

Healthy Mind Healthy Periodontium

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ABSTRACT:

Mental health is basic human right and is crucial to personal, community and socio-economic development. Stress is considered as an important risk factor for periodontal diseases. Routine salivary assessment is an useful diagnostic marker to rule out stress in periodontitis patients.

KEYWORDS: stress, periodontium, mental health, mental wellness

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I. INTRODUCTION:

According to WHO, Mental Health is a state of mental well being that enables people to cope with the stress of life, realize their abilities, learn well and work well and contribute to their community.

It is an integral component of health and well-being that underpins our individual and collective abilities to make decisions, build relationships and shape the world we live in¹.

Mental health is basic human right and is crucial to personal, community and socio-economic development.

Determinants of mental health:

Individual psychological and biological factors such as emotional skills, substance use and genetics can make people more vulnerable to mental health problems.

Exposure to unfavourable social, economic, geopolitical and environmental circumstances – including poverty, violence, inequality and environmental deprivation – also increases people’s risk of experiencing mental health conditions.

Risks can manifest themselves at all stages of life, but those that occur during developmentally sensitive periods, especially early childhood, are particularly detrimental. For example, harsh parenting and physical punishment is known to undermine child health and bullying is a leading risk factor for mental health conditions.²

Protective factors similarly occur throughout our lives and serve to strengthen resilience. They include our individual social and emotional skills and attributes as well as positive social interactions, quality education, decent work, safe neighbourhoods and community cohesion, among others.

Mental health risks and protective factors can be found in society at different scales. Local threats heighten risk for individuals, families and communities. Global threats heighten risk for whole populations and include economic downturns, disease outbreaks, humanitarian emergencies and forced displacement and the growing climate crisis.

Each single risk and protective factor has only limited predictive strength. Most people do not develop a mental health condition despite exposure to a risk factor and many people with no known risk factor still develop a mental health condition. Nonetheless, the interacting determinants of mental health serve to enhance or undermine mental health.³

PERIODONTIUM is defined as those tissues supporting and investing the tooth that consists of cementum, periodontal ligament, bone lining the alveolus and part of gingival facing the tooth.

II. HOW ARE MENTAL HEALTH AND PERIODONTIUM RELATED:

Stress is an equated response to constant adverse stimuli. Prolonged stress is detrimental to the body by diminishing its ability to respond to a perceived challenge. Psychological stress can downregulated the cellular immune response. Stress disrupts the homeostasis of this network, which in turn alters the immune function. Psychosocial stress have been implicated as risk determinant for periodontal disease.

Poor mental health affects the periodontium directly or indirectly-

Direct: Alteration of resistance of periodontium to infection.

Indirect: Psychological aspect of a person with health impairing behaviour like : poor oral hygiene, alcohol consumption, poor nutrition, bruxism.

Stress induced immunosuppression:

Psychological stress impacts the periodontal disease through alterations in immune system.

Emotional stress can modulate the immune system through neural and endocrine systems through:

1. Production of cortisol
2. ANS pathways
3. Release of neuropeptides
4. Alteration of Th1 / Th2 cells

Stress influences periodontal therapy outcomes as well.

Depression has negative effect on periodontal treatment. Stress impairs inflammatory response and matrix degradation after surgery. Psychological stress is significantly associated with lower levels of IL 2 and MMP 9 as well as significantly more painful, poorer and slow recovery.⁴

ENDOCRINE CHANGES:

Periodontal status is related to alterations in the concentration of adrenal corticoids and by altering the response of oral tissues to bacterial toxins & other hormones involved in the general adaptation syndrome.

Recent studies have confirmed the fact that the concentration of cytokines (IL-6, IL-1 beta etc.), cortisol in GCF is higher in person showing depression sign.

NEGLECT OF ORAL HYGIENE:

It has been reported that physiological disturbances can lead patients to neglect oral hygiene and that the resultant accumulation of plaque is determined to the periodontal tissue. Increased GCF IL-b levels are high when quality of oral hygiene is poor.

CHANGES IN DIETARY INTAKE:

Psychological factors affect the choice of foods, the physical consistency of diet and the quantities of food eaten. This can involve for instance the consumption of excessive quantities of refined carbohydrates and softer diets requiring less vigorous mastication and therefore predisposing to plaque accumulation at the approximal risk site.⁵

SMOKING AND OTHER HARMFUL HABITS:

Smoking is seen to be very common deleterious habit in people suffering from psychosocial disorders like stress , anxiety and is most important in relation to worsened periodontal conditions. Circulating nicotine results in vasoconstriction.

GINGIVAL CIRCULATION:

Tonicity of blood vessels decreases due to stress and anxiety. This results in decreased blood flow to oral cavity also leading to inflammatory changes in GCF.

ALTERATION IN SALIVARY FLOW:

Studies have shown that depression and stress lead to reduced salivary flow and increase in inflammatory cells leading to xerostomia. IgG is also seen increased. Immunity and host resistance to fight infections is also compromised. Nail biting, lip and cheek biting, object biting, tongue thrusting may also result due to stress and anxiety which contributes to diminished salivary flow leading to varies oral infections and cavities.⁶

STEPS TOWARDS MENTAL WELLNESS:

Patients with depression may experience difficulties in initiating dental check ups and in its maintenance. A more active approach from dentists may be needed, maintenance care intervals should be shorter and the patients should also be informed that their psychological problems may affect their immune system negatively and thus it is important for them to maintain oral hygiene and regular oral check ups.⁷

Validated questionnaire should be designed facilitated with all the valid questions indicating mental health.

2 phases of treatment can be initiated:

PERIODONTAL MANAGEMENT:

1. Complete case history

2. Complete phase I treatment
3. Discussing follow up
4. Motivating for regular dental checkups

STRESS MANAGEMENT:

1. Discussing the root cause of stress and trying to eliminate the etiology
2. Advising the patient to visit a counsellor or a psychiatrist
3. Advise patient to always inform about the psychiatric medicines
4. Keep short appointments⁸

III. CONCLUSION:

Stress can make it more difficult for our bodies to fight infection and can also make it more difficult to look after yourself, when suffering with increased stress it is common for patient's to engage in habits that can lead to periodontal diseases like smoking, poor dietary habits and forgetting to clean teeth properly.⁹

Stress is considered as an important risk factor for periodontal diseases. Routine salivary assessment is an useful diagnostic marker to rule out stress in periodontitis patients.¹⁰

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