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Consultant Pharmacist Continuing Education Series

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Drugs and dry mouth

About 60% of older people complain of dry mouth, which may be associated with polypharmacy. A dry mouth can have a significant impact on quality of life and is associated with many conditions including tooth loss, dental caries, risk of malnutrition, eating discomfort and depression.

Management should include preventing dry mouth and the adverse health conditions associated with it, as well as identifying potential medication-related causes of dry mouth. Polypharmacy is a modifiable factor that contributes to dry mouth.

Definition

Dry mouth or xerostomia is a subjective feeling of dry mouth to the oral cavity. It is not inherent to the ageing process.

Older people are more susceptible to polypharmacy and multiple illnesses. Medication-related dry mouth can occur in as many as 72% of the older population.

Quality indicators

Mandatory quality indicators relevant to dry mouth include:

- Unplanned weight loss
- Falls and major injury
- Medication management – polypharmacy
- Medication management – antipsychotics

Unplanned weight loss is the result of deficiency in a person's dietary intake relative to their needs. There are many causes of unplanned weight loss in adults over the age of 65, including difficulty eating, chewing and swallowing due to lack of saliva.

Falls occur in approximately half of all older people living in residential care. People living in residential aged care are 6 times more likely to fall than those living in the community. Many medications contribute to the risk of falling. Falls risk inducing drugs (FRIDs) include sedative and antipsychotic medications. Many of these medications also have potent anticholinergic effects which contribute to a dry mouth.

Polypharmacy is very common in residential aged care. For the purposes of the QI Program, polypharmacy is defined as the prescription of nine or more medications to a care recipient. In older people, there is a tendency for medications to be prescribed even when they are no longer needed. Older people are also vulnerable to a prescribing cascade, where medications are prescribed to treat a side effect from another medication and wrongly interpreted as symptoms of a new condition.

Concern relating to inappropriate antipsychotic use, especially among people with dementia, has been highlighted in many forums. One in five residents living in residential care are on antipsychotics. Most antipsychotics have anticholinergic effects contributing to dry mouth.

Impact of dry mouth

A dry mouth can have a significant impact on health and oral function. Complications of dry mouth include:

- Eating difficulties
- Poor dental health
- Communication difficulties

Eating difficulties result from altered taste and eating discomfort. Reduced volume of saliva restricts the movement of substances to taste buds thus causing taste disturbances. Taste disturbance can lead to difficulty eating and loss appetite. Chewing and swallowing may also be affected, and this can affect the nutritional status of a resident. Malnutrition may be indirectly associated with dry mouth because of chewing and swallowing difficulty, pain and tooth loss caused by dry mouth.

Dry mouth increases the likelihood of tooth decay and tooth loss. The reduced salivary volume alters the oral microenvironment, which diminishes its antimicrobial effect and weakens teeth by demineralisation. Dry mouth contributes to increased oral infections such as candidiasis, dental caries, plaque and subsequent tooth extractions.

Complications of dry mouth also affect psychological well-being, increasing the likelihood of social isolation. Some psychological difficulties reported include communication challenges, self-consciousness, feeling tense, difficulty relaxing, feeling less satisfied with life and depression.

All these functional, social and psychological effects of dry mouth contribute to patient-reported quality of life.

Polypharmacy

Research has shown that as the number of medications increases, the number of dental problems increase and the number of natural teeth remaining declines. The mean number of dental problems with one or two medications with a risk of causing dry mouth is one, and 2 with three or more medications.

Older people are more susceptible to anticholinergic effects of medications. Older adults are more likely to present with multiple comorbidities and therefore be prescribed multiple medicines with anticholinergic effects for conditions such as COPD, Parkinson's disease, allergies, depression, psychosis and urinary incontinence. Medications with anticholinergic side effects include antidepressants, opioids, gabapentinoids, benzodiazepines, antipsychotics, antiparkinsonian drugs, antihistamines, urinary anticholinergics, and gastrointestinal drugs.

Treatment

Short-term treatments proven to relieve symptoms of dry mouth include muscarinic agonists to improve salivary production and products to improve saliva secretion such as sugar-free gum.

Sipping sugarless fluids frequently may help with dry mouth. A low-sugar diet and alcohol-free antibacterial mouth rinses help to prevent dental caries. Water-based lip moisturisers help to prevent drying and cracking of lips.

Artificial saliva products such as *Aquae Dry Mouth* spray, *Oralube Saliva Substitute* spray and *Biotene Dry Mouth* products require frequent administration.

Prevention

The importance of good oral hygiene and the prevention of dry mouth are important for the overall health of residents. Preventing a decline in oral health and function benefits the sense of wellness and independence among older people.

This focus is especially important in people living with dementia. Older residents living with dementia may alter their dietary habits and appetite throughout disease progression so these habits may worsen their nutritional profile. Cognitive impairment can therefore contribute to dry mouth as well as nutritional status.

A Residential Medication Management Review (RMMR) should be triggered with new onset of dry mouth to identify any medication-related causes. Deprescribing to reduce the number of regular medications can minimise the development and progression of dry mouth. For example, a reduction in tricyclic antidepressants for depression, anxiety, neuropathic pain or sleep problems, and anticholinergics for incontinence management may be possible if they no longer provide adequate benefit.

When appropriate, medicines can be administered earlier in the day rather than at night when saliva production is at its lowest. Dividing a once-daily dose may be appropriate to avoid a single large dose.

Summary

Dry mouth can interfere with oral health, function, and quality of life. Anticholinergic drugs are the most common cause of dry mouth. Regular dental review is important to ensure good oral hygiene is maintained, and caries and fungal infections controlled. Regular medication reviews can identify medicines causing dry mouth and recommendation of alternate medicines or guidance on deprescribing.

Further information

Medication Management – deprescribing

https://www.primaryhealthtas.com.au/resources/deprescribing-resources/

References

National Aged Care Mandatory Quality Indicator Program (QI Program) Manual 3.0 – Part A, 2022.

Drugs & Aging 2023.

A Guide to deprescribing anticholinergics, December 2022.