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Manuscript title

Why does Patient Mental Health Matter? Part 3: Dental Self-Neglect as a Consequence of Psychiatric Conditions

Abstract:

This is the third paper in a series looking at psychiatric presentations in dentistry. Since publishing the first paper, the oral health of people with severe mental illness (SMI) has gained significant media attention with the Office of the Chief Dental Officer for England publishing a statement on the importance of prioritising oral health of people with SMI.<sup>1</sup> Members of our group (VA and DS) have also been involved in a consensus statement<sup>2</sup> that sets out a five-year plan to improve oral health in people with SMI. In the previous paper we discussed how a psychiatric disorder can manifest as an orofacial obsession in the absence of dental pathology. This paper will explore the physical presentation of dental self-neglect, specifically how different psychiatric conditions could be linked to emergency dental presentations. A fictionalised case-based discussion will be used to explore a clinical presentation of rampant caries.

Clinical Relevance Statement: This paper emphasises the role of the primary care dental team in recognition of psychiatric conditions, such as mood disorders, substance misuse and early psychosis.

Objectives Statement: To provide the reader with a better understanding of links between psychiatry and dentistry using fictionalised case-based discussion.

## Body of Manuscript

### Introduction

Untreated dental caries makes up a significant global burden of oral disease, affecting 35% of the worldwide adult population.<sup>3</sup> Unmanaged decay progresses into pulp, resulting in fistulas or abscesses; these urgent conditions are grouped together alongside ulcerations and referred to as PUFA (open pulp, ulcers, fistulas or abscesses). Positive PUFA symptoms are seen in 7% of the UK population<sup>4</sup> and are related to socioeconomic status, poor general health and length of time since last dental visit. Unmanaged psychiatric conditions can be a determinant for poor oral health due to reduced self-care, reduced access to routine dental care and associations with substance misuse.<sup>5</sup> In this paper we will consider substance misuse and mood disorders and how they can relate to a presenting complaint of PUFA alongside rampant decay.

### Case

A 65-year-old male patient comes to see you for an emergency appointment. He has been with your practice for over ten years and is presenting today with continuous aching pain from his lower right first molar. You note that it has been over 2 years since his last dental appointment, despite his recall being set to 12 months. He explains that he has been quite isolated throughout the Covid-19 pandemic and has been minimising leaving his house. In his social history he tells you that he drinks alcohol 'quite frequently' and seems unable to quantify an amount.

On examination the patients' dental health has significantly deteriorated since his last visit. He has eight new carious lesions in unrestored teeth, failing restorations and a BPE of 3 in 2 sextants compared to the previously charted ranges of 0-2. There is evidence of palatal tooth surface loss into dentine across the upper left 3 to upper right 3, where none was previously recorded. The LR6 is cavitated across three surfaces, with a buccal swelling visible and peri-apical pathology radiographically.

You explain your findings to him and he expresses that he has been finding it difficult to look after his teeth and do any kind of daily routine. When asking further about this he says he has been staying in bed for prolonged periods after being furloughed during the early stages of the Covid-19 pandemic. He lives alone and some days will only get up to snack on foods or watch TV with some red wine, a routine he has adopted over the last two years.

What are our initial thoughts?

The scenario presents a patient with a reduced ability for self-care and potential concurrent substance misuse (Figure 1). The emergency attendance and the rapid development of dental disease demonstrate that there may be difficulties engaging the patient in stabilising his dental health without support from external services.

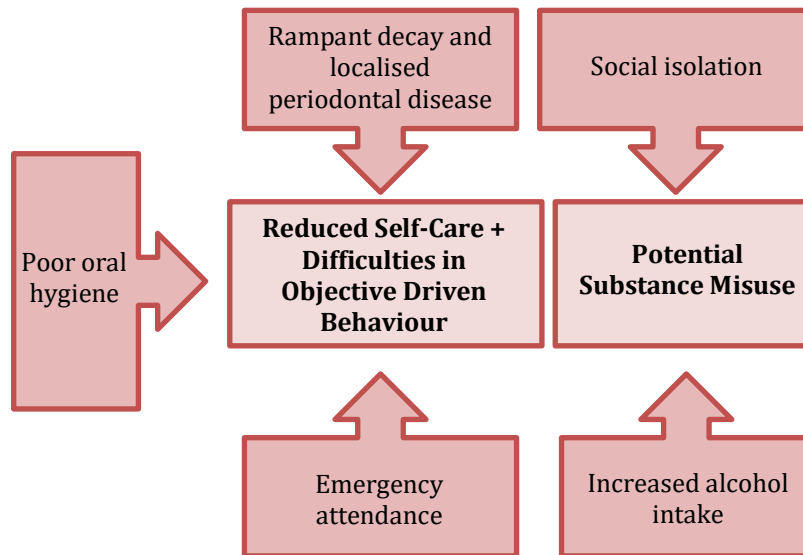


Figure 1: The features of the scenario and how they result in a presentation of reduced self-care and potential substance misuse

Emergency attendance and the patient’s self-expressed challenges in an effective daily routine indicate difficulties in objective driven behaviour. Several psychiatric conditions impact and limit objective driven behaviour and can result in reduced self-care or co-morbid substance misuse (Figure 2).

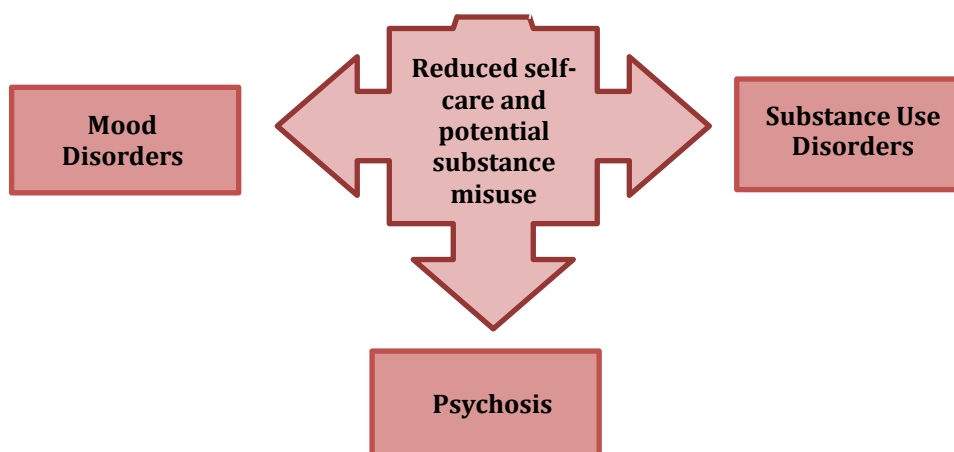


Figure 2: The psychiatric conditions that may relate to the patients’ difficulties in objective driven behaviour, reduced self-care and potential substance misuse

Is his presenting complaint related to a mood disorder?

Mood disorders refer to conditions of ‘pervasive and sustained emotions’ which can sway an individual’s perception of the world. As such, bipolar disorder and depressive episodes are both key examples of mood disorders, encompassing both highs and lows of mood. The Global Burden of Disease study highlighted that depression is the predominant mental health problem worldwide, followed by anxiety, schizophrenia and bipolar disorder.<sup>6</sup> The World Health Organisation estimated in 2017 that 4.5% of UK adults experienced depression<sup>7</sup> and in the 2014 Adult Psychiatric Morbidity Survey 2% of adults screened positive for bipolar.<sup>6</sup>

Older adults are more vulnerable to disorders of mood (in particular depression) due to chronic diseases, physical changes and loss of either friends or family.<sup>8</sup> On average, 17.1% of older adults experience depressive disorders, whereas bipolar is a disorder most prevalent amongst 16-24-year-olds, with prevalence decreasing with age.<sup>6</sup> The patient is classed as an older adult, so first we should consider the possibility of a depressive disorder.

Depressed patients are 20-30% more likely to have lost all their teeth and have higher rates of dental caries due to poor dental habits secondary to self-neglect.<sup>9</sup> There can also be additional presentations of co-morbid alcohol use that can create tooth wear presentations such as attrition and erosion.<sup>9</sup> The severity of an individual’s depression has additionally been shown to have a direct correlation with their periodontal health.<sup>10</sup> The patient has presented with new decay, worsened periodontal condition and tooth surface loss, which could all be associated with underlying depression.

In this scenario we have been given a brief insight into the patient’s potentially depressed mood, referring to his difficulties in undertaking daily routines and social withdrawal. Based upon the dental presentation of the patient, his social circumstances and his age, it is worth exploring the potential for depression further, asking questions that relate to the features and physiological changes associated with depression (Table 1).

Depression	Clinical features	Somatic or physiological changes
	Loss of enjoyment/interest	Reduced appetite, which can result in reduced weight
	Reduced energy and reduced activity	Early morning waking
	Reduced attention/concentration	Diurnal variation of mood
	Ideas of guilt/worthlessness	Constipation
	Lowered self esteem	Reduced libido

Table 1: The clinical features and the physiological changes of depression, adapted from a textbook of psychiatry.<sup>11</sup>

Similar symptoms may be present in a depressive episode of bipolar disorder and this presentation should be considered. However, bipolar disorder does not need to be accompanied by depressive episodes; the ‘essential feature’ of bipolar disorder is at least one episode of mania or hypomania that is often, but not necessarily, accompanied by a depressive episode.<sup>11</sup> Hypomania is a milder version of mania that is typically briefer, lasting days rather than weeks, while mania is much more severe - people often cannot continue with normal daily life during these periods. Mania results in over-activity and overzealous behaviour; oral habits during episodes can produce abrasive toothwear or gingival/mucosal lacerations.<sup>9</sup> The patient appears to be presenting with more consistent depressive symptoms rather than manic symptoms (outlined in Table 2) and does not have the additional oral symptoms of wear or lacerations associated with mania.

Features of a Manic Episode
Mood elevation
Increased energy, over-activity and reduced sleep
Poor attention and concentration
Overspending
Starting unrealistic projects
Potential inappropriate aggression

Table 2: The clinical features of a manic episode, adapted from a textbook of psychiatry.<sup>11</sup>

Our role is not to diagnose the patient with a type of mood disorder, merely recognise the presentation of depressive symptoms. Adults over 45 years-old with mood disorders are ‘less likely to utilise oral care services as recommended’<sup>8</sup> – a fact is evidenced by his emergency attendance. He may not re-attend for continuation of treatment, so any interaction with healthcare services is crucial for early signposting. Substance misuse may be concurrent with mood disorders, but it can also be the initiator. Given the patients mention of heavy drinking, we should consider the possibility of a substance misuse disorder.

Is this a presentation of a substance misuse disorder?

Psychoactive substance misuse is a pattern of harmful substance use that can cause either physical or mental harm,<sup>11</sup> where the substance misuse is marked by both chronicity and compulsion.<sup>12</sup> Long term substance misuse of different substances have varying impacts on oral health, as outlined in Table 3; for the patient the potential for alcohol misuse is the most pertinent.

Substance	Oral Health Impact
Alcohol	○ Risk to periodontal health

	<ul style="list-style-type: none"> <li>○ Increased potential for developing oropharyngeal cancer</li> <li>○ Erosive toothwear through gastro-oesophageal reflux</li> </ul>
Tobacco	<ul style="list-style-type: none"> <li>○ Risk to periodontal health</li> <li>○ Increased potential for developing oropharyngeal cancer</li> <li>○ Tooth staining</li> </ul>
Cannabis	<ul style="list-style-type: none"> <li>○ Risk to periodontal health</li> <li>○ Potential for cannabis stomatitis or hyperkeratosis</li> </ul>
Methamphetamine	<ul style="list-style-type: none"> <li>○ Induces both xerostomia and bruxism</li> </ul>
Opioids	<ul style="list-style-type: none"> <li>○ Salivary hypofunction resulting in xerostomia, taste impairment and potential for burning mouth</li> <li>○ Increased sugar craving</li> </ul>
Cocaine	<ul style="list-style-type: none"> <li>○ Intra-nasal use can result in perforations of the nasal septum or hard palate over long periods</li> <li>○ Recurrent sinusitis or oral blistering</li> <li>○ Decreased salivary pH</li> </ul>

Table 3: The oral health impact of different types of substance misuse<sup>9,12</sup>

Mood disorders such as depression or bipolar can predispose to harmful drinking; acute alcohol intake can be used to relieve the mood of depressive states or an individual may drink heavily during mania.<sup>11</sup> Conversely, chronic alcohol intake can induce depressive states independently.

What about our current scenario? Men have a higher rate of ‘hazardous drinking’; one third to one quarter of men aged between 16-64 drink to dangerous levels, a fact worth keeping in mind.<sup>6</sup> Up to a third of adults experiencing probable drinking dependence have gone undiagnosed, meaning this type of substance misuse is often missed.<sup>6</sup> The patient is an older adult who reports drinking ‘quite frequently’ and presents with a pattern of palatal tooth surface loss consistent with intrinsic acid erosion, warranting further investigation.

When eliciting further information about potential alcohol misuse you can try identify or ask the patient directly about issues with work, relationships, a family history of alcohol problems or withdrawal symptoms.<sup>11</sup> When using tools such as AUDIT-C (Alcohol Use Disorders Identification Test – Consumption) to screen for higher risk drinking you should pay particular attention to the pattern of drinking and the average number of units per week. A positive response to two of more CAGE questions (Table 4) is indicative of problem drinking.

CAGE Questionnaire
C – Have you ever felt you should Cut down on your drinking?



A – Have people Annoyed you by criticising your drinking?
G – Have you ever felt Guilty about your drinking?
E – Have you ever had a drink first thing in the morning (Eye-opener) to mitigate nerves or a hangover?

Table 4: Questions to ask in a history relating to potential alcohol misuse<sup>11</sup>

### Could his dental health be related to a psychotic disorder?

Given the patients' social isolation we should also take a step back and consider the potential for an insidious presentation of psychosis contributing to his dental self-neglect. Some early presentations of psychosis can be less florid and have predominantly 'negative symptoms' rather than 'positive ones'.<sup>13</sup> Negative symptoms include a lack of motivation and social withdrawal, contrasting with the positive symptoms of hallucinations and delusions.

This can make early psychosis difficult to identify for some patients who may present to primary care practitioners with non-specific symptoms. It can take several consultations before the diagnosis of a first episode of psychosis becomes clear. As a clinician it is important to be alert to the insidious nature of some presentations. There is an average delay of one year between the first onset of psychotic symptoms and treatment and the longer the delay the worse the outcome for the patient.<sup>13</sup>

Around 80% of new psychosis patients present between the ages of 16 and 30,<sup>14</sup> so it is less likely that he would be experiencing a first episode of psychosis compared to a mood disorder or substance misuse. However, in the UK an increased 'frequency of GP contact before the onset of psychosis is [generally] associated with shorter durations of untreated psychosis'. By simply expressing concerns and relaying information to the patients GP there is the potential to improve patient outcomes.

### What should I do now?

As with any patient, first you should address the dental emergency and relieve the patient's pain. However, it should be kept in mind that patients with mood disorders are 'less likely to utilise oral health services as recommended'<sup>8</sup> and he may not return for a routine follow up.

The need to act in this scenario is clear; mood disorders and schizophrenia carry a 5-6% lifetime suicide risk<sup>15</sup> and those who excessively consume alcohol have a suicide rate that is 50 times higher than that of the general population.<sup>11</sup> As part of your communication with any external clinician it is wise to have an awareness of the patients' suicide risk, if you feel comfortable and well positioned to explore this. Asking about a patients' suicide risk does not increase their suicidal ideation<sup>16</sup> and questions should include whether there has been any previous self-harm or suicide attempts, whether the patient has any current suicidal thoughts or plans to act on these thoughts and whether they are experiencing any feelings of hopelessness or significant stressors.<sup>16</sup>

You should talk to the patient about any concerns you have and request consent to share your thoughts with his general medical practitioner. If consent is withheld but if there is considerable risk to the patient then you can act in their best interests and share this information with their general practitioner, additionally seeking guidance and support from colleagues and indemnity. The need for referral to psychiatric services can then be further explored via this pathway. The patient can also be signposted towards local crisis teams.

Beyond emergency dental treatment the patient should be encouraged to continue seeing members of the dental team, perhaps recommending a co-operative approach with a dental hygienist within the practice to improve self-care. Ultimately, we should restore his oral health quality of life within a multidisciplinary approach to address the underlying psychiatric issues that are contributing to dental disease.

#### Declaration

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