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Obstructive Sleep Apnoea Syndrome
Among Taxi Drivers:
Consequences and Barriers to Accessing Health Services

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ABSTRACT

Untreated Obstructive Sleep Apnoea Syndrome (OSAS) increases the risk of motor vehicle accidents and morbidity. Its prevalence among taxi drivers is unknown. The goals of this thesis were to: (1) estimate the prevalence of OSAS symptoms and risk factors among taxi drivers; and (2) identify the barriers to accessing health care services for the diagnosis and treatment of OSAS.

Between June and July 2004 questionnaires were mailed to 651 taxi drivers from two Wellington taxi companies (response rate 41.3%, n=241). Excessive daytime sleepiness (ESS>10) was reported by 18% of drivers. The estimated proportion with a pre-test risk of OSA (RDI \geq 15/hour) was 15%, according to a questionnaire-based screening tool. Pacific drivers were more likely to report OSAS symptoms than people of “other” (non-Māori) ethnicities. Logistic regression analyses identified the following independent risk factors for OSAS symptoms: increasing neck size, age groups: 46-53 years and 61-76 years, and self-reported snoring ‘always’.

Three focus groups were conducted in November 2004. Thematic analyses identified the following barriers to accessing health care: (1) sleepiness was not a perceived health problem; (2) personal demands; (3) industry demands; and (4) driver avoidance and dissatisfaction with general practitioner’s services. Detailed examination of these themes indicated that drivers were deterred from seeking care by limited knowledge and awareness of OSAS, confusion about responsibility for health and safety, medical costs, and the risk of finding out about other health conditions. General practitioners reportedly failed to screen for OSAS symptoms and demonstrated little knowledge about sleep health. These barriers are a major cause for concern, and they are used to support the belief that earning a living is more important than personal health and safety. The key finding is that improving drivers’ knowledge is unlikely to change their behaviour, without concurrent measures to address systemic issues in the taxi industry and in the health care system.

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ABBREVIATIONS & GLOSSARY

%	Percentage
AASM	American Academy of Sleep Medicine
AHI	Apnoea-Hyponea Index
BMI	Body Mass Index. Measured in kilograms divided by height in metres squared (kg/m)
BP	Blood Pressure
CI	Confidence Interval
nCPAP	Nasal continuous positive airway pressure
CSA	Central Sleep Apnoea
CSC	Community Services Card
CVA	Cerebrovascular Accident
CPS	Cycles per second - measurement for EEG waves patterns
CVD	Cardiovascular Disease
ECG	Electrocardiogram
EDS	Excessive Daytime Sleepiness
EEG	Electroencephalogram
ES	Effect size. The size of effect on a given measure divided by the background standard deviation of that measure. Yields the magnitude of the effect.
EMG	Electromyogram
ESS	Epworth Sleepiness Scale
EOG	Electrooculogram
FOSQ	Functional Outcomes Sleep Questionnaire. Sleepiness related quality of life measure
HSE Act	Health and Safety in Employment Act 1992, Amendment Act 2003
Hyperlipidemia	An excess of concentrated fat in the blood
ICSD	International Classification of Sleep Disorders
Incidence	The number of new events within a specific period of time
LTNZ/LTSA	Land Transport New Zealand, former name was Land Transport Safety Authority
MAP	Multivariable Apnoea Predictive test
MCI	Myocardial infarction
MESAMIV	Madaus Electronic Sleep Apnoea Monitor 4
MSLT	Multiple Sleep Latency Test
MVA	Motor vehicle accidents
MWT	Maintenance of Wakefulness Test
NREM	Non-Rapid Eye Movement sleep
NZE	New Zealand European group
NZTF	New Zealand Taxi Federation
OA	Oral appliance
ODI	Oxygen Desaturation Index
OECD	Organisation for Economic Co-operation and Development
OR	Odds ratio
OSA	Obstructive Sleep Apnoea

OSAHS	Obstructive Sleep Apnoea-Hypopnea Index
OSAS	Obstructive Sleep Apnoea Syndrome
Prevalence	The number of events of a given disease or condition in a given population at a designated time
PSG	Polysomnography
RCT	Randomised controlled trial
RERAs	Respiratory effort related arousals
REM	Rapid eye movement sleep
RTS	Return to sender
RDI	Respiratory Disturbance Index
SAS	Sleep Apnoea Syndrome
SD	Standard deviation
SDB	Sleep Disordered Breathing
SHHS	Sleep Health Heart Study
SWS	Slow wave sleep or deep sleep. Stages 3 and 4 of sleep marked by the predominance of delta waves in EEG (0-2cps)
SNZ	Statistics New Zealand
SWRC	Sleep/Wake Research Centre
Shift-work	Work hours outside the regular work times 0800-1700
SSS	Stanford Sleepiness Scale
TIB	Time in bed
UAR	Upper Airway Resistance
UARS	Upper Airway Resistance Syndrome
UPPP	Uvulopalatopharyngoplasty
US	United States
Fanau	Family, extended family - Samoan
Māori	The indigenous people of New Zealand
TRRHAEP	Te Rōpū Rangahau a Eru Pōmare
Whānau	Family, extended family - Māori