



## Poorer mental health in many New Zealand smokers: national survey data from the ITC Project

There is international evidence that smoking and poorer mental health are associated.<sup>1-5</sup> This association has also been studied in New Zealand (e.g., in longitudinal studies<sup>6-8</sup>) with the most recent work indicating that smoking has a causal role in depressive symptoms.<sup>9</sup> Furthermore, in this country it has been estimated that 33% of all cigarettes are consumed by people with current mental disorders.<sup>10</sup> We were able to further explore some aspects of the smoking and mental health issue in New Zealand as part of the International Tobacco Control Policy Evaluation Survey (ITC Project).

**Methods**—The ITC Project (NZ arm) surveyed a nationally representative sample of adult smokers (n=1376 in Wave 1 in 2007/8, n=923 in Wave 2 in 2008/9). This study derives its sample from the New Zealand Health Survey (NZHS) which is a national sample with boosted sampling of Māori, Pacific and Asian New Zealanders. We measured their mental health and alcohol use status using the SF-36, the Kessler-10 (K10), and the AUDIT. Also assessed were smoking-related beliefs and behaviours, including quit rates. Some comparisons were made with non-smoking participants in the NZHS. All results are weighted and adjusted for the complex sample design. Further details of the methods (including response rates, attrition and weighting processes) are available in online *Methods Reports*<sup>11-13</sup> and related publications.<sup>14 15</sup>

**Results**—In terms of overall mental health, smokers had significantly lower SF-36 (mental health) scores (i.e., poorer mental health status) than the general adult population (80.6, 95%CI: 79.6–81.6; vs 82.2, 95%CI: 81.9–82.6). Reporting ever having been diagnosed with a mental disorder was significantly more common for adult smokers than for non-smokers (at 20.3%, 95%CI: 17.4% – 23.1%; vs 11.5%, 95%CI: 10.8%–12.2%). Here the non-smoker comparison group was from the full NZHS sample and “mental disorders” were any in a list of eight items used in the NZHS.

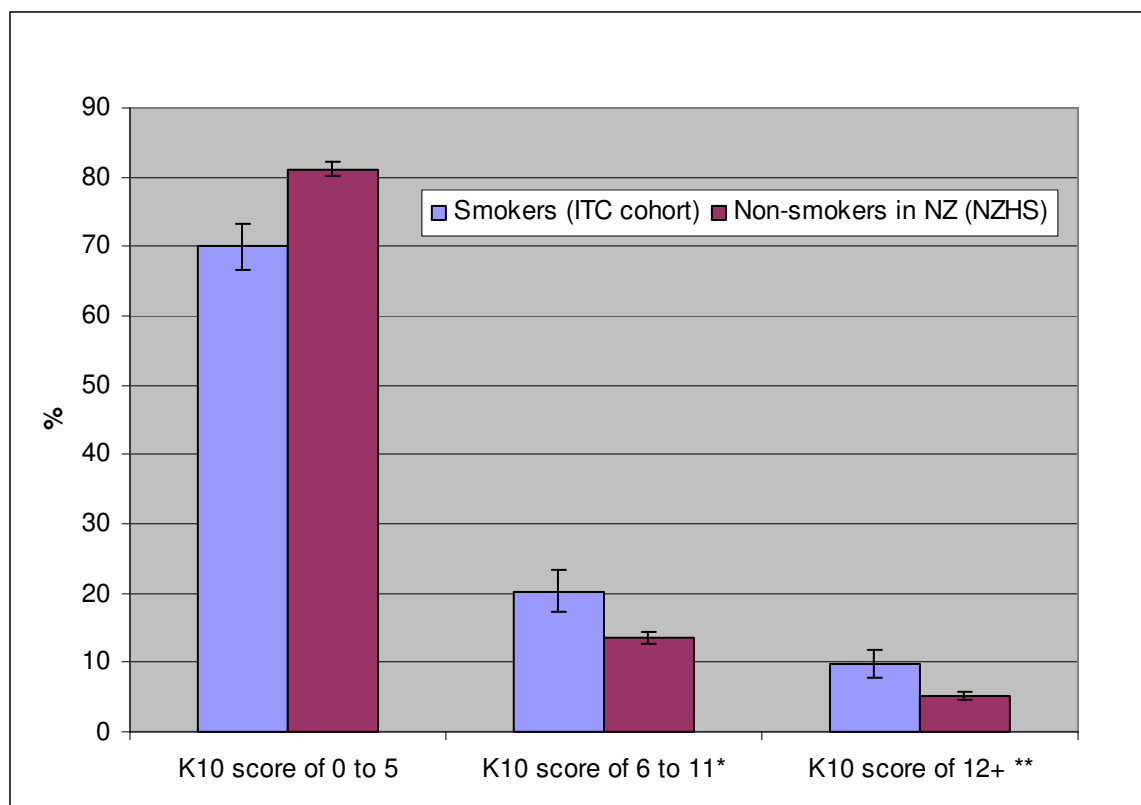
Smokers also had a significantly higher prevalence of having “a moderate probability of anxiety or depressive disorder” (K10 score of 6–11) compared to the adult non-smoker population (20.3% vs 13.6%, see Figure). This was also so for having a “high to very high” (K10 of 12+) probability of these disorders at 9.7% vs 5.3% respectively.

There was a significantly higher prevalence of AUDIT scores in the hazardous alcohol use range among smokers (33.1% vs 13.1% in the adult non-smoker population for scores of  $\geq 8$ ). This was also the pattern for ever being diagnosed with a “drug-related disorder” (1.5% vs 0.2%).

Despite the above patterns there were no statistically significant differences in quitting intent and behaviours between smokers with higher K10 scores (6+) and other smokers. That is for plans to quit in the future (75.5% vs 66.2%), and having

been quit for at least 30 days at the time of either survey (10.1% vs 8.1%) respectively.

**Figure 1. Psychological distress as measured by the Kessler 10-item scale (K10) in this national sample of smokers compared to the adult non-smoker population of New Zealand**



\* Moderate probability of an anxiety or depressive disorder.

\*\* High to very high probability of an anxiety or depressive disorder.

**Discussion**—The finding that smoking appears to be associated with poorer mental health is consistent with other international and New Zealand evidence (see the introductory paragraph above). Nevertheless, our analyses are somewhat simplistic in that we did not perform multivariate analyses that adjusted for a range of demographic and socio-demographic variables (due to resource constraints and limited access to the full NZHS dataset). There are also various limitations with the ITC surveys and the NZHS (e.g., around response rates and social desirability bias<sup>11</sup>). Of course our findings are also limited by the largely cross-sectional nature of the results and so we can not expand on the previous New Zealand work around likely causal pathways, as per the excellent longitudinal research by others.<sup>6,9</sup> Nevertheless, whatever the direction of causation involved, the apparent smoking and mental health association reiterates the importance of advancing population-level tobacco control to

both prevent smoking uptake and also to increase quitting rates by people at risk of, or with current, poor mental health.

Fortunately New Zealand may be entering a new phase of accelerated population-level tobacco control with the excellent recommendations of the Māori Affairs Select Committee.<sup>16</sup> The Government also has many opportunities to progress population-level alcohol harm-reduction policies, as recommended by the Law Commission<sup>17</sup> (some of which are about to be considered by politicians via the Select Committee Process).

Our specific finding that quitting intention and quitting behaviour does not appear to be associated with mental health status is encouraging. Indeed, the finding that smokers with mental disorders are motivated to quit is consistent with the findings in a recent review.<sup>18</sup> Therefore, while intensifying population-level tobacco control interventions is the first priority, attention should also be given to ensuring that smoking cessation services are appropriately tailored to those with mental health needs, including those with excessive alcohol consumption. This could be considered in face-to-face contacts with health workers, telephone support services (e.g., the Quitline), but also in the design of web-based quitting services which may be a particularly cost-effective approach to providing smoking cessation support.<sup>19</sup> This will be an important area for future development and evaluation of interventions, though it is reassuring that there is systematic review evidence that various smoking cessation interventions can work for those with mental health problems without jeopardising their mental state (e.g. for smokers with schizophrenia).<sup>20</sup>

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