

# Smokers' Misperceptions About Nicotine Causing Cancer: National Survey Data

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## Background

In vitro testing has shown that nicotine may play a role in making cancers more aggressive,<sup>1</sup> but the available evidence does not suggest that nicotine itself induces cancer.<sup>2</sup> Despite this, many smokers believe that nicotine does cause cancer.<sup>3-6</sup> Some smokers regard nicotine replacement therapy (NRT) as also being carcinogenic.<sup>3</sup> These findings are concerning since false beliefs about nicotine may result in underuse of NRT.<sup>7</sup>

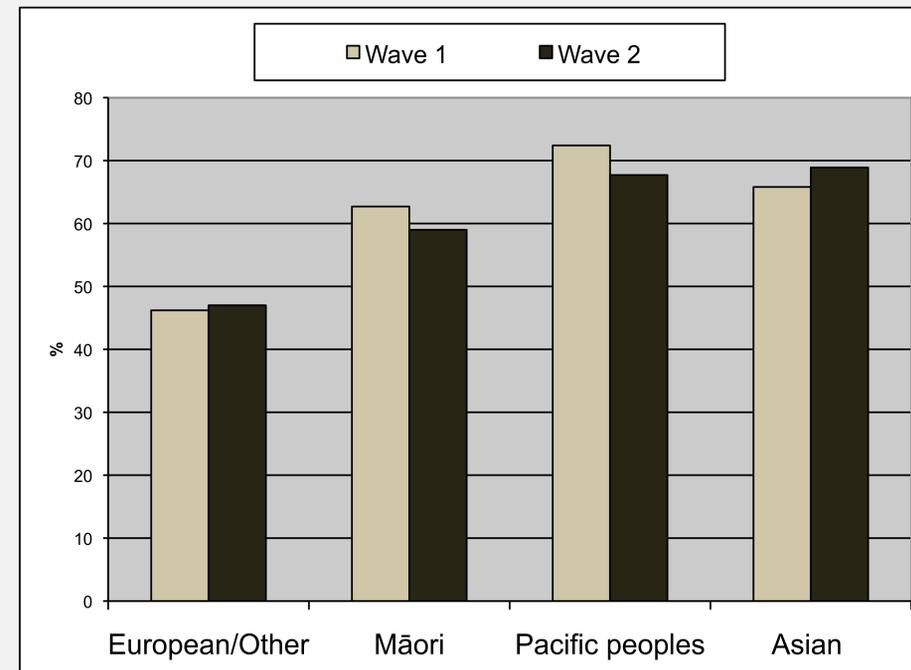
## Methods

The NZ arm of the International Tobacco Control Policy Evaluation Survey (ITC Project) uses as its sampling frame the NZ Health Survey (a representative national sample). From this sample we surveyed adult smokers in two survey waves (n=1376 and n=923) one year apart (with wave 2 in 2008/early 2009). Here we focus on those who completed both surveys (to facilitate comparisons over time). Further details of the methods, (including response rates, attrition and weighting processes) are available in online reports.<sup>8-10</sup>

## Results

When smokers who participated in wave 1 were asked if “the nicotine in cigarettes is the chemical that causes most of the cancer?”: 52.6% said that it was true, 36.7% said it was false (the correct answer), and 10.7% couldn't say. For each ethnic group, the proportion answering “true” was fairly similar in wave 2 for all ethnic groups (52.1% overall) (see Figure).

Figure: Percentage of respondents saying that it is true that “the nicotine in cigarettes is the chemical that causes most of the cancer?”, by ethnic group and survey wave\*



\* All results weighted and adjusted for the complex survey design to represent the national population of smokers.

In a multivariate model (that adjusted for demographics, socioeconomic position, mental health, and smoking-related beliefs and behaviours), certain groups of smokers were significantly more likely to believe that nicotine was carcinogenic. These included:

- Older smokers (<35 vs 50+ years) adjusted odds ratio (aOR)=0.42, 95%CI: 0.26–0.68)
- Māori smokers (vs European/Other, aOR=1.77, 95% CI: 1.22–2.58)
- Asian smokers (vs European/Other, aOR=3.25, 95%CI: 1.35–7.83)
- Smokers suffering from one form of financial stress (aOR=1.57, 95%CI: 1.03–2.41 for not spending on household essentials)
- Those with a higher AUDIT score, which reflects a higher risk of hazardous alcohol use (aOR=1.05, 95%CI: 1.01–1.09, for an increment of 1 point).



## Discussion

New Zealand smokers commonly have misconceptions that nicotine is the major carcinogen in cigarettes. To maximise uptake of NRT by smokers making quit attempts, mass media campaign information could specifically address these misperceptions. Such campaigns should be specifically targeted at those groups where the misperceptions are most common and who suffer the highest smoking prevalences eg, Māori and low-income people in New Zealand.

## Acknowledgements

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## References

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