

Why Māori women continue to smoke while pregnant

Marewa Glover, Anette Kira

Abstract

Aim To investigate why some Māori women continue smoking during pregnancy.

Methods An exploratory qualitative study was conducted with 60 pregnant Māori women aged from 17–43. A questionnaire was used to guide the interviews. Responses were categorised using Te Whare Tapa Wha (the four-sided house), an Indigenous theoretical framework.

Results The women smoked on average 9 cigarettes per day. Many (45%) were very concerned for their baby's health. The main reasons for quitting were for their own and their baby's health. The majority (77%) reported no smoking-related health problems. All the women lived with at least one other smoker. Over half of the participants (62%) predominantly socialised with people who smoked and nearly all said it was easy to smoke in their socialising and work environments. Partners and mothers were the most common source of support or advice to quit, however, often that support person also smoked. There was a lack of understanding of the harms associated with maternal smoking.

Conclusions Motivation to quit smoking was low. The women all lived with smokers which reportedly made it harder to quit; most of them lived in a smoky environment, where family, friends and coworkers smoked. This highlights the need to include family in cessation interventions.

The risks to the unborn child, when a pregnant woman smokes, are well-documented¹ and most pregnant women are aware of, at least some, risks.^{2,3} Despite this, not all pregnant women cease or reduce smoking.³ Commonly women, who smoke during pregnancy, have a partner who smokes,^{4,5} and, come from a lower socioeconomic area where high smoking prevalence is more common.⁶

In New Zealand, smoking is clearly patterned by socioeconomic position: the most disadvantaged groups have the highest smoking prevalence.⁷ Māori women are one of the most socially deprived groups in New Zealand⁸ and they have the highest smoking prevalence rates. Surveys have put smoking among Māori women aged 15–24 years old as high as nearly 61%; 39% among Māori women aged 25–29 years, and 57% of 30–39 year olds.⁹

In 2007, at first registration with a midwife, 19% of New Zealand pregnant women were smoking and this dropped a little to 15% still smoking when discharged from midwife care.¹⁰ The prevalence was substantially higher for Māori women, with 43% smoking at first registration with a midwife and 34% still smoking at discharge.¹⁰

From conception, Māori are disproportionately affected by the ill-consequences of tobacco use. Smoking during pregnancy contributes to higher rates of miscarriage, preterm births, low birth weight babies and difficulties during childbirth.¹¹ Sudden

Unexplained Deaths in Infancy (SUDI), asthma, glue ear, and increased rates of chest infections, all associated with maternal smoking, are commonplace among Māori children.¹² Maternal smoking also sets Māori up for higher rates than non-Māori of cardiovascular disease, many cancers and respiratory diseases later in life.

Quitting in the first 3–4 months of pregnancy and remaining abstinent protects the fetus from some of the adverse effects of smoking.¹³ Serendipitously, pregnancy is a powerful motivator to quit smoking.³ In New Zealand, Ford et al¹⁴ found that whilst 64% of pregnant smokers wished to quit and 30% wished to cut down, this contrasted with what they actually achieved: 34% quit and 50% cut down. In another study, 40% of Māori pregnant women cut down and 23% stopped smoking altogether.¹⁵

There are several barriers undermining reduction or cessation of smoking when pregnant, including loss of the role and meaning of smoking and negative influence from family or friends.^{2, 16} Women who continue smoking during pregnancy are likely to live in a household with other smokers,^{17–19} and have partners, family and friends who smoke.¹⁶ Similar results have been found for Māori: living with other smokers effects smoking cessation success Māori.²⁰ Further, a qualitative study found that addiction, habit and stress were reasons why pregnant women continued smoking.²¹

Reducing smoking among pregnant women remains a challenge. Whilst several qualitative studies have investigated pregnant women's smoking during pregnancy, no previous study has focused on pregnant Māori smokers' attitudes towards smoking and barriers to cessation. Previous studies into Māori smoking have involved few pregnant participants.²⁰ The high smoking prevalence among Māori women warrants research specifically focused on this group.

Reducing smoking during pregnancy has been a New Zealand and international priority for over a decade^{16, 22} and closing the health inequality gaps are a key public health agenda,²² adding to the rationale for reducing smoking during pregnancy among Māori women. The New Zealand tobacco control programme could usefully be informed by a study identifying barriers to smoking cessation for pregnant Māori women. Thus, this research aimed to determine:

- The attitudes of Māori pregnant smokers towards smoking during pregnancy;
- The factors influencing continued smoking during pregnancy; and
- Family (whānau) support to quit received by the women.

Method

This was an exploratory qualitative study using semi-structured face-to-face interviews. Purposive sampling was used to find a diverse range of women who varied across age, stage of pregnancy, number of pregnancies, socioeconomic level and place of residence. Random selection was, therefore, not used.

Pregnant Māori self-identified smokers, aged 16 and over, were invited to take part. Participants were recruited through primary health care services, for example, Māori midwives, Māori community health workers, Māori health clinics, the researcher's networks, a circulated invite and newspaper advertisement. Interviews were conducted during October 2002 to November 2003 with 60 women from Auckland, Wellington, Hamilton, Kawakawa and around the Hokianga.

The questionnaire included questions relating to pregnancy status, tobacco consumption, attitudes to quitting, beliefs about smoking during pregnancy and support to quit. The questionnaire contained both qualitative open-ended questions and quantitative agree-disagree questions. Responses were manually

recorded on the questionnaire in full view of the participant. Transcripts were not produced, thus women were not asked to check the written responses. Interviews took from 30–45 minutes.

Ethical approval for the study was given by the University of Auckland Human Participants Ethics Committee.

Where possible, questionnaire responses were quantified. Quantitative data was entered into Excel and standard frequencies were calculated for descriptive purposes. Free text responses were entered into Microsoft Word and manually sorted using the themes covered in the questionnaire. Thematic analysis within categories enabled coding sets to be developed, for example, for reasons for stopping smoking.

Te Whare Tapa Wha²³ was used as the primary organising framework for grouping the findings into sections. The demographics, pregnancy status and nicotine dependency factors were grouped under Te Taha Tinana (the physical or bodily aspect of health). Attitudes towards and beliefs about smoking while pregnant and motivation to stop smoking were included under Te Taha Hinengaro (the mental realm). The home and social environment and smoking and attitudes of others fitted into in to the realm of Te Taha Whānau (the family and social realm). No data emerged that fitted under Te Taha Wairua (the spiritual realm). The data was quantified in order to illustrate how common a particular response was and the qualitative narrative was used to describe or explain the findings.

Results

Participants' ranged in age from 17 to 43 years old. The average age was 26. Most of the women (88%) had a partner. Twenty-three percent of participants had no educational qualifications and only 38% had some employment. Over half (68%) of the participants lived in urban centres. They listed membership of from one to three iwi (tribe) each. Almost equal numbers of participants were in to the second (43%) or third (40%) trimester of their pregnancy and 38% of the women were having their first baby.

Te Taha Tinana: biological and physical aspects of smoking—The average stated number of cigarettes smoked per day was nine, ranging from 1 to 28 (Table 1a). Nineteen (32%) of the participants smoked their first cigarette within 5 minutes of waking (Table 1b).

Table 1. a) Number of cigarettes smoked per day; and b) time to first cigarette upon waking

Cigs per day	N=60	%
<5	11	18%
5-9	26	43%
10-14	6	10%
15-19	9	15%
20-24	7	12%
25+	1	2%

Time to first smoke	N=59	%
Within 5 mins	19	32%
6-30 mins	12	20%
31-60mins	4	7%
After 60mins	24	41%

The majority of participants (77%) were healthy and reported that they had not suffered any smoking-related illnesses in the previous 6 months. Even the women who reported having asthma, bronchitis or low or high blood pressure, reported mild or seasonal symptoms. As one woman said “that’s the only time I go to a doctor usually—pregnancy.”

Te Taha Hinengaro: beliefs and reasons for smoking and quitting—Of the reasons given for smoking 50% of participants said they smoked because of habit (Table 2), as illustrated by the following quote: “Just got to have something in my hands. It’s not that I like it.” The second most common reason for smoking was due to stress. “Stress and my partner and arguing and stress and my mother and stress.” “Stops me from stressing out. Stops me from worrying about things.”

Table 2. Reasons for smoking

Reason	N=60	%
Habit	30	50
Stress	18	30
Addiction	15	25
Calms/relaxes	14	23
Satisfaction/like it	10	17
Social/company	8	13
Boredom/something to do	7	12
Time out	2	3
Depression	1	2
Don't know	2	3

Participants cited multiple reasons motivating them to quit smoking (Table 3). The two most common cited reasons for contemplating quitting were for their baby’s and own health. For example: “If I could give it up, it would do me world of good.” Several previous quit attempts had been “for my health.” For example, these women said, “I got sick,” “smoker’s cough and the effects.” “I had the flu actually. I just couldn’t smoke.” However, only 12 women said they wanted to quit because of the pregnancy and only twelve women had tried to stop or succeeded at stopping smoking for their first pregnancy. One woman managed to stay smokefree until her baby was about 1 year old.

Table 3. Reasons for wanting to quit

Reason	N=37	%
For baby’s health	29	78
Their own health	20	54
Cost	16	43
Pregnancy	12	32
Other children	7	19
Sport/fitness	5	13.5
It’s time	4	11
Role model	4	11
Nausea	3	8
It’s yuk/stinks	2	5
Longevity	1	3
Breastfeeding	1	3

Most of the participants (92%) had thought about quitting and many (78%) had tried to quit. The number of quit attempts ranged from 0 to “many times”, with an average of two. Thirty-five percent had managed to give up smoking before, though some women counted periods as short as a few days as ‘having given up’. Eleven, of the women who had previously quit stayed smokefree for 3 months or longer, while the other ten stayed smokefree from 1 week up to 3 months.

Attitudes towards smoking during pregnancy—Most of the women were concerned about their unborn child’s health and 45% (27) worried “a lot”. Most of the women agreed that if they stopped smoking while they were still pregnant it was likely their baby would be healthier. Many thought other people smoking around them had an effect on their unborn baby’s health (Table 4).

Contradicting this result, many agreed or answered ‘don’t know’ to the questions that the amount they smoked was too little to cause harm to their baby and there was no need to quit completely if they cut down. The statement “if I cut down on my smoking there is no need to quit completely” was used to rationalise continued smoking. One woman explained that she believed this “cos [because] they said even cutting down would be beneficial. Quitting would be better but cutting down better – every hour or two you don’t smoke baby is getting more oxygen—that is why I cut out last one at night and first two in morning so baby has more time smokefree.”

Of concern, 33% agreed that they may as well keep smoking themselves as they were exposed to so much smoke from others. One woman acknowledged that it was a thought that supported her to continue smoking even though she knew it wasn’t true and another said “they say nowadays secondhand smoke worse than first hand.”

Table 4. Belief statements about smoking during pregnancy

Statement	Agree	%	Disagree	%	Don’t know	%
It’s good to have a smaller baby	2	3.3	52	87	6	10
The amount I smoke is too little to cause harm to this baby inside me	9	15	43	72	8	13
If I stop smoking while I’m still pregnant, it is likely that this baby will be healthier	57	95	0	0	3	5
Smoking low tar (ultra mild) cigarettes is less harmful to my unborn baby	6	10	39	65	15	25
If I cut down on my smoking there is no need to quit completely	14	23	38	63	8	13
I am exposed to so much smoke from other people I might as well keep smoking myself	20	33	38	63	2	3
Other people smoking in the house has an effect on my unborn baby’s health	53	88	4	7	3	5
Nicotine passes through breast milk	33	55	4	7	23	38

Te Taha Whānau: familial and social influences—All of the women lived with other smokers and nearly half (47%) of the women lived with a partner who smoked. Nearly half (48%) said their house was totally smokefree. Eleven participants (18%) lived in homes with no restrictions on smoking. Twenty participants (33%) lived in

households that allowed smoking inside; however, many of those households had made rooms' smokefree or had a designated smoking area.

Thirty seven (62%) participants said that the people they socialise most frequently with smoke (Table 5a) and only two participants mixed with mainly non-smokers. Most participants (93%) said it was easy to smoke in their social venues (Table 5a).

Table 5. Environments – a) Social and b) Work

a) Social environment		
Friends smoke:	N	%
Most do	37	62%
50/50	21	35%
Socialising venues		
Homes	48	80%
Pubs/Clubs	10	17%
Marae	9	15%
Club rooms	8	13%
Work	3	5%
Schools	2	3%
Other	2	3%
Easy to smoke there?	76	93%

b) Work environment		
	N	%
Colleagues smoke	31	52%
Easy to smoke at work	27	45%
Smoke with others	30	50%

Nearly all of the women who worked said it was easy to smoke at work and 30 smoked with others at work (Table 5b). Smoking at work was easy because as participants said they could “just go out whenever want to” or “there’s a designated smoking area outside” and because a “majority of staff smoke”.

Even participants who worked or were students at schools, an environment designated smokefree under legislation, still smoked while there. Similar to other workplaces, “practically everyone” smoked or they were “allowed to during breaks” and there was a “designated [smoking] area out the back” such as “a smoking shed.”

Support to quit—19 women (32%) said their partner wanted them to stop smoking. One woman said her partner “keeps telling me: think of the baby” and another said, “the father tells me to give up.” One woman said her “partner asked me to give up but he reckons I’m pretty good now ‘cos I’m slowing down.” The women’s mothers were the next main group to advise cutting down or stopping smoking (22%), for example, “...even though she smokes she doesn’t like me smoking.” Six women felt like “everyone” was saying they should quit. Twelve (20%) did not recall any advice or encouragement to quit from anyone in their life.

Partners were the most frequently named support person (17). Some women’s partners were “concerned for baby’s health” and had got “pamphlets about secondhand smoke” and “tried to give up” themselves. However, one woman said her

partner was “a chain smoker—very hard to offer support. He goes outside to try not to trigger me off.” Mothers were the next most frequently cited support people.⁹ Two women added, “but, mum smokes.” About six women said all their whānau would support them. One woman said “they say they’ll go outside and smoke. The father, the household, they’re going to when baby’s born.”

About six participants had a friend or friends who would support them. One woman believed she would get support from a “good friend” because she “was a smoker and she gave up.” In contrast, about eight women didn’t think they had anyone in their whānau or social circle who could support them to quit, because as they said, “they’re all smokers.”

Discussion

This study sought to understand why Māori women continue to smoke when pregnant. The main finding was that these pregnant women were healthy which removes one of the most widely cited reasons smokers give for quitting.²⁴ They lived in smoky environments, used smoking as a coping mechanism for stress, and had poor understanding of the risks associated with smoking during pregnancy.

Although several of the women had support from whānau to quit, this was weakened by the fact that many of their potential support people also smoked. They socialised mainly with smokers and were undeterred by smokefree environments. These findings are consistent with the results from international studies that found that pregnant women who smoke don’t fully understand the harms of smoking, large proportions of their social circle smokes, and that they smoke to alleviate stress and cope with stressful life circumstances.^{2,16,21} However, the findings contrast with the general population of smokers’ reasons for smoking, which are enjoyment, stress-relief and weight-control.²⁵

All of the pregnant women lived with at least one other smoker, which drastically undermines success at quitting.¹⁹ This highlights the need to reduce smoking prevalence among partners of pregnant women. The promotion of smokefree pregnancies and smoking cessation assistance needs to be extended to the whole whānau. Educating the community surrounding pregnant women about the effect of their smoking on pregnant women could help. Whānau could be encouraged to support pregnant women to become smokefree by reducing or quitting their own smoking, making the house and car smokefree, and, not smoking around pregnant women.

Stopping for their baby’s health was the number one reason motivating the women in this study to stop smoking. However, many believed that the effects of smoking during pregnancy on children are short-lived and that the child will overcome the damage. This finding supports previous studies that found that people who continue smoking have a weaker belief of the potential harms of smoking during pregnancy.¹⁸ Uncertainty about or rejecting the potential for pregnancy-related harm, due to smoking, is likely to undermine motivation to quit.¹⁷

There was confusion around the relative dangers of smoking versus exposure to secondhand smoke (SHS). This is probably because new information is more salient and NZ media campaign coverage of SHS risks may have outweighed messages about

direct harm, such as, smoking causes lung cancer. This study suggests that some women have concluded that SHS is more dangerous. This is a myth that healthcare professionals could debunk by providing information about the relative risks of smoking versus exposure to smoke and by providing clear advice to stop smoking altogether.²⁶

This study suggests that the strategies that were being used to inform Māori about the risks associated with smoking when pregnant were not effective or they were not effectively reaching Māori women. Since this study was done there have been increased efforts to deliver cessation support to the general population: by establishing the 'Better help for smokers to quit' health target²⁷; The Quit Group's extended range of cessation support mechanisms for example, via text and web; subsidisation of a wider range of cessation pharmacotherapies; and the roll out of the ABC (Ask, give Brief advice to quit, and provide Cessation support or referral) to the primary healthcare sector.²⁶ This is expected to impact on population smoking prevalence rates, including Māori women of childbearing age. But, to date there is little indication that the prevalence of smoking among Māori women of childbearing age has reduced.^{9,28}

One of the risks of the current programme is that it waits for pregnant Māori women to come in to contact with the health system. However, Māori and Pacific Island women have lower rates of registration with a midwife at 18 and 38 weeks pregnant and also attend fewer antenatal visits²⁹ which could mean that some women do not receive support to quit until late in pregnancy.

Limitations—The study has limited generalisability, as participants were not randomly selected and 60 participants is not a large number, although they were recruited using purposive sampling. Deception regarding tobacco consumption was not considered a limitation as only women willing to admit that they were smoking were likely to volunteer.

Future work—Research is needed to identify interventions that are more effective for this group of women, and based on the findings in this study, also reaches the wider family. Follow-up research is needed to assess the effectiveness of the current tobacco control programme for reducing smoking prevalence among Māori women of child-bearing age and particularly for reducing smoking when pregnant. The literature overall suggests that accurate knowledge about risks associated with smoking when pregnant is an important factor motivating quitting. It would be useful to test this, as health education interventions can be costly. Identifying and making other reasons for quitting more salient, such as using incentives,³⁰ may be necessary to achieve a greater reduction in smoking among pregnant Māori women of robust health.

Competing interests: None.

Author information: Marewa Glover, Director; Anette Kira, Research Fellow; Centre for Tobacco Control Research, University of Auckland

Correspondence: Marewa Glover, Social and Community Health, School of Population Health, University of Auckland, Private Bag 92019, Auckland, New Zealand. Fax: +64 (0)9 3035932; email: m.glover@auckland.ac.nz

References:

1. Einarson A, Riordan S. Smoking in pregnancy and lactation: A review of risks and cessation strategies. *Eur J Clin Pharmacol* 2009;65(4):325-330.
2. Ingall G, Cropley M. Exploring the barriers of quitting smoking during pregnancy: A systematic review of qualitative studies. *Women and Birth* 2010;23(2):45-52.
3. Haslam C, Draper ES, Goyder E. The pregnant smoker: a preliminary investigation of the social and psychological influences. *Journal of Public Health* 1997;19(2):187-192.
4. Ebert LM, Fahy K. Why do women continue to smoke in pregnancy? *Women and Birth* 2007;20(4):161-168.
5. McLeod D, Pullon S, Cookson T. Factors that influence changes in smoking behaviour during pregnancy. *N Z Med J* 2003;116(1173). <http://www.nzma.org.nz:8080/journal/116-1173/418/content.pdf>
6. Bull L, Burke R, Walsh S, Whitehead E. Social attitudes towards smoking in pregnancy in East Surrey: A qualitative study of smokers, former smokers and non-smokers. *Journal of Neonatal Nursing* 2007;13(3):100-106.
7. Hill S, Blakely T, Howden-Chapman P. Smoking inequalities: Policies and patterns of tobacco use in New Zealand, 1981-1996. Wellington: University of Otago, Wellington School of Medicine, 2003.
8. Ministry of Women's Affairs. Indicators for Change 2009: Tracking the progress of New Zealand women. Wellington: Ministry of Women's Affairs, 2010.
9. Ministry of Health. New Zealand Tobacco Use Survey 2006. Wellington: Ministry of Health, 2007.
10. Dixon L, Aimer P, Fletcher L, Guilliland K, Hendry C. Smoke free Outcomes with Midwife Lead Maternity Carers: An analysis of smoking during pregnancy from the New Zealand College of Midwives midwifery database information 2004 - 2007. *New Zealand College of Midwives Journal* 2009;40:13-19.
11. Cnattingius S. The epidemiology of smoking during pregnancy: Smoking prevalence, maternal characteristics, and pregnancy outcomes. *Nicotine and Tobacco Research* 2004;6(SUPPL. 2).
12. Pomare E, Keefe-Ormsby V, Ormsby C, Pearce N, Reid P, Robson B, et al. Hauora: Maori standards of health III. Wellington: Te Ropu Rangahau Hauora a Eru Pomare, Wellington School of Medicine, 1995.
13. McCowan LM, Dekker GA, Chan E, Stewart A, Chappell LC, Hunter M, et al. Spontaneous preterm birth and small for gestational age infants in women who stop smoking early in pregnancy: prospective cohort study. *BMJ (Clinical research ed.)* 2009;338.
14. Ford R, Wild C, Glen M, Price G, Wilson C. Patterns of smoking during pregnancy in Canterbury. *NZMJ* 1993;106(965):426-9.
15. Te Ropu Rangahau Hauora a Eru Pomare. Benchmark Survey on monitoring the Why Start? Multi-media Campaign to reduce smoking amongst pregnant Maori women smokers: Preliminary results. Wellington: School of Medicine, 1996.
16. Tod AM. Barriers to smoking cessation in pregnancy: a qualitative study. *British journal of community nursing* 2003;8(2):56-64.
17. Walsh RA, Redman S, Brinsmead MW, Fryer JL. Predictors of smoking in pregnancy and attitudes and knowledge of risks of pregnant smokers. *Drug and Alcohol Review* 1997;16(1):41-67.
18. Quinn VP, Mullen PD, Ershoff DH. Women who stop smoking spontaneously prior to prenatal care and predictors of relapse before delivery. *Addict Behav* 1991;16(1-2):29-40.
19. Abrahamsson A, Springett J, Karlsson L, Ottosson T. Making sense of the challenge of smoking cessation during pregnancy: A phenomenographic approach. *Health Education Research* 2005;20(3):367-378.

20. Glover M. The effectiveness of a Maori Noho Marae Smoking Cessation intervention: Utilising a kaupapa Maori methodology [Doctor of Philosophy Thesis]. The University of Auckland, 2000.
21. McCurry N, Thompson K, Parahoo K, O'Doherty E, Doherty AM. Pregnant women's perception of the implementation of smoking cessation advice. *Health Education Journal* 2002;61(1):20-31.
22. Ministry of Health. Monitoring Health Inequality Through Neighbourhood Life Expectancy: Public Health Intelligence occasional bulletin Wellington: Ministry of Health, 2005.
23. Glover M. Analysing smoking using Te Whare Tapa Wha. *New Zealand Journal of Psychology* 2005;34(1):13-19.
24. McCaul KD, Hockemeyer JR, Johnson RJ, Zetocha K, Quinlan K, Glasgow RE. Motivation to quit using cigarettes: A review. *Addict Behav* 2006;31(1):42-56.
25. Fidler JA, West R. Self-perceived smoking motives and their correlates in a general population sample. *Nicotine and Tobacco Research* 2009;11(10):1182-1188.
26. Ministry of Health. New Zealand Smoking Cessation Guidelines. Wellington: Ministry of Health, 2007.
27. Ministry of Health. Targeting Smokers: Better Help for Smokers to Quit. Wellington: Ministry of Health, 2011.
28. Ministry of Health. Tobacco Use in New Zealand: Key findings from the 2009 New Zealand Tobacco Use Survey. Wellington: Ministry of Health, 2010.
29. National Health Committee. Review of Maternity Services in New Zealand. Wellington: National Health Committee, 1999.
30. Lumley J, Chamberlain C, Dowswell T, Oliver S, Oakley L, Watson L. Interventions for promoting smoking cessation during pregnancy. *Cochrane Database of Systematic Reviews* 2009(3).