

DIET NUTRITION MANAGEMENT FOR TREATMENT OF ANGULAR CHEILITIS DISEASES IN CHILDREN

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ABSTRACT

Angular cheilitis or perleche is an inflammation reaction on the corner of the mouth, the condition is characterized by cracks and inflammation on both corners of the mouth. This paper aims to review about diet nutrition management for treatment of angular cheilitis disease. This study used review of descriptive. This study was a review of articles published on an online journal from 2013-2018, with the title of the article related to the research. Etiological factor of angular cheilitis may also vary, which in most cases is caused by nutritional deficiencies. Treatment of angular cheilitis eliminating the etiology factors, and successful treatment of angular cheilitis depends on the cause topical therapy is likely to fail in nutritional deficiency. Management and treatment of angular cheilitis with balanced nutrition and diet, especially protein, carbohydrate, vitamin A, B₂, B₃, B₆, B₁₂, C, E, biotin, folic acid and mineral Fe, Zn. Most of the angular cheilitis that occur can heal itself without antimicrobials, body's defense system should be maintained or increased by administering vitamin supplements or multivitamins.

Keywords : Angular cheilitis, diet, nutrition, management

Introduction

Angular cheilitis is an inflammatory state in the corner of the lips which may arise bilateral or unilateral. This situation is accompanied by pain, discomfort, sometimes bleeding, and it can interfere with chewing and speaking (Fajriani, 2017). *Angular cheilitis* in children can be a serious problem if it is not handled properly. This disease progression is so fast. *Angular cheilitis* is the clinical diagnosis of majority of lesions affecting at the corner of the mouth. In children, it is a global issue. *Angular cheilitis* becomes a serious problem due to its rapid development, therefore there should be no delay in its treatment if symptoms of *angular cheilitis* have clearly occurred (Yusran *et al.*, 2013). *Angular cheilitis* occurs more in children and it is caused by children sensitivity against certain contact agents like toys, foods, sunlight, allergy against medicines, cosmetics and long term antibiotic treatment. *Angular cheilitis* has other names, *perleche*, *angular cheiolis* and *angular stomatitis*. Clinical Features is characterized by the existence of fissures and erythema on the corners of the mouth, which extended to bottom lip and possibly extended to buccal mucosa. *Angular cheilitis* initial

symptom is itchiness on the corner of the mouth and it looks appearance inflamed skin and red spots. The tongue is red and shiny (depapillated glossy red tongue) in patients.

Diet nutrition management is most important thing is to maintain a healthy body so that the immune system is maintained and not susceptible to disease and to eat foods that are nutritionally balanced and needed by the body. Besides that we also undertake maintenance of oral hygiene by brushing your teeth (Fajriani, 2017). With regard to the above problems the author reviews how "Diet Nutrition Management for Treatment of

Research Method

This study was a review of articles published on an online journal from 2013-2018 related to the topics of Diet Nutrition Management for Treatment of *Angular Cheilitis* Diseases in Children. The articles were critically reviewed to obtain the essence of the necessary information which briefly presented on this article. In depth description and argumentation were then provided to give a clear understanding

about the phenomena discussed in the reviewed articles.

Results

Several Research showed that children with nutritional status were less likely to suffer *angular cheilitis* 1.96 times greater than children who have a good nutritional status. The inflammation severity is characterized by cracks on corner of the mouth and some bleeding when the patient's mouth opened in *angular cheilitis* associated with nutritional deficiencies can be seen the depletion of tongue papillae (depapillated tongue) due to iron deficiency.

The *angular cheilitis* treatment depends on its etiology. *Angular cheilitis* caused by vitamin B deficiency should be treated by providing vitamin B complex supplement or multivitamin that contain vitamin B. However, deficiency of one type of vitamin is usually followed by lack of other nutritional deficiency, hence in the treatment, multivitamin administration is more effective than vitamin B complex alone. Reported treatment of disease caused by vitamin B₁₂ with vitamin therapy can be healed in 3 weeks. Antimicrobial administration on patients with *angular cheilitis* caused by nutritional deficiency is only shortened the healing time. Because most of the infection that occur can heal itself without antimicrobials, body's defense system should be maintained or increased by administering vitamin supplements or multivitamins (Morison, 2003).

The prevalence of angular cheilitis in 6-18 years old children in Muhammadiyah Orphanage Bandung was moderately high, most of them were having iron, vitamin B₁₂, and folate deficiencies (Rakhmayanti *et al.*, 2016). Some reports indicate that there is a link between nutritional deficiency with *angular cheilitis*. Research conducted by Zaidan in Baghdad 35.3% of 82 patients affected by *angular cheilitis* had nutrition deficiencies, especially iron, vitamin B₁₂, and folic acid (Faiz, 2010). *Angular cheilitis* associated with lack of nutrition is often encountered in the first and second decade of life.

The result of the research showed that 50 children were below malnutrition. Meanwhile, the number of occurrence of *angular cheilitis* showed 42 children (84%) in the landfill (TPA) of Sumompo. Therefore, there is a significant relationship between the

states of nutrition of a child with the occurrence of *angular cheilitis* (Iery *et al.*, 2013)

Discussion

WHO estimates that malnutrition children account for 181.9 million (32%) in developing countries. In Central and South East Asia, approximately half of children have a decline in growth, compared to their age (Atmarita, 2006).

There is debate about the causes of *angular cheilitis* and many factors suspected, including malnutrition and infection (Murry *et al.*, 2008).

In this globalization era nowadays, society has understood the importance of nutrition for children. Most people have learned about various common diseases related to malnutrition, however not many of them understand about *angular cheilitis*, a disease which can be caused by fungal, and bacteria infection, predisposed by malnutrition. Children living in orphanage is subjected to the risk of malnutrition. Eventhough AC is related to malnutrition, its pathogenesis involve predisposing factors such as bad habits which allow continuous humidity in the angular area, providing a favorable environment for the growth of microorganisms (Iman, 2016). *Angular cheilitis* or *perleche* is an inflammatory condition characterized by erosive inflammation at one or both angles of the mouth (Figure 1) (Husni Ayesh, 2018).



Figure 1 The Erosive Dermatitis and Fissures at *Angular cheilitis* (Husni Ayesh, 2018)

Angular cheilitis is an inflammatory state in the corner of the lips which may arise bilateral or unilateral. This situation is accompanied by pain, discomfort, sometimes to bleed, and it can interfere with chewing and speaking. *Angular cheilitis* typical presents as erythema, scaling, fissuring, and ulceration. A wide variety of

factors, including nutritional deficiencies, local and systemic factors, and drug side effects, may produce *angular cheilitis* (Park *et al.*, 2011).

This is consistent with statement that malnutrition is major cause of *angular cheilitis* in the third world countries. Nutrition deficiency may lower the immune system by impairing the cellular, so it provide of opportunistic infections such as *candida albicans* for the occurrence *angular cheilitis* especially in poor oral hygienes subjects. *Angular cheilitis* occurs in children frequently because of lack of nutrition. Nutritional status of children in which the maincause of *angular cheilitis* in children is a nutritional deficiency caused by lack of protein, vitamin A, B₂, B₆, B₁₂, piridoksin, C, E, folic acid, biotin and mineral Fe, Zn (Budisuari *et al.*, 2010; Rakhmayanti *et al.*, 2016). One type of oral disease that often occurs in the community, especially children when there are nutritional factors is *angular cheilitis* (Fajriani, 2017).

Angular cheilitis presents as an area of inflamed and cracked skin at the angles of the mouth (Zaidan, 2008). *Angular cheilitis* is often found in school children in Indonesia (Partakusuma, 2016). One type of oral disease that often occurs in the community, especially children when there are nutritional factors is *angular cheilitis* occurs due to the condition of decreased immunity and below nutritional status (Fajriani, 2017). Nutritional deficiency is usually caused by inadequate intake of vitamin B complex, iron and folic acid (Faiz, 2010). This disease can also be caused by vitamin B complex deficiency, blood iron deficiency, folate deficiency, denture sore mouth and other factors such as breathing through mouth, wetting lips with tongue and licking the corner of the mouth with tongue (Murry *et al.*, 2008; Park, 2011; Rakhmayanti *et al.*, 2016). This disease progression is so fast. There for should be no delay in treatment if symptoms of *angular cheilitis* occurred and very clear (Park, 2011).

Nutrition and diet in *angular cheilitis* prevention is (Ranjan *et al.*, 2016) :

- a. Vitamine B₂ (riboflavine), major food sources include milk and dairy products, cereals, meats (especially organ meats) and some green leafy vegetables).
- b. Vitamine B₃ (niacin), major food sources include peanuts, rice, bean, liver, kidney,

food yeasts, avocado, fish, eggs and leanmeats.

- c. Vitamine B₆ (pyridoxine), major food sources include yeast, brown rice, sun flower seed, rice, soya beans, nuts, egg yolk, bananas, liver, wheat germ, fish, chicken, potatoes, avocados.
- d. Foods rich in iron : cabbage, eggs, spinach
- e. Food rich in zink : peanuts, chocolate, pumkin seeds

Food that must be avoided in *angular cheilitis* prevention are :

- a. Refined and processed foods, spicy foods and fatty foods
- b. Food high in sugar and salt

Conclusion

1. This is consistent with statement that malnutrition is major cause of *angular cheilitis* in the third world countries. Nutrition deficiency may lower the immune system by impairing the cellular, so it provide of opportunistic infections.
2. There is a significant relationship between the states of nutrition of a child with the occurrence of *angular cheilitis*. Nutritional status of children in which the maincause of *angular cheilitis* in children is a nutritional deficiency caused by lack of protein, vitamin A, B₂, B₆, B₁₂, piridoksin, C, E, folic acid, biotin and mineral Fe, Zn.
3. Most of the *angular cheilitis* that occur can heal itself without antimicrobials, body's defense system should be maintained or increased by administering vitamin supplements or multivitamins.

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