer cases recorded between 2010 and 2019 from the Population-Based Cancer Registries of Belém and Ananindeua. Mortality data were extracted from the Mortality Information System (SIM, as per its Portuguese acronym) for the same period. Variables included diagnosis/death year and age group. As the study relied solely on publicly accessible secondary data, ethical review by a Research Ethics Committee was waived. **Results:** Between 2010 and 2019, mortality rates in Belém and Ananindeua fluctuated significantly. In Ananindeua, crude rates ranged from 5.06% to 12.24% per 100,000 women, while Belém exhibited rates between 8.35% and 13.41%. Age-adjusted rates corresponded to 4.74%–12.71% in Ananindeua and 7.96%–10.65% in Belém, indicating a high disease burden or persistent risk factors in the capital. Mortality increased with age: in Belém, the highest rates affected women aged 70–79 years (51.73%) and ≥80 years (48.08%), while in Ananindeua, the peak was among those aged 60–69 years (34.94%). No cases were recorded under 20 years of age. Regarding incidence, the 35–44 age group had the highest number of cases (307 per subgroup), followed by 30–34 years (188 cases), with an annual average of 2,757 cases. Comparative analysis of crude and adjusted rates highlighted demographic influences. A decline post-2017, potentially linked to HPV vaccine expansion, was observed. However, elevated rates among elderly women underscore gaps in screening and healthcare support. **Conclusion:** This study demonstrates persistently high cervical cancer incidence and mortality rates in Belém and Ananindeua, particularly among elderly women. The comparative analysis suggests that HPV vaccination efforts may have

contributed to post-2017 reductions. These findings underscore the urgent need to enhance screening programs and healthcare infrastructure to mitigate disease burden in this population.

**Keywords:** Uterine cervical neoplasms; epidemiology; public health.