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## The Association Between Oral and Mental Health

Sameem S.M. Baker

Al-Zahrawi University College, Karbala, Iraq

Corresponding author

E-mail address: [sameem@g.alzahu.edu.iq](mailto:sameem@g.alzahu.edu.iq)

### Article Info.

#### Article history:

Received 20 March 2022

Revised 20 July 2022

Published 1 January 2023

#### Keywords:

Oral Health, Mental Health

#### How to cite:

Sameem S.M. Baker. The association between oral and mental health. Aca. Intl. J. Med. Sci. 2023; 1(1) 17-21

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### Abstract

Patients with mental disorders, neuromuscular disorders, and psychiatric disorders are exposed to many oral and dental disease risk factors. It's difficult to overlook the connection between oral and mental health. The behavioural effects of stress, depression, and anxiety are the most obvious explanation for the correlation. These disorders cause people to lose attention to their oral health habits, leading to serious dental problems. Depression, for example, may lead to people brushing and flossing at irregular times, skipping dentist appointments, eating unhealthy foods, and self-medicating with cigarettes. While the connection between mental health and overall physical health has been extensively researched, little attention has been paid to the relationship between mental health and dental health.

The rising number of people suffering from mental illnesses is a worldwide problem. People who suffer from psychiatric conditions have a higher risk of co-morbidity and have substantially worse oral health than the general community. Their oral health, on the other hand, is largely unnoticed and unaddressed [1]. Mental and dental health are linked, with poor mental health leading to poor oral hygiene, leading to social anxiety and low self-esteem. Dental anxiety is one of the most visible mental health disorders that directly impact oral health. Dental anxiety is described as a fear of going to the dentist, whether for an operation or a routine checkup [2]. These fears can derive from a negative experience, a fear of dental equipment such as needles and drills, or anxieties passed down from others' experiences. Dental anxieties may lead to a dental phobia, causing patients to stop going to the dentist entirely, resulting in more serious oral health concerns such as gum disease or early tooth loss, as well as physical health issues such as heart disease or lung infections.

On the other hand, neuromuscular disorders can undoubtedly have a variety of effects on the oral cavity. The oral and maxillofacial area is affected by a wide number of neuromuscular disorders. During the intra-oral and extra-oral examination, oral physicians find defects in the dentition, soft tissues, and occlusion caused by these disorders. Patients with neuromuscular conditions must also be handled with extra caution during dental treatment.

## **1 Introduction**

### **1.1. Neuromuscular Disorders That Affect Oral Health**

#### *1.1.1. Dysphagia*

Swallowing issues closely connected to poor oral health harms those who suffer from them [3]. Dysphagia is linked to oral health, which should be taken into account to minimize the risk of aspiration pneumonia. Dental practitioners such as dentists, dental nurses, and dental hygienists may play an important role in diagnosing and treating dysphagia due to the importance of oral health in preventing dysphagia complication [4].

#### *1.1.2. Bell's palsy*

Bell's palsy is a rare form of paralysis that affects the muscles that control facial expressions. It has a detrimental effect on oral health. Teeth on the mouth's palsy side may display more signs of deterioration, and the gums on that side of the mouth may have more inflammation than the gums on the unaffected side.

Food can accumulate in the palsy side of the cheek as a result of the lower muscle tone in the cheek. Furthermore, since brushing the teeth on that side is more difficult, food may be left in contact with the teeth and gums for much longer than normal unless extreme caution is exercised. Adequate oral hygiene is hard for patients to sustain when they have difficulty opening their mouth [5].

#### *1.1.3. Multiple sclerosis*

MS, or multiple sclerosis, is a chronic condition that affects the brain, spinal cord, and optic nerves in the eyes. MS can impair equilibrium, muscle coordination, vision, and several other daily bodily functions. Muscle weakness and spasticity are also common side effects, as is motor control and coordination. As a result, basic tasks such as keeping a toothbrush become virtually impossible. Dentists should be involved in the diagnosis of MS and recognize the effects of MS drugs on the oral cavity and take special care when treating people with MS [6].

#### *1.1.4. Parkinson disease*

Parkinson's disease (PD) symptoms may affect mouth, teeth and jaw health, often complicating medical attention; the patients had a weakened oral health status and reduced oral hygiene care because of chewing and biting problems, taste disturbance, and drooling. Even if some patients took steps to improve their oral hygiene, the disease's well-known characteristics, such as tremor and reduced movement, make it difficult for the patient to sufficiently conducting regular oral hygiene treatment. Furthermore, adequate salivary flow did not provide substantial caries protection [7].

#### *1.1.5. Cerebral palsy*

While cerebral palsy does not cause oral defects or abnormalities, many of its symptoms do, and people with CP are more likely to have dental problems. Cerebral palsy patients can face physical and mental challenges that impact their oral hygiene. Patients with cerebral palsy have movement and posture difficulties. Patients must be evaluated, and then the treatment must be personalized to their needs. Some children with cerebral palsy suffer from gastrointestinal reflux and often vomit or reflux. Increased drooling raises the risk of dental caries, and some of the drugs used to treat cerebral palsy may contain a lot of sugar. Any of these factors will increase the probability of tooth decay in children with cerebral palsy [8,9].

#### 1.1.6. *Muscular dystrophy*

MDs are a complex group of inherited neuromuscular disorders characterized by muscle necrosis and progressive muscle weakness. The muscles of the face and mouth are not spared from the symptoms of MD. As a consequence, it can have a serious effect on dental health, resulting in the following issues:

- Problems with chewing
- Having trouble swallowing
- Malocclusion is very common (improper bite alignment)

Special considerations are needed to provide adequate and secure dental treatment for these medically complex patients, so it is important for oral healthcare professionals to be familiar with MD. Oral healthcare practitioners must be aware of the complexities of MD. This condition is characterized by altered craniofacial morphology and dental malocclusion. Specific considerations must be made when delivering oral health treatment to patients with MD. Oral healthcare providers should become acquainted with orofacial manifestations and dental treatment considerations for MD patients to provide safe and efficient care [10].

#### 1.1.7. *Huntington's disease*

It's important for people with Huntington's disease to keep their mouths healthy. High sugar and fat diets and difficulties brushing teeth due to choreic movements, apathy, and dysphagia make it difficult for those with the disorder and their caregivers to keep their teeth clean and healthy. The patients' dental health deteriorates as their motor dysfunction, and the functional condition worsens. Aside from local oral complications, there is a risk that general complications will emerge. As a result, we will urge patients, caregivers, neurologists, and dentists to ensure that individuals with Huntington's disease receive routine preventive dental exams and therapies, even in the *disease's premanifest stage* [11].

#### 1.1.8. *Myasthenia gravis*

Myasthenia gravis is a neuromuscular disorder that causes muscle weakness and fatigability. The dental treatment of myasthenia gravis patients poses a threat to the dental profession. Myasthenia gravis (MG) is an autoimmune neuromuscular condition that can be challenging for both the dentist and the patient to handle. The facial and masticatory muscles may be involved, making dental care and treatment more difficult. With some modest accommodations from the dentist (and staff) and preparation and cooperation from the patient, the regulated myasthenic can tolerate productive dental sessions [12,13] [14,15].

### 1.2. **Other mental illnesses that affect dental health**

#### 1.2.1. *depression*

Persons who are depressed are more likely to neglect self-care practices such as frequent brushing and flossing, which can harm their teeth and gums' health. Depression is one of the most common mental disorders, affecting both general and oral health. About 300 million people suffer from depression around the world. People who are stressed are less likely to practice good oral hygiene, leading to dental caries, periodontal disease, oral lichen planus, and burning mouth syndrome, among other items. Patients who visit the dentist with apparent oral problems may be suffering from undiagnosed depression.

Consequently, it is the dentist's duty to consult with patients to identify any underlying psychological problems. Proper communication would allow the client to feel comfortable sharing

his mental condition. The dentist will recommend him for psychological therapy to help him recover his mental and oral health [16].

### **1.3.Bipolar disorder**

Bipolar disorder is described by swings in a person's mood, thinking material, and behaviour pattern between intense elation (mania) and depression. These cycles are often erratic and of varying lengths. Once every few years, the majority of patients experience severe mood swings. However, some individuals, known as "rapid cyclers," have mood swings at least four times a year, making traditional treatment less effective. During depressive episodes, many patients experience a drastic deterioration in oral hygiene and an increase in dental caries and periodontal disease, which can easily become unmanageable. Any existing prostheses can become ill-fitting and be discarded if dental hygiene is ignored. Overzealous use of oral health aids (such as toothbrushes and floss) during manic cycles, on the other hand, can be linked to a rise in the frequency and severity of cervical abrasion, as well as occasional mucosal or gingival lacerations. Medical pharmacotherapy for bipolar disorder can sadly cause mild to serious xerostomia, worsening the severity of any dental disease.

There is a rapid increase in the degree of dental loss, mucosal dryness, and dysphagia when salivary flow is decreased. Patients frequently experience a sharp rise in rampant cervical caries due to the anticholinergic effects of lithium and other psychotropic drugs and because they rely on candies or sweetened drinks for oral lubrication. The drying effects of different drugs are exacerbated by high caffeine consumption and heavy smoking. Hyposalivation can also result in an increased risk of yeast infections (Candida), fissuring of the corners of the mouth (perlèche), and difficulty chewing, speaking, and swallowing [17].

### **1.4.Dementia**

Dementia is one of the most common forms of disability in the elderly. It is a progressive neurodegenerative disorder that affects the ability of older people to perform everyday tasks. Alzheimer's disease is the most common form of dementia, and it causes memory, thinking, and communication skills to deteriorate. They frequently show signs of depression and violence, as well as behavioural and psychological symptoms. Oral health is an important and vital part of their overall health, so they must preserve it. Dental diseases arise due to poor oral hygiene, and they are difficult and expensive to treat. Ambulatory treatment, rather than hospitalization and emergency care, should be used to treat dental diseases. During the early stages of Alzheimer's disease, older people can develop regular oral hygiene care routines. To avoid the need for lengthy and complex treatments, they should have routine dental exams and early limited therapies [18].

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