SUPPORTING WATER FLUORIDATION

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"Do children under the age of 12 that have access to fluoridated drinking water in their living region have a decreased risk of dental caries in comparison to children under the age of 12, who live in non-fluoridated drinking water regions in New Zealand?"

Effects of poor oral health:

Poor oral health can increase the susceptibility to a variety of different health conditions like cardiovascular disease along with renal disease, diabetes and obesity (Bpac, 2009)

Community water fluoridation is an effective way to prevent and reduce the severity of tooth decay and provides dental health benefits in addition to regular tooth brushing with fluoride tooth-paste, regular dental visits and reducing sugar consumption.

Benefits:

Studies showed children who were exposed to fluoridated drinking water continuously through their lives had half the dental caries experience of children who had never lived in fluoridated areas (Mackay & Thomson, 2005, Lee & Dennison, 2004, Slade et al., 1996).

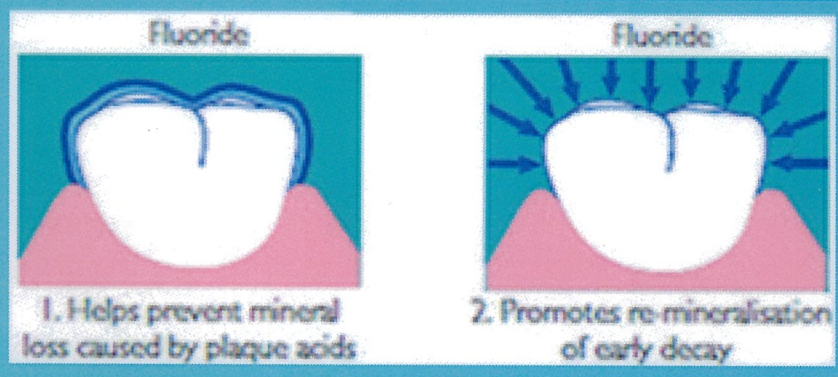
Fluoridated water has an associated benefit in individuals and groups that have a low socio-economic status to a higher degree from water fluoridation in comparison to those of high socio-economic status (Lee & Dennison, 2004). Doses used in New Zealand are adjusted to the natural level to one that is consistent with beneficial effects (0.7–1.0mg/litre), there is no risk from this amount of fluoride in the water (Ministry of Health, 2014).

Risks:

There is a higher prevalence in childern to experience diffuse enamel opacities in communities with fluoridated water.This is an abnormality involving an alteration in the translucency of the enamel a potential side effect "fluorosis" caused by having and increased amount of fluoride during early tooth development (Mackay & Thomson, 2005). Although evidence shown in the 2009 Oral Health Survey, there was no compelling disparity in the prevalence of fluorosis side effect of having too much fluoride during early tooth development amoung people living in fluoridated compared to non-fluoridated areas (Minstry of Health, 2014).

What is Fluorides effect on the tooth structure?

Fluoride works to improve oral health as its function is to make the teeth further resistant to decay by strengthening the enamel tooth surface, which is formed through the process of mineralisation. It also works to reduce the bacteria growth that causes cavities and dental decay, as well as assisting the reconstructing the early stages of tooth decay.
(Taranaki DHB, 2011)



(Ministry of Health, 2014)

Leaving dental caries untreated can lead to loss of tooth structure and severe discomfort and bacterial infections. Infection can cause loss of dental function and tissue necrosis, requiring tooth extraction, and may progress to acute systemic infection (Stoneman,Wallar & Papadopoulos, 2014).

In 2009, 6,000 children were admitted to New Zealand hospitals to have teeth filled or extracted under general anaesthetic because of serious decay (Ministry of Health, 2014)

(Ministry of Health, 2014)

Recommendations:

- Nurses need to be making sure patients are taking out good oral health measures for preventive reasons.
- The public needs to be more educated on this topic and have the right to vote alongside with local governors.

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PECOT Question

I wanted to learn more about the effectiveness of having access to fluoride in all New Zealand water supplies on oral health. I believe it is an important topic because oral health encompasses both physical and psychosocial aspects contributing on the way an individual functions in their day to day life. Using the PECOT framework (Schneider, Whitehead, LoBiondo-Wood & Haber, 2013) I was able to formulate a researchable question of; "Do children under the age of 12 that have access to fluoridated drinking water in their living region have a decreased risk of dental caries in comparison to children under the age of 12, who live in non-fluoridated drinking water regions in New Zealand?

Reference:

Schneider, Z., Whitehead., D. (2013). Identifying research ideas, questions, statement & hypotheses. In Z. Schneider, D. Whitehead, G. LoBiondo-Wood, & J. Haber. Schneider, Z., Whitehead., D. *Nursing and midwifery research methods and appraisal for evidence-based practice* (4th ed.). (pp. 57-76). Sydney, Australia: Mosby.