



Prevalence of smoking among nursing students

RESEARCH ADVISORY PAPER

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NZNO Research Research advisory paper:

Summary

Aim

The aim of this paper is to report the smoking prevalence of nursing students in New Zealand, and to compare this with other relevant groups.

Method

A national online survey of nursing students was undertaken in May 2013. 818 students completed the survey – an approximate response rate of 22 per cent of the student nursing population. This response rate gives a calculated 95 per cent +/- five per cent accuracy for overall smoking status among nursing students.

Results

Total smoking prevalence from all respondents was 12.2 per cent. Smoking was reported by 12.7 per cent of female and 15.2 per cent of male nursing students. 23.8 per cent of Māori nursing students and 9.75 per cent of non-Māori students smoked. 22 per cent of nursing students described themselves as ex-smokers.

Conclusion

While these figures show a lower smoking prevalence than New Zealand adults (around 18 per cent) or qualified Māori nurses (21 per cent), and a lower rate than for Māori women in the general population (44 per cent), the evidence of disparity among smoking rates of Māori and non-Māori nursing students is a cause for concern, and lends support to the need for the development of Māori-specific and student-specific smoking cessation and prevention initiatives.

Introduction/background

In 2011, the New Zealand government outlined its goal of reducing smoking prevalence to below five per cent by 2025 (New Zealand Government, 2011). Although rates of smoking among New Zealanders have generally fallen steadily over the last decade, this exacting target will require substantially greater decreases in the numbers of people who smoke, and cultural changes among young people, to reduce smoking uptake.

Among adults, rates have decreased from around 20 per cent in 2006 to 18 per cent in 2011/12 (Ministry of Health, 2012). Among secondary students, the rates of those who have tried cigarettes dropped from 53 per cent in 2001 to 23 per cent in 2012, as have the rates of those who smoke weekly (from 16 per cent in 2001 to five per cent in 2012) (Clark, Fleming, Bullen et al, 2013). However, reported decreases in smoking prevalence have not been achieved uniformly, with large disparities between Māori and non-Māori rates of smoking among students and adults. Rates among Māori females are currently 44 per cent and among Māori men 38 per cent (Ministry of Health, 2012). Rates for university students have been reported at approximately 10 per cent (Kypros & Baxter, 2004) and in the USA, medical student rates have been reported at 3.3 per cent and nursing student rates at 13.5 per cent (Patkar, Hill, Batra et al, 2003). With regard to occupational groupings, the prevalence of smoking among New Zealand doctors has been reported at 3.5 per cent and among New Zealand nurses at 16.5 per cent (Edwards, Bowler, Atkinson & Wilson, 2006). Recent research into smoking amongst Māori nurses found approximately 21 per cent of Māori nurses smoke - down from 30 per cent in 2007 (Gifford, Wilson & Walker, 2013). Smoking rates of nursing students in New Zealand have not previously been reported.

Nurses have a significant role to play in smoking cessation initiatives. However, those who smoke find giving smoking prevention and cessation information to clients harder than their non-smoking colleagues (O'Donovan, 2009). Radsma and Bortloff also report that nurses who smoke see themselves as inadequate role models, and their sense of hypocrisy reduces their ability to work with patients who smoke (Radsma & Bottorff, 2009). If New Zealand is to achieve the goal of smoking prevalence less than five per cent by 2025, then those who provide smoking cessation interventions and who also smoke must be supported to quit smoking. Interventions must be appropriate, supportive, and targeted.

Methods

A national, anonymous web-based survey of student nurses was undertaken in May 2013, which, in addition to the main focus of the survey (nursing education, experiences, costs, debt, working habits and career aspirations), collected demographic and baseline data to determine smoking behaviours among student nurses. The project used a partnership

approach between all nursing schools in New Zealand, and student delegates from the New Zealand Nurses Organisation (NZNO) at each school. The survey was advertised in *Kai Tiaki Nursing New Zealand* journal, on the NZNO web site and, in some schools, on the nursing student blackboard and moodle web sites. Consent was implied by completion and submission of the survey questionnaire.

Descriptive statistical analysis utilising Microsoft Excel was undertaken to determine prevalence. Comparisons were undertaken with existing data sets.

Results

818 nursing students responded. Invitations to participate were also placed on nursing school electronic blackboards. This represents around 22 per cent of all nursing students in New Zealand. Table 1 shows the demographic profile of respondents by gender, ethnicity and course of study. The demographic features of New Zealand's total student nurse population are not readily available for comparative purposes; however, the demographics of the sample are similar to previous studies of nursing students in New Zealand (Walker, 2013) and Nursing Council of New Zealand data on nursing graduates in 2011 (Nursing Council, 2013).

Table 1. Demographic profile of respondents

	Total n	Total %	Female n	Female %	Male n	Male %
Ethnicity	818	100	708	86.5	46	5.62
Māori	134	16.38	116	16.3	6	13
NZ European	505	61.7	448	63.2	23	50
Pacific Island	37	4.52	32	4.5	1	2.1
Asian	52	6.35	41	5.7	6	13
Other	90	11	71	10	10	21.7
Course of study	825	100	708	99	46	
Bachelors degree	811	99.1	697	98.4	46	100
Enrolled nurse	10	1.2	8	1.1	0	
Return to nursing	4	0.48	3	0.43	0	

Students from 16 of the 22 providers of nursing education responded to the survey with 95.5% studying full-time and 3.5 per cent part-time. 7.8 per cent of respondents did not specify gender. We hypothesise that this may have been due to recent political debates in nursing schools surrounding the labelling of gender, and the cultural sensitivities related to those who identify as intersex.

Smoking status

Of the 818 students who answered the question, 12.7 per cent of female, and 15.2 per cent of male students reported smoking. Overall prevalence was 12.2%. Smoking prevalence was greatest among male, Māori nursing students at 33.3 per cent; however, actual numbers were low, so we would be wary of drawing conclusions from these figures. Female, Māori nursing students were over twice as likely to smoke as their non-Māori counterparts (25 per cent vs 10.5 per cent); however female Māori nursing students were also more likely to be ex-smokers than New Zealand European nursing students (40.5 per cent vs 17.4 per cent). Table 2 shows the distribution of smoking status, gender and ethnicity of the study sample.

Table 2. Smoking status, by gender and ethnicity of respondents

Ethnicity	Total n	Smoker n (%)	Ex-smoker n (%)	Never smoked n (%)
Totals	818	100 (12.2%)	180 (22%)	538 (65.8%)
Māori	134	32 (23.8)	54 (40.2)	48 (35.8)
NZ European	505	58 (11.4)	95 (18.8)	352 (69.7)
Pacific	37	3 (8.1)	9 (24.3)	25 (67.5)
Asian	52	0	3 (5.7)	49 (94.2)
Other	90	7 (7.7)	19 (21.1)	64 (71.1)
Female	708	90 (12.7)	150 (21.1)	468 (66.1)
Māori	116	29 (25)	47 (40.5)	40 (34.4)
NZ European	448	52 (11.6)	78 (17.4)	318 (70.9)
Pacific	32	3 (9.4)	9 (28.1)	20 (6.2)
Asian	41	0	2 (4.9)	39 (95.1)
Other	71	6 (8.4)	14 (19.7)	51 (71.8)
Male	46	7 (15.2)	10 (21.7)	29 (63)
Māori	6	2 (33.3)	1 (16.6)	3 (50)
NZ European	23	5 (21.7)	6 (26)	12 (52.1)
Pacific	1	0	0	1 (100)
Asian	6	0	1 (16.6)	5 (83.3)
Other	10	0	2 (20)	8 (80)
Gender not stated	64	3 (4.6)	20 (31.25)	41 (64)

There were no significant differences in smoking prevalence across the three years of the bachelors programme. A small number of students (n=27) indicated they were in their fourth or fifth year of study, however these numbers were not considered large enough to warrant inclusion. There was no evidence of a proportional increase in those describing themselves as ex-smokers as they progressed through their nursing programme of study. Table 3 shows the smoking status by year of study.

Table 3. Smoking status and year of study

Year of Study	Total n	Smoker n (%)	Ex-smoker n (%)	Never smoked n (%)
	790	97 (12.2)	177 (22.3)	516 (65.2)
1 st year of study	217	28 (12.9)	54 (24.8)	135 (62.2)
2 nd year of study	319	42 (13.1)	65 (20.3)	212 (66.4)
3 rd year of study	254	27 (10.5)	58 (22.7)	169 (66.2)

Although the numbers in the older age groups are small (and so must be treated with caution), there may be a trend of decreasing smoking with younger age groups. Table 4 shows smoking status by age.

Table 4. Smoking status and age

Age in years	Total n	Smoker n (%)	Ex-smoker n (%)	Never smoked n (%)
	814	100 (12.2)	179 (21.9)	535 (65.5)
20 or under	202	21 (10.3)	8 (3.94)	173 (85.2)
21-25	204	26 (12.7)	27 (13.2)	151 (74)
26-35	185	41 (22.1)	45 (24.3)	99 (53.5)
36-45	150	3 (1.98)	71 (47)	76 (50.3)
Over 46	73	9 (12.3)	28 (38.3)	36 (49.3)

Nursing students who are parents (n=272) were slightly less likely to smoke than their non-parent counterparts but this did not reach significance. However, they were significantly more likely to be an ex-smoker (chi-square is 12.7083 P value is 0.000364. This result is significant at $p < 0.05$). Table 5 shows smoking status and parenthood.

Table 5. Smoking status and parenthood

Parent	Total n	Smoker n (%)	Ex-smoker n (%)	Never smoked n (%)
	815	100 (12.2)	179 (21.9)	536 (65.7)
Parent	272	32 (11.7)	97 (35.6)	143 (52.5)
Non parent	543	68 (12.5)	82 (15.1)	393 (72.3)

There were no significant identifiable differences when parental status and age were considered in relation to smoking status, indicating parental status rather than age was the defining variable.

Limitations

Surveys are prone to margins of error related to who chooses to respond, and the subjectivity of respondents, necessitating, as with all surveys, some caution with interpretation. Actual numbers are particularly low for male students, so we would recommend caution in interpreting the data in relation to this group.

Discussion

While it is pleasing the overall rate of smoking among student nurses (12.2 per cent) is lower than the adult population prevalence (18 per cent) (Ministry of Health, 2012), it remains concerning that rates are still as high as they are among a group of future health professionals who will be expected to promote smoking cessation as part of their role. Given the reported difficulties nurses who smoke have with providing smoking prevention and smoking cessation advice to patients (O'Donovan, 2009, and Radsma & Bottorff, 2009), clearly targeted smoking cessation interventions for nursing students are required. Research targeted at health-care professionals indicates that, rather than standard smoking cessation programmes, health-care practitioners who smoke need tailored interventions (Pipe, Sorensen & Reid, 2009), and this may also be the case for nursing students. Student nurses are a relatively captive audience and there is surely a role for nursing schools to empower nursing students to model personal smoking cessation as future health professionals, as well as for individual health benefit.

The disparities between Māori and non-Māori nursing students identified in this study are also of significant concern (23.8 per cent versus 9.75 per cent). While there is evidence of good reductions in the numbers of Māori nurses who smoke from around 30 per cent in 2006 (Wong, Fishman, McRobbie, et al, 2007) to 21 per cent in 2013 (Gifford, Wilson, & Walker, 2013), the high rates among Māori student nurses again suggest that specific, targeted interventions in nursing schools are required. Unsuccessful smoking cessation programmes for Māori have been attributed to their individual focus (Barnett, Pearce, & Moon, 2009), and their lack of relevance (Fernandez & Wilson, 2008). Current research examining kaupapa Māori approaches to smoking cessation among Māori nurses (Gifford, Wilson & Walker, 2013), may also be useful for Māori nursing students.

Our study suggests there may be decreasing prevalence of smoking among younger students. Given the recently reported data that demonstrates decreasing smoking among secondary school students (from 16 per cent in 2001 to five per cent in 2012) (Clark, Fleming, Bullen et al 2013), this could well be the case. It will be important to repeat this study at regular intervals to determine if a pattern does exist and if smoking cessation interventions prove successful for this cohort. Additionally, data on smoking patterns (number of cigarettes smoked, frequency of smoking and the times and places smoking occur) would be useful to enable comparisons with other national smoking prevalence studies.

Smoking rates among student nurses who are parents were not significantly different from their non-parenting counterparts, but they *were* significantly more likely to be ex-smokers.

While it is impossible to know from this survey what factors contributed to a decision to quit smoking, becoming a parent is considered to be a trigger for choosing to give up smoking, (Grøtvedt & Stavem, 2005), and this may be a reason for the large number of parents who were ex-smokers in this study. However, there are inconsistent associations between parenthood and smoking cessation (McDermott, Dobson & Owen, 2009), and it is possible the education student nurses receive surrounding the risks of smoking may have contributed to this cohort choosing to quit smoking.

Conclusion

High smoking prevalence among nursing students, and particularly among Māori nursing students, is of concern. Further research into effective cessation approaches, and the development of strategies targeted at both cohorts is recommended, given that these future health professionals will be required to play a crucial role in providing smoking cessation education in New Zealand. We recommend schools of nursing consider ways in which they can support nursing students who smoke, to quit.

References

- Barnett R, Pearce J, Moon G. (2009) Community inequality and smoking cessation in New Zealand, 1981-2006. *Social Science & Medicine*, 68:876-884.
- Clark, T. C., Fleming, T., Bullen, P., et al.(2013) Youth'12 Overview: The health and wellbeing of New Zealand secondary school students in 2012. Auckland: The University of Auckland.
- Edwards R, Bowler T, Atkinson J, Wilson N. (2006) Low and declining cigarette smoking rates among doctors and nurses: New Zealand census data. *NZMJ*, 121:43-51.
- Fernandez C, Wilson D. (2008) Maori women's views on smoking cessation initiatives. *Nursing Praxis in New Zealand*,24:27-40.
- Gifford H, Wilson D, Walker L, et al. (2013) Māori nurses and smoking: What do we know? He Manawa Whenua Indigenous Research Conference, Auckland.
- Grøtvedt L, Stavem K. (2005) Association between age, gender and reasons for smoking cessation. *Scandinavian Journal of Public Health* [serial online]. 33:72-76.
- Kypros K, Baxter J. (2004) Smoking in New Zealand university student sample, *NZMJ*,117:1-6

McDermott L, Dobson A, Owen N. Determinants of continuity and change over 10 years in young women's smoking. *Addiction* [serial online]. March 2009; 104:478-487.

Ministry of Health (2012) The Health of New Zealand Adults 2011/12. Wellington: Ministry of Health.

New Zealand Government (2011) Government Response to the Report of the Māori Affairs Committee on its Inquiry into the tobacco industry in Aotearoa and the consequences of tobacco use for Māori

Nursing Council Workforce statistics (2011) retrieved from:
<http://nursingcouncil.org.nz/Publications/Reports> October 2013

O'Donovan G. (2009) Smoking prevalence among qualified nurses in the Republic of Ireland and their role in smoking cessation. *International Nursing Review*,56:230-236.

Patkar AA, Hill K, Batra V, et al. (2003) A comparison of smoking habits among medical and nursing students, *CHEST*, 124:1415-1420.

Pipe A, Sorensen M, Reid R. (2009) Physician smoking status, attitudes toward smoking, and cessation advice to patients: an international survey. *Patient Education and Counselling*, 74:118-123.

Radsma J, Bottorff JL. (2009) Counteracting ambivalence: Nurses who smoke and their health promotion role with patients who smoke. *Research in Nursing & Health*, 32:443-452.

Walker L, NZNO National Student Unit Annual Survey,(2013) Retrieved from
<http://www.nzno.org.nz/services/publications>, 15 August 2013.

Wong G, Fishman Z, McRobbie H, et al. (2007) Smoking and nurses in New Zealand. ASH-KAN Aotearoa: Assessment of smoking history, knowledge and attitudes of nurses in New Zealand. Auckland: ASH New Zealand.

Retrieved from http://www.smokefreenurses.org.nz/site/nurses-aotearoa/files/ASH-KAN_Summary.pdf 15 August 2013.

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Mission statement

NZNO is committed to the representation of members and the promotion of nursing and midwifery. NZNO embraces Te Tiriti o Waitangi and works to improve the health status of all peoples of Aotearoa/ New Zealand through participation in health and social policy development.

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