Analysing Smoking using Te Whare Tapa Wha

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In a doctorate study on Maori smoking cessation behaviour, Te Whare Tapa Wha, a contemporary Maori paradigm was used as the theoretical framework for analysing smoking behaviour. One hundred and thirty Maori smokers aged 16-62, who were intending to quit were interviewed prior to their quit attempt and on average four months later. Physical aspects of smoking behaviour, such as, smoking history variables and number of cigarettes smoked per day were grouped under te taha tinana. Variables, such as, participants' beliefs about their reasons for smoking, motivation and intention to quit were grouped under te taha hinengaro. Social and familial factors that influenced participants' smoking are discussed under te taha whanau and data pertaining to actions or beliefs about the effects on and the role of wairua are discussed under te taha wairua. The results show how the application of Te Whare Tapa Wha to the problem of smoking supports the need for holistic approaches to intervention. Smoking cessation interventions, for instance, need to combine treatment of nicotine dependency with cognitive behavioural therapy, whilst targeting the whole whanau. Attending to te taha wairua should improve effectiveness for Maori. Public health policies and programmes, such as a strong Smokefree Environments Act and frequent exposure to smokefree media campaigns, help create a supportive environment for change.

Tobacco smoking is the biggest killer of Maori people, killing about 440 annually based on 1989-93 Maori deaths (Laugesen & Clements, 1998). Maori have the highest death rates from coronary heart disease in the OECD group of countries and Maori women have the highest rate of lung cancer in the world and suffer cervical cancer at more than twice the national rate (22.4 vs. 10.4 per 100 000 annual average 1993-95) (Ministry of Health, 1998). High rates of smoking among Maori women during pregnancy (two thirds of Maori women smoke during peak child rearing age) (Glover, 2004), contributes to higher rates of miscarriage, preterm births, low birth weight babies and other difficulties during childbirth (Pomare, Keefe-Ormsby, Ormsby, Pearce, Reid, Robson, & Watene-Haydon, 1995). In 1996, the Maori Sudden Infant Death Syndrome rate was around five times higher than that of non-Maori (4.6 vs. 0.9 deaths per 1000 live births) (Ministry of Health, 1998). From birth, Maori record proportionately higher rates of hospital admission for asthma and glue ear (Pomare et al., 1995). Through adulthood Maori are undermined by disproportionately higher hospitalisation rates for smoking-related chronic obstructive respiratory disease, hypertensive disease and other forms of heart disease and cancers. In addition to the impact of illness and death from tobacco, "tobacco use has dramatically affected Maori cultural, social and economic development" (Reid & Pouwhare, 1991, p.59). "Smoking desecrates the mana of our marae" (Ellis, 1995, p.1) and it brings about the early death of kaumatua which represents a vital loss (Te Puni Kokiri, 1998) as "they are the storehouses of our culture" (Fisher cited in Health Research Council, 1996). Maori economic development is also seriously undermined by tobacco use, with the tax take per annum from Maori smokers alone approximating $260 million (Apaarangi Tautoko Auahi Kore, 2003).

In 1976, nearly 60% of Maori smoked. This rate dropped to 50% by 1991 but there it remains. In 2002, 49% of all Maori adults smoked, which is double the non-Maori non-Pacific smoking prevalence rate (Ministry of Health, 2003). Higher smoking rates are concentrated in younger people, for example, nearly 60% of Maori women aged between 15 and 44 years, smoke. (Ministry of Health, 1999) while Maori men aged between 25 and 39 have the highest smoking rate (46%) (Statistics New Zealand, 1997). Among women aged 15 and over, Maori have the highest smoking rates (48%) compared with Pakeha (22%), Pacific (19%) and other women (5%) (Ministry of Health, 1999).

There remains an urgent need to understand how to reduce Maori smoking. This study aimed to do that, whilst employing a kaupapa Maori

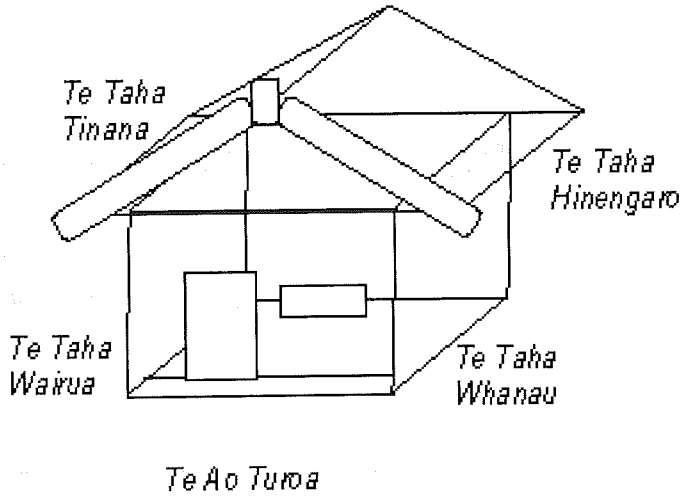
methodology, which preferences Maori theories.

Te Whare Tapa Wha

Whilst a number of Maori models of health have been developed (reviewed in Durie, 1994), it is proposed that Te Whare Tapa Wha has achieved status as a paradigm given Kuhn's (1962) definition. That is, a paradigm is an accepted model that has attracted an enduring group of adherents away from competing modes of scientific activity and is sufficiently open-ended leaving problems to be resolved. Te Whare Tapa Wha is being applied to a variety of situations to reveal a Maori perspective on the nature of things. It became widely accepted as the preferred Maori definition of health during the 1980s (Durie, 1994) and has since achieved wide and common usage as a Maori model of health. Objective 1.2 of the Ministry of Health's (2002) Maori Health Strategy policy, He Korowai Oranga specifically encourages the use of Te Whare Tapa Wha. Te Whare Tapa Wha gives rise to predictions that Maori scientific activity, such as this research, seeks to explore. It is attractive for its simplicity, metaphorical resonance for Maori and basis in a Maori worldview, which can facilitate comprehension of scientific findings beyond academia.

Using the analogy of a wharenui (meeting house), all aspects of wellbeing are represented whilst reflecting fundamental tenets of Maori epistemology and remaining consistent with contemporary Maori thinking, as illustrated in Figure 1. The four sides of the whare represent the immediate effects on an individual – te taha wairua, the spiritual realm; te taha hinengaro, the psychological realm; te taha tinana, the physical body; and, te taha whanau, the family and wider community. The whare as a whole illustrates the holistic interdependent relationship between all aspects. Balance is required to enjoy stability, and poor health is regarded as a manifestation of a breakdown in harmony within the individual and between the individual and the wider environment. Originally intended to refer to environmental health (Whaia Te Hauora, 1994), an additional aspect, te ao turoa, is used in this study to provide a category for the contextual, political, environmental influences effecting health.

Figure 1. Te Whare Tapa Wha



Method

Participants

One hundred and thirty smokers who self-identified as Maori and who were intending to quit smoking, were interviewed during 1997-1998. Participants ranged in age from 16 to 62, the average age being 35. The sample was over-represented by women (78%). Participants lived in the northern half of the North Island. Ethical approval was given by the University of Auckland Human Ethics Committee.

Measures

The primary method of data collection was pre and post interviews. A mix of closed and open-ended questions about participants' thoughts and behaviour, family and social relationships and environmental influences were asked.

Data Analysis

Where possible, questionnaire responses were quantified. Theme analysis was done manually on some open-ended questions resulting in a coding set. A data file was set up in SPSS for Windows, Release 6.1.3. Standard frequency analysis for each variable was calculated for descriptive information. Logistic regression analysis was performed to test the ability of variables to predict outcome variables, such as not smoking at follow-up. The significance level, that is, the p value was rounded up to 3 decimal places. The taped interviews were transcribed and formatted for entry in to QSR NUD*IST Release V.4.0. Data was then coded according to Te Whare Tapa Wha. Analysis across both the quantitative and qualitative data was then conducted using a general inductive approach (Thomas, 2000). This study was slightly more deductive than inductive in that Te Whare Tapa Wha was used as the analytic framework, rather than using a model or theory developed from the data.

Results

This section outines the distribution of variables in to the categories provided by Te Whare Tapa Wha. Variables recording the biological and physical aspects of smoking were categorised under te taha tinana. These are described first. Te taha hinengaro is presented second. Te taha hinengaro includes the information on participants' beliefs about their reasons for smoking and quitting. How familial and social influences contribute to smoking is classified under te taha whanau. Finally the effects on and role of te taha wairua, the spiritual aspect, is discussed.

Te Taha Tinana

Smoking is a physical behaviour, thus the data on how long participants had smoked, previous quit attempts and times off smoking, current type, brand and number of cigarettes smoked per day were included under te taha tinana. On average, participants estimated that they had smoked for 18 of their years. Most (88%) had tried to quit an average of 2.5 times. Average consumption at first interview was 16 cigarettes per day.

Half the participants smoked tailormade cigarettes and half smoked rollies or both tailormades and roll-your-owns.

Six questions from the Fagerstrom Test for Nicotine Dependency (FTND) (Heatherton, Kozlowski, Frecker & Fagerstrom, 1991) and an exhaled carbon monoxide (CO) reading were included in the realm of te taha tinana because the CO reading is a physical measure and the FTND purports to measure the strength of the physical addiction to nicotine. For example, the FTND asks how soon after waking is the first cigarette smoked. Fifty-eight participants smoked their first cigarette within 30 minutes of waking up indicating a medium to strong dependency on nicotine.

What participants did to prepare their body for quitting, for example, reducing the body's dependency on nicotine by cutting down smoking or using nicotine patches was included under te taha tinana. As were other methods used to quit, such as, going cold turkey. What physically happened when participants stopped smoking, that is, the withdrawal symptoms, such as, increased appetite, agitation, anger, disrupted sleeping patterns and increased coughing were categorised under te taha tinana also. Any lasting changes relating to quitters' physical wellbeing, such as, improved fitness reported by participants who were smokefree at follow-up, were included as effects on te taha tinana. Participants who had relapsed to smoking by the follow-up interview experienced additional withdrawal symptoms, such as, cravings. For some participants the strength of the symptoms caused them to relapse. Analysis of time to relapse showed that over half (54%) of the unaided quitters relapsed within the first week.

Severity of nicotine dependency, indicated by number of cigarettes smoked per day and CO reading were predictive of success at quitting (Table 1). That is, the less participants said they smoked and the lower their CO reading, the more likely they were to stop smoking.

Te Taha Hinengaro

Whilst, chemical and other changes may be occurring in the body, the realm of te taha tinana, the subjective experience, that is, the interpretation occurs in te taha hinengaro. Participants' beliefs about their smoking behaviour, such as their reasons for smoking and motivation for quitting were categorised under te taha hinengaro. Participants were assessed in terms of their Stage of Change (Heather, Gold & Rollnick, 1991), that is, whether they were in precontemplation, contemplation or action, which was based on when they intended to quit (within the next 6 months or within the next 30 days). Participants' explanation for choice of quitting method and their self-efficacy, that is, the belief that they could quit, was considered under te taha hinengaro. Their understanding of why they relapsed was included under ta taha hinengaro also.

Reasons for Smoking

Participants could list as many reasons for smoking as they wished. The number of participants who cited each reason are presented in Table 2.

The most cited reason for smoking was habit. Participants spoke about the automatic, routine nature of their smoking. As one participant explained:

It's like getting up in the morning and washing your face. I mean it's just become something that's part of my day. It's normal.

Some (11.5%) participants said they smoked because it was normal, which was distinguished from habit by statements about smoking being the norm, for instance, "because everyone else smokes".

Nearly half (48%) used smoking to cope with stress specifically, and 23% said they smoked to deal with emotions in general. They smoked to relieve anxiety, to release anger, to quell worries, calm down and relax.

I find that I smoke more when I've got problems... and I find it relaxes me quite a lot after an argument or if I'm having a confrontation with one of my whanau... If I sit there and I puff away it helps to release the anger and stress.

Thirty-nine percent said they were addicted, as one person explained:

When you're spending $9 on a packet and smoking it in 2 days and ya know you can't really afford to spend money on something else, but you're racking your brain looking for a few extra dollars for a packet of cigarettes, yeah, well that's an addiction.

Smoking when socialising or drinking was the next most frequently cited reason for smoking. For some participants companionship and socialising with whanau and friends who smoke, triggered them to smoke and for others their smoking increased particularly when they were drinking alcohol.

When I'm with friends that are smokers, then I'll smoke.

I'm a proper little chain smoker when I'm drinking alcohol.

Table 1. Potential Predictors for Quitting (N=85)

	Stopped Smoking		Still/Back Smoking		Combined	
Average Actual No. Smoked Per Day**	9.1	s.d.= 8.47	17.3	s.d.= 14.7	16.1	s.d.=13.1
Average CO Reading**	11.2	s.d.= 9.43	17.5	s.d.= 9.15	16.7	
Self-efficacy**	5.8	s.d.= 1.5	4.7	s.d.= 1.5	4.8	
Difficulty score**						
Average	3.3	s.d.= 2.1	5.5	s.d.= 1.7	5.2	
Mode	1		7		7	

**indicates a statistically significant difference ($p < .05$)

Twenty-nine percent of participants smoked when they were bored or had "nothing else to do". Some had no job, no friends because they were new to the area, lived in a rural area geographically isolated from others or couldn't do things because of physical ailments.

A quarter of participants said they smoked because they enjoyed it.

The truth is I actually enjoy smoking. I don't know whether it's actual smoke I enjoy, it's the whole feeling. I enjoy the feeling.

I like the taste. I love the smell.

Seventeen percent of participants used smoking as a way of taking time out and rewarding themselves.

It sort of helps me to get through the day. It's like maybe a reward sort of thing. After you've mowed the lawns or something, you've done some chores and stuff, you sit down and have a smoke.

Motivation to Quit

Participants cited multiple reasons for quitting. These are listed in Table 3.

Most (85%) participants wanted to stop smoking for health reasons. About half of these were concerned about their declining physical health. Their complaints ranged across poor "stamina" "shortness of breath" to "stroke" "diabetes" and "emphysema." One quarter had decided "it's time" because of how long they had been smoking and how old they were. A typical comment was:

I'm getting older... somewhere along the line I'm going to have to stop doing all these things to my body and start looking after it.

About a quarter spoke of their hope for a long good quality life. They wanted to be around "to enjoy life with my children and hopefully when they're my age I'll be able to do things with them", "and not to be dependent on other people or on any medication". Some of them were sure "it's going to end up killing me". Many participants (73%) reported having physical illnesses.

Just over half (53%) listed cost as a factor in their quitting. Few stated that this was because they couldn't afford the cost as they were on minimal incomes. Instead, participants could see how the money could be put to better use.

I would rather that money goes somewhere where I can see the benefits coming back to me than going up in a puff of smoke... between us we can be saving $100-120 a month, which is about $1000-1200 a year. That's a lot of money to go up in smoke.

About half the participants (51.5%) wanted to stop smoking for the sake of children. Some wanted to be smokefree role models for their own or other people's children and others believed that their children would learn from their example and follow them into smoking.

I don't want my boys to smoke. When you see something all your life it's something that's easy to get into. It's not okay and I don't want them to think it is.

A quarter of participants wanted to stop smoking so they could be a better role model and or to be more consistent with their own image of themselves, for example, because they were a nurse, teacher, drug and alcohol counsellor or youth worker. They spoke of feeling "hypocritical" and needing to "walk the talk."

Some (21.5%) said they were sick of smoking and some (19%) wanted to stop to improve their fitness or performance in sports. A few (11%) were stopping because other people didn't like their smoking. Other reasons for quitting included stopping for religious or spiritual reasons, trying to start over, such as, giving up alcohol or marijuana. Only four participants cited a current or planned pregnancy as a reason for stopping smoking.

Stage of Change

As recruitment focused on finding smokers who were intending to quit, most (83%) of the participants were in the action stage of change. The other 17% were in the contemplation or precontemplation stage of change.

Proposed Method of Quitting

Proposed method of quitting was categorised under te taha hinengaro as it reflects participants' beliefs about quitting methods and their intention. Twenty six of the participants were undertaking a noho marae stop smoking programme. The remaining participants were enlisted as a control group of unaided quitters. At the time of the study there were no Government funded or subsidised smoking cessation programmes.

The unaided quitters were planning to stop smoking using a range of methods. Thirty percent were planning to stop "cold turkey" using "probably sheer will power". Many participants said they had previously tried to stop cold turkey but found it too hard so they would need to try a different method this time. A similar number of participants (28.5%) were going to slowly wean themselves off smoking. They had various ways of cutting down, for example, by lengthening the time between cigarettes or by trying to go without a cigarette for as long as possible. A few of the unaided quitters were planning to attend a smoking cessation programme, for example, a 7th Day Adventist programme and

Table 2. Reasons for smoking

Why Smoke	N=130	%
Habit	95	73
Stress	63	48
Addiction	51	39
Social	44	34
Boredom	38	29
Enjoyment	33	25
Emotions	30	23
Time out	22	17
It's Normal	15	11.5
Weight Control	6	5
Stimulant	6	5
Availability	5	4
Other	3	2
Don't Know	5	4

Table 3. Motivation for quitting

Why Stop Smoking	N=130	%
Health	111	85
Cost	69	53
Children	67	51.5
Walk the Talk	33	25
Sick of It	28	21.5
Fitness / sports	25	19
Others don't like it	14	11
Death of others	4	3
Pregnancy	4	4
Other	41	31.5
Don't Know	1	1

several more said they would attend a programme if there was one available. Several participants were planning to use nicotine replacement products and a few were thinking about trying herbal cigarettes, homoeopathic remedies, Nicobrevin or Chinese medicine. Six percent did not know how they were going to stop.

Self-efficacy

Most of the participants were reasonably confident that they would succeed at stopping smoking this time. On a scale from 1 to 7, the average score was 4.8. Self-efficacy was predictive of success at quitting (Table 1). Self-efficacy was also correlated with length of abstinence, thus the more confident the unaided quitters were the more likely they were to stop and they stay stopped for longer. Participants who were smokefree at follow-up said quitting was easier, on a 1-7 difficulty scale, than those who relapsed (Table 1). Those who relapsed showed a greater tendency to attribute blame to themselves and they exhibited poorer self-esteem.

Te Taha Whanau

Data on the familial and social factors that influence uptake of smoking, smoking behaviour, quitting behaviour and success at quitting were categorised under te taha whanau.

Participants began to experiment with smoking on average at 12 years of age and the average age for starting to smoke regularly was 16 years. They reported that smoking initiation predominantly occurred either with whanau or in the whanau environment or with school peers or in the school environment (Table 4). About 70% of the participants recalled that their parents smoked during their childhood.

A number of questions assessed the environment for quitting. Few participants lived alone and as many as sixty-five percent lived with others who smoked. Less than half of the participants lived in a smokefree house. Of those participants who had a partner, 63% had a partner who also smoked, though some of them were also intending to give up smoking. Whanau and friends were more likely to be smokers. Even though it was not as easy to smoke at work about half still worked with and smoked with work colleagues.

Living with smokers was a predictor of relapse. More of the participants who stopped smoking were able to make their house smokefree. They also seemed to have whanau supportive of quitting, who had either quit themselves or were also trying to quit. Some whanau were not supportive of quitting and encouraged relapse to smoking directly and indirectly. Direct acts included offering cigarettes to the recent ex-smoker, suggesting they wanted to smoke and deliberately trying to trigger cravings, for example, by blowing smoke in the face of the recent ex-smoker. Indirect acts included not respecting and supporting the provision of smokefree environments, or withholding support. Some participants received no support or help in their quitting attempt.

Whilst, 77% of participants recalled being advised by a health professional to quit, only 28% said the advice had influenced their decision to quit. For the participants in this study, pressure from children to quit was perceived to be as influential as advice from a health professional.

Te Taha Wairua

The noho marae stop smoking programme included activities specifically for preparing spiritually for quitting. Tikanga was observed, including starting with a powhiri and ending with a poroporoake. Karakia, waiata, mirimiri and visiting wahi tapu were some of the other activities recognising and tending to te taha wairua. Few of the unaided participants spoke of preparing spiritually for quitting. At the follow-up interview participants were more likely to speak of the changes in their wairua and the damage that smoking had done. Experientially participants reported effects on their taha wairua during withdrawal from nicotine, including experiencing an imbalance, vivid dreams and visions. Some participants who stopped smoking confirmed a positive effect on their wairua. They experienced a "clarity" along with improved "sensibility." In retrospect, they could see how smoking had clouded or "blocked" their wairua "like a fog".

Table 4. Socialisation to smoke

Why Started Smoking	N=130	%
Whanau	74	57
Peers school	73	56
Peers work	35	27
Everyone smoked	34	26
It was cool	26	20
Others smoked	25	19

Implications for Smoking Cessation

Smoking is sustained by a synergy of physiological, psychological and social factors. In addition, there are spiritual and cultural factors unique to Maori that encourage and support Maori smoking. To be more effective at supporting smoking cessation among Maori, it is proposed that interventions need to acknowledge and address the effects of smoking in each of the realms provided for by Te Whare Tapa Wha.

Te Taha Tinana

Success at quitting was more likely the less people smoked per day, that is the less severe their dependency on nicotine. Consistent with this, the results suggest that relapse was largely due to inability to survive nicotine withdrawal. Nicotine dependency and nicotine withdrawal syndrome, which are mostly experienced in te taha tinana, can be treated with interventions that focus on changes at a biochemical level, such as nicotine replacement products or anti-depressants such as, Zyban (National Advisory Committee on Health and Disability, 2002).

Physical activity that brings about physical and biochemical changes, such as walking, playing sport, meditation and extra sleep can support smoking cessation. Making dietary changes could either support or hinder smoking cessation. For example, some participants underwent a detox diet which assisted cessation. Others found they ate more and or they ate more high fat foods, which for some participants eventually led to weight gain, a commonly cited reason for relapse.

Te Taha Hinengaro

After the first fortnight, it was socialising and others' smoking that were the main reported triggers for participant's relapse. Once they had stopped smoking, participants had to learn other ways of coping with what may have been pre-

existing depression or relationship difficulties. Lack of alternative coping skills, especially how to cope with overwhelming stress may undermine attempts to stay smokefree.

Participants who relapsed experienced what Boustead (1996) calls a negative aftermath. That is, they tended to blame themselves and shared negative self-judgements. For example, returning to smoking was seen as evidence of their weak personality. Thus, it was bad for their self-esteem, possibly contributing to reduced self-efficacy for subsequent quit attempts. Unhelpful reactions from others, such as put-downs, tended to worsen the negative aftermath. Participants who had a negative aftermath, were more likely to share lay beliefs about smoking, that is, they minimised the addictiveness of nicotine and believed quitting was dependent on "sheer determination." Some participants had unrealistic expectations about their level of dependency. Thus, an overemphasis on a psycho-social explanation of smoking behaviour can inadvertently reinforce the stigma of weakness that attaches to smokers who quit and relapse.

Self-efficacy, which was predictive of quitting success, should be able to be improved through the provision of cognitive behavioural therapy and support. Cessation services should encourage the use of effective smoking cessation methods, provide accurate information about the quitting process and try to prevent relapse through skill building. Negative aftermath could be reduced if smokers were helped to understand how addictive nicotine is.

Te Taha Whanau

Individual smoking occurs within a whanau and social context. Biochemical drives to smoke are moderated by cultural and social norms, their expression shaped by the rules and fashions of the time. The whanau and immediate social group are where the rules and rebellions are played out, negotiated, conveyed to others and passed intergenerationally.

If smoking is the norm within the whanau environment, as it has been for well over half of Maori for over a century now, then children's adoption of adult practices like smoking is, as participants suggested, unremarkable. Maori children experiment with smoking to demonstrate and ensure their membership in the family and in their peer group. There is nothing rebellious about adopting a "normal" behaviour everyone else is engaged in. When both the whanau and social group smoke as a norm, smoking uptake is even more likely. The child-rearing Maori population have the highest smoking prevalence rates in the country (around 60%). Therefore, smoking cessation for parents should be a priority for interventions.

As this study showed, Maori home and social environments were largely permissive of smoking. To be effective, smoking cessation interventions should assess the home and whanau environment and facilitate changes, such as making the house smokefree and offering cessation support to other smokers in the home, the whanau and the social network of the intended quitter.

Te Taha Wairua

Nicotine is a psychoactive drug. Introduced to the body, it alters natural functioning, including consciousness. The smoker changes, their thinking is altered, their priorities are changed, their behaviour changes. These changes are largely chemically induced. Whether the drug is heroin, cannabis, alcohol, nicotine or caffeine, the natural person is temporarily lost. Unfortunately, regular use incurs more permanent changes, whether it be from neuroadaptation (for example, an increased number of brain nicotine receptors) or cell damage. In which case the natural person is forever lost. This concept is expressed in the Maori slogan "tobacco attacks our potential" (Department of Health, 1991).

Smoking is a fundamental breach of tapu in a number of ways and can lead to breaches in tikanga. Firstly, the origin and treatment of the plant itself could have ramifications for users. The plant has been removed from the guardianship of a particular Native American tribe and commercialised for individual profit. Native American tradition that dictated the occasional, highly ritualised use of tobacco was not appropriated along with the plant. The integral mana of the tobacco plant has been abused as have the Native Americans from whom the plant was taken. The process of production of cigarettes incurs damaging costs to both the people employed in its growth and production, but also environmentally, for example, tobacco plantations have displaced food crops and forests. The integral mana of the consumer is similarly exploited, as they are conned into purchase of a product that, if used as intended, will kill half of its users (Doll, Peto, Wheatley, Gray & Sutherland, 1994).

It has been argued that tobacco was used to manipulate and control early Maori. There are recorded incidents of tobacco being used as a koha, a bribe and as an item of trade, for instance, in the purchase of land. Tobacco was also exchanged as part of the Treaty of Waitangi signing process (Broughton, 1996).

The smoker tramples upon their own mana when they smoke, as the smoke is consumed through the breath which is tapu, but if classified as food, is noa. The psychoactive substances in tobacco intoxicate the user inhibiting their wairua, damaging their tinana, reorienting their thinking and changing their behaviour towards others. Nicotine dependency can cause people to prioritise their individual tobacco use and in the process, sideline fundamental Maori values, such as manaakitanga, aroha and whakapapa. For example, children do sometimes go without as what little money there is in some families is spent on tobacco first. Babies and children are frequently made ill through passive smoking and sometimes they die from smoking related or exacerbated illnesses. Other whanau also sometimes die from smoking related illnesses from passive smoking. At the extreme, nicotine dependency drives people to steal from others, for example, cash and tobacco are increasingly the target of aggravated robberies of shops and petrol stations. Thus, smoking can lead people to breach tikanga.

Interventions wanting to acknowledge te taha wairua may want to discuss the effects of smoking on te taha wairua with smokers. They should at least operate in accordance with tikanga, using karakia where appropriate and if necessary referring clients to tohunga of rongoa or mate kite to assist with the care of te taha wairua.

Te Ao Turoa

Individual and familial behaviour change can be encouraged and supported by public health programmes and policies, classified here under te ao turoa.

This research suggests that increasing smokefree environments and diminishing smoking prevalence in one's immediate whanau, social and work environments, creates a peer pressure to quit. Thus, supporting the strengthening of the Smokefree Environments Act and campaigns that promote smokefree homes and discourage smoking around others.

Seventy-three percent of participants in this research reported having current illnesses, presumably requiring contact with primary health care providers. Therefore, screening for smoking should be an integral part of primary and secondary health care and smoking cessation should be a treatment goal for all clients presenting with smoking related illnesses and illnesses exacerbated by smoking. Other health professionals, such as dentists, physiotherapists and psychologists could be mobilised to support the promotion of smoking cessation. Drug and Alcohol services, experienced as they are in treating drug dependency, could be mobilised to assist with nicotine dependency.

Conclusion

This paper has demonstrated how Te Whare Tapa Wha, a Maori paradigm, was used as the theoretical framework in a study of smoking cessation. Compartmentalising aspects of smoking in to the four categories provided by Te Whare Tapa Wha may be artificial and the designation of some variables as physical and some as mental could be debated. The application of Te Whare Tapa Wha, however, to a problematic behaviour, such as smoking, can facilitate comprehension and assist the design of interventions aiming to deliver holistically. That is, a more effective intervention to reduce Maori smoking prevalence would include components that address smoking damage to the physical, mental and spiritual health of the person and their whanau. Smoking cessation treatment would treat the physical dependency on nicotine, include a cognitive behavioural component and be delivered in a culturally appropriate way to the whole whanau. Effectiveness could be further improved by increasing the intensity of public health policies, campaigns and programmes.

References

Apaarangi Tautoko Auahi Kore. *National Māori Tobacco Control Strategy 2003 to 2007.* Wellington: Apaarangi Tautoko Auahi Kore.

Broughton, J. (1996). *Puffing up a storm, Volume 1: "Kapai te tororī."* Dunedin: University of Otago, Te Ropu Rangahau Hauora Maori o Ngai Tahu.

Boustead, C. (1996). *Grounded theory: Smoking cessation in the long term.* Unpublished Masters thesis, Newcastle University, United Kingdom.

Department of Health. (1991). *Tobacco attacks our potential.* [Poster Code 4330.] Wellington: Department of Health.

Doll, R., Peto, R., Wheatley, K., Gray, R. & Sutherland, I. (1994). Mortality in relation to smoking: 40 years' observations on male British doctors. *BMJ, 309*, 901-911.

Durie, M.H. (1994). *Whaiora: Maori health development.* Auckland: Oxford University Press.

Ellis, R. (1995). *Ko tenei te whare auahi kore mo te oranga o nga tamariki! This is a smokefree whare for the health of our kids!* [A Health Research Council student summership report.]

Glover, M. (2000). *The effectiveness of a Maori Noho Marae smoking cessation intervention: Utilising a kaupapa Maori methodology.* Unpublished Doctoral thesis, University of Auckland, Auckland.

Glover, M. (2004). *Smoking during pregnancy among Maori women.* Auckland: Social & Community Health, School of Population Health, University of Auckland. A monograph

Health Research Council of New Zealand. (1996, December). Iwi identifies kaumatua health needs. *Health Research Council of New Zealand Newsletter, 19.*

Heather, N., Gold, R. & Rollnick, S. (1991). *Readiness to change questionnaire: Users manual.* Sydney: National Drug and Alcohol Research Centre.

Heatherton, T.F., Kozlowski, L.T., Frecker, R.C. & Fagerstrom, K.O. (1991). The Fagerstrom test for nicotine dependence: A revision of the Fagerstrom tolerance questionnaire. *British Journal of Addiction, 86*, 1119-1127.

Kuhn, T.S. (1962). *The structure of scientific revolutions.* Chicago: The University of Chicago Press.

Laugesen, M. & Clements, M. (1998). *Cigarette smoking mortality among Maori, 1954-2028.* Wellington: Te Puni Kokiri.

Ministry of Health. (1998a). *Progress on health outcome targets. Te haere whakamua ki nga whainga hua mo te hauora: The state of the public health in New Zealand.* Wellington: Ministry of Health.

Ministry of Health. (1999). *Taking the Pulse: The 1996/97 New Zealand Health Survey.* Wellington: Ministry of Health.

Ministry of Health. (2002). *He Korowai Oranga: Maori health strategy.* Wellington: Ministry of Health.

Ministry of Health. (2003). *Tobacco Facts 2003.* Wellington: Ministry of Health.

National Advisory Committee on Health and Disability. (2002). *Guidelines for Smoking Cessation.* Wellington: National Advisory Committee on Health and Disability.

Pomare, E., Keefe-Ormsby, V., Ormsby, C., Pearce, N., Reid, P., Robson, B. & Watene-Haydon, N. (1995). *Hauora: Maori standards of health III.* Wellington: Wellington School of Medicine, Te Ropu Rangahau Hauora a Eru Pomare.

Reid, P. & Pouwhare, R. (1991). *Te-Taonga-mai-Tawhiti: The gift from a distant place.* Auckland: Niho Taniwha.

Statistics New Zealand. (1997). *Highlights: Maori 1996 Census of Population and Dwellings.* Wellington: Statistics New Zealand.

Te Puni Kokiri. (1998). Maori towards 2000. Whakapakari: Tatauranga Taupori, 1. Wellington: Te Puni Kokiri.

Thomas D.R. (2000). *Qualitative data analysis: Using a general inductive approach.* Auckland: Health Research Methods Advisory Service, University of Auckland.

Whaia Te Hauora. (1994). *Philosophy & Planning Document: 1994/95.* Whangarei: Northland Health, Health Promotion Unit.

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