Tasmanian Health Study (TAS): 1968-2006

THE UNIVERSITY OF MELBOURNE

UNIVERSITY OF TASMANIA

TAS Research Team:

Tasmania
Haydn Walters
David Johns
Desiree Mesaros
Richard Wood-Baker
Jim Markos
Alison Venn

Melbourne
Shyamali Dharmage
Melanie Matheson
Cathryn Wharton
Michael Abramson
John Hopper
Mark Jenkins
Geza Benke
Grahram Giles
Bruce Thompson

Queensland
Stephen Morrison
Ian Feather

Testing Scientists
Tom Parks
Christine Gorringe
Patrick Salter
Nikki Harvey
J Millwood
H Lundie
M Withington
Billy Skoric

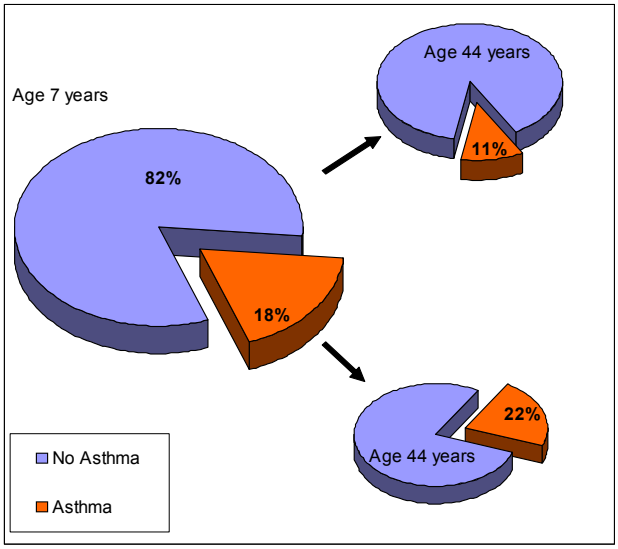
TAS 36-year Follow-up Postal Survey Results

The Tasmanian Asthma Study (TAS) started in 1968, almost 38 years ago. The TAS surveyed all 7 year old school children in Tasmania for asthma. Since 1968 several smaller follow-up studies have been conducted. The most recent follow-up study was started in 2002 with the aim of locating everyone from the initial 1968 study. We began trying to locate everyone from the initial 1968 study. This was more difficult than it sounds, as some people had not been surveyed since 1968. We were able to locate people using many different methods including the Federal Electoral Rolls, Tasmanian Marriage Registry, the National Death Index and many, many phone calls! We located more than 80% of participants, which is over 6,500 people.

In November 2003 we posted the 36-year follow-up survey to participants. After much chasing and many phone calls we now have completed surveys from 5,727 (more than 74% of participants). We are very grateful to everyone who helped with this research. Below is a summary of the survey results so far.

Asthma

The figure to the right shows the change in asthma from the age of 7 years the age of 44 years. At age 7 nearly 20% of children had asthma. By 44 years of age only 1 in 4 people still had asthma. In contrast asthma was present in about 10% of people who didn't have any signs of asthma at age 7. These results show that asthma changes over time. The cause of asthma in children may be different to the causes of asthma in adults. It is important that we look for what these causes might be so people can be aware of them and prevent asthma.



So far we have looked at few possible important factors.

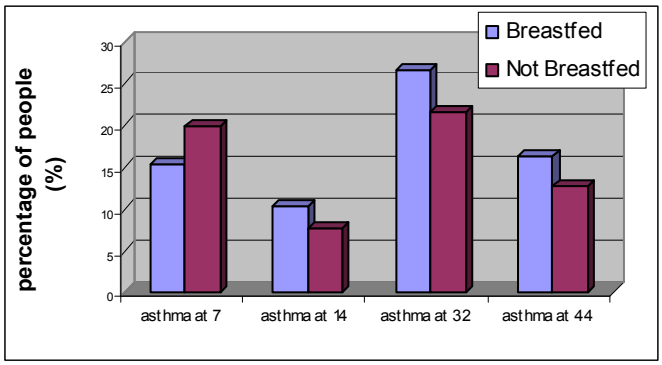
Risk factors for change in asthma from childhood to middle age

Obesity in childhood

Obesity is becoming a major problem and causes many serious diseases. In particular the problem of childhood obesity is of great concern. In the TAS we have looked at obesity and the risk of developing asthma. We have used a measure of obesity and body fat called Body Mass Index (BMI). We were very interested in the effect of childhood obesity on asthma risk. Our results showed for every 1% increase in BMI there was a 9% increase in the risk of asthma in females. For males there was a 12% increase in the risk of asthma. These results highlight the need to control unhealthy eating in childhood. Children should also be encouraged to exercise regularly to help protect against asthma.

Breast feeding

Whether breast feeding increases or decreases the risk of asthma and allergies is controversial. We looked at the effect of breast feeding on asthma at the ages of 7, 14, 21, 32 and 44 years. We found that babies who had only been breast fed were less likely to have asthma at the age of 7. However they actually had an increased risk of asthma later in life. The risk was strongest in children who had a mother with asthma or hayfever. Breast feeding is still very important in protecting babies against other common infections and diseases. But it may not help protect against asthma and allergies.

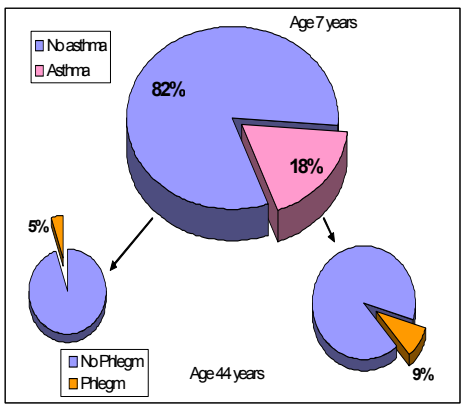


Allergies in Childhood

People with allergies to cats, pollen and dust mites often also have asthma. We have looked at the effect of allergies on risk of asthma. We found that allergies in childhood, such as hayfever, baby eczema and food allergies were all important risk factors for the development of asthma. Hayfever was the strongest risk factor for asthma. A lot of people get hayfever over their lifetime. Protecting against hayfever may be an important way to stop asthma developing.

Chronic Bronchitis in middle-age

The figure below shows the number of people who have gone from having asthma in childhood to having chronic bronchitis in middle age. By age 44 nearly 10% of people with childhood asthma had chronic bronchitis. Chronic bronchitis in these people is related to smoking but is also related to asthma in childhood. In contrast, of people without any childhood asthma, 5% had chronic bronchitis in middle age. Chronic bronchitis in these people is related to active and passive smoking. These results show how complex asthma and lung disease can be. It is very important that we continue to find out why some people develop chronic diseases while others do not.



2006 publications from the TAS:

(1) Wharton CL, *et al*. Tracing 8,600 participants 36 years after recruitment at age 7 for the Tasmanian Asthma Study. Australian & New Zealand Journal of Public Health. 2006:30(2)105-110.

(2) Burgess JA, *et al*. Who remembers whether they had asthma as children? Journal of Asthma.2006;43:1-4.

(3) Nakajima K, *et al*, Is childhood immunisation associated with atopic disease from age 7 to 32 years? 2006 Thorax http://thorax.bmj.com/cgi/content/abstract/thx.2006.062547v1.

(4) Jenkins MA, *et al*. Parity and decreased use of oral contraceptives as predictors of asthma in young women. Journal of Clinical and Experimental Allergy. 2006; 36:1-5.

(5) Burgess JA, *et al*. Childhood BMI predicts asthma only in young females: a prospective study from seven to 32 years of age. European Respiratory Journal. 2006 (In Press)

TAS laboratory study nearly complete !

The laboratory stage of the TAS has been underway for nearly 2 years and has nearly reached our target of 1,500 people before the end of 2006. We have been testing participants in Queensland over the last 6 months with testing centres in Brisbane and on the Gold Coast. The laboratory visit has collected more detailed information on lung health to improve our understanding of lung health problems in middle age.

A research participant does a lung function test with respiratory scientist Billy Skoric at the Victorian testing centre.

New TAS Follow-up Studies

TAS Sibling Follow-up Study—Tell your family

Along with yourself, all your siblings and parents were also surveyed as part of the TAS in 1968. The TAS research team has received money from the National Health & Medical Research Council of Australia to conduct a follow-up study of all siblings from the study in 1968. Starting next year we will be sending a survey to all your siblings and asking them to be part of the follow-up study. Nearly 21,000 siblings were surveyed in 1968 so it will be a big job to contact everyone.

Breast density Study—Have you had a mammogram?

The TAS is also about to start another study looking at the relationship between breast density and growth during the teenage years. Breast density is considered a risk factor for breast cancer. Beginning next year we will be contacting all female probands about taking part in this study.