Tobacco smoking-attributable burden of disease in the adult Northern Territory population, 2014-18

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Purpose

The objective of this paper is to quantify tobacco Smoking Attributable Deaths (SAD) and Smoking Attributable Disability-Adjusted Life Years (SADALY) for the Northern Territory (NT) adult population (30 +), during the period 2014-18.

What is this study adds

This is the first study to determine Aboriginal and non-Aboriginal adult population smoking attributable mortality and burden of disease using smoking prevalence data for NT population from national surveys, the most recent NT burden of disease study results and the 2020 Global Burden of Disease (GBD) relative risks for selected diseases.

Data

- NT residents aged 30 + by age group, sex, and Aboriginal status.
- All registered deaths of NT residents with the causes of death (ICD10).
- Year of Life Loss (YLL), Years Lived with Disability (YLD) and Disability –Adjusted Life Year (DALY) from NT 2014-2018 Burden of Disease Study.
- Aboriginal and non-Aboriginal smoking prevalence (P) by age, sex and Aboriginal status.
- Smoking Relative Risk (RR) for selected diseases from GBD 2022.

Analysis

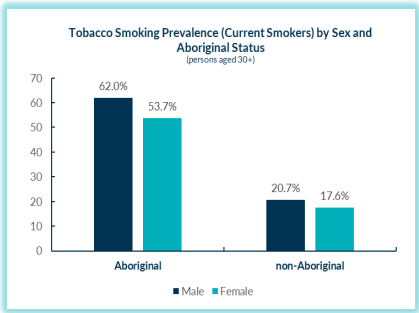
- The analysis includes identifying the major diseases where smoking is a risk factor defined from the GBD study.
- Smoking prevalence by age group, sex and Aboriginal status by average number of cigarette smoked and pack-years.
- Calculated smoking Population Attributable Fraction (PAF) using formula for overall and each disease:

  $PAF = (P * (RR - 1)) / (1 + P * (RR - 1))$

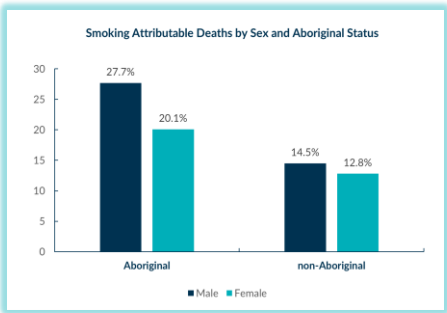
  P – Prevalence of smoking in the population, RR – Relative Risk of disease.

Result

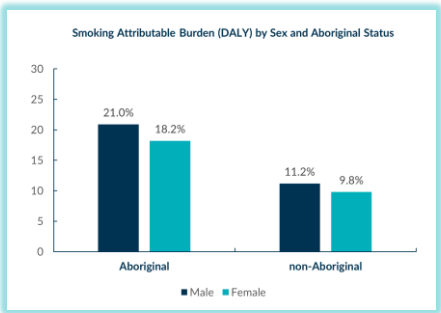
Smoking Prevalence



Smoking Attributable Deaths

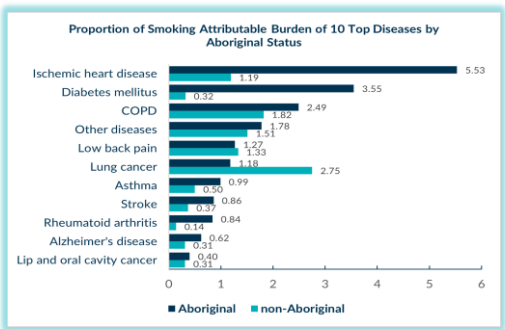


Smoking Attributable DALY



Data source: ABS, NATSIHS, 2018-19; AIHW, NDSHS, 2016; Zhao, Y., et al., Mortality & Morbidity burden of disease and injury in the Northern Territory 2014-2018; IHME,GBD 2019 study - Smoking Relative Risk.

SADALY by diseases



Discussion

Our findings demonstrate that smoking continues to be a leading cause of preventable death and disability in the NT population. In the NT adult population, 23.8% Aboriginal, 13.9% non-Aboriginal and 18.3% total deaths were attributable to smoking during the study period 2014- 2018. The smoking attributable burden of disease in the Aboriginal population was higher (19.5%) than the non-Aboriginal population (10.7%). Premature deaths due to cancer, ischemic heart disease, and stroke contributed a substantial fatal burden and the excess prevalence of diabetes, lower back pain, asthma, and dementia contributed to the non-fatal burden in the NT population.