Review Article

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Illuminating the Facts on Oral Manifestations of Psychiatric Disorders: An Accomplishing Review

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ABSTRACT

Background: Mental illnesses comprise a wide group of psychiatric disorders. Patients with psychological disorders have a number of special features that may be the origin of hard and / or soft tissue damage of the oral cavity. Many people affected by these disorders cannot carry out oral hygiene satisfactorily. Diseases of the oral cavity influencing these patients are the same as in the general population (caries, periodontal disease, malocclusion), but generally occur more frequently. Dental treatment consists of addressing the problem of poor oral hygiene and resultant dental caries and periodontal disease. However, motivating the patient to improve oral hygiene procedures is often difficult. The issue of dry mouth (xerostomia) accompanying with antidepressant medications must also be addressed.

Keywords: Psychiatric disorders, Oral health, Dental hygiene, Improvement in Oral health.

INTRODUCTION

Oral health is a vital part of general health. It motivates self- confidence and improves the quality of life. There is evidence that patients suffering from psychological illness are more vulnerable to dental neglect and poor oral health [1]. Sims reported that physical health problems are more common in psychiatric patients [2]. They seem to be poorly diagnosed & treated by psychiatrists, and oral health is no exception. Psychiatric disorders affect the general behavior of a person, ruin level of functioning and impair perception towards oral health. Eating and sleeping patterns take precedence over personnel hygiene, making them susceptible to many oral diseases. Alternatively, oral symptoms may be the first or only manifestation of a mental health problem e.g., facial pain, preoccupation with dentures, excessive palatal erosion or self- inflicted injury. The two diseases which have a major influence on the oral cavity are dental caries and periodontal disease. Dentists spend a considerable amount of time treating patients who present with either psychiatric disorders like depression and anxiety or with physical manifestations of underlying emotional disturbances. Common manifestations of covert emotional disturbance in patients in dental practice include oral dysaesthesia, atypical facial pain and other atypical syndromes [3]. Increasing attention needs to be given to identify and appropriately treat somatoform disorders, more so, as they constitute one-third to one-half of referrals to any liaison psychiatry service [4]. Somatoform disorders, apart from posing management problems, also cause significant functional impairment and overall disability for the patient [5]. Bass et al [6] recognized somatoform disorders as

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severe psychiatric disorders and suggested that they may be treated by psychiatrists or psychologists.

Recognizable psychopathology is seen in up to 30% of patients attending dental clinics [7] and this often goes undetected and hence untreated. Dental specialists, often come across patients, who present with complaints of pain, abnormalities of sensation, movement and salivation involving the mouth and face, which are a manifestation of underlying emotional disturbance and not due to a clearly recognizable physical cause. Early and appropriate recognition of such emotional distress would benefit both the individual and the health service [8].

Given the prevalence and impact of unrecognized and untreated psychiatric disorders in patients presenting in dental practice, there follows the need for a service to address this unmet need. This would directly provide a framework for psychiatric- dental liaison and indirectly lead to better understanding of psychiatric disorders by dental specialists, which in turn will lead to early identification and referral to such a service if one exists. It has been shown elsewhere [9] that accessibility of psychiatric liaison service will lead to an increase in rate of referrals.

Mental disorders incorporate multiple psychiatric disorders. Patients with mental disorders have a number of special features that may cause tissue damage hard and/or soft tissues of the oral cavity. Among these, the highlights the difficulty to conduct and concentration, preventing them from observing the real need for oral care both in terms of hygiene, as with regard to the perception of changes in normal [10]. Many people affected by these disorders cannot perform oral hygiene satisfactorily. This fact is aggravated by prolonged use of medications that cause dry mouth as well as the excessive use of tobacco products and alcohol that contribute to poor oral health [11].

The severity of the changes present due to a combination of factors. Added to this, the already mentioned, the damage these individuals and psychomotor problems in accessing dental treatment [12]. Diseases of the oral cavity affecting these patients are the same as in the general population (caries, periodontal disease, malocclusion), but generally occur more frequently [13].

Oral health impairment has been associated with an increased risk of other diseases [14]. Members of the multidisciplinary team should be encouraged to help psychiatric patients to maintain their oral health, taking into account their special needs [15]. These individuals should receive early attention and ongoing care to preclude future problems [16].

Types of Major Dental Conditions

Recognition of a dental problem does not mean that the suitable action will be taken. As an aid to decision-making, the following section offers a brief overview of the main oral diseases and conditions.

Dental caries

Dental caries is the disease process which destroys the hard layers of teeth. It is the result of the demineralization of enamel and dentine by acids produced as by-products of the metabolism of fermentable carbohydrates by dental plaque microorganisms. This results in cavitation of specific sites on the tooth surface and as consequence produces pain and unsightly teeth. Good oral hygiene alone is normally insufficient to prevent tooth decay. Treatment of dental caries, once it has produced a cavity, involves either the restoration or extraction of affected teeth. The incidence of missing teeth is higher (38.57%) among study group and 37.79% in controls [16]is in agreement with other studies [17, 18] , indicating there is rapid progress of caries to a point where extraction becomes necessary.

Periodontal disease

Periodontal disease only take place in the presence of dental plaque. Initially the disease leads to inflammation of the gingivae and at this stage the process is reversible. If it progresses to destroy the periodontal tissue (periodontitis), this is irreversible. If allowed to progress unchecked, periodontitis will result in tooth loss. Preventive strategies mainly comprises reducing dental plaque levels by improved oral hygiene techniques. As the initial stages of the disease are reversible, early intervention to improve oral hygiene gives the

greatest benefit. Drug induced overgrowths of gingivae are common due to pharmacologic action of drugs (antiepileptics like phenytoin), which creates favorable condition for retention of plaque, creating a vicious circle which enhances the gingival inflammation and eventually loss of tooth if unrecognized and untreated.

Oral cancer

The prevalence of oral cancer increases with age and 98% of cases occur over the age of 40 years. The major causes of oral cancer are smoking, chewing tobacco and alcohol consumption. Addressing these aspects are the basis of a preventive strategy. The detection of pre-cancerous lesions in the mouth brings major benefits. It identifying place, head and neck cancer has serious social consequences and evokes symbolic sexual conflicts.

Tooth wear

Tooth wear tends to increase with age. It may be caused by attrition (which is the action of one Tooth grinding upon another), abrasion (where the tooth surface is worn by another agent, for example, a toothbrush) or erosion in which there is chemical dissolution of the tooth. A major factor in the erosion of tooth enamel and dentine is an excessively acidic diet, notably citrus fruits and carbonated drinks. Some studies have recorded over 40% of some tooth surfaces influenced by erosion associated with dietary acids [19]. Attention to diet is the main focus for the preclusion of tooth erosion. The clinical features of anorexia nervosa comprises a pattern of enamel dissolution in cases of vomiting, regurgitation, and/or the consumption of large amounts of citrus fruits; and an altered caries response due to abnormal carbohydrate consumption. Despite the patient's probably insistent denial of 'anorectic' eating habits, dentist should consider the existence of anorexia nervosa in the presence of such abnormal features, especially in young women. Whereas the somatic changes occurring with anorexia nervosa are reversible, those affecting the hard dental tissues are not. The term perimolysis is used by Hoist and Lange [20] to describe the destruction of tooth tissue due to persistent vomiting. Cases of dental damage resulting from regurgitation or vomiting as symptoms of such medical conditions as hiatus hernia, 'gastric dysfunction, duodenal or peptic ulcer, antabuse therapy for alcoholism, and during pregnancy are well documented.

Xerostomia, Sialorrhoea and other Disorders

Saliva plays an important role in oral health. It contains glycoproteins and mucoproteins which lubricate the oral cavity and enhance food bolus formation, translocation of food and initiation of swallowing. It also contains peroxidases and lysozymes which have antibacterial properties. Saliva buffers and neutralizes acids produced by bacteria from foods. Saliva also enables the articulation of speech. Xerostomia (reduced salivary flow) has been implicated in a range of improves the survival rate and reduces the distress associated with some forms of radical surgery or radiotherapy. Cancer of the head and neck influences the psyche as well as the soma and, as such calls for a comprehensive approach to treatment. Psychiatrists and dentists should be attentive that patients normally react to the phenomenon of cancer as a grievous event and experience emotions such as denial, depression, anxiety, guilt and fear. Locating in the highly visible area and personally dental conditions. Stiefel et al found increased plaque, calculus formation, caries, gingivitis and soft tissue lesions in people with reduced salivary flow. Individuals with xerostomia were also found to be at greater risk of root and coronal caries formation [20].The effect was increased when multiple types of medication with xerostomic side-effects were taken. Xerostomia also predisposes to oral candidiasis, especially in denture wearers. Xerostomia can be initiated by medication with anticholinergic side-effects bytricyclic antidepressants, other antidepressants (e.g. selective serotonin reuptake inhibitors), lithium carbonate, butyrophenones, Phenothiazines, Sedatives (including benzodiazepines), antihistamines**,** antihypertensives**,** anticholinergic drugs, diuretics [21] etc. Some autoimmune diseases, for example Sjogrens syndrome, and exposure to oral radiation may lead to severe xerostomia. Sialorrhoea, which is the overproduction of saliva, is both unpleasant for the patient and for others, causing drooling and soreness of the face. Sialorrhoea is a well-known side-effect of clozapine and may improve after reduction in the dose. If clozapine has to be

continued, it is possible to treat the sialorrhoea using anticholinergic medication. In addition to Xerostomia and Sialorrhoea, medication can yield a variety of other side effects relevant to dentistry e.g. Abnormal facial movements, Tics, Grimacing, Oro-facial dyskinesia, Parkinsonian side-effects, Gingival hyperplasia.

Psychiatric disorders affecting dental health

Dental anxiety

In the general population, psychological problems relating to receiving dental treatment are wide spread. It has been reported that about half of all dental patients experience some anxiety towards their dental visits [22]. It is important to distinguish the role that dental fear plays, as it can lead to delay in seeking necessary dental treatment, cancellation of appointments and poor cooperation in the dental chair. Dental fear is one of the most troublesome patient management problems for the dental team, causes distress for the patient and results in high stress levels in dentists.

Dental phobia

Dental phobia is classified in DSM-IV (American Psychiatric Association, 1994) as a specific phobia, which involves a marked and persistent fear of a specific object, activity or situation that results in anxiety on confronting the phobic stimulus. Dental phobia is classified as a specific (isolated) phobia in ICD-10 (World Health Organization, 1992). People with dental phobia usually report two types of experiences; a painful or traumatic dental procedure or negative personal interaction with dental staff, often in childhood or adolescence. There may also be fearful attitudes learned from parents and others, a feeling of lack of control in the dental situation and the presence of general anxiety disorders [22].

Dental practitioners may treat dental phobia themselves or enlist the help of the patient's general practitioner or a psychiatrist. It is very important for the dentist to recognize & understand the patient's fears and to explain the nature of the proposed dental treatment. It has been established that people with specific fears such as gagging and needle phobia respond best to graded exposure in vivo and may also find relaxation techniques enable them to accept treatment. Relapse rates were found to be better in those who had about four hours of therapy. Those with non-specific fear tend to remain vigilant and respond less well to behavioural techniques. Some dental practitioners offer patients a mixture of nitrous oxide and oxygen to inhale (conscious sedation), which provides analgesia and relaxation. Intravenous diazepam can be used for tranquillization, and music, together with other distraction techniques, may help others. Relatively few patients may necessitate specialist care. Those with severe symptoms should have a thorough assessment by an experienced psychologist or psychiatrist and a carefully structured treatment programme. Dental anxiety may, of course, be part of another type of anxiety disorder. Generalized anxiety disorder, panic disorder or agoraphobia may also exist with some features of dental anxiety [23]. Moore et al [24] describes embarrassment and fear with avoidance, which is similar to social phobia.

Psychosis

In a Danish study of hospital patients with schizophrenia, the dental attendance was half that of the normal population [25]. Tooth brushing was down by a third, representing poorer dental health behaviour. Dental problems may be concomitant with both positive and negative symptoms of schizophrenia. Teeth are sometimes incorporated into delusions and hallucinations. These comprises delusions of pain, oral infestation by worms or insects or bizarre delusions. Somatic delusions about pain or other symptoms in the oral cavity may cause unnecessary treatment. Bridges, crowns, fillings or extractions may be done, before the psychiatric problem is diagnosed Self-mutilation is rare and may range from minor abrasions to self-extraction of teeth and glossectomy. One patient removed all his amalgam fillings with a watchmaker's screwdriver in the belief that transmitters were in his teeth. Dentist needs to recognize the disorder and proper referral be made.

Eating disorders

Dentists have a role in the early diagnosis of eating disorders as they may be the first to perceive the effects of the illness. Anorexia nervosa reduces serum calcium levels, predisposing to erosion of tooth enamel and caries formation.

Vitamin deficiencies may lead to bleeding gums, angular cheilosis and a red sore tongue. In bulimia nervosa, large quantities of soft sweet foods are often consumed and vomited. Acidic gastric juices erode the lingual aspect of the anterior maxillary teeth. Hazelton and Faine [26] reported that up to one-third of people with bulimia had anterior tooth erosion. To reduce abrasion of teeth and gingivae, it is recommended that a mouthwash containing fluoride is used instead of tooth-brushing after vomiting. Dental practitioners with special experience should be available to treat patients in an eating disorders service. Dental restorations, including crowns, a fixed prosthesis or orthodontic appliances are damaged by gastric acid. Therefore, the patient should be motivated and be recovering from their illness well before being given expensive cosmetic dental treatment.

Alcohol and substance misuse

Alcohol abuse and dependence frequently occur with other psychiatric conditions; this dual diagnosis is called comorbidity. Professionals working with comorbid patients face unique and challenging dilemmas about how to provide the best treatment to address both conditions. Despite growing interest in these problems, relatively few clinical studies have tested treatments for this patient population [27] Those who are dependent on drugs or alcohol often neglect their personal hygiene and dietary needs and may live in poor social conditions, all of which contribute to poor oral health. Bruxism (tooth grinding), gingivitis and tooth abscesses are more common in those with alcohol dependency. Smoking cigarettes and drinking alcohol increase the risk of carcinoma of the oral cavity. Those who take illicit opioids may require more analgesia than expected. This group of patients are often difficult to treat as they often present in an emergency with the disease process in a more advanced condition.

Dental health behaviour

Regular brushing with a toothpaste containing fluoride is important, as is the avoidance of frequent intakes of cariogenic food or drink. Alcohol and smoking are risk factors for oral disease. Special care is required for those taking medication with xerostomic side-effects. Liquid forms of medication without sugar should be chosen, whenever possible. Good denture care should be part of routine physical care. Lucas [27] reported that psychiatric patients who wore dentures had more oral infections of candidiasis, stomatitis and angular chielosis than control subjects who did not wear dentures. These painful conditions were worse in those who wore dentures at night. Over half the females in the study wore their maxillary dentures at night. It is recommended that all dentures are removed at night and cleaned prior to use.

Dental services

There have been major changes in the way in which dental health services and treatment have been provided since the inception of the National Health Service in 1948. Significant advances have been made in pain control, dental materials and treatment modalities. Instead of general anaesthesia for extractions, there is now widespread use of sedation and local anaesthesia. There are also a variety of techniques for treating people with dental fear or phobia. In the late 1950s the high-speed drill revolutionized the delivery of restorative dental treatment and so an increasing proportion of the population retained their teeth rather than having extractions. The more recent development of adhesive filling materials has further improved tooth restoration and new veneer techniques have increased the options for cosmetic dentistry. The ability to anchor prostheses directly to the jawbone, as a result of the development of Osseo-integrated implants, is a major advance. Paradoxically, while the number of dental practitioners has steadily grown, the increased complexity and range of care has reduced the general availability of dental care in the population. The following suggestions are made to improve oral health status of the psychiatric patients [28,29].

• Specific preventive dental programs should be made an essential part of psychiatric treatment and care.

• The dental inspection and treatment procedures of troops should be carried out meticulously.

• Application of appropriate preventive measures like topical fluoride application, fluoride mouth rinses and chlorhexidine mouth rinses.

• Better coordination between medical, dental and psychiatric unit administration to serve the needs of this group of patients.

CONCLUSION

Psychiatric disorders upset the general behaviour of a person, impair level of functioning and alter awareness towards oral health. Eating and sleeping patterns take precedence over personnel hygiene, making them vulnerable to many oral diseases. It is likely that the demand for dental services for the community placed individual with mental illness will dramatically rise over the next decade. Many state and local agencies have been unwilling to initiate programs to meet the dental needs of these clients due to the many difficulties in providing other services to this population. Indeed, these difficulties are real and often monumental. Yet, with sound planning, communication, and carefully drawn limits to services provided, effective efforts can be made to improve the dramatic dental neglect experienced by so many of these individuals.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

REFERENCES

1. Stiefel DJ, Truelove EL, Menard TW, et al. Acomparison of the oral health of persons with and with out chronic mental illness in community settings. Special Care Dentistry 1990;10: 6-12.

2. Sims A. Why the excess mortality from psychiatric illness? BMJ 1987; 294 : 986-987.

3. Feinmann C, Harris M. Psychogenic facial pain management and prognosis. Part 1. The Clinical Presentation. Br Dental J 1984; 156 : 205-8.

4. Katon W, Ries RK, Kleinman A. Part11: a prospective DSM-111 study of 100 consecutive Somatisation patients. Compr Psychiatry 1984;25:305-314.

5. Hiller W, Rief W, Fichter M. How disabled are patients with Somato form disorders? Gen Hos Psychiatry 1997; 19 : 432-438.

6. Bass C, Peveler R, House A. Somatoform Disorders: Severe psychiatric illnesses neglected by Psychiatrists. Br J Psychiatry 2001;179 :11-14.

7. Feinmann C (ed). The mouth, the face and the mind. Oxford: Oxford University Press, 1999.

8. Bridges K, Goldberg DP. Somatic presentations of psychiatric illness in primary care settings. J Psychosom Res 1988; 32 : 137-44.

9. Sensky T, Greer S, Cundy T et al. Referrals to Psychiatrists in a general hospital- comparison of two methods of liaison Psychiatry: Prelim Commun J Royal Soc Med 1985; 78 : 463-468.

10. Gowda EM, Bhat PS, Swami MM. Dental Health Requirements for Psychiatric Patients. MJAFI 2007; 63 : 328-330.

11. Suastegui FH, Cedeño BV. Afecciones bucodentales en pacientes psiquiátricos. Rev ADM. 2004;61(6):225-9.

12. Haas NAT, Alves MU, Rocha VCF. O desafio do diagnóstico oral em pacientes especiais. RFO UPF. 2009 set/dez;14(3):211-5.

13. Jamelli SR, Mendonça MC, Diniz MG, Andrade FBM, Melo JF, Ferreira SR, et al. Saúde bucal e percepção sobre o atendimento odontológico em pacientes com transtorno psíquico moradores de residências terapêuticas. Cienc Saúde Colet. 2010;15(1):1795-800. http://dx.doi.org/10.1590/S1413-81232010000700091

14. Guerreiros PO, Garcia GL. Diagnóstico das condições de saúde bucal em portadores de paralisia cerebral do município de Pelotas, Rio Grande do Sul, Brasil. Cienc Saúde Colet. 2009;14(5):1939-46. http://dx.doi.org/10.1590/S1413-81232009000500036 15. Tani H, Uchida H, Suzuki T, Shibuya Y, Shimanuki H, Watanabe K, et al. Dental conditions in inpatients with schizophrenia: a large-scale multi-site survey. BMC Oral Health. 2012;12:32. PMid:22901247 PMCid:PMC3466126. http://dx.doi.org/10.1186/1472-6831-12-32

16. Jyoti B, Muneeshwar PD, Srivastava R, Singh AR, Kiran M, Simlai J. J Indian Acad Oral Med Radiol. 2012 July/Sept;24(3):177-81.

17. Carvalho EMC, Araújo RPC. A saúde bucal em portadores de transtornos mentais e comportamentais. Pesq Bras Odontoped Clin Integr. 2004 jan/abr;4(1):65-75.

18. Hede B. Oral health in Danish hospitalized psychiatric patients.Comm Dental Oral Epidemiol 1995; 23 : 44-8.

19. Sjorgren R, Nordstrom G. Oral health status of psychiatricpatients. J Clin Nurs 2000;9:632-8.

20. Lussi A, Schaffner M, Hotz P, et Al. Dental erosionin a population of Swiss adults. Comm Dent Oral Epidem 1991; 19 : 286-290.

21. Papas AS, Joshi A, MacDonald SL, et al. Cariesprevalence in xerostomicindividuals. Sci J 1993; 59 : 171-179.

22. Remick R A, Blasbery B, Patterson BD, et al. Clinical aspects of xerostomia. J Clin Psychiatry 1983; 44 : 63-65.

23. Slovin M. Managing the anxious and phobic dental patient. New York State Dental J 1997;63:36-40.

24. Enoch D, Jagger R. Psychiatric Disorders in Dental Practice. Oxford: Butterworth-Heinemann Ltd 1994.

25. Moore R, Brodsgaard I, Rosenberg N. The contribution of embarrassment to dental phobic anxiety: a qualitative research study. BMC Psychiatry 2004; 19 : 10-14.

26. Ennekin P, Weinstein P, et al. Treatment outcomes for specific subtypes of dental fear: preliminary findings. Specia Care Dentistry. 1992; 12 : 214-217.

27. Hazelton LR, Faine MP. Diagnosis and dental management of eating disorder patients. Int J Prosthodont 1996; 9 : 65-73.

28. Ismene L. Comorbidity of Alcoholism and Psychiatric Disorders. Alcohol Research & Health. 2002;26(2):82-89.

29. John AL, Holt M. Follow up study of 1992 Dental Hygiene Graduates. Chicago: William Rainey Harper College 1993.

30. Hede B. Dental health behaviour and selfreported dental health problems among hospitalized psychiatric patients in Denmark. Acta Odontol Scand 1995;53:35-40.

31. Markette RL, Dicks JL, Watson R C. Dentistry and the mentally ill. Acad Gen Dentistry. 1975;23:28-30.