Oral Hygiene Affects A Persons Overall Health

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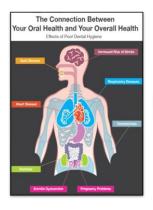
ABSTRACT

What is oral hygiene? Oral hygiene is a basic necessity of a person to take good care of the oral cavity by practicing healthy habits such as brushing, flossing and etc. Lack of these practices might lead to complications, studies say, avoiding flossing results in 40 percentage of oral cavity being unclean and even worse conditions. Neglecting oral hygiene not only cause oral complications but might also affect the overall health directly and indirectly, for example, Studies recommend that oral bacteria and the redness connected with a rigorous type of gum disease might play a role in some diseases and certain diseases, such as diabetes and HIV/AIDS, can worse the body's fight to infection, making oral health problems more rigorous. This article will summarize the importance of the need to take good care of the oral cavity and will also highlight the overall health issues the oral problems might cause.

Keywords: oral hygiene; overall health; gum diseases; infections; brain; respiratory disease; heart diseases; infertility; diabetics; erectile dysfunctions; complications in pregnancy; kidney disease; cancer; corona virus.

ORAL HEALTH CARE

It is well known; not taking care of the oral cavity will definitely lead to dangerous complications. So, to avoid the complication one must follow simple and basic habits, these habits might save a person from versatile health problems. A very basic thing to follow is to brush twice a day, once in the day and once in the night. Brushing your teeth gets rid of harmful bacteria and food debris that the bacteria might feed on. Simple brushing can save the teeth, gums and the whole oral cavity from harmful disease. It is also important to floss the teeth, flossing cleans up 40 percentage of the debris. It is also important to include fluoride containing toothpaste. It is also important to avoid sugary and acidic food, drink lot of water and crunchy fruit and vegetables. Visiting the dentist regularly is important, because, a layman cannot possibly identify minute changes in the oral cavity which may lead to major complications. Oral diseases can produce serious functional limitations, discomfort, and pain leading to disability (physical, psychological, or social), impairment, and handicap.3 For this reason, these diseases signicantly impact quality of life for sufferers.⁽¹⁻⁴⁾





Mouth Is The Gateway To The Body

To recognize how the mouth can have an effect on the human body we must first create a hypothesis which might help in the better understanding in what can go wrong in the first place. Bacteria that grow on the teeth make gums vulnerable to infections. The immune system attacks the infection and the gums starts to become inflamed. The inflammations do not subside until the infection is brought into control. Over time, inflammation and the chemicals it releases rupture the gums and bone structure. This results in severe gum diseases, known as periodontitis. Inflammation can also cause problems in the rest of the body. The infection can also possibly spread and can also affect the lymphatic system very easily. The mouth being the gateway to the whole body is the first place to look after for the hygiene and health.

Oral Health And Brain

Good oral health is an important aspect of general health and wellbeing contributing to self-esteem, dignity, social integration and nutrition. Oral diseases share common risk factors with other non-communicable diseases ⁽⁵⁾ and this affect quality of life ⁽⁶⁾ For example, poor oral health in older people has been shown to be associated with pain and discomfort ⁽⁷⁾, and reduced appetite ⁽⁸⁾. Some individuals present with behaviour and communication difficulties, and may resist assistance (e.g. not opening mouth, refusing oral care). Furthermore, people with dementia may lose the capacity to clean their teeth regularly resulting in more dental plaque accumulation; thus, increasing their risk of developing periodontal disease and dental caries. "As oral bacteria break into the blood stream, it can travel to organs throughout the body, including the brain," Burhenne explained. Oral health can affect the brain. Substances that are released from gums irritated by infection can actually kill brain cells and lead to memory loss. Dementia and possibly even Alzheimer's disease can result from gingivitis. The bacteria in the mouth spread to the nerve channels or enters the bloodstream

Oral Hygiene And Respiratory Infections

Poor oral health can lead to infections in our respiratory system. Bacteria in the mouth from our infected teeth and the swollen gums can be inhaled into the lungs or travel there through the bloodstream. Once there, the bacteria can lead to respiratory infections, pneumonia, acute bronchitis, and even COPD (Chronic obstructive pulmonary disease). Recent studies have identified the bacteria present in the oral cavity and dental biofilm as potential pathogens in the etiology of nosocomial infection of the respiratory tract, notably in patients undergoing orotracheal intubation in intensive care units⁽⁹⁾. Such individuals have thus been recognized as a group that is vulnerable to this respiratory infection, given that they commonly present with neglected oral hygiene.

Oral Hygiene And Heart Disease

Some scientific studies have shown a link between infections of the mouth and coronary artery disease. Contributing risk factors of CVD include family history, diabetes, hypertension, hyperlipidaemia, tobacco use, limited physical activity, obesity and poor dietary intake. Additionally, there is also growing evidence that another potential risk factor for CVD is

periodontal disease ⁽¹⁰⁾. Up to 91% of patients with heart disease have periodontitis, compared to 66% of people with no heart disease. The two conditions have several risk factors in common, such as smoking, unhealthy diet, and excess weight. And some suspect that periodontitis has a direct role in raising the risk for heart disease as well. The increase inflammation increases the inflammation in blood vessels. Inflamed blood vessels allow less blood to travel between the heart and the rest of the body, raising blood pressure

Oral Hygience And Diabetics

The working relationship between diabetes and gum inflammation might be the most relevant connection between the mouth and body. bidirectional relationship between periodontal disease and diabetes mellitus makes diabetes a disorder of importance to dentists and dental hygienists and to patients seen in the dental office⁽¹¹⁾Inflammation in the mouth weakens the body's ability to control the blood sugar level. People with diabetes have a lack of insulin secretion. "Periodontal disease further complicates diabetes because the inflammation impairs the body's ability to utilize insulin," says Pamela McClain, DDS, president of the American Academy of Period ontology. High blood sugar provides ideal conditions for infection to grow, including gum infections. Hence again proving the importance of oral hygiene.

ORAL HYGIENE IN RELATION TO INFERTILITY AND PREGNANCY

There is a connection between poor oral health and problems with infertility in women. Periodontitis is one of the most common chronic inflammatory oral diseases, probably associated with the mentioned systemic diseases and multiple adverse reproductive outcomes, such as preterm birth, low birth weight, fetal growth restriction, preeclampsia and perinatal mortality ⁽¹²⁾. Gum disease can cause issues for a woman to conceive and sustain a healthy pregnancy. It can actually take longer for a woman with poor oral health to get pregnant than it would for a woman who has good dental health. When your body is fighting infection, it can result in increased swelling throughout the body. In women swelling may increase the risk of miscarriage or infertility problems. Babies born too early or at a low birth weight often have significant health problems, including lung conditions, heart conditions, and learning disorders. While many factors can contribute to premature or low birth weight deliveries, researchers are looking at the possible role of gum disease. Infections and inflammations in general interfere with the development of the foetus. Though men have periodontitis more often than women do, hormonal changes during pregnancy can increase a woman's risk

ORAL HYGIENE AND ERECTILE DYSFUNCTION

Having poor oral hygiene puts a man at an increased risk for suffering from erectile dysfunction. Chronic periodontal disease is known to be related with ED. CPD is an infection that happens when gums pull away from teeth, which creates pockets that holds bacteria and allows the bug to spread to the bone surrounding teeth. This swelling can block the flow of blood to the genitals, making erections more difficult or even impossible to achieve. Many studies have been identified an association between ED and chronic periodontitis (CP), a disease of the supporting structures of teeth, namely cementum, gingiva, periodontal ligament and alveolar bone. (13).

ORAL HYGIENE AND CANCER

Oral diseases and cancers affect 3.9 billion people globally, and untreated caries in the permanent dentition is the most prevalent health condition in the world ⁽¹⁴⁾. The bacteria that cause periodontitis, a disease affecting the tissues surrounding the teeth, seems to play a part also in the onset of pancreatic cancer, say the researchers at the University of Helsinki. Poor oral health practices such as smoking or using tobacco products can lead to oral and throat cancers, but other types of cancer have also been linked to gum disease. Risk for kidney cancer, pancreatic cancer, and blood cancers is much higher for people who have poor oral health.

Oral cancer is the 8th most common cancer in the world.

ORAL HYGIENE AND KIDNEY DISEASE

Lasting kidney disease is a serious health problem that affects the kidneys, heart, bones, and blood pressure. Oral hygiene of patients receiving hemodyalisis is usually poor, so deposits of calculus ⁽¹⁵⁾ and plaque may be increased (¹⁶⁾. Infections in the body such as periodontal disease can lead to kidney disease. People with gum disease generally have weaker immune systems and are more likely to have infections. Many people who suffer from very poor oral health also suffer from kidney disease. Kidney disease can be deadly if it leads to kidney failure or cardiovascular disease.

ORALHYGIENE AND CORONAVIRUS

The recent global outbreak of the novel coronavirus disease (COVID-19) has once again brought to the forefront the importance of hand-hygiene and sanitization in preventing highly contagious viral infections. (17, 18). Oral hygiene is an integral part of personal hygiene practices and should not be neglected. Poor oral hygiene can lead to several health problems, including unbearable tooth pain. Tooth pain is usually caused by gum disease, poor enamel conditions and tooth decay. You should make oral hygiene your prime concern during this time of Covid-19 crisis because the virus can easily be transmitted through your mouth, nose or touching infected surfaces. Also, during this pandemic situation, commonly the dentist community attend only emergency, hence to keep the oral cavity clean and hygiene is important. Although there is no randomized clinical trial, yet oral hygiene maintenance may be a potentially effective method to reduce the morbidity and mortality related to COVID-19 pandemic.

PREVENTIONS

The best way to prevent serious health issues caused by bad oral health is to practice good oral hygiene and schedule regular visits to your dentist.

To practice good oral hygiene:

- 1. Brush your teeth and gums for two minutes at least twice a day.
- 2. Floss the teeth daily.
- 3. Avoid smoking cigarettes or chewing tobacco products.
- 4. Use toothpaste and mouthwash products that cover fluoride. Limit sugary foods and drinks.
- 5. Eat a well-balanced diet for finest nutrition.
- 6. Take extras that will boost your dental health.
- 7. Healthy teeth are clean and free of pain caused by cavities and disease. Healthy gums are pink and do not bleed when brushed or flossed.
- 8. Oral health is an indicator of overall health. Taking care to prevent oral health problems like gingivitis and periodontal disease can go a long way toward decreasing the risk for more serious health problems throughout the body. [6]

REFERENCES

- 1. Buset SL, Walter C, Friedmann A, Weiger R, Borgnakke, WS, Zitzmann, NU. Are periodontal diseases really silent? A systematic review of their effect on quality of life. J Clin Periodontol. 2016;43(4):333-44.
- 2. Silva AE, Demarco FF, Feldens CA. Oral health-related quality of life and associated factors in Southern Brazilian elderly. Gerodontology. 2015;32(1):35 45.
- 3. Rajan B, Ahmed J, Shenoy N, Denny C, Ongole R, Binnal A. Assessment of quality of life in patients with chronic oral mucosal diseases: a questionnai r e -based study. Per m J. 2014;18(1):e123-7.
- 4. Adrian U. Y , Oral Health Equals Total Health: A Brief Review. Journal of Dentistry Indonesia 2017, Vol. 24, No. 2, 59-62
- 5. Sheiham A, Watt R. The common risk factor approach: a rational basis for promoting oral health. Community Dent Oral Epidemiol. 2000;28:399 406.
- 6. Steele J, O'Sullivan I. Adult Dental Health Survey2011 21/05/2011.
- 7. de Souza Rolim T, Fabri GM, Nitrini R, Anghinah R, Teixeira MJ, de Siqueira JT, et al. Oral infections and orofacial pain in Alzheimer's disease: a case-control study. J Alzheimers Dis. 2014;38(4):823-9.

- 8. Paganini-Hill A, White SC, Atchison KA. Dentition, dental health habits, and dementia: the Leisure World Cohort Study. Journal of the American Geriatrics Society. 2012;60 (8):1556-63.
- 9. Isaac S. Gomes-Filho,^{1,*} Johelle S. Passos,¹ and Simone Seixas da Cruz², Respiratory disease and the role of oral bacteria. J Oral Microbiol. 2010; 2:
- 10. Humphrey LL, Fu R, Buckley DI, Freeman M, Helfand M. Periodontal disease and coronary heart disease incidence: a systematic review and meta-analysis. J Gen Intern Med. 2008; 23(12):2079–86
- 11. Ira B. Lamster, MMSc; Evanthia Lalla, Wenche S. Borgnakke, George W. Taylor. The relationship between oral health and diabetes mellitus. JADA, Vol. 139; October 2008; 19-24
- 12. Goepfert AR, Jeffcoat MK, Andrews WW, Faye Petersen O, Cliver SP, Goldenberg RL, et al. Periodontal disease and upper genital tract inflammation in early spontaneous preterm birth. Obstetrics & Gynecology. 2004; 104(4):777-783.
- 13. Anuj Sharma, A R Pradeep, Arjun Raju P. Association between chronic periodontitis and vasculogenic erectile dysfunction. J Periodontol. 2011 Dec;82(12):1665-9.
- 14. Marcenes W, Kassebaum N, Bernabé E, Flaxman A, Naghavi M, Lopez A, et al. Global Burden of Oral Conditions in 1990-2010 A Systematic Analysis. Journal of dental research. 2013:0022034513490168.
- 15. Proctor R, Kumar N, Stein A, Moles D, Porter S. Oral and dental aspects of chronic renal failure. J Dent Res. 2005;84:199-208.
- 16. Sobrado Marinho JS, Tomás Carmona I, Loureiro A, Limeres Posse J, García Caballero L, Diz Dios P. Oral health status in patients with moderate-severe and terminal renal failure. Med Oral Patol Oral Cir Bucal. 2007;12:305-10.
- 17.Alzyood M, Jackson D, Aveyard H, Brooke J. COVID-19 reinforces the importance of handwashing. J Clin Nurs. ;2020
- 18.Bains VK. COVID-19 pandemic: Current scenario and our role. Asian J Oral Health Allied Sci. 2020;10:1