

One in three New Zealand drinkers reports being harmed by their own drinking in the past year

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Abstract

Aim To quantify the prevalence and distribution of negative effects of drinking among New Zealand adults.

Methods A postal survey was completed by 1924 people aged 18–70 randomly selected from the New Zealand electoral roll (49.5% response). Information on drinking patterns, demographics and specific alcohol-related harms and troubles in the previous 12 months was collected.

Results 33.8% of current drinkers reported that they had been adversely affected by their own drinking in one or more specified domains in the past 12 months (“harm”) and 12.7% reported one or more specified alcohol-related “troubles”. Men were more likely to report alcohol-related harm (OR=1.3; 95% confidence interval [CI] 1.0–1.7) and alcohol-related trouble (OR=1.5; 95%CI 1.1–2.1) compared to women. People of Māori ethnicity and those with an NZDep06 score of 9–10 were at increased risk of both harms and troubles. The odds of reporting a harm or trouble in the past year decreased substantially with age. Heavy episodic drinking and level of average daily consumption were both associated with increased risk of both alcohol-related harm and trouble, but this did not explain all of the variation.

Conclusions Prevalence of harm and trouble resulting from drinking is high in the general population as judged by the drinkers themselves. These findings support the association of heavy alcohol consumption with increased risk of alcohol-related harm. They also suggest that being male, young, Māori or living in a very deprived area in NZ are associated with a higher risk of alcohol-related harm.

It is well reported that alcohol, especially consumed in large amounts, can have negative effects on the drinker and on others. It has the potential to cause harm to health via three broad mechanisms: toxicity, intoxication and dependence, and is strongly linked to over 60 negative health outcomes.^{1,2} Research has also identified a variety of social harms to drinkers and those around them including legal problems, harmful impacts on employment, finances, relationships with family and friends and problems with violence.³

A recent cross-sectional survey of New Zealand adults found that exposure to heavy drinkers had a negative impact on an individual’s self-reported wellbeing and health status.⁴

Alcohol is the most commonly used recreational drug in New Zealand, as it is in many countries, but alcohol-related harms are not well characterised or widely appreciated. While particular consumption patterns are associated with more harm,

demographic and social factors may also change the likelihood of individuals experiencing alcohol-related harm.²

There is plenty of international research to demonstrate that individuals with higher average alcohol intake are at increased risk, and that pattern of consumption is also an important factor in the risk of experiencing alcohol-related harms, with regular heavy episodic drinkers being at significantly more risk of harm.^{3,5,6} Many studies have shown that men and young people have higher risk of both heavy episodic drinking and of alcohol-related harms.^{6,7}

The New Zealand Law Commission's review of alcohol use in New Zealand concluded that over 80% of New Zealand adults drank alcohol at least occasionally and that approximately a quarter of the adult population reported drinking large quantities when they drink. This suggests a significant proportion of the population is likely to be contributing to harm to themselves and others.²

There is some recent literature that has reported the experience of alcohol-related harm in the New Zealand population. On a population level the 2007/08 New Zealand Alcohol and Drug Use Survey collected data on both consumption patterns and harm from drinking. Current drinkers were asked if there had been a time when they felt their alcohol use had had a harmful effect on their friendships or social life, home life, work, study or employment opportunities, financial position, legal problems, difficulty learning or physical health/injury.⁸ In this sample, 12.2% of current drinkers reported having experienced at least one of the problems listed, with men, people in the youngest age group, people of Māori ethnicity and those living in the most deprived areas at significantly increased risk.⁸ This reflected the findings of the earlier Health Behaviours Survey (2004) which also found males and people of Māori ethnicity to be at increased risk of harm.⁹

A national survey of drinking in New Zealand in 2000 asked respondents about their experience of 15 alcohol-related problems (which varied in severity) in the previous year. The survey found that 61% of men and 49% of women reported having experienced at least one of the 15 problems, while 11% of men and 7% of women reported experiencing five or more.¹⁰ A 2005 study of New Zealand University students found that heavy episodic drinking and associated harms to health and social factors were common amongst students.¹¹

Alcohol-related harm is not confined to the individual doing the drinking. Many of the consequences drinkers experience as a result of their own drinking can also have negative effects on those around them. A 2009 New Zealand study on physical and sexual assault showed that alcohol use by someone other than the victim of the assault is involved in over half of reported events.¹²

Also, a recent paper on the involvement of alcohol in aggression between intimate partners showed that the involvement of alcohol in partner aggression was associated with increased severity of aggression and that a pattern of heavy episodic drinking was associated with higher reporting of aggression within intimate relationships.¹³

The aims of this study were to:

- Examine the prevalence and distribution of two groups of negative drinking-related experiences in a sample of New Zealand adults. These were: 1. subjectively assessed adverse effects of drinking, including effects on family, finances and physical health, and 2. the experience of alcohol-related troubles, more objective events such as trouble with the law, loss of job, and aggression due to alcohol.
- Examine factors associated with higher risk of experiencing these harms and troubles.

Methods

Setting—In 2007, New Zealand had a population of approximately 4 million people, with 77% of people listing their ethnicity as European, 15% as Māori, 7% as Pacific, 10% as Asian and 1% as Other (percentages add to more than 100% as individuals can identify as having more than one ethnicity).¹⁴

Participants and procedures—This was a cross-sectional survey of a nationally representative sample of New Zealand residents aged 18–80 years, randomly selected from the electoral roll, conducted using a postal questionnaire that was completed by the respondent and mailed back to the investigators in a reply-paid envelope. The data collection methods have been described in more detail in a study of alcohol involvement in partner aggression in New Zealand.¹³

Measures—The questionnaire was based on the expanded core GENACIS questionnaire from the International Research Group on Gender and Alcohol (IRGGA). A copy of this questionnaire is available at the following link: www.genacis.org/questionnaires/exp_core.pdf This questionnaire has been used in approximately 40 countries to provide data that are directly comparable for cross-national studies.¹⁵

The questionnaire contained 100 items and took 20–30 minutes to complete. It covered the following areas: demographic information (age, sex and ethnicity), social networks, respondent's alcohol consumption, drinking contexts, drinking consequences, intimate relations and sexuality, violence and victimization, and health and lifestyle.

From the residential address listed on the electoral roll a New Zealand Deprivation Index 2006 (NZDep06) decile was obtained for each respondent and used as an indicator of socioeconomic position. NZDep06 is a small area deprivation measure, based on 9 items from the national census at the meshblock level. Meshblocks are the smallest unit of the census and include about 100 residents on average. NZDep06 deciles assign a score of 1–10 to participants on the basis of their residential address, with 1 representing the least, and 10 the most, deprived 10% of the population.¹⁶ Ethnicity was categorised as European, Asian, Māori and Other, due to small numbers of participants of other ethnicity.

Alcohol consumption—Respondents were asked about drinking frequency and quantity of alcohol consumed per typical drinking occasion in the previous 12 months. Quantities of alcohol were reported in standard drinks (defined as 10g of pure ethanol). A pictorial guide was provided to assist participants to convert common beverages to standard drinks.

Harms and troubles due to drinking—Current drinkers (having consumed any alcohol in the previous 12 months) were asked about drinking-related adverse experiences. These experiences were divided into two categories. Drinking-related harms were self-assessed personal problems resulting from an individual's drinking. Drinking-related troubles encompassed legal and social problems that the respondents could have experienced due to their heavy drinking. These related to specific, more objective events.¹⁷

Harms: In the last 12 months has your drinking had a harmful effect on: (1) work, studies or employment opportunities, (2) housework or chores around the house, (3) marriage/intimate relationships, (4) relationships with other family members, including children, (5) friendships and social life, (6) physical health, (7) finances. Responses for each item were no, yes once or twice, or yes more than twice.

Troubles: In the last 12 months have you had any of the following experiences? (1) trouble with the law about your drinking and driving, (2) an illness connected with your drinking that kept you from working or your regular activities for a week or more, (3) lost a job, or nearly lost one, because of your drinking, (4) been annoyed by people criticising your drinking, (5) had a spouse or someone you lived with threaten to leave or actually leave due because of your drinking, (6) lost a friendship because of your drinking, (7) got into a fight while drinking.

Responses for each item were no, yes once or twice, or yes more than twice.

Analysis

Drinking behaviours: Two drinking variables were used in these analyses. Heavy episodic drinking (HED) was defined as 5 or more drinks per occasion at least once a month in the past year, and high average daily consumption was defined as more than 20 grams of pure alcohol per day for women; and more than 30 grams per day for men. These correspond to the maximum consumption levels recommended by the Alcohol Advisory Council of New Zealand.¹⁸

Experience of alcohol-related harms and troubles: The prevalence of each harm and trouble as well as the prevalence of experiencing any alcohol-related harm or trouble in the last 12 months was calculated for the sample.

Regression models—Logistic regression models were used to calculate the odds of respondents identified as current drinkers reporting any alcohol-related harm and trouble in the past year by sex, age, NZDep06 quintile, ethnicity, heavy episodic drinking in the past 12 months, and average daily consumption. Odds ratios for each variable were calculated controlling for all other variables. 95% confidence intervals were calculated for all odds ratios.

Ethical approval—This study was conducted with the approval of the University of Otago Human Ethics Committee (06/171).

Results

Characteristics of the study population—There was a response rate of 49.5% for the survey with 1924 completed surveys returned and 110 people found to be ineligible. Of the sample 1723 (89.6%) were identified as current drinkers (having consumed alcohol in the previous 12 months).

Table 1 shows the basic demographics and drinking behaviours for the current drinker population (n=1723). The sample over represented women and people aged 35 years and underrepresented people from the most deprived NZDep06 levels. The sample was predominately European, and under-represented those of Māori and Asian ethnicity.

The proportion of male respondents identified as heavy episodic drinkers was almost twice that of female respondents (27.9% versus 14.7%), while men and women had similar proportions of people in each average daily consumption level.

Experience of alcohol-related harms and troubles—Among respondents identified as current drinkers 36.2% reported experiencing any alcohol-related adverse event. Having experienced any alcohol-related harm in the past 12 months was reported by 33.8% of current drinkers (29.8% of women and 39.0% of men) and 12.7% reported having experienced any alcohol-related trouble (9.9% of women and 16.4% of men). The prevalence of current drinkers experiencing three or more alcohol-related harms in the previous year was 13.4% while the prevalence of experiencing three or more troubles was only 1.4%.

Table 2 shows the prevalence of each of the 7 harms and 7 troubles in current drinkers. The most reported harm was that respondents drinking had a harmful effect on their physical health (18.0% once or twice in 12 months, 3.8% more than twice in

the previous year. Harmful effects on housework, intimate relationships and finances were also common amongst this current drinker population.

Table 1. Characteristics of current drinker population and distributions of alcohol-related variables

Variable**	n*(%)	Heavy episodic drinking (%)	High average consumption† (%)	Any harm (%)	Any trouble (%)
Gender					
Male	760 (44.1)	27.9	14.2	39.0	16.4
Female	963 (55.9)	14.7	15.9	29.8	9.9
Age					
18–24 years	129 (7.5)	48.4	14.6	58.9	41.7
25–34 years	264 (15.3)	29.8	10.9	44.1	16.9
35–44 years	390 (22.6)	19.6	10.9	37.3	11.6
45–54 years	452 (26.2)	19.5	18.7	33.1	11.7
55–64 years	362 (21.0)	8.9	15.2	20.9	4.9
65–70 years	126 (7.3)	10.7	25.9	10.8	2.7
NZDep06					
1–2	450 (26.6)	16.6	14.5	28.2	9.1
3–4	408 (24.1)	24.0	17.3	36.6	13.1
5–6	352 (20.8)	18.4	13.7	34.4	13.0
7–8	272 (16.1)	20.9	15.8	30.8	11.4
9–10	213 (12.6)	27.2	15.4	45.0	21.4
Ethnicity					
European	1468 (85.3)	19.6	15.8	32.0	10.9
Asian	66 (3.8)	10.3	1.8	26.6	3.1
Māori	147 (8.6)	35.3	15.6	57.0	34.1
Other	37 (2.2)	25.0	6.9	29.0	20.6

*Due to rounding percentages do not always add to 100%; **Where there was missing data (<5% of sample in all cases) for a variable those individuals were excluded from that analysis.

†More than 20 grams per day for women, more than 30grams per day for men.

Table 2. Prevalence of alcohol-related harms and troubles in current drinkers

In the last 12 months has YOUR drinking had a harmful effect on your:	No (%)	Yes, once or twice (%)	Yes, more than twice (%)
Work, studies or employment opportunities	94.4	4.1	1.5
Housework or chores around the house	83.4	13.2	3.4
Marriage/intimate relationship	87.2	10.9	2.0
Relationships with other family members	93.3	5.7	1.0
Friendships or social life	93.9	5.4	0.7
Physical health	78.2	18.0	3.8
Finances	87.9	8.3	3.8
In the last 12 months have you had one of the following experiences:			
Trouble with the law about your drinking and driving	99.1	0.9	0.1
An illness connected with your drinking	98.9	0.8	0.4
Lost a job, or nearly lost one because of your drinking	99.6	0.4	0.0
People annoyed you by criticising your drinking	93.3	5.8	0.9
Spouse or someone you lived with threatened to leave or left because of your drinking	98.9	1.0	0.1
Lost a friendship because of your drinking	98.9	0.9	0.2
Got into a fight while drinking	92.7	6.2	1.1

Note: Due to rounding percentages do not always add to 100%. Where there was missing data (<5% of sample in all cases) for a variable those individuals were excluded from that analysis.

Much smaller numbers of respondents reported experiencing the alcohol-related troubles. There was a significant number of drinkers who reported having been annoyed by others criticising their drinking in the last 12 months (5.8%). Having got into a fight while drinking in the last 12 months was the most commonly reported alcohol-related trouble, 6.2% of current drinkers reported having experienced this once or twice in the previous year and 1.1% more than twice in the year. Of those who reported having been in a fight while drinking in the last 12 months 63.4% were male and 33.3% were aged under 25.

Demographic characteristics and drinking behaviour—Table 3 shows the odds of reporting alcohol-related harm or trouble in the previous 12 months by demographics and drinking behaviour. Men were significantly more likely to have reported both alcohol-related harm (OR=1.3 [1.0–1.7]) and trouble (OR=1.5 [1.1–2.1]) compared to women.

Table 3. Odds of reporting any harm or any trouble by demographic characteristics and drinking behaviour of current drinkers

Variable	Harm OR* (95% CI)	Trouble OR* (95% CI)
Sex		
Female	1.0	1.0
Male	1.3 (1.0–1.7)	1.5 (1.1–2.1)
Age		
18–24 years	1.0	1.0
25–34 years	0.7 (0.4–1.1)	0.3 (0.2–0.5)
35–44 years	0.6 (0.4–1.0)	0.2 (0.1–0.4)
45–54 years	0.5 (0.3–0.7)	0.2 (0.1–0.3)
55–64 years	0.3 (0.2–0.5)	0.1 (0.1–0.2)
65–70 years	0.1 (0.0–0.2)	0.0 (0.0–0.2)
NZDep06		
1–2	1.0	1.0
3–4	1.2 (0.9–1.7)	1.2 (0.7–1.9)
5–6	1.2 (0.8–1.6)	1.2 (0.7–2.0)
7–8	0.9 (0.6–1.3)	0.9 (0.5–1.6)
9–10	1.6 (1.0–2.5)	1.9 (1.1–3.4)
Ethnicity		
European	1.0	1.0
Asian	0.6 (0.3–1.2)	0.3 (0.1–1.2)
Māori	2.0 (1.3–3.0)	3.5 (2.1–7.2)
Other	0.6 (0.2–1.6)	1.3 (0.4–3.9)
Heavy episodic drinking		
No	1.0	1.0
Yes	4.3 (3.2–5.8)	4.6 (3.2–6.6)
Average daily consumption†		
1	1.0	1.0
2	2.7 (1.9–3.7)	3.9 (2.6–5.9)

*Adjusted for all other variables in table; † 1 = ≤ 20grams of alcohol per day for women, ≤ 30 grams per day for men; 2 = >20 grams per day for women, >30grams per day for men.

With increasing age of respondents there was decreasing odds of having experienced alcohol-related harm and/or trouble and it appears that those in the most deprived group (NZDep06=9–10) were more likely to report both alcohol-related harm

(OR=1.6 [1.0–2.5]) and trouble (OR=1.9 [1.1–3.4]) than the least deprived group. People of Māori ethnicity were significantly more likely to have experienced harm and trouble due to alcohol compared to those who described themselves as European.

For both men and women, increased consumption of alcohol resulted in higher odds of having experienced these harm and/or troubles in the last year. Respondents identified as heavy episodic drinkers were 4.3 (3.2–5.8) times as likely to have experienced alcohol-related harm and respondents with the highest level of daily consumption were 3.9 (2.6–5.9) time as likely to report alcohol-related trouble.

Discussion

This research shows that alcohol-related harm is reported by one in three current drinkers in New Zealand. Fighting due to drinking and being the subject of criticism for drinking behaviours are commonly experienced alcohol-related troubles, especially for young men.

Overall the findings of this study support the existing evidence that increased alcohol consumption results in increasing risk of experiencing alcohol-related harms, but in New Zealand this affects a substantial proportion of the general population. Higher average daily intake of alcohol and being a heavy episodic drinker were independently associated with an increased risk of both alcohol-related harm and trouble.^{3,5,8,9}

High average daily consumption was associated with increased risk of both harms and troubles after controlling for heavy episodic drinking which suggests that steady heavy use, not just “binge drinking” is a pattern of drinking associated with high rates of alcohol-related consequences.

Controlling for broad differences in drinking behaviour, men, people of Māori ethnicity, and people living in the most deprived areas were significantly more likely to report both harms and troubles.^{8,9} The odds of Māori reporting alcohol-related troubles - which were events that were potentially more serious compared to those classified as harms - were particularly high in this analysis. This reflects previous findings in the 2004 Health Behaviours Survey, which also showed that people of Māori ethnicity were at increased risk of alcohol-related harm.⁹ However, it must be borne in mind that the adjustment for consumption pattern was limited to two crude dichotomous variables.

While harm is experienced by more men than women, the prevalence of harm in women drinkers was substantial. Heavy episodic drinking is about half as prevalent in women as men in this sample but drinking above the recommended limits is more common in women than men. Thirty percent of women report some harm from their drinking and 10% report more serious and objective measures of trouble.

No social gradient was identified in the prevalence of heavy episodic drinking or in the prevalence of exceeding the consumption guidelines, using the NZDep quintiles as a measure of socioeconomic position. There may be differences in the frequency of heavy drinking episodes or actual volumes drunk in excess of guidelines that were not captured by these dichotomous variables, but the pattern of prevalence of harms or troubles observed was very similar. The most deprived quintile of NZDep had the highest prevalence of both heavy episodic drinking and of reported harms and

troubles, and the NZDep category 3–4 had the next highest level of these indicators, as well as the highest prevalence of drinking above the guidelines.

A limitation of this research is that the cross-sectional nature of the study constrains the interpretation of associations and precludes causal inference. We cannot determine, for example, the nature of the association between living in the most deprived areas and reporting more alcohol-related harm. Contributions of causal relationships in both directions as well as confounders are likely.

The study uses self-reported data that maybe subject to social desirability bias, and alcohol consumption is known to be under-reported in population surveys. Respondents were also required to determine for themselves whether they had suffered harm due to their drinking. It is possible that some harms or troubles were ambiguous due to the wording of the questions and therefore it is possible that each respondent would interpret these questions differently.

The response level of the survey was modest and there is evidence from this survey and others that this is likely to produce a sample that under represents the most harmful patterns of drinking.^{19,20} Therefore these findings are conservative.

The high prevalence of harm identified in this study results from widespread hazardous drinking that is occurring across the social spectrum in both men and women. This means that targeted interventions and individual approaches are unlikely to affect much change, and population-based strategies are the most suitable approach.

The most effective population-based strategies to reduce hazardous drinking and associated harm are policy interventions that reduce the availability and promotion of cheap alcohol.^{2,21}

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