

## Review Article



## Drug Abuse and Oral Health – A Review

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Received: 29-07-2017; Revised: 05-10-2018; Accepted: 22-12-2018.

### ABSTRACT

Oral health is an important and often overlooked component of a person's general health and well-being. Usage of various drugs, both legal and illegal can cause damage in the teeth and other structures in the oral cavity. Excessive fluoride can also be dangerous to children's teeth. Antihistamines, aspirin, bronchodilators and syrups may cause damage to the teeth. Illegal drugs including cocaine, cannabis, heroin and methamphetamines can cause severe irreversible damage to hard and soft tissues in the oral cavity. This article is a review on the illegal drug abuse and its side effects on oral health. Any drug dependence causes the person to neglect their personal hygiene, diet and dental care which can significantly increase the risk of dental problems and also other problems in the body. There is an increased need of dental care for the patients with illegal drug intake. The oral symptoms and other diseases that are caused by various drugs are reviewed in this article.

**Keywords:** Oral health, Illegal drug, Drug abuse, Oral manifestations, Dental care.

### INTRODUCTION

Medical complications of drug use includes abscesses at injection sites, viral hepatitis, Human Immunodeficiency Virus, Endocarditis and complications with anaesthesia.<sup>1</sup> Tobacco smoking is an independent risk factor in periodontal disease and a major risk factor in oral cancers.<sup>2,3</sup> The most prevalent diseases of the mouth in alcohol users include dental caries, traumatised teeth, periodontal diseases, cancer, recurrent oral ulceration, dermatoses and oral carcinomas.<sup>4</sup> Drug abusers also have noticed the habit to grind or clench teeth together and felt pain or tenderness in the jaw muscles or joints.<sup>5</sup> Majority of addicts have a high rate of plaque accumulation and calculus deposits resulting from oral hygiene neglect, xerostomia and alteration in microbial profile.<sup>6</sup> Substance addict patients have a significantly high rate of infection-related oral problems due largely to immunodeficiency.<sup>7</sup>

### ILLEGAL DRUGS AND THEIR SIDE EFFECTS

#### Cannabis

Cannabis is usually smoked and it has the ability to produce dry mouth and it can increase the risk of periodontitis. The smoke can also act as a causative agent for producing oral cancer.

#### Opiates

Opioid abusers must be given non-steroidal analgesics like ibuprofen and naproxen for managing dental pain as they develop tolerance to the analgesic effects of opioids and giving an opioid containing analgesic can cause the recovery to fail and also it will stimulate the person to begin abusing opiates again.

#### Cocaine

Cocaine users sometimes rub the Cocaine over their gums which can cause ulceration of gingiva and the underlying bone. Cocaine when mixed with saliva creates an extremely acidic environment that erodes tooth enamel and exposes the underlying dentine to decay-causing bacteria. Cocaine use will lead to dry mouth, which further increases the risk of dental caries. Regular use of cocaine may have severe orofacial effects, such as perforation of the nasal septum, palate, gingival lesion and erosion of the tooth surface. Use of cocaine increases the risk of a medical emergency during dental treatment especially when adrenaline containing local anaesthetic or retraction cord is used so a very detailed history of drug abuse has to be taken before planning for any treatment. Cocaine increases the possibility of cardiovascular complications during the dental treatment.<sup>8</sup> Necrotising effect of cocaine on the oral mucous membrane and the consequential appearance of oro-nasal communication due to ischemic necrosis of the palate which will ultimately lead to palatal perforation.<sup>9</sup>

#### Heroin

People who use heroin tend to crave for more sweet foods, which can increase the risk of dental caries if dental hygiene is neglected. Heroin can also cause dry mouth and tooth grinding. High levels of decay, periodontal disease and orofacial/dental trauma have been described in heroin and in-treatment methadone users.<sup>10</sup>

#### Methadone

Methadone induces xerostomia and its high sugar content raises the risk of caries.<sup>11</sup>



### Tobacco (smoke or smokeless tobacco)

Gingival inflammation, periodontal inflammation, alveolar bone damage, dental caries, tooth abrasion, dental implant failure, pre-cancerous conditions, dysplasia, oral squamous cell carcinoma (SCC) are linked closely with tobacco use. It is a dental professional responsibility to advice patients to quit tobacco and the dentist must take an active role in nicotine replacement counselling.<sup>12</sup>

### DENTAL IMPLICATIONS OF NARCOTIC ADDICTION

Dental caries symptoms are often suppressed by drug usage like heroin or opiates so these patients will have limited access to dental care as they tend to ignore the signs of tooth caries.<sup>13</sup> They might have pain due to dental caries if they are on withdrawal of the drug. Methadone is a weaker pain killer, so methadone abuse might not interfere with symptoms of dental caries.<sup>14</sup> Methamphetamine (MA) use has been linked anecdotally to rampant dental caries.<sup>15</sup> Intravenous drug abusers might have a high risk of HIV, Hepatitis C or other infections which can themselves produce oral manifestations in these patients.<sup>16</sup>

### DENTAL PROBLEMS IN METHAMPHETAMINE USERS

This drug causes severe tooth decay in a very short time. Methamphetamine is highly acidic and attacks tooth enamel. Bruxism is an activity of particular concern in MA users because of its potential consequences for an already compromised dentition: tooth destruction, breakage of dental restorations and exacerbation of TMJ disorders.<sup>15</sup> In chronic abuse of methamphetamine which leads to "Meth mouth," which is characterized by large carious lesions in buccal smooth surface areas and fractured teeth due to increased motor activity. It is important to note that a significant level of osteoporosis has also been reported in a high percentage of methamphetamine abusers.<sup>17</sup> While this description of atypical caries pattern in adults is speculated to be specific to methamphetamine use, this pattern is also associated with hypo-salivation secondary to radiation treatment and first reported with prolonged heroin use and in other poly-drug users.<sup>18,19,20</sup> Methamphetamine use is thought to stimulate inhibitory alpha-2 receptors via the central nervous system, thus inhibiting unstimulated saliva flow.<sup>21</sup>

### ORAL HEALTH BEHAVIOUR OF DRUG ADDICTS IN WITHDRAWAL TREATMENT

Among heroin users, there was inadequate oral health behaviour and those who reported with drug abuse started at a younger age and ones with longer history of drug abuse.<sup>22</sup> Addicts who are in withdrawal treatment, those who are less educated and those addicted to crystalline heroin show poor oral health behaviour and are at greatest risk for oral diseases.<sup>22</sup> Unemployed participants show lowest score of oral health behaviour and higher level of OHB seen in students, retired people, and homemakers, which might be due to the latter two

groups' having more free time, and because the students are very much concerned of their appearance.<sup>23</sup>

### CONCLUSION

The conclusion that can be drawn from this review is that drug abusers who came for treatment had a significantly high rate of oral pathology, essentially caries and periodontal disease. The lifestyles of drug users may contribute to oral health problems and low use of services. Drug users therefore comprise a group with special dental needs and need greater access to dental care than most people. Much of this care could be provided in general practice where appropriate dental care can contribute to recovery from drug use. Dentists should be aware of the mental state of such patients in order to make cooperation with the patient more successfully and to fully implement the therapy plan. Proper history has to be elicited in order to obtain the effects of the drugs used on their general and oral health of the patient to make a proper treatment plan and manage the patient effectively.

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Source of Support: Nil, Conflict of Interest: None.

