

Māori Health Review

Making Education Easy

Issue 12 - 2008

In this issue:

- *Ethnic differences in dental maturation in NZ*
- *Impacts of a second-hand smoke campaign*
- *Parental and adolescent smoking across ethnicities*
- *How school students access cigarettes*
- *Stroke epidemiology, Māori and Pacific peoples*
- *Delayed defibrillation in hospital*
- *Predicting insulin sensitivity in Māori men*
- *Addressing racial and ethnic health disparities*
- *Race/ethnicity and medical school experience*
- *Te Tai Tokerau programme for rheumatic fever*
- *SLE-related kidney disease in Māori*



Pacific Health Review - reviewed by Dr Colin Tukuitonga

Subscribe Free

Greetings to you all in this new year, 2008.

Many thanks for your feedback, thoughts, advice and support over the past 12 months, I really appreciate it. And thanks also to the Māori Health Directorate at the Ministry of Health for their assistance. We are extremely pleased to announce that the Ministry will continue to support Māori Health Review for the next 2 years.

Issues will now be available every 2 months, a positive move which allows more time to locate high quality research of relevance for our readers. The next Māori Health Research Review will be out in March 2008.

Once again, please send through research or journal articles that you wish to be considered for future issues.

Nga mihi nui ki a koutou katoa i tenei tau hou, 2008.

Nga moemiti maha mo o koutou urupare, o koutou whakaaro, o koutou tohutohu a tautoko hoki i nga marama te kau ma rua, kua pahue ake nei, kei te maiohatia e au.

Nga moemiti ano ki te Poari Whakahaere Hauora Māori a ki te Manatuu Hauora, mo o raatou tautoko.

Kei te tino hari koa maatou kua paanuitia e te Manatuu Hauora, ko te tautoko tonu raatou i te Tirohanga Hou Hauora Māori mo nga tau e rua, e haere ake nei.

Ko te waatea nga tukunga i ia o nga marama e rua, he ahuangaa hua tenei ki a tukuna ki a maha te taima ki te whai nga rangahau teitei te aahua, e paa ana mo o taatou kai paanui.

Ka puta ano te Tirohanga Hou Rangahau Hauora Māori i te marama Poutu-te-rangi, 2008.

No reira tonoa mai ano o koutou korero, a riipoata rangahau ki a whiriwhirihia mo nga tukunga, e heke mai nei.

No reira noho ora mai

Na Dr Matire Harwood (Nga Puhi)

matire@maorihealthreview.co.nz

Advanced dental maturation in New Zealand Māori and Pacific Island children

Authors: Moananui RT et al

Summary: This study used the Demirjian method to assess dental maturation to compare development rates in children of three ethnic populations living in New Zealand (Māori, Pacific Island, and European). Examinations of orthopantomographs of 1,343 children (623 females and 660 males) between the ages of 2.5 and 14 years indicated a dental age consistently lower than the children's chronological age. According to regression analyses, the difference between dental and chronological age was significantly greater in Māori than in European children (regression coefficient 0.414) and also significantly greater in Pacific Island children than in European children (regression coefficient 0.574). Further regression analyses revealed a significant difference between boys and girls for the 50th quantile maturity score (by 1.49) and a significant difference for the interaction of sex and age. Similarly, the maturity score was significantly higher for Māori girls (1.28), although the age/interaction slopes were not significantly different between Māori boys and girls.

Comment: Dental maturation is a useful diagnostic tool to determine the most appropriate time and method for orthodontic treatment, rather than treating on the basis of chronological age alone, and for forensic purposes. Ethnic differences in dental maturation exist in NZ and therefore different standards may be required.

Reference: *Am J Hum Biol.* 2008;20:43-50

<http://dx.doi.org/10.1002/ajhb.20670>

Social marketing of smoke-free homes and short-term impacts for Māori caregivers

Authors: Wilson M et al

Summary: This presentation discusses outcomes from an evaluation of the Health Sponsorship Council Smokefree Homes campaign, using information from five population surveys conducted annually since 2003. The overall goal of the campaign was to increase the number of parents and caregivers implementing and enforcing strategies to reduce exposure of children to second-hand smoke in homes and cars. Of between 2,000 and 2,500 adults surveyed each year, 500 to 1000 identified as Māori. The survey data reveal greater responsiveness among Māori parents and caregivers than people who do not identify as Māori, with a large reduction in second-hand smoke exposure in Māori caregivers' homes.

Comment: See below right study.

Reference: *The 2007 Oceania Tobacco Control Conference (4–7 September) Auckland, New Zealand*

<http://otcc.confex.com/otcc/otcc07/tech-program/MEETING.HTM>

The views expressed in this Publication are personal to the authors, and do not necessarily represent the views or policy of the Ministry of Health on the issues dealt with in the publication

Privacy Policy: Research Review will record your email details on a secure database and will not release it to anyone without your prior approval. Research Review and you have the right to inspect, update or delete your details at any time.

Disclaimer: This publication is not intended as a replacement for regular medical education but to assist in the process. The reviews are a summarised interpretation of the published study and reflect the opinion of the writer rather than those of the research group or scientific journal. It is suggested readers review the full trial data before forming a final conclusion on its merits.

Parental and adolescent smoking: does the association vary with gender and ethnicity?

Authors: Scragg R and Glover M

Summary: These researchers aimed to determine whether parental smoking is a consistent risk factor for adolescent smoking, and whether maternal and paternal effects combine additively or multiplicatively, by examining data from annual national cross-sectional surveys (2002–2004 combined) with a multi-ethnic sample of 91,219 Year 10 students from New Zealand who answered a questionnaire on personal and parental smoking. The results showed that maternal smoking and paternal smoking were associated separately with an increased risk of daily adolescent smoking in all ethnic groups except paternal smoking in Asian youth. In each ethnic group, after adjusting for age and sex, the relative risk of adolescent daily smoking was significantly higher for maternal only smoking compared with paternal only smoking: Asians 5.50 (95% CI 3.55 to 8.52), Europeans 1.38 (1.26 to 1.52), Pacific Islanders 1.38 (1.10 to 1.73), and Māori 1.10 (1.00 to 1.21). The excess maternal effect varied inversely with smoking prevalence. The net effects of maternal and paternal smoking were additive for European, Māori, and Pacific Island students, but multiplicative in Asian. Overall, about 40% of adolescent daily smokers could be attributed to parental smoking.

Comment: See study below.

Reference: *N Z Med J. 2007;120(1267):U2862*

<http://www.nzma.org.nz/journal/120-1267/2862/>

Young people, money, and access to tobacco

Authors: Wong G et al

Summary: This study investigated how Māori, Pacific Island, European, and Asian school students access cigarettes, with a special focus on their disposable income. Students aged 11–15 years were recruited through schools to participate in 12 focus groups taken by ethnically matched senior student facilitators and researchers. Students reported that cigarettes are easy for young people to buy from tobacco retailers, that they are affordable (50 cents for a roll-your-own) and available on an "I owe you" basis from friends and social suppliers, or given freely by family members or adults on the street. Students used money from family, and money that was earned, "scabbed", and borrowed from friends. Students also reported spending small amounts on cigarettes, saved out of money provided by parents for lunches and other purposes. Students were open to parental advice on how to use money but felt they should have the final say.

Comment: I've combined these 3 papers to highlight the following issues:

1. Smoking in young people is linked with smoking in adults, particularly parents
2. However, broader social and political forces influences are also important, particularly for Māori given that Māori youth had the highest prevalence of smoking but were least influenced by parental smoking than European and Pacific youth
3. Campaigns that inform and educate Māori parents and caregivers about how to reduce exposure of cigarettes to children are more successful than 'pointing the finger at' or guilt-laden messages.

Reference: *N Z Med J. 2007;120(1267):U2864*

<http://www.nzma.org.nz/journal/120-1267/2864/>

> Upcoming Conference Reviews available to download free:

World Allergy Conference Review – reviewed by Dr Jan Sinclair

Smokefree Oceania Conference Review – reviewed by Dr Colin Tukuitonga

Hauora: Māori Standards of Health IV. A study of the years 2000–2005

The Hauora: Māori Standards of Health series provides data and commentary on inequalities in health status, health care, and outcomes between Māori and non-Māori. The fourth edition, covering the years 2000–2005, is now available, published by Te Rōpū Rangahau Hauora a Eru Pōmare. It includes data on the Māori population, social and economic indicators, hospitalisations, mortality, cancer and mental health. It also contains chapters by invited authors on a range of health issues, including CVD, diabetes, respiratory disease, oral health, disability, sleep problems, occupational safety and health, health in prisons, and the National Primary Medical Care Survey.

The book can be downloaded from www.hauora.maori.nz or can be ordered in hard copy by emailing: moh@wickliffe.co.nz or calling (04) 496 2277 quoting HP4497.

Burden of stroke in Māori and Pacific peoples of New Zealand

Authors: Feigin VL et al

Summary: This report is an overview of published population-based stroke incidence studies and other relevant research in the multi-ethnic New Zealand population, with a particular emphasis on Māori and Pacific populations. The researchers highlight the fact that the stroke epidemiology data are skewed unfavourably towards Māori and Pacific people and they call upon health providers to introduce effective measures and delivery systems with urgency, in order to reverse this trend and improve Māori and Pacific people's health.

Comment: Ethnic disparities are well recognised for stroke rates, outcomes and care. This is true both internationally, as shown by the paper published in an international stroke journal, and in NZ. Stroke is common: 800 Māori are admitted to hospital each year with stroke and 140 per year die from stroke. As part of the Cardiovascular Chapter in the latest 'Hauora: Māori Standards of Health' book, the Stroke section not only provides up to date statistics but describes steps along the stroke care pathway where disparities occur and how they can be eliminated. This Chapter can be accessed at: http://www.hauora.maori.nz/downloads/hauora_chapter08_web.pdf

Reference: *Int J Stroke*. 2007;2:208-10
<http://dx.doi.org/10.1111/j.1747-4949.2007.00140.x>

Delayed time to defibrillation after in-hospital cardiac arrest

Authors: Chan PS et al

Summary: These researchers examined data from 6,789 patients who had cardiac arrest due to ventricular fibrillation or pulseless ventricular tachycardia at 369 hospitals participating in the National Registry of Cardiopulmonary Resuscitation, to determine the prevalence of delayed defibrillation (>2 minutes) in the US and its effect on survival. The overall median time to defibrillation was 1 minute; delayed defibrillation occurred in 2,045 patients (30.1%). Multivariate logistic regression analysis identified the following characteristics as being associated with delayed defibrillation; Black race, noncardiac admitting diagnosis, and occurrence of cardiac arrest at a hospital with <250 beds, in an unmonitored hospital unit, and during after-hours periods (5 p.m. to 8 a.m. or weekends). After adjusting for differences in patient and hospital characteristics, significantly fewer patients survived to hospital discharge when defibrillation was delayed than when it was not (22.2% vs 39.3%). In addition, a graded association was seen between increasing time to defibrillation and lower rates of survival to hospital discharge for each minute of delay (p for trend <0.001).

Comment: Although we don't know the exact number of in-hospital cardiac arrests, US authors suggest that it is double that of out-of-hospital arrests. Survival after cardiac arrest due to an arrhythmia requires prompt defibrillation (electric shock). This study set a time limit of 2 minutes (many studies use 3 minutes). Defibrillation after 2 minutes was associated with poor outcome even after co-existing conditions (such as underlying heart or kidney disease) were taken into account. Importantly, African American patients were more likely to have delayed treatment, confirming unequal treatment by ethnicity. The other take home message for me is that physicians spending time worrying about improving out-of-hospital care should perhaps refocus their attention on improving outcomes for hospitalised patients.

Reference: *N Engl J Med*. 2008;358:9-17
<http://content.nejm.org/cgi/content/short/358/1/9>

Insulin sensitivity and intramyocellular lipid concentrations in young Māori men

Authors: Stannard SR et al

Summary: In European Caucasian men, insulin sensitivity is negatively associated with intramyocellular lipid (IMCL) content, which may provide an early marker of diabetes risk. This study aimed to determine whether *vastus lateralis* IMCL content contributes to insulin sensitivity in 21 healthy Māori men (mean age 28 years), all of whom had normal fasting blood glucose at baseline. According to multiple regression analysis incorporating the homeostasis model assessment of insulin resistance (HOMA-IR) as the dependent variable, increased body fatness and decreased aerobic capacity (per kg lean body mass) were significant predictors of insulin sensitivity as estimated by HOMA-IR, and elevated *vastus lateralis* IMCL concentrations failed to predict insulin sensitivity.

Comment: To be honest, I'm not sure that this study will be particularly relevant to most providers. However, it does show that there are Māori health researchers undertaking lab-based studies at research institutions which many of us may not hear about.

Reference: *Diabet Med*. 2007;24:1205-12
<http://dx.doi.org/10.1111/j.1464-5491.2007.02211.x>

Recommendations for teaching about racial and ethnic disparities in health and health care

Authors: Smith WR et al

Summary: This study reports recommendations developed by the US Society of General Internal Medicine Health Disparities Task Force, following a review and consensus process of health curricula. These recommendations specify that a curricula address 3 areas of racial and ethnic health disparities and focus on specific learning objectives: 1) examining and understanding attitudes, such as mistrust, subconscious bias, and stereotyping, which practitioners and patients may bring to clinical encounters; 2) gaining knowledge of the existence and magnitude of health disparities, including the multifactorial causes of health disparities and the many solutions required to diminish or eliminate them; and 3) acquiring the skills to effectively communicate and negotiate across cultures, languages, and literacy levels, including the use of key tools to improve communication.

Comment: A timely paper from a dedicated Task Force utilising robust methods (literature review and consensus) to provide clear directions for teaching facilities. The drive for developing similar curriculum on disparities in NZ must start at medical schools. However, education must continue for clinicians also and perhaps similar guidelines should be developed for and adopted by respective colleges or at the DHB level.

Reference: *Reference: Ann Intern Med*. 2007;147:654-65
<http://www.annals.org/cgi/content/abstract/147/9/654>

*Independent commentary by Dr Matire Harwood,
Medical Research Institute of New Zealand*

> **Rehabilitation Research Review**
Hepatitis Research Review
Lymphoma/Leukaemia Research Review

starting in early 2008 –
subscribe now

> **Cardiology Research Review**
reviewed by
Dr Stewart Mann –
subscribe now

Race, ethnicity, and medical student well-being in the United States

Authors: Dyrbye LN et al

Summary: These researchers surveyed 3,080 medical students at 5 US medical schools in 2006, using validated instruments to explore differences in the prevalence of burnout, depressive symptoms, and quality of life (QOL) among minority and nonminority medical students as well as the role that race/ethnicity plays in students' training experiences. The response rate was 55%. Burnout was reported by 47% of students and depressive symptoms by 49%. Mental QOL scores were lower among students than among the age-matched general population (43.1 vs 47.2). While the prevalence of depressive symptoms was similar regardless of minority status, burnout was reported by significantly more nonminority students (39% vs 33%). They were more likely to report that their race/ethnicity had adversely affected their medical school experience (11% vs 2%) and cited racial discrimination, racial prejudice, feelings of isolation, and different cultural expectations as causes. Those minority students who reported such experiences were significantly more likely to experience burnout, depressive symptoms, and low mental QOL scores than were minority students without such experiences.

Comment: The primary finding from this study is that medical students who self-identified as African American, Hispanic and/or Asian ethnicities report an adverse medical school experience due to racial discrimination, prejudice, isolation and differing cultural expectations. I suggest that similar issues exist here in Aotearoa and persist beyond graduation, particularly during hospital training. As the authors state, improving the learning climate for students is necessary alongside formal monitoring.

Reference: *Arch Intern Med.*

2007;167:2103-9

<http://archinte.highwire.org/cgi/content/abstract/167/19/2103>

Subscribing to Māori Health Review

To subscribe or download previous editions of Māori Health Review publications go to:

www.maorihealthreview.co.nz

To unsubscribe reply to this email with unsubscribe in the subject line.

How a community controlled the Streptococcus: school-based rheumatic fever primary prevention in New Zealand

Authors: Jarman J

Summary: This report details the successful outcomes of a school-based rheumatic fever primary prevention programme set up in 2002 in Whangaroa, Northland, New Zealand. Prior to the intervention, rheumatic fever (RF) notifications in children aged 5–14 years in Whangaroa (424 per 100,000) exceeded those for all of Northland, New Zealand, and international notification rates. A hui held in Whangaroa in June 2001 agreed on the following approach: 3 times weekly swabbing of school children with sore throats; referral of positive cultures to the medical centre; oral amoxicillin for 10 days; education about the importance of sore throats (i.e. that infection with group A *Streptococcus pyogenes* can lead to the development of severe postinfectious sequelae such as RF and rheumatic heart disease); and a community-owned partnership approach. The intervention began on 25 February 2002; the last case of rheumatic fever was notified 8 days later.

Comment: A great study from Te Tai Tokerau. Having identified a major health issue in their community, the health providers, schools and community collaborated to implement a programme to diagnose and treat Group A Strep throat, thereby reducing the risk of developing chronic rheumatic heart disease (RHD). Prevention is the key to this disorder for Māori, particularly given the huge disparities in rates of RHD and possible ethnic inequalities in surgical treatment and outcomes (as has been shown in the US with African Americans less likely to have surgery for mitral valve disease than White patients <http://ats.ctsnetjournals.org/cgi/content/abstract/85/1/89>).

Reference: *Northland District Health Board: Te Poari Hauora ā Rohe O Te Tai Tokerau. 2007.*

http://www.wecanmakeadifference.org.nz/ohml/downloads/6_Jonathan%20Jarman.pdf

Ethnic, clinical and immunological factors in systemic lupus erythematosus and the development of lupus nephritis: results from a multi-ethnic New Zealand cohort

Authors: Burling F et al

Summary: These researchers sought to determine risk factors for lupus nephritis including clinical, laboratory, and ethnic factors in a cohort of lupus patients from two teaching hospitals in Auckland, New Zealand, after attending as either an inpatient, or a rheumatology outpatient between 2000 and 2005. 170 patients met American College of Rheumatology (ACR) systemic lupus erythematosus (SLE) classification criteria. Clinical, laboratory, and ethnic data were gathered from the patient notes. Twenty-four patients had lupus nephritis (LN) at diagnosis and 32 patients developed LN after diagnosis. Significant associations were observed between LN and the following variables; serositis, cutaneous vasculitis, anaemia, elevated CRP at >6 months after diagnosis, and hypocomplementaemia at >6 months after diagnosis. Patients with high doublestranded DNA (>5 x normal) were significantly more likely to develop type IV LN. Forty-one percent of patients were Caucasian, 12% Māori, 23% Pacific People, 16% Asian, 6% Indian. The risk for developing LN was higher for Māori patients with SLE (odds ratio [OR] 8.47), and Pacific People (OR 3.11). Independent risk factors for developing LN after SLE diagnosis included anaemia at presentation (hazard ratio [HR] 3.2) and a low complement at >6 months (HR 3.4).

Comment: SLE is due to an overactive immune system which can cause chronic inflammation in many of the body's tissues including skin (causing rash), joints (causing arthritis), and lungs. One important complication of the disorder is kidney disease (or lupus nephritis LN) which can cause fluid retention, high blood pressure, and sometimes kidney failure requiring dialysis. I was recently commenting to a colleague that I am seeing more SLE-related kidney disease in Māori patients, whānau and friends. This study seems to confirm this. In a group of patients with SLE at Middlemore, Māori with SLE were 8 times more likely to develop LN than the Caucasians with SLE. Early diagnosis of SLE and management, including renal care, are therefore crucial for Māori. Health providers and individuals/whānau should have a high index of suspicion for SLE when any of 11 criteria (including malar rash, arthritis, kidney abnormalities, etc.) are present.

Reference: *Lupus. 2007;16:830-7*

<http://dx.doi.org/10.1177/0961203307080225>

> View the latest job listings at Healthcare Jobs -

<http://www.researchreview.co.nz/jobs.cfm>