Research paper

Drug quality assessment practices and communication of drug alerts among people who use drugs

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ABSTRACT

Background: Regional health bodies in British Columbia (BC) issue drug alerts to the public when health risks associated with drug quality are identified, such as increased illicit drug deaths, overdoses or other harms. There is a lack of evidence-based guidelines for producing timely, effective public health alerts to mitigate these harms. This study sought to understand (1) the practices used by people who use drugs (PWUD) to assess the quality of street drugs and reduce harms from adulterants and (2) how drug alerts could be better communicated to PWUD.
Methods: Guided by interpretive and descriptive methodology, this study consisted of brief questionnaires and in-depth focus groups with 32 PWUD.
Results: Findings suggest the most effective and trusted information about drug quality was primarily from: (a) trusted, reputable dealers or (b) peer-based social networks. Most PWUD thought information received through health service providers was not timely and did not discuss drug quality with them. A number of concrete guidelines were suggested by participants to improve the effectiveness of drug alert modes and methods of communication in the community, including the use of language on drug alert postings that implies harm, indicates what drug effects to look for, and suggests appropriate responses to overdose, such as the use of naloxone. Participants also emphasized the need to date posters and remove them in a timely manner so as to not desensitize the community to such alerts.
Conclusion: Since it is difficult to control adulteration practices in an unregulated drug market, this study suggests methods of effectively producing and communicating drug alerts among PWUD to mitigate harms associated with drug use.

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Background

In an unregulated, informal drug market, one of the main drivers of high overdose rates is illicit drug quality (Drake & Hall, 2003; Thornton, 1998). People who use drugs (PWUD) are often unaware of the quality or actual content of the substance they are consuming (Cole et al., 2010; Evard, Legleye, & Cadet-Tairou, 2010). Cocaine, heroin and 3,4-methylene-dioxymethamphetamine (MDMA) are examples of illicit drugs that can be adulterated, a practice of substituting the psychoactive drug with similar substances, such as diltiazem, fentanyl, and paramethoxymethamphetamine (PMMA), respectively (Behrman, 2008; BC Coroners Service, 2011; Cole et al., 2010). Recently, local drug markets across Canada have seen spikes in overdose deaths and drug seizures where opioids including heroin and oxycodone have been

adulterated with fentanyl (CCSA, 2015). In British Columbia (BC), for instance, fentanyl-detected overdose deaths climbed from 15 in 2012 to 51 in 2013 (BCCDC, 2014a).

Public health officials may respond to increasing overdose rates by making the public aware of the presence of adulterated drugs or changes in potency through avenues such as media drug alerts or local information bulletins. Internationally 'drug alerts' are issued through several avenues and for a number of reasons. Several countries have national drug alert reporting systems that communicate drug alerts through factsheets or posters for staff who work with PWUD. Public Health England Central Alerting System (CAS) recently (February 2015) released a "contaminating heroin warning" regarding a cluster of wound botulism among people who inject drugs in the United Kingdom (CAS, 2015). In contrast, the European Monitoring Center for Drug and Drug Addiction and the Netherlands Drug Information are early warning systems for "new" or "changed" substances (EMMCDA, 2015; Trimbos Instituut, 2015).

Locally, health organizations in BC, Canada, issue drug alerts when health risks, such as increased illicit drug deaths, overdoses or other harms associated with drug quality, are identified (BCCDC, 2014b). BC's Drug Overdose and Alert Partnership is a network of organizations that share data and expertise to make timely decisions to inform the public about unusual adverse events associated with illicit drugs (BCCDC, 2014a; Tanner et al., 2014). This data is obtained from a number of member organizations, including the BC Coroners Service and the BC Ambulance Service; and collated, analyzed and disseminated by the BC Centre for Disease Control (BCCDC, 2014a). The BC Coroners office issues warnings about illicit drugs such as PMMA-adulterated MDMA after several deaths among young adults were reported in 2012 (BC Coroners Office, 2012). They also issued two alerts about adulterants and overdose risk associated with fentanyl adulterated or 'laced' heroin (BC Coroners Office, 2011, 2014).

To our knowledge, there is little evidence to date (Kerr et al., 2013; Miller, 2007) that have qualitatively examined the impact of drug alerts among PWUD. It is not clear how PWUD respond to drug alerts and what the most effective strategy is to alert PWUD about adulterants. Debates arise as to whether users' attempt to assess the quality of their drugs is motivated by a desire for safety or whether they seek drugs based on their effect.

A small body of literature has evaluated drug use behaviors and purity appraisal techniques by PWUD in an informal drug economy (Mathers et al., 2008). Research conducted in Australia and elsewhere has examined drug assessment techniques for drugs including MDMA and several hallucinogens in online drug markets, or "cryptomarkets", and in drug use forums (Buxton & Bingham, 2015; Van Hout & Bingham, 2013). Some researchers have collaborated with the harm reduction organization *Dance Safe* to explore the use of drug testing kits among recreational ecstasy users at music festivals (Tanner-Smith, 2006). Aside from drug testing kits, recreational "party drug" users tend to rely on peer-to-peer transmission or word of mouth as the primary means of generating knowledge related to drug use and the adoption of harm reduction strategies to mitigate risk (Jacinto, Duterte, Sales, & Murphy, 2008; Tackett-Gibson, 2008). Appraisal techniques among street entrenched populations, and in particular among high-risk drug (i.e. heroin, cocaine, methamphetamine) users, remain less clear. Evidence is needed to understand how PWUD assess drug purity, and to identify the best way to effectively disseminate public health alerts about adulterated drugs to the community.

The Communicating Drug Alerts study is unique in that it sought the perspective of PWUD to understand: (1) the practices used to assess the quality of street drugs and to reduce harms from adulterants and (2) experiences with drug alerts reported by PWUD and their perceptions about how the alerts can be better communicated. The goal of this study was to develop recommendations on how to effectively communicate drug alerts to PWUD.

Methods

Thirty-two PWUD were interviewed over a six-week period between February and April 2014 from the downtown east side (DTES) of Vancouver, BC. The DTES is among the most impoverished neighborhoods in Canada, characterized by a dense number of Single Room Occupancy hotel rooms and services for high-risk drug users including North America's only supervised injection facility, INSITE (City of Vancouver, 2012). Purposive random sampling was initially used as this method is considered to be information-rich (Sandelowski, 2000). To ensure there was a sufficient number of participants this was combined with snowball sampling. Two peer recruiters from the Vancouver Area Network of Drug Users (VANDU), a peer-run organization that offers harm reduction services in the DTES, identified participants who were knowledgeable about illicit drug use and comfortable sharing information in a group setting. Inclusion criteria were (1) aged 19 years and above; (2) had used an illicit drug in the seven days prior; and (3) were able to provide informed consent.

Four focus groups with PWUD were held at VANDU with a maximum of eight participants per group. After conducing the first three focus groups, we became aware of potential gender power dynamics, so we added a fourth focus group with just women so they could feel more open and to gain a broader perspective of women's voices. Following each group, the research team would meet to discuss and identify issues, such as dominant voices or modifications to the interview guide. Before each focus group began, participants completed a brief anonymous survey consisting of basic demographic and drug use information. Focus groups lasted approximately 1 h and explored: (1) the practices used by PWUD to assess the quality of street drugs and reduce harms from adulterants and (2) how drug alerts could be better communicated to PWUD. Specific probes included asking PWUD about the preferred method of communication, the frequency of alerts, and the content and language used in a drug alert. To ensure the language was appropriate draft focus group questions were discussed with VANDU board members. Each participant received a $15 honorarium in recognition of his or her time and expertise, and to defer travel costs.

Focus group discussions were audio-recorded and transcribed verbatim by a professional transcription service, and organized using QSR NVIVO (version 8) software. Following a qualitative content analysis approach, two researchers read through the data to create codes, then discussed and grouped together codes to identify broad key themes and patterns in the data. Consensus between both researchers was sought and when discrepancies in interpretation between the researchers were raised, data was re-analyzed and discussed to avoid misinterpretation. Using qualitative content analysis approach allowed researchers to be reflexive and interactive, as iterative modification of codes leads to new interpretations and insights about the data (Sandelowski, 2000). Lastly, basic descriptives were conducted on the quantitative dataset of demographic and drug use information. This study was approved by the Behavioral Research Ethics Board at the University of British Columbia, the Human Ethics Committee at the University of Victoria, and by Vancouver Coastal Health.

Findings

Participant characteristics

Focus group participants consisted of 17 males and 15 females aged 23–70 years (median 48 years). Fifteen PWUD self-identified as Caucasian and 17 as Aboriginal. Most participants lived in a Single Room Occupancy Hotel and one-third reported no fixed address. Fourteen participants received disability assistance and 13 reported receiving social assistance as their income source (Table 1).

Drug use patterns among PWUD

Among PWUD, 27 reported illicit drug use at least once daily. Twenty-one participants reported current or past injection drug use, with seven participants reporting ceasing injection drug use prior to the study. Length of drug use ranged from 6 to 48 years (median 29 years). Most focus group participants (31 of 32) reported poly-substance use (using two or more illicit substances in the past seven days). The drugs used most frequently in the past week differed between genders, as did the route of drug administration (see Table 2).