

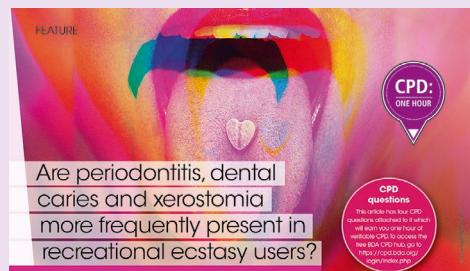
# BDJ Team CPD

## CPD questions June 2022

To answer these questions and earn one free hour of CPD, visit the CPD Hub: <https://bit.ly/33upiN9>



### Article: Are periodontitis, dental caries and xerostomia more frequently present in recreational ecstasy users?



Emma E. J. van Kempen,<sup>1</sup> Jan G. A. M. de Visscher<sup>2</sup> and Henk S. Brand<sup>1</sup> set out to determine whether there is a difference in oral health between those who use ecstasy and those who don't.

**Abstract**  
Objective The aim of this retrospective study was to determine whether there is a difference in oral health between recreational ecstasy users and non-recreational drug users.  
Study design In a cross-sectional study, dental records of 149 individuals visiting an academic dental clinic in Amsterdam who reported recreational ecstasy use, defined as no more than twice a week, were retrospectively analysed and compared to a group of age- and sex-matched non-drug users randomly selected from this institute. The parameters retrieved from the dental records were decayed, missed and filled tooth index (DMFT), number of endodontically treated teeth, presence of active caries lesions, periodontitis, tooth wear, xerostomia and self-reported use of oral hygiene devices.  
Results Periodontitis, active caries lesions and xerostomia were statistically significantly more present in ecstasy users. Ecstasy users brush their teeth significantly less frequently per day than non-recreational drug users. There were no significant differences in DMFT and in the decision used for brushing/interdental cleaning and frequency of use of these interdental devices between both groups.  
Conclusions Periodontitis, active caries lesions and xerostomia are more frequently present in recreational ecstasy users compared to age- and sex-matched non-users.

**'The sympathomimetic effect of ecstasy has been reported to influence oral functions by causing bruxism and xerostomia during use.'**

such as alcohol and opioids.<sup>1</sup> It is unknown how many people are addicted to these daily functioning as a result of ecstasy use.<sup>2</sup> Ecstasy is often used in combination with other psychoactive substances, usually in combination with alcohol and/or energy drinks or in combination with cannabis.<sup>3,4</sup> The main reason to combine ecstasy with other substances are to strengthen the positive effects of the drug or to reduce its negative side effects. The combination of MDMA with alcohol could reduce the negative effect of hyperthermia and water retention. Combination with cannabis seems to relieve the unpleasant side effects of MDMA, such as depressed feelings, anhedonia and dysphoria.<sup>5</sup> The sympathomimetic effect of ecstasy when combined with alcohol and/or energy drinks may increase the risk of dehydration and heat stroke.<sup>6</sup> The medical history forms in the patient database at the Dento Group, GGD Amsterdam, British Columbia, Canada) for the period 2002–2019 were electronically searched for reported recreational ecstasy use.  
Inclusion criteria for recreational ecstasy users were use of recreational ecstasy (defined as regular drug use for no more than twice a week) being older than 18 years of age (partially) dentate, and information about previous dental treatment, available in x-rays.  
For every individual reporting use of ecstasy, a non-drug user of ACTA with the same age and sex was randomly selected for comparison.  
Inclusion criteria for non-drug control

Table 1 Demographic characteristics of recreational ecstasy users and non-drug users. Data are presented as mean ± SD or percentages

Demographics	Ecstasy users	Nonusers	P-value
Age (years)	30.2 ± 9.5	30.1 ± 9.6	-
Sex (percentage)	49/50	49/50	-
Tobacco smokers	49/51	14/35	<0.001**
Use of smoking (percentage)	21/49	18/32	-
Cigarettes (per day)	5.1 ± 8.8	0.8 ± 2.7	<0.001**
Frequency in ecstasy use (per year)	7.1 ± 6.5	-	-
Polydrug use	44/25	-	-
Comorbid use	35/76	-	-
Frequency of comorbid use (per week)	1.8 ± 3.8	-	-

Table 2 The presence of periodontitis, active caries lesions, xerostomia, tooth wear, endodontically treated teeth, DMFT index, the number of interdental devices used, and self-reported use of interdental devices in ecstasy users and non-drug users

Parameter	Ecstasy users	Nonusers	P-value
Periodontitis	11.5% (n = 13)	<0.01**	-
Active caries	20.2% (n = 23)	<0.01**	-
Tooth wear	60.9% (n = 70)	50.6% (n = 56)	0.040*
Xerostomia	6.6% (n = 8)	<0.01**	-
DMFT index	21.7% (n = 25)	1.84*	-
Endodontically treated teeth	14.1% (n = 16)	1.50*	-
Interdental devices	1.1% (n = 1)	0.00*	-
Self-reported use of interdental devices	1.0% (n = 1)	0.00*	-

performed in accordance with the Declaration of Helsinki and reviewed and approved on 8 November 2018 by the Institutional Ethics Review Committee (ERC) of ACTA (protocol number 2018048). The Institutional ERC of ACTA confirmed that the Medical Research Involving Human Subjects Act in Dutch (Wet Medisch Wetenschappelijk Onderzoek met Mensen) does not apply to this study.  
The medical history forms in the patient database at the Dento Group, GGD Amsterdam, British Columbia, Canada) for the period 2002–2019 were electronically searched for reported recreational ecstasy use.  
Inclusion criteria for recreational ecstasy users were use of recreational ecstasy (defined as regular drug use for no more than twice a week) being older than 18 years of age (partially) dentate, and information about previous dental treatment, available in x-rays.  
For every individual reporting use of ecstasy, a non-drug user of ACTA with the same age and sex was randomly selected for comparison.  
Inclusion criteria for non-drug control

Table 3 The presence of periodontitis, active caries lesions, xerostomia, tooth wear, endodontically treated teeth, DMFT index, the number of interdental devices used, and self-reported use of interdental devices in ecstasy users and non-drug users

Parameter	Ecstasy users	Nonusers	P-value
Periodontitis	11.5% (n = 13)	<0.01**	-
Active caries	20.2% (n = 23)	<0.01**	-
Tooth wear	60.9% (n = 70)	50.6% (n = 56)	0.040*
Xerostomia	6.6% (n = 8)	<0.01**	-
DMFT index	21.7% (n = 25)	1.84*	-
Endodontically treated teeth	14.1% (n = 16)	1.50*	-
Interdental devices	1.1% (n = 1)	0.00*	-
Self-reported use of interdental devices	1.0% (n = 1)	0.00*	-

individuals were same sex and a maximum of one-month age difference from the ecstasy-using subjects, visiting the academic dental clinic in the same year as the user subjects, and use of any recreational psychoactive drugs (except smoking tobacco and consumption of alcohol).  
An automatic electronic search in the patient database of 162 000 individuals of ACTA identified 181 subjects (1%) who reported the use of ecstasy. In total, 71 individuals were excluded because of: 2 due to restricted access to the electronic health and dental records; 69 because of missing data; in the records, 2 for being non-recreational ecstasy users and 1 was younger than 18 years of age. For one patient, no comparable non-using patient was available. This resulted in a final study sample of 149 ecstasy users and 149 non-drug users.  
Data extraction procedure  
Data were systematically extracted from ACTA by one investigator using a standard data extraction sheet and were anonymously entered into an Excel spreadsheet. If a parameter was not extractable, information was marked as missing data. The following data were extracted from a single visit of the subject: the DMFT index, restored, endodontically treated teeth, and presence of active caries lesions. The DMFT index and endodontically treated teeth were extracted from the dental status of determined based on the available intra-oral pictures and/or dental radiographic images. To determine the presence of active caries lesions, the dental records and dental radiographic images were screened for the need of restorative treatment. The presence or absence of periodontitis was extracted from the dental records. The diagnosis of periodontitis was based on clinical periodontal examination and included a probing depth of >3 mm and should have been noted during radiographic assessment. The presence of reported tooth wear in the dental was based on information from dental records and extracted from

- 1. The adverse effects of MDMA/ecstasy include:
  - A. tachycardia
  - B. urinary retention
  - C. hallucinations
  - D. all of the above
- 2. Ecstasy users were:
  - A. more likely to smoke tobacco than non-using subjects
  - B. less frequent users of prescribed psychotropic medication

- C. more frequent users of asthma medication
- D. less likely to smoke tobacco than non-users
- 3. Ecstasy-polydrug users showed:
  - A. a lower decayed, missing and filled teeth index
  - B. lower caries incidence
  - C. significantly more frequent active caries
  - D. a higher need for sugar intake

- 4. Bruxism after ecstasy use:
    - A. has been reported to occur for up to 48 hours
    - B. is unknown as ecstasy induces muscle relaxation
    - C. increases for several weeks after a single use
    - D. is relieved when combined with alcohol or tobacco use
- To answer these questions and earn one free hour of CPD, visit the CPD Hub: <https://bit.ly/33upiN9>.