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Literature Review

The Relationship Between Oral Health And Psychological Well-Being

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ABSTRACT

Introduction: People with mental illness often have poor physical health, and this issue has received a lot of attention. However, there has been less focus on the connection between oral health and physical health. This article discusses how oral and mental health are connected.

Review: Dental treatment can cause anxiety and phobias. At the same time, many psychiatric disorders, such as severe mental illness, eating disorders, and depression, can lead to dental disease. These include things like caries, periodontitis, and canker sores. Psychotropic drugs, like antidepressants and attention deficit hyperactivity disorder (ADHD) medications, can also cause oral health problems. Many people who get dental work do so while taking these kinds of drugs. Some of these drugs can cause problems like bruxism (grinding teeth), orofacial dystonia (muscle spasms in the face), oromandibular dyskinesia (uncontrollable movement of the jaw), and rabbit syndrome. These are all related to the way these drugs interact with dopamine receptors in the brain. Furthermore, other pharmaceuticals have been observed to induce xerostomia, a condition characterised by the absence of saliva in the oral cavity. Consequently, patients may be susceptible to infections, including candidiasis, if they do not receive adequate oral hydration.

Conclusions: Some potential solutions have been suggested, ranging from the utilisation of standard oral health checklists completed by non-dental personnel to the management of dry mouth induced by medications, and the early referral of patients to dentists.

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INTRODUCTION

Oral and mental health are cornerstone concepts of overall health. Even though these have been traditionally thought of as separate domains, mounting circumstantial data suggests a meaningful interaction between these areas. Oral diseases can disrupt self-esteem, social interactions, and quality of life, and could potentially cause or aggravate mental health conditions. In recent years, the association between mental health and systemic symptoms has drawn attention.[1,2,3] Furthermore, well-detailed relationships between determinants such as oral microbiota, oral health, and systemic diseases including pneumonia, diabetes, and cardiovascular disease have been proposed.[4,5] Hence, preserving both mental and oral health is crucial in the effective prevention and management of systemic diseases.

A strong interface exists between oral and mental health. For one, up to half of all dental patients suffer from anxiety about their dental visits, leading in some instances to dental phobia, a distinctive form of phobia.[1,6] The perception of dental soreness may also be worsened by depression or anxiety, despite the level of oral pathology. For instance, burning mouth syndrome is a somatic distress in individuals with clinically healthy oral mucosa, which is quite commonly linked to depression or anxiety.[7]

In contrast, mental health impairments frequently influence oral health through cognitive, physiological, and systemic mechanisms. This article addresses the bidirectional relationship between oral and mental health, highlighting the necessity for an integrated outlook for diagnosis and treatment. This review aims to synthesize current evidence on the interconnections between oral and mental health, elucidate potential underlying mechanisms, and propose integrated approaches for clinical care and public health strategies.

REVIEW

Oral Health Challenges in Severe Mental Illness

Low quality of oral health has been a major focus of concern for people with severe mental illness, primarily in relation to diabetes, cardiovascular disease, chronic lung disease, and cancer.[8] Insufficient emphasis has been given to oral health issues, though it is an essential component of physical health and has been associated with numerous of the foregoing chronic diseases.[9,10,11] Improper oral health outcomes across the board affect eating, speaking, and other areas of social and psychosocial life.[12]

Individuals living with mental illness, predominantly severe mental illness, have greater odds of developing oral health concerns as a result of poor nutrition, as well as poor oral hygiene, over-consumption of sweetened beverages-occurring substance misuse, including tobacco, alcohol, or psychostimulants, and limited access to dental care.[13,14,15] Dry mouth (xerostomia) is a leading underlying risk factor for oral health issues and often worsened by opportunistic gingivitis as a consequence of malnutrition due to psychosis or anorexia nervosa.[16]

In epidemiology, the incidence of mental diseases in the broader population is substantial (4.5 per 1000 people), and much higher in developed countries' urban areas.[17] Some studies on the oral health of psychiatric patients in diverse countries demonstrated that both mental illness and the psychotropic drugs taken for treating mental disorders may promote the prevalence and severity of dental illnesses (e.g., caries).[6,10,18]

Psychosocial Impact of Oral Health

Oral health concerns, including extensive dental caries, periodontitis, and tooth loss, in many cases have widespread psycho-social repercussions. Soreness and discomfort from these can lead to difficulty in eating and speaking, which has a significant impact on day-to-day life. Aesthetic issues pertaining to defective or missing teeth can result in embarrassment and low self-esteem.[19] A current investigation sheds further insight into the association between oral and mental health.[20] The researchers hypothesized that associations regarding oral and mental health are ambiguous, with few investigations examining the direct impact of oral health maintenance on mental health and psychological distress.[21] In addition, the researchers proposed that there is not sufficient research to permit a systematic review to clarify this relationship. Furthermore, no comprehensive, high-quality peer review has addressed progress in this area. In this context, the experts deemed it fitting to conduct a scoping review.[19]

Prior to the 17th century, the domains of medicine and dentistry were largely convergent, with practitioners often serving in a dual capacity.[22] However, by the late 19th century, dentistry had evolved into a distinct discipline, recognized as a standalone profession in Britain and North America. This development marked a significant separation from other traditional healthcare professions, such as medicine and alchemy, where dentistry was historically intertwined.[1]

The impact of oral health on various aspects of life, including eating, speech, and social and psychological domains, is a multifaceted and intricate subject.[23] Individuals grappling with severe mental illness are particularly vulnerable to the development of oral diseases due to a myriad of factors.[24] These include, but are not limited to, factors such as motivation, poor oral hygiene practices, fear, specific dental phobias, financial constraints related to dental costs, challenges in accessing healthcare facilities, and the adverse effects of psychiatric medications, including xerostomia, a condition characterized by dry mouth.[10]

Individuals diagnosed with severe mental illness (SMI), such as schizophrenia, have a life expectancy approximately 20 years lower than the general population.[25] Research has revealed that individuals with SMI frequently exhibit at least one associated somatic condition, encompassing various anatomical systems such as the cardiovascular, gastrointestinal, respiratory, neoplastic, infectious, endocrine, and oral disorders. Notably, approximately half of these comorbidities remain undiagnosed.[26,27,28] A notable aspect that frequently garners insufficient consideration entails the potential adverse effects of psychiatric medications, including weight gain, metabolic disturbances, and compromised oral health. These consequences often impede adherence to psychotic treatments, thereby hindering overall recovery and social integration.[29]

Mental disorders, especially negative symptoms, can affect a person's health behaviors and lifestyle. This can lead to poor oral health and dental diseases.[30] For example, some medications used to treat schizophrenia can cause dry mouth, excessive salivation, and oral dyskinesia. These symptoms can be caused by certain antipsychotics, clozapine or first-generation antipsychotics.[31,32] Other factors that can contribute to poor oral health in people with mental disorders include smoking heavily, not taking care of their mouths, eating a lot of carbohydrates, and using alcohol and illegal drugs.[33]

Eating Disorders and Dental Erosion

A further aspect of mental health that is associated with oral health concerns eating and mood disorders.[1] As early as the late 1970s, research began to link eating disorders with oral health issues.[34,35] Currently, the most prevalent diagnosis is erosion resulting from the consumption of acidic fruits and beverages, along with the presence of gastric reflux or habitual vomiting. Research indicates that between 35% and 38% of patients with eating disorders exhibit tooth erosion.[36] Individuals who engage in self-induced vomiting (SIV) are particularly vulnerable and experience the most significant tooth wear, primarily on the palatal surfaces.[37,38] A meta-analysis of 10 studies (N=1112) revealed that subjects diagnosed with eating disorders presented with a fivefold increased risk of developing dental erosion when compared to the control group. Notably, in patients diagnosed with SIV, the prevalence of erosion was significantly elevated, exhibiting a sevenfold increase in odds compared to the general population.[39]

In the context of mood disorders, attrition is a prevalent phenomenon in depression, largely attributable to the presence of comorbid conditions such as smoking, alcohol use, and bruxism.[40] High levels of tobacco and alcohol consumption can trigger gastro-esophageal reflux, which can lead to dental erosion. Patients grappling with depression are susceptible to developing caries, a condition that can be attributed to suboptimal oral hygiene, often resulting from self-neglect. Additionally, xerostomia, a condition characterized by dry mouth, can be exacerbated by antidepressant medications.[41,42] Heavy caffeine and tobacco use can further compound these issues. Furthermore, prostheses may become ill-fitting or be misplaced, and suboptimal oral hygiene can result in complete tooth loss. A study of partial and full tooth loss in U.S. adults, utilizing data from the Behavioral Risk Factor Surveillance System, revealed that individuals with

depression were 20 to 30% more likely to have experienced complete tooth loss.[43]

Individuals diagnosed with bipolar affective disorder encounter a heightened range of challenges. During the manic phase, patients may engage in excessive dental hygiene practices, such as vigorous brushing or flossing, which can result in dental abrasion and mucosal or gingival lacerations. Moreover, research has linked lithium treatment to the occurrence of xerostomia and stomatitis.[44,45]

Psychotropic Medications and Oral Effects

Psychotropic drugs encompass a wide range of pharmaceuticals, including antipsychotics, antidepressants, mood stabilizers, anticonvulsants, and drugs that selectively target specific brain receptors, such as anticholinergics or beta blockers.[46] Additionally, numerous patients resort to the use of psychoactive substances, such as amphetamine, ecstasy, and cocaine. Regrettably, many psychotropic drugs have the potential to induce adverse effects that can disrupt the oral environment, thereby contributing to the development of oral diseases.[47] Consequently, dentists must possess a comprehensive understanding of the potential risks associated with these medications to ensure the safety of their patients.

It is well established that the administration of antipsychotic medications is associated with a range of significant effects, primarily due to their antagonistic activity at dopaminergic receptors. A multitude of oral diseases, including bruxism, orofacial dystonia, oromandibular dyskinesia, and rabbit syndrome, have been linked to the extrapyramidal effects of these medications on motor control.[48] Furthermore, these medications can lead to xerostomia, which, along with its concomitant complications such as caries, gingivitis, periodontitis, stomatitis, and sialorrhea, is contingent upon their receptor profile. Drugs with strong anticholinergic and/or antiadrenergic effects, including tricyclic antidepressants, might also influence saliva secretion, resulting in dry mouth and related complications such as candidiasis and other oral infections. Conversely, novel antidepressant medications belonging to the selective serotonin reuptake inhibitors (SSRIs) class, which share tricyclics' side effects, have been associated with gingival bleeding due to their impact on serotonin reuptake.[49] Furthermore, mood stabilizers, particularly lithium, have been observed to induce a broad spectrum of adverse effects on the oral system, including dry mouth, sialorrhea, infections, and ulceration of the oral cavity. Conversely, other antiepileptic drugs, such as valproate (VPA), carbamazepine (CBZ), and lamotrigine, have been associated with gingival overgrowth, alveolar bone loss, and inflammatory reactions, including Sjögren's syndrome and Stevens-Johnson syndrome.[47]

Nonetheless, mild clinically significant effects have been observed with treatments involving beta-blockers.[46] Conversely, psychostimulants such as amphetamine, ecstasy, and cocaine have been demonstrated to induce significant damage to the oral environment due to their sympathomimetic central stimulant effects, which can result in xerostomia, gingival enlargement, bruxism, dental erosion, mucosal ulceration, and oral or nasal lesions.[44]

A collaborative approach between psychiatrists and dentists is imperative to address barriers to care, whether related to psychosocial or financial factors. Dentists often serve as the primary clinicians who suspect a diagnosis of an eating disorder, given the reluctance of some patients to seek psychiatric treatment.[50] In this regard, the role of dental hygienists has been identified as pivotal, given these professionals' capacity to educate patients on the use of artificial saliva products, as well as on the appropriate use of mouthwashes and topical fluoride administrations, to alleviate the symptoms of xerostomia. Patients should be counseled to reduce their ingestion of acidic beverages and citrus fruits, as well as alcohol and tobacco. Limiting caffeinated beverages can alleviate xerostomia, while sugar-free chewing gum has been shown to stimulate salivary flow. Frequent sips of water throughout the day have also been shown to alleviate symptoms.[42] Finally, patients with eating disorders should avoid aggressive brushing after self-inducing vomiting (SIV), as the softened, demineralized surface is more prone to abrasion.[51]

It is incumbent upon decision makers to consider the provision of complimentary, accessible dental care for individuals grappling with mental illness.[1] This assertive outreach collaboration between mental and oral health services entails the deployment of teams to challenging, inaccessible settings, such as residential facilities and

supported living services.[52] At a population level, preliminary findings suggest a reduced gap in oral health between individuals with severe mental illness and the general population in areas where fluoride is present in the water supply.[30] This suggests that addressing the poorer oral health of marginalized communities, including those with severe mental illness, may warrant greater emphasis in the discourse on fluoridation.

CONCLUSION

In summary, it is truly heartening to see a growing emphasis on the well-being of individuals grappling with severe mental illness. A key aspect of this focus should be the importance of oral health.[5] There is a higher prevalence of oral diseases among individuals grappling with psychiatric conditions. A multifaceted interplay among various receptors targeted by psychotropic drugs, in conjunction with medication side effects and poor oral hygiene, has been identified as a plausible contributing factor.[1,47] Although dentists endeavour to ensure optimal patient care, it is equally crucial for practitioners to be well-informed about the side effects of psychotropic medications and adhere to the appropriate safety measures. A comprehensive care plan may entail the following interventions: promoting meticulous oral hygiene practices, proactively managing dry mouth induced by medications, and arranging dental appointments for subsequent check-ups. Further research is needed to deepen our understanding of how these medications affect oral health, ensuring that everyone can enjoy optimal physical and mental health.

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