Question on Notice
No. 360
Asked on 12 March 2008

MRS PRATT asked the Minister for Health (MR ROBERTSON)-

QUESTION:

With reference to forced fluoridation of Queensland water supplies-

(1) What is the total volume of water expected to be fluoridated each year?

(2) What percentage of this volume is expected to be consumed or benefit teeth?

(3) What is the expected cost per year of fluoridating Queensland water?

(4) What percentage of this total cost will be consumed and benefit teeth?

(5) Is it true Queensland Health staff changed tooth decay data used in the decision to force fluoridation?

(6) Is it true, as Freedom of Information reportedly shows, that a senior Oral Health advisor to the Minister said in 2006 there are no scientific studies to prove water fluoridation is safe?

(7) Is it true data used by Queensland Government to formulate this policy was based on baby teeth only and not on data from permanent teeth?

(8) Is it true the data from permanent teeth in children aged 6 to 12 years old shows on average only a tiny fraction of a tooth difference in decay rates?

ANSWER

(1) Approximately 1,000,000 mega litres of water are expected to be fluoridated each year.

(2) Around 1% of water is estimated to be used for drinking purposes.

(3) The expected cost per year of fluoridating Queensland water will be approximately $5 million. This includes labour, fluoridation additive and quality monitoring costs.

(4) Benefit to teeth from fluoridated water can be achieved through drinking the water, rinsing with water, cooking and food production which includes water. Therefore, the actual percentage of cost which will benefit teeth is difficult to determine. The cost of providing fluoride to 90% of Queenslanders will be less than $1.50 per head of population per year.

(5) No. Queensland Health has only used publicly reported data by the Australian Child Dental Health Study and Brisbane/Townsville fluoridation study for reporting on child oral health in Queensland. Tooth decay is a common term used to describe tooth decay prevalence measures which can be measured at either the surface or tooth level.

(6) The Member has taken this statement completely out of context.

Officers of my Department acknowledge that it is scientifically impossible to design studies which irrefutably prove the safety of any substance, including fluoride and all other foodstuffs, products, compounds and additives which people routinely consume. Rather, scientific studies into the safety of substances can only observe (or not observe) evidence of harm associated with use of the substance.

More than 60 years of fluoridation around the world and hundreds of rigorous scientific studies have revealed no evidence that fluoride is harmful. On this basis, scientific and medical experts from my Departments have concluded that fluoridation is a safe and appropriate means of improving the oral health of Queenslanders.

(7) No. Data relating to both baby (deciduous) and permanent teeth have been considered in formulation of this policy. However, the impact of fluoridation on tooth decay is more evident in six year old children (predominantly deciduous teeth) compared to 12 year olds (a mixture of deciduous and permanent teeth) because the teeth have had a longer period of exposure to factors that promote tooth decay (such as poor diet and poor oral hygiene), and to fluoride, which protects against tooth decay.

Many sources of data about tooth decay, including the Australian Child Dental Health Study and the 1996 Brisbane/Townsville fluoride study were used. The Australian Child Dental Health Study reports annually on oral health data which is collected through school dental services. The 1996 Brisbane/Townsville study compared tooth decay experience of children from fluoridated Townsville compared to non-fluoridated Brisbane. The exposure of each child to fluoridated water was recorded by parents and service delivery was standardised across the State.

By the age of two, most of a child's 20 baby teeth have erupted. By six years of age all deciduous teeth have been exposed to about four years of tooth decay risk and fluoride benefit if available. This is why deciduous teeth data are used most often for young age groups. At age six, many children have no permanent teeth yet.

At age 12, a number of healthy permanent teeth are erupting and some potentially diseased deciduous teeth are being lost. This is why little tooth decay prevalence is recorded in either permanent or baby teeth for 12 year olds. Because there is little evidence of tooth decay in many 12 year olds, it is difficult to discern a statistically significant difference in the rates of tooth decay relating to fluoride at this age.

While all data were considered, these interpretive limitations have been taken into account.

(8) The level of tooth difference in permanent teeth decay rates varies between studies. The 1996 Townsville/Brisbane study (study conducted in 1991-92 but published in 1996) shows that on average tooth decay in permanent teeth for 12 year old children was 0.94 decayed, missing or filled surfaces in Townsville compared to 1.80 decayed, missing or filled surfaces in Brisbane. This equates to approximately 80 less tooth surfaces with decay in every 100 children in Townsville. While the decay experience in permanent teeth is low between the ages of 6-12 due to very few permanent teeth being present and the short period of time teeth have been in the mouth, there was a 48% difference in the mean between Townsville and Brisbane.

Despite there being evidence of difference in permanent teeth data, the use of permanent teeth data for fluoridation outcomes at six years of age is inappropriate because children at age six have none or very few permanent teeth. Even by the age of 12 their permanent teeth have had little time to be exposed to the dietary and hygiene risk factors to produce visible tooth decay.

Tooth decay prevalence differences in permanent teeth begin to be evident from around 15 years of age. The Brisbane/Townsville study did not collect information on 15 year olds. While the Child Dental Health Survey does collect information on 15 year olds, the data was not used to report on differences between fluoridated and non-fluoridated areas as the survey does not collect information on fluoride exposure and there were a number of other biases in the data.