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Psychologic and Psychiatric Aspects of Oral Health

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By

Tasnim Eyas Kamal Abdullah

Supervised by:

Dr. Rana Murtadha

B.D.S, M.Sc. Oral Medicine

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بسم الله الرحمن الرحيم

صدق الله العظيم

Certification of the Supervisor

I certify that this project entitled " **Psychologic and Psychiatric Aspects of Oral Health**" was prepared by the fifth-year student **Tasnim Eyas Kamal** under my supervision at the College of Dentistry/University of Baghdad in partial fulfillment of the graduation requirements for the Bachelor Degree in Dentistry.

Supervisor's name: Dr. Rana Murtadha

Date:

Dedication

This study is dedicated to the two I love the most, the meaning of my life, my dad, Dr. Eyas Kamal, and my mom, Mrs. Alyaa Saadoon, for their endless love, support, and encouragement. I am no one without you two, thank you for your constant effort on making me the best version of myself.

To my two sisters, friends, and everything in between, Asawer and Mohol, the joy of my life, the spice to everyday.

To my loving family.

To the memory of my loving grandfather Mr. Kamal Al Hadeethi.

To my friends, Dana and Khulood.

And to my colleagues.

Thank you all for being in my life.

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I also offer my sincere appreciation for the learning opportunities provided by my committee members, thank you for your brilliant comments, suggestions, and letting my defense be an enjoyable moment.

Finally, I would like to thank god for letting me through all the difficulties.

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Introduction

Patients of psychiatric conditions visits dental clinics everyday to seek dental and medical care, these patients may or may not be aware of the psychologic condition they have. The duty of a dentists is to help those patients in the most beneficial way possible.

Patients seen in oral medicine departments commonly have conditions with features that can be challenging to live with and can be associated with distress. Examples of such feaures include pain or other unpleasant sensations, fatigue, chronicity, and altered facial appearance. Healthcare professionals working in this specialty have a vital role to play in taking a holistic approach to assessment and treatment **(Newton and Guildford, 2021).**

It is important for oral medicine clinicians to include assessment of psychosocial concerns as part of their consultation. Since clinicians' judgment of the severity of the visible difference is not an accurate predictor of psychosocial adjustment, it is important that clinicians do not make assumptions based on this; for example, referring somebody for psychological support simply because they have an objectively large visible difference **(Glick et al, 2021).**

It is helpful if there is ready access to psychology professionals in Oral Medicine departments, both to provide consultation to the team and to see those patients who may need more support. Including a psychologist in multidisciplinary clinics is an effective and nonstigmatizing way to achieve this **(Newton and Guildford, 2021).**

Aims of the study

This study is dictated to discuss the importance of psychiatry in oral medicine and the effect of the psychological health of the patient on the diagnosis as making an accurate diagnosis makes it more likely to correctly treat and manage the case.

Studying the association between psychologic consideration and oral medicine is inevitable nowadays, as psychiatric problems became more patent and more significant to the public.

CHAPTER ONE: REVIEW OF LITERATURE

1 The biopsychosocial model and relationship to the gate control theory of pain

1.1 The biopsychosocial model

The biopsychosocial model is the most useful in clinical dentistry. The model suggests that the development and experience of illness are the result of the interplay of three broad groups of factors: biologic, psychological, and social **(Newton and Guildford, 2021)**. **(Table 1)**

Biologic	Psychological	Social
Genetic predispositions	Behaviors	Living circumstances
Evolutionary vulnerabilities	Thoughts (cognitions)	Economic factors
Infective agents	Experience of psychosocial stress	Interpersonal factors
Other biologic processes	Beliefs about disease	Social support
	Symptom interpretation	

Table 1. The biological, psychological and social factors that need to be taken into account in assessing a patient's clinical response to pain (the biopsychosocial model) **(Newton and Guildford, 2021)**.

The biologic grouping includes genetic pre-dispositions, evolutionary vulnerabilities, infective agents, and other biologic processes. The psychological factors include both behaviors and thoughts (cognitions) that influence the onset of disease (for example health-related behaviors, the experience of psychosocial

stress, beliefs about disease, and symptom interpretation) and the course of the disease **(Newton and Guildford, 2021).**

Examples of thoughts that would have an impact on disease perceptions include beliefs about the ability to control symptoms, the extent to which symptoms are perceived as normal or abnormal, coping strategies, and so on. Social factors cover living circumstances, economic factors, but also interpersonal factors that operate at the level of the person's immediate social group, including social support and engagement with the sick role **(Newton and Guildford, 2021).**

1.2 The gate control theory of pain

The perception of pain will differ according to the degree of pain modulation. There are numerous theories relating to the perception of pain **(Moayedi and Davis, 2013).** However, there is one pain theory that has enriched our understanding of pain mechanisms and takes, account of both physical and psychological dimensions of pain, and this is Melzack and Wall's (1965) pain gate theory **(Figure 1)**. This widely accepted theory describes a pain-modulating system, where a neural 'gate' present in the substantia gelatinosa in the dorsal horn of the spinal cord (DHSC) can open and close thus increasing or decreasing the flow of nerve impulses from the periphery to the CNS and thereby modulating the individual's perception of pain **(Doody and Bailey, 2017)**.

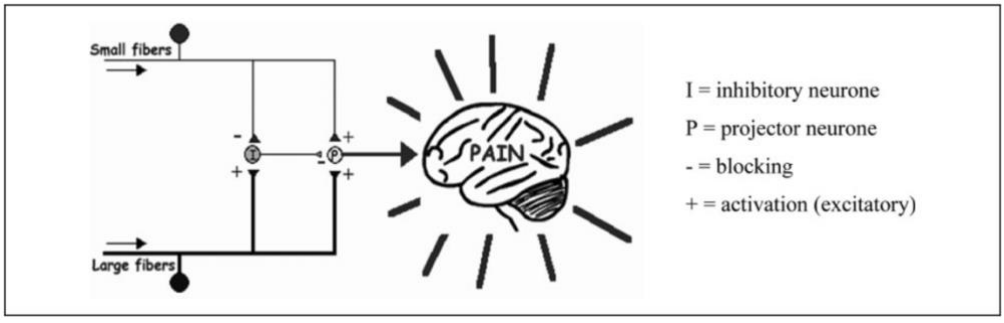

Figure 1. Gate control theory **(Doody and Bailey, 2017)**.

Concordant with the biopsychosocial model, the gate control theory identifies three components of the pain experience. First, there is the sensory discriminative component that gives information about the location, type, and intensity of the pain stimuli. The second is that the affective motivational component characterizes the emo- tional responses to pain (such as anxiety, fear, or distress). Finally there is the cognitive evaluative component, which refers to the interpretation or meaning that the individual ascribes to the sensory experience, and which is related to their characteristic pattern of thinking about their pain, their beliefs, expectations, and other cognitions concerning the pain, as well as the presence of psychological comorbidities such as depression **(Newton and Guildford, 2021)**.

(Figure 2) summarizes the interaction of the sensory– discriminative component, the affective–motivational component, and the cognitive–evaluative component to form the experience of pain **(Newton and Guildford, 2021).**

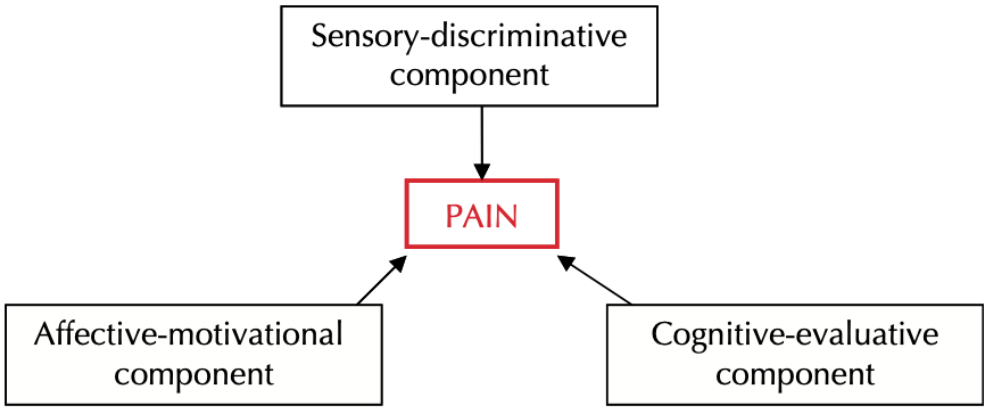

Figure 2. The components of pain as identified by gate control theory. **(Newton and Guildford, 2021)**

1.3 Psychological Assessment of Individuals with Chronic Orofacial Pain

The initial assessment of an individual with chronic pain according to **(Newton and Guildford, 2021)** should encompass the following areas:

- The pain experience.
- Psychological wellbeing (including the most common manifestations of psychological disturbance: depression and anxiety, as well as significant risks such as suicidal ideation).
- The impact of pain on functioning and wellbeing.

1.4 Psychological Wellbeing

The identification of coexisting negative impacts on psychological wellbeing, such as low mood or anxiety, is important in the assessment of an individual with chronic orofacial pain, since such issues may have an impact on adherence to medical advice, as well as exacerbating the negative impact of pain on everyday functioning and pursuit of valued goals by the patient. An impact on psychological wellbeing, although not inevitable, has been found to be increased above general population rates in orofacial pain, including temporomandibular dysfunction (TMD) **(Yeung et al, 2017),** and BMS **(Bogetto et al, 1998).**

1.5 Psychological Interventions In Chronic Orofacial Pain and Other Long-term Conditions

Psychological approaches are widely recommended for long- term health conditions, including chronic pain, in order to help people live with their condition more effectively. These approaches combine techniques to address the cognitive and behavioral manifestations associated with long-term health conditions. Appreciation of psychological techniques will help oral medicine clinicians to better manage these patients. Examples of common presentations in which it is helpful to have an appreciation of psychological techniques include those in which there is:

- Anxiety about the condition and/or its progression.
- Avoidance of activity, leading to reduced quality of life.
- Continued requests for further investigations or a cure, despite the condition being chronic and/or further investigations not being indicated.

Some patients may additionally benefit from referral to a psychologist for further assessment and a course of psychological therapy to address these issues in more depth **(Newton and Guildford, 2021).**

1.6 Psychosocial Issues Experienced by People with a Visible Difference

Some conditions such as oral cancer and OFG can be associated with changes in appearance, also commonly termed visible difference. **(Rumsey and**

Harcourt, 2004 ; Rumsey and Harcourt, 2005) give a detailed account of the psychosocial issues related to visible difference.

In summary, visible difference can be associated with:

- Anxiety and depression.
- Negative self-perceptions and self-esteem.
- Challenging encounters with other people (e.g., staring), which can contribute to distress.
- Behaviors such as avoiding social situations. In longer term, avoidance can compound distress.

Importantly, the level of psychosocial distress experienced by an individual is not related to the severity of the visible difference **(Brown et al, 2010).** Factors that are associated with more positive psychosocial outcomes in people with visible difference include having good social support and effective communication skills (**Rumsey and Harcourt, 2004).**

It should also be noted that the treatments for some of the conditions in which visible difference occurs can be demanding. Furthermore, physical functioning can be affected and the patient may be in pain. These factors can present additional challenges and sources of distress, alongside a visible difference **(Newton and Guildford, 2021).**

1.7 Communicating with patients

Effective Communication in Medical/Dental Settings

The way healthcare professionals communicate with patients can have a significant influence on patients' adjustment to their condition, their satisfaction with their

care, health outcomes, and adherence to treatment. Riedl and Schüßler provide a systematic review of the influence of doctor–patient communication on health outcomes18 and Newton reviews dentist–patient communication **(Newton, 1995).** Useful models to aid communication in dental and medical settings have been developed and include the Calgary-Cambridge communication guide **(Kurtz et al, 1998; Silverman et al, 1998; Scambler and Asimakopoulou, 2014**) model of patient-centered care.

Some principles of effective communication in dental/ medical settings include the following:

- Avoid jargon, or make sure to explain it when its use is necessary.
- Include open-ended questions such as "What problem brought you to the hospital today?" to allow the patient to tell their story.
- Elicit and explore the patient's perspective. For example, ask about the patient's understanding of their health con- dition and about their perspective on the costs and bene- fits of the proposed treatment.
- Collaborate with the patient when discussing treatment choices.

2 Psychiatric conditions in oral medicine

Individuals living with psychiatric disorders in general experience poorer oral health than those who do not have psychiatric disorders. Those with three particular disorders (somatic symptom disorder, body dysmorphic disorder, and the eating disorders anorexia nervosa and bulimia nervosa) are especially prone to present with oral and dental symptoms **(Newton and Guildford, 2021).**

2.1 Somatic symptom disorders

It is the manifestation of one or more physical symptoms accompanied by excessive thoughts, emotion, and/or behavior related to the symptom, which causes significant distress and/or dysfunction **(Kurlansik and Maffei, 2016).**

These symptoms may or may not be explained by a medical condition. The two major changes to the DSM-IV criteria included eliminating the requirement that somatic symptoms be organically unexplained and adding the requirement that certain psychobehavioral features have to be present to justify the diagnosis. The new criteria also eliminated somatization disorder, undifferentiated somatoform disorder, hypochondriasis, and pain disorder from the previous definitions. These revisions were intended to increase the relevance of SSD and its use in the primary care setting **(Kurlansik and Maffei, 2016).**

2.1.a Epidemiology of the disease

The prevalence of somatic symptom disorder (SSD) is estimated to be 5% to 7% of the general population, with higher female representation (female-to-male ratio 10:1), and can occur in childhood, adolescence, or adulthood **(Kurlansik and Maffei, 2016; Harris et al, 2009).** The prevalence increases to approximately 17% of the primary care patient population **(Creed and Barsky, 2004).**

The prevalence is likely higher in certain patient populations with functional disorders, including fibromyalgia, irritable bowel syndrome, and chronic fatigue syndrome **(Häuser et al, 2015).**

2.1.b Pathophysiology of the disease

The pathophysiology of somatic symptom disorder (SSD) is unknown. Autonomic arousal from endogenous noradrenergic compounds may cause tachycardia, gastric hypermotility, heightened arousal, muscle tension, and pain associated with muscular hyperactivity in patients with SSD. There may also be a genetic component. A study of monozygotic and dizygotic twins revealed that the contribution of genetic factors to somatic symptoms was 7% to 21%, while the remaining was attributable to environmental factors **(Kato et al, 2010).**

2.1.c Etiology of the disease

(Kurlansik and Maffei, 2016) suggests that somatic symptom disorder (SSD) arises from a heightened awareness of various bodily sensations, which are combined with an inclination to interpret these sensations as indicative of medical illness. While the etiology of SSD is unclear, studies have investigated risk factors including:

- Childhood neglect.

- Sexual abuse.

- Chaotic lifestyle,History of alcohol and substance abuse.

Furthermore, severe somatization has been associated with axis II personality disorders, particularly avoidant, paranoid, self-defeating, and obsessive-compulsive disorder **(Rost et al, 1992).** Psychosocial stressors, including

unemployment and impaired occupational functioning, have also been implicated **(Harris et al, 2009).**

2.1.d Diagnosis

The presence of SSD may be suggested by a vague and often inconsistent history of present illness, symptoms that are rarely alleviated with medical interventions, patient attribution of normal sensations as medical illness, avoidance of physical activity, high sensitivity to medication adverse effects, and medical care from multiple providers for the same complaints.

In addition to a thorough history, a full review of systems (not only at the location of the symptom) and a comprehensive physical exam is required to evaluate physical causes of somatic complaints. Given frequent comorbid psychiatric disease, a mental status examination should be performed, noting appearance, mood, affect, attention, memory, concentration, orientation, the presence of hallucinations or delusions, and suicidal or homicidal ideation **(Tylee and Gandhi, 2005).**

Three broad criteria must be met for the diagnosis: there should be no medical or physical explanation for the severity of the symptom(s); the patient's concern in relation to the symptom(s) is out of proportion to the severity of the symptom; and the condition must have lasted in excess of 6 months. **(Table 2)**

Criteria for Diagnosis of Somatic Symptom Disorder
There should be no medical or physical explanation for the severity of the symptom(s).
The patient's concern in relation to the symptom(s) is out of proportion to the severity of the symptom.
The condition must have lasted in excess of six months.

Table 2. Criteria for Diagnosis of Somatic Symptom Disorder

2.1.e Treatment/Managment

The primary objective is to help the patient cope with physical symptoms, including health anxiety and maladaptive behaviors, as opposed to eliminating the symptoms. Caution must be exercised when conveying to patients that their physical symptoms are exacerbated by anxiety or excessive emotional problems as patients may be resistant to this suggestion. The primary care provider should schedule regular visits to reinforce that symptoms are not suggestive of a life-threatening or disabling medical condition **(den Boeft et al, 2017).**

Diagnostic procedures and invasive surgical treatment are not recommended. Sedative medications, including benzodiazepines and narcotic analgesics, are avoided. Early psychiatric treatment is recommended. Studies have shown that cognitive-behavioral therapy is associated with significant improvement in patient-reported functioning and somatic symptoms, a decrease in health care costs **(Lesley A Allen et al, 2006)**, and a reduction in depressive symptoms **(Beltman et al, 2010).** Pharmacologic approaches should be limited, but antidepressants can be

initiated to treat psychiatric comorbidities (anxiety, depressive symptoms, obsessive-compulsive disorder). Selective serotonin reuptake inhibitors (SSRIs) and serotonin-norepinephrine reuptake inhibitors (SNRIs) have shown efficacy with an improvement of SSD compared to placebo **(Kleinstäuber et al, 2014).** However, medications should be initiated at the lowest dose and increased slowly to achieve a therapeutic effect as patients with SSD may have a low threshold for perceiving adverse effects, introducing another source of concern.

2.1.f Prognosis

Longitudinal studies show considerable chronicity, with up to 90% of somatic syndrome disorder (SSD) cases lasting longer than 5 years **(Rief and Rojas, 2007; Jackson and Kroenke, 2008).**

Systematic reviews and meta-analyses have revealed that therapeutic interventions only yield small-to-moderate effect sizes **(Kleinstäuber et al, 2011) (van Dessel et al, 2014).** Chronic limitation of general function, significant psychological disability, and decreased quality of life are frequently observed **(Jackson and Kroenke, 2008; de Wall et al, 2004).**

2.1.g Complications

Alcohol and drug abuse are frequently observed **(Hasin and Katz, 2007)**, and sometimes utilized to alleviate symptoms, increasing the risk of dependence on

controlled substances. If the provider decides to pursue invasive diagnostic procedures or surgical interventions, iatrogenic complications may arise.

2.1.h Deterrence and patient education

The provider should acknowledge the patient's symptoms and suffering and offer frequent follow-up evaluations. Patients should primarily discuss any somatic symptoms with their primary care provider, who will assess the need for subspecialty evaluation. Prompt treatment of psychiatric comorbidities and addressing life stressors may improve somatic symptoms. The education of family members is often necessary. Family members should spend time with patients, particularly when symptoms are absent, to avoid reinforcing the idea that symptoms bring special attention from others **(Chaturvedi et al, 2006).**

2.1.i Enhancing health care team outcomes

Making a diagnosis of somatic syndrome is not always easy. Healthcare providers, including nurse practitioners and primary care clinicians, should try and rule out organic disorders first before making a diagnosis of a somatic syndrome. Some healthcare providers find patients with SSD difficult to manage and often describe them in derogatory terms; the misconceived bias is that physical disorders are considered genuine, while those with SSD are inappropriately accused of manufacturing their symptoms. As an increasing primary care population with medically unexplained symptoms receives a diagnosis of SSD, there is a need to educate and train physicians about SSD, its significance, and how to best manage these patients **(Chaturvedi, 2013; Rask et al, 2014).** When faced with a patient

with somatic syndrome, a referral to a psychiatrist is highly recommended. The outlook for patients with somatic syndromes is guarded. Once diagnosis and treatment are initiated, the nurses and clinicians should coordinate the care and education of the patient and family to obtain the best outcomes. The syndrome is often chronic and can be associated with a poor quality of life **(Rayan and Hooten, 2013).**

2.2 Body dysmorphic disorder

Body dysmorphic disorder (BDD) is a DSM-IV disorder that is characterized by a distressing or impairing preoccupation with slight or imagined defect(s) in one's physical appearance. BDD has been consistently described around the world for more than a century **(Phillips KA, 2009).**

(Enrico Morselli, 1891) offered this poignant description: "The dysmorphophobic patient is really miserable; in the middle of his daily routines, conversations, while reading, during meals, in fact everywhere and at any time, is overcome by the fear of deformity which may reach a very painful intensity, even to the point of weeping and desperation".

"Preoccupation with an imagined defect in appearance. If a slight physical anomaly is present, the person's concern is markedly excessive." The most common pre-occupations focus on the skin (eg, scarring, acne, color), hair (eg, going bald, excessive facial or body hair), or nose (eg, size or shape), although any body part can be the focus of concern **(Philips and Kaye, 2007).**

2.2.a Epidemiology

BDD appears to be relatively common. Epidemiologic studies have reported a point prevalence of 0.7% to 2.4% in the general population **(Faravelli et al, 1997; Rief et al, 2006**). These studies suggest that BDD is more common than disorders such as schizophrenia or anorexia nervosa. BDD is commonly found in clinical settings, with studies reporting a prevalence of 9% to 12% in dermatology settings, 3% to 53% in cosmetic surgery settings, 8% to 37% in individuals with OCD, 11% to 13% in social phobia, 26% in trichotillomania, and 14% to 42% in atypical major depressive disorder (MDD) **(Philips et al, 1996; Hollander et al, 1993; Aouizerate et al, 2003; Brawman et al, 1995; Castle et al, 2004; Ishigooka et al, 1998; Kelly et al, 2002; Perugi et al, 1997; Phillips et al, 2000; Sarwer et al, 1998; Soriano et al, 1996; Uzun et al, 2003; Vargel et al, 2001; Vindigni et al, 2002; Wihelm et al, 1997).**

2.2.b Appearance preoccupations

The most frequent body areas of concern are the skin (73%), hair (56%), and nose (37%). However, any body area can be the focus of preoccupation. On average, over their lifetime, persons with BDD are preoccu- pied with 5 to 7 different body parts. **(Philips and Diaz, 1997; Phillips et al, 2005).**

Approximately 40% of individuals with BDD actively think about the disliked body parts for 3 to 8 hours per day, and 25% report thinking about them for more than 8 hours per day **(Phillips, 2005).** These preoccupations are almost

always difficult to resist or control, and they are intrusive and associated with significant anxiety and distress **(Phillips, 2009).**

2.2.c Insight regarding perceived appearance defects

Insight regarding the perceived appearance defects varies. In one sample, 35.6% of participants were classified on the reliable and valid Brown Assessment of Beliefs Scale (BABS) **(Eisen et al, 1998)** as delusional, that is, completely certain that their beliefs about how they look were accurate **(Phillips et al, 2006).** Prior to effective treatment, few patients have good insight. Studies have consistently found that insight is poorer in BDD than in OCD, with 27% to 60% of BDD patients having delusional beliefs versus only 2% of OCD patients **(Phillips and Kaye, 2007; Eisen et al, 2004).**

About two thirds of BDD patients have past or current ideas or delusions of reference, believing that other people take special notice of them in a negative way or mock or ridicule them because of how they look **(Phillips et al, 1994)** Clinical impressions indicate that such referential thinking may lead to feelings of rejection and to anger (even violence, such as attacking someone they believe is mocking them) **(Phillips, 2009)**.

2.2.d Course of illness

BDD usually begins during adolescence, with two studies reporting a mean age at onset of 16 and a mode of 13 **(Phillips et al, 2005; Gunstad and Phillips, 2003).** Retrospective data indicate that BDD appears to usually have a chronic course, unless it is treated **(Phillips and Diaz, 1997; Phillips et al, 2005).**

2.2.e Psychosocial functioning and quality of life

BDD is associated with substantial impairment in psy- chosocial functioning and markedly poor quality of life. In a sample of 200 individuals with BDD (n=200), 36% did not work for at least one week in the past month because of psychopathology, and 11% had permanently dropped out of school because of BDD symptoms **(Didie et al, 2008).** Individuals with BDD have, on average, much poorer mental health, emotional well-being, social functioning, and overall quality of life than the general population, and scores on quality of life measures are poorer than for patients with diabetes or clinical depression **(Phillips, 2000; Phillips et al, 2005).** Many patients with more severe BDD are unable to work, be in or attend school, or have relationships **(Phillips, 2009; Dide et al, 2008).**

2.2.f Risk behaviors: suicidality, substance abuse, and violence

Rates of suicidal ideation, suicide attempts, and completed suicide appear markedly elevated **(Phillips, 2007).** Approximately 80% of individuals with BDD report past or current suicidal ideation, and about one quarter have attempted

suicide, which is often attributed to BDD symptoms **(Perugi et al, 1997; Conroy et al, 2008; Phillips and Diaz, 1997; Phillips, 2007; Phillips et al, 2005, Veale et al, 1996).**

Approximately one third of people with BDD report violent behavior that they attribute primarily to BDD symptoms (eg, attacking someone or damaging property) **(Phillips, 2009; Perugi et al, 1997).**

Clinical impressions suggest that anger or violence may be fueled by anger about looking "deformed," inability to fix the "defect," delusions of reference (eg, believing that other people are mocking the "defect"), and feeling rejected by others because of the "defect." In addition, anger or even violent behavior may be caused by dissatisfaction with cosmetic procedures. According to one survey, 12% of plastic surgeons said that they had been threatened physically by a dissatis- fied BDD patient **(Sarwer, 2002).**

2.2.g Treatment for BDD

A majority of individuals with BDD seek (71% to 76%) and receive (64% to 66%) cosmetic treatment (eg, surgical, dermatologic, or dental) for their perceived appearance flaws **(Crerand et al, 2005; Phillips et al, 2001).** In a general population sample from Germany, 7.2% of those with BDD had received cosmetic surgery, compared with only 2.8% of those without BDD **(Rief et al, 2006).** However, such treatment appears to only rarely improve overall BDD symptoms. In a study of 200 individuals with BDD, subjects retrospectively reported that only 3.6% of all treatments resulted in overall improvement in BDD **(Crerand et al, 2005).** In the previously noted survey of cosmetic surgeons, 40% of respondents indicated that dissatisfied BDD patients had threatened them physically or legally

(Sarwer, 2002). It is therefore important for BDD patients and their mental health providers to be aware that non-mental health interventions appear unlikely to successfully treat BDD symptoms. Guidelines on the treatment of BDD identify that any attempt to address the concerns about appearance through surgical care is contraindicated. Treatment options include the use of selective serotonin uptake inhibitors and CBT **(Andri et al, 2010).**

2.3 Anorexia Nervosa and Bulimia Nervosa

Anorexia nervosa and bulimia nervosa are two psychiatric diagnoses that fall within the grouping of feeding and eating disorders within the DSM-5

classification. This group includes a variety of problems around food and eating, as well as some disorders with a marked similarity to anorexia nervosa or bulimia nervosa where the individual does not fulfill all the criteria for one of those diagnoses. **(Table 2)**

Criteria for Diagnosis of Anorexia Nervosa
• Restriction of energy intake relative to requirements leading to a low body weight.
• Intense fear of gaining weight or persistent behaviors that interfere with gaining weight.
• Disturbance in the way a person's weight or body shape is experienced or a lack of recognition about the risks of the low body weight.

Table 3. Criteria for Diagnosis of Anorexia Nervosa

2.3.a Definition

Both anorexia and bulimia are characterized by severe disturbances in self-perceived body size, an overvaluation of weight as criteria for self-worth, and nutritional manipulation. With anorexia, this is accompanied by low body weight while individuals with bulimia typically have a normal body weight. Individuals with binge eating disorder do not typically share the distortions in body image associated with anorexia or bulimia but are similar to individuals with bulimia in experiencing episodes of loss of control over their eating. For some, this is accompanied by shame and low self-worth **(Madison et al, 2014).**

2.3.b Classification

The Diagnostic and Statistical Manual of the (American Psychiatric Association, Version 5 DSM-5, 2013) categorizes both anorexia bulimia, and binge eating disorder as eating disorders **(Madison et al, 2014).**

2.3.c Epidemiology

Prevalence estimates for anorexia nervosa among women range from 0.2% **(Szmukler, 1985)** –0.9 % **(Nobakht and Dezhkam, 2000)**, with an average of 0.3% **(Hoek and van Hoeken, 2003).** However, if the average is weighted by the sample size of the study, the prevalence is 0.6%. There are no equivalent estimates of prevalence for anorexia among men, probably due to its rarity **(Madison et al, 2014).**

2.3.d Etiology

(Madison et al, 2014) suggests that there is general agreement that environmental/cultural factors contribute to the development of eating disorders. Exposure to unrealistic models of body size and emphasis on dieting are thought to play central roles in the genesis of these conditions. There is also evidence of a strong genetic component to eating disorders. **(Hinney and Volckmar, 2013)** note that studies have reported heritability coefficients ranging from 48%–88% for anorexia and 28%–83% for bulimia.

There is agreement that cultural factors play a role in the development of bulimia and anorexia. Numerous studies suggest that normal weight bulimia was essentially unknown before the late 1960s. The role of the media and its impact on young females has been documented in many studies **(Heinberg and Thompson, 1995; Thompson and Heinberg, 1999).** For example, it has been reported that there was a sharp rise in eating disorder symptoms among young Fijian women after exposure to American television programming **(Becker et al, 2002).**

2.3.e Consequences

Short term consequences of anorexia include bradycardia, hypotension, irregular heart rhythm, hypothermia, muscle wasting, disturbed ability to concentrate, interference with executive (mental) functions, and depressed mood.

Additional consequences may include osteopenia, osteoporosis, reduced stature, and anomalous findings on blood chemistry. Mortality is estimated at approximately 6%, though longer-term studies of those treated with older therapies

show rates closer to 25%. Morbidity also remains high with reporting that 36.7% of patients with anorexi had either anorexia or bulimia six years post-treatment **(Fairburn et al, 1999)**.

Although the physical impact of bulimia are similar to those associated with anorexia, the more salient consequences of the former include hypokalemia, erosion of dental enamel **(Figure 2)**, abdominal pain, constipation or diarrhea, dehydration, edema, muscle weakness, and menstrual irregularities. More severe complications of bulimia include kidney damage, damage to the colon, permanent damage to the esophagus or stomach, and sudden cardiac arrest. Consequences of binge eating disorder may include obesity, with its concomitant impact on health and quality of life **(Madison et al, 2014).**

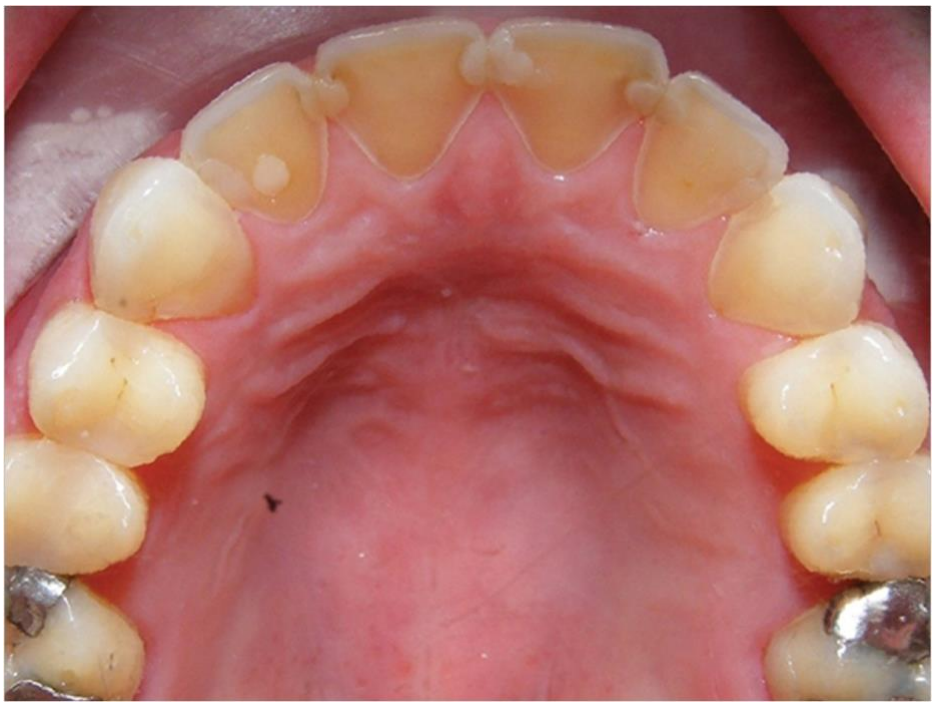

Figure 2. Dental erosion in a patient with eating disorder. (**British Dental Journal, 2018)**

2.3.f Pathophysiology

The involvement of the serotonergic system in bulimia and anorexia has received particular attention because of its role in regulating mood, appetite, and impulse control. Elevated levels of 5-hydroxyindole acetic acid (5-HIAA), the principal metabolite of serotonin, are found in the cerebrospinal fluid (CSF) of both anorexia nervosa and bulimia nervosa patients **(Kaye et al, 1988)**, even after normalization of weight. Several studies also have shown an increased frequency in the gene that codes for an abnormal serotonin receptor in association with these conditions **(Kipman et al, 2002).**

Neuroendocrine anomalies have been well-documented in both anorexia and bulimia, with particular impact on the hypothalamic-pituitary-adrenal axis.

Studies on anorexia patients also have demonstrated increased plasma cortisol, reflecting both increased production and decreased metabolism of this hormone **(Walsh et al, 1981).**

Although these anomalies normalize after weight restoration **(Rolla et al, 1984)**, they may play a significant role in maintaining the disorder. Underweight anorexics have low levels of CSF leptin **(Hebebrand et al, 1997).** The finding that leptin levels return to normal before weight restoration is consistent with clinical observations that anorexia patients appear to find the last portion of their weight restoration particularly difficult **(Holtkamp et al, 2003). (Connan et al, 2003)** have proposed a model in which vulnerability to stress triggers a downward spiral of the regulation of the hypothalamic-pituitary axis that is maintained by the regulated release of corticotrophin releasing hormone.

2.3.g Signs and symptoms

The formal criteria for anorexia **(DSM-5, 2013)** specifies body weight that is significantly below expectations when factors such as developmental level, age, health, and gender are taken into account. Anorexic patients are fearful of weight gain, or routinely behave in a way that interferes with weight gain, and have a distorted perception of their body size and/or shape. The current classification system separates anorexia into restricting type and binge eating/purging type. The restricting subtype results in the traditional picture in anorexia in which low body weight is maintained by extreme dieting and exercise. The binge eating/purging subtype is characterized by individuals who meet the weight criteria for anorexia, but also binge eat and engage in some form of purging such as vomiting, laxative use, or diuretics. Individuals with bulimia experience episodes of binge eating that are followed by compensatory behaviors. These behaviors include vomiting and laxative abuse (binge/purge subtype) or strategies such as excessive exercise and episodes of self-starvation. Normal weight individuals with bulimia are also subject to distortion in self- perception and often believe they are fat. Patients with either anorexia nervosa or bulimia nervosa often show their preoccupation with food and weight through frequent weighing, secretive eating behaviors, and abnormally frequent comments about their weight **(Madison et al, 2014).**

2.2.h Treatment

Treatment of anorexia nervosa and bulimia nervosa is multi-dimensional. In addition to nutritional rehabilitation, cognitive-behavioral psychotherapy, along with family therapy, have been shown to be effective in treating patients with

anorexia nervosa **(Brauhardt et al, 2014)** although the benefit of these therapies have been mostly noted in the weight maintenance phase of treatment **(Yager et al, 2006).** There is only minimal to moderate evidence that psychiatric medications are efficacious in treating patients with anorexia nervosa. Despite the prevalence of mood and anxiety symptoms in patients with anorexia nervosa, medications used to treat these conditions are not necessarily useful treatment adjuncts for reducing the symptoms of anorexia nervosa. In one study, fluoxetine assisted in preventing relapse in weight-restored patients with anorexia nervosa **(Kaye et al, 2001).** However this finding was not replicated in a subsequent study **(Walsh et al, 2006).** While there may be evidence for using antidepressants in the weight maintenance phase, antidepressants do not ameliorate eating disorder pathology in patients who are acutely underweight **(deVos J et al, 2014).** The poor response to antidepressants is believed to result from starvation-induced abnormalities in serotonin receptors **(Kaye et al, 2005).**

In addition to concerns regarding the efficacy of antidepressants in patients with anorexia nervosa, there is also considerable debate as to the efficacy of antipsychotics in treating their symptoms. Low-dose antipsychotic medications may be useful in treating delusional beliefs regarding body image, intense ruminations about food, and the hyper-arousal and as well as anxiety induced by having to face weight restoration **(Haye and Claudino, 2012; Flament et al, 2012**). Although atypical antipsychotic medications promote weight gain in normal weight individuals, they do not have this effect in patients with anorexia nervosa **(deVos et al, 2014; McKnight and Park, 2010).**

CHAPTER TWO: CONCLUSION AND SUGGESTIONS

- Dentists should try and rule out organic disorders first before making a diagnosis to cases associated with anxiety and orofacial pain.
- The level of psychosocial distress experienced by an individual is not related to the severity of the visible difference.
- Dental erosions may be associated with an underlying psychiatric condition called Bulimia Nervosa.

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وَءَاخِرُ دَعْوَىٰهُمْ أَنِ ٱلْحَمْدُ لِلَّهِ رَبِّ ٱلْعَٰلَمِينَ

صدق الله العظيم