"Time for dabs": Analyzing Twitter data on butane hash oil use

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Aims: While media reports about the emerging use and popularity of concentrated butane hash oil products ("dabs"; "wax"; "budder") in the U.S. have been increasing, data on the epidemiology of its use remain limited. The overall goal of the study is to explore Twitter data on butane hash oil use in the U.S. The study builds on qualitative and quantitative analysis of tweets and has the following aims: 1) examine differences in the volume of hash oil-related tweets among states with varying cannabis legalization policies; 2) describe user attitudes towards use of butane hash oil products.

Methods: Tweets were collected over a 7-day period, between October 3 and October 9, 2014, using Twitter's streaming API. Twitter data filtering and aggregation framework was available through eDrugTrends/Twitris system. SPSS was used to examine differences in the adjusted rates of dabs-related tweets among U.S. states with different cannabis legalization policies. A sub-sample of tweets was manually coded using QDA Miner to identify positive and negative sentiments associated with hash oil use.

Results: Over a 7-day period, we collected 18,333 tweets posted by 14,490 users. More than 20% (n=3,938) of tweets contained identifiable state-level geolocation information. Cannabis oil-related tweet volume for each state was adjusted to account for the numbers of twitter users for each state based on a randomly generated sample of tweets. Adjusted ratios of hash oil-related tweets were the highest in the states that allowed recreational and medicinal use and the lowest in the states that have not passed medical cannabis use laws. The differences were statistically significant. Qualitative content analysis revealed that the majority of tweets conveyed positive views towards use of hash oil products.

Conclusions: Twitter data suggest highly positive attitudes towards "dabs" among users, and indicate greater popularity of its use in the states that legalized recreational and/or medical use of cannabis. Our findings can contribute to the development of intervention and policy responses. The study highlights the importance and usefulness of Twitter data in drug abuse epidemiology research.