



<https://doi.org/10.1016/j.jemermed.2017.10.007>

Brief Report

EMERGENCY DEPARTMENT PATIENT BURDEN FROM AN ELECTRONIC DANCE MUSIC FESTIVAL

Neeraj Chhabra, MD,* Renee P. Gimbar, PHARM.D,† Lisa M. Walla, RN, BSN, CEN,* and
 Trevonne M. Thompson, MD, FAAEM, FACMT*‡

*Department of Emergency Medicine, University of Illinois at Chicago, Chicago, Illinois, †University of Illinois at Chicago, Chicago, Illinois, and
 ‡Department of Medical Toxicology, University of Illinois at Chicago, Chicago, Illinois

Reprint Address: Neeraj Chhabra, MD, Department of Emergency Medicine, Cook County Hospital, 1900 W Polk Street, 10th Floor,
 Chicago, IL 60612

Abstract—Background: Electronic dance music (EDM) festivals are increasingly common and psychoactive substance use is prevalent. Although prehospital care can obviate the transfer of many attendees to health care facilities (HCFs), little is known regarding the emergency department (ED) burden of patients presenting from EDM festivals. **Objectives:** This study describes the patient volume, length of stay (LOS), and presenting complaints of patients from a 3-day EDM festival in close proximity to an area ED. **Methods:** Medical charts of patients presenting to one HCF from an EDM festival were reviewed for substances used, ED LOS, and sedative medications administered. Additionally, preparedness techniques are described. **Results:** Over the 3-day festival, 28 patients presented to the ED (median age 21 years; range 18–29 years). Twenty-five had complaints related to substance use including ethanol (n = 18), “molly” or “ecstasy” (n = 13), and marijuana (n = 8). Three patients required intensive care or step-down unit admission for endotracheal intubation, rhabdomyolysis, and protracted altered mental status. The median LOS for discharged patients was 265 min (interquartile range 210–347 min). Eleven patients required the use of sedative medications, with cumulative doses of 42 mg of lorazepam and 350 mg of ketamine. All patients presented within the hours of 5:00 PM and 2:15 AM. **Conclusion:** The majority of ED visits from an EDM festival were related to substance use. ED arrival times clustered during the evening and were associated with prolonged LOS. Few patients required hospital admission, but admitted patients required high levels of care. HCFs should use these data as a guide in planning for future events. © 2017 Elsevier Inc. All rights reserved.

Keywords—electronic dance music; music festival; emergency department; overdose; patient burden; substance use

INTRODUCTION

Outdoor electronic dance music (EDM) festivals are increasingly common in North America and Europe (1,2). Media attention on these summer events has largely focused on deaths of young festival-goers, large attendance numbers, and their association with recreational drug use (3).

EDM festival attendance has been correlated with the use of numerous psychoactive substances including alcohol, amphetamines, and prescription drugs, but musculoskeletal injuries and environmental exposures can also occur (4–6). On-site prehospital care has largely obviated the need for transfer of large numbers of festival-goers to health care facilities (HCFs), but little is known regarding the care of patients who ultimately present to HCFs (1,2).

Emergency departments (ED) located in close proximity to these festivals need to be prepared to care for patients presenting from EDM festivals. We sought to characterize the ED patient volume, length of stay, and presenting complaints at a university HCF in June 2016 after the relocation of a 3-day EDM festival to within 0.6 miles of the HCF. In addition, we describe hospital and pharmacy preparedness for such an event.

MATERIALS AND METHODS

This is a descriptive retrospective review of cases presenting to the ED over a 3-day weekend EDM festival equipped with on-site medical care. Cases were prospectively logged and charts were retrospectively reviewed. The study setting was an urban tertiary care university hospital with an annual ED volume of > 50,000 patients and 29 separate patient stations. All patients were cared for by attending emergency physicians and emergency medicine resident physicians. Medication administration and diagnostic testing was at the providers' discretion.

Patients were prospectively logged utilizing a standardized collection form and reported to the local department of public health. Patient charts were then retrospectively reviewed for demographic information, reason for visit, length of stay, hospital admission location if needed, and diagnostic studies ordered. If the reason for the visit was related to substance use, additional data abstracted included stated substance used, screening testing if utilized, and sedative medications administered. Additionally, pharmacy records of medications dispensed for patient administration and to prehospital emergency medical services providers to replete prehospital medication administration were obtained.

Abstracted information was entered into a computerized data sheet (Microsoft Excel; Microsoft Corporation, Redmond, WA). Data were then analyzed using a computerized statistics program (Stata, College Station, TX). No protected health information was abstracted.

EMERGENCY DEPARTMENT PREPAREDNESS

In preparation for the EDM festival, staffing, medication storage, and additional resources were adjusted. Whereas the number of emergency physicians remained unchanged, there were additional registered nurses (RNs), licensed practical nurses (LPNs), emergency medical technicians, and patient transporters in the ED. Bottled water was kept in the department for oral rehydration of patients and dispersion to prehospital providers.

A guideline for managing intoxicated or agitated patients was prepared by a working group of emergency physicians, medical toxicology fellows, and clinical pharmacists (Appendix). The guideline provided recommendations for medication dosing and further treatment. After agreement on guideline content, it was e-mailed to all emergency physicians and posted at computer workstations within the ED for quick reference.

Several pharmacy protocols were also revised for the event. Most medications from the automated dispensing cabinet (ADC) require physician order entry and pharmacist verification prior to removal, but a limited number of medications are available via the emergency medication

override list without order verification. Medications that would be used to treat patients presenting from the EDM festival were placed on the emergency override list. The ED clinical pharmacist reviewed necessary medications for the festival, and other medications that are infrequently used were removed from the ADC during this time frame. Periodic automated replacement levels were increased for benzodiazepines (lorazepam, diazepam, and midazolam), naloxone, etomidate, ketamine, haloperidol, and propofol.

In addition to increasing the periodic automated replacement levels, the restock levels were also increased. If more than one dose of sedative medication was used, a restock alert was issued to the central pharmacy. An additional concentrated formulation of ketamine (50 mg/mL) was also added to the ADC, in addition to the 10-mg/mL concentration that is typically stocked. Pharmacy restocking events were doubled from twice daily to four times daily. Increased pharmacist presence in the ED was also provided and the ED clinical pharmacist was in communication with the ED charge nurse regarding patient load and medication issues remotely.

RESULTS

Over the course of the 3-day EDM festival, 28 unique patients presented to the ED; 11 each on the first 2 days of the festival and 6 on the final day. Demographic data are presented in [Table 1](#). All but 3 patients presented with complaints related to substance use. These patients presented for musculoskeletal injuries. The most common self-reported substances are shown in [Table 2](#) and were ethanol (n = 18 patients), "molly" or "ecstasy" (n = 13 patients), and marijuana (n = 8 patients).

Musculoskeletal complaints including injuries and skin lacerations were noted in three cases, with one patient having an elbow dislocation. Of the 3 patients admitted to the hospital, all were secondary to complications of substance use. One patient was admitted to the Intensive Care Unit after sedation and endotracheal intubation for severe agitation, with 2 others admitted to step-down units for protracted altered mental status and rhabdomyolysis.

Of the 25 patients discharged from the ED, the median length of stay was 265 min (interquartile range 210–347 min; [Figure 1](#)). Although the daily festival hours were 1:00 PM to 10:00 PM, all patients presented to the ED between the hours of 5:00 PM and 2:15 AM ([Figure 2](#)). Eleven patients required the use of medications as chemical restraint for the treatment of agitation. In total, 42 mg of lorazepam and 350 mg of ketamine were utilized for these 11 patients. Of the 11 patients, 10 received lorazepam (4.2 mg mean per patient) and 2 received ketamine (175 mg mean). One patient received

Download English Version:

<https://daneshyari.com/en/article/8719513>

Download Persian Version:

<https://daneshyari.com/article/8719513>

[Daneshyari.com](https://daneshyari.com)