



THUNDER BAY

Drug Strategy

Non-beverage Alcohol Consumption & Harm Reduction Trends A Report for the Thunder Bay Drug Strategy

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Non-beverage Alcohol Consumption & Harm Reduction Trends

What is non-beverage alcohol?

Non-beverage alcohol can go by many names in the literature. Broadly, it is understood to be liquids containing a form of alcohol that is not intended for human consumption (e.g., mouthwash, hand sanitizer, etc.) that are consumed instead of beverage alcohol for the purposes of intoxication or a “high” (Crabtree, Latham, Bird, & Buxton, 2016; Egbert, Reed, Powell, Liskow, & Liese, 1985). Within the literature, there are different definitions for non-beverage alcohols, including surrogate alcohol, illicit alcohol and unrecorded alcohol. Unrecorded alcohol, as defined by the World Health Organization, is untaxed alcohol outside of government regulation including legal or illegal homemade alcohol, alcohol that is smuggled from an outside country (and therefore is not tracked by its sale within the country of consumption), and alcohol of the “surrogate” nature (World Health Organization Indicator and Measurement Registry, 2011). Surrogate alcohol is alcohol that is not meant for human consumption, and is generally apparent as high concentrations of ethanol in mouthwash, hand sanitizers, and other household products (Lachenmeier, Rehm, & Gmel, 2007; World Health Organization Indicator and Measurement Registry, 2011). Surrogate alcohols also include substances containing methanol, isopropyl alcohol, and ethylene glycol (Lachenmeier et al., 2007). Nonbeverage alcohol and surrogate alcohol can be used interchangeably, but Lachenmeier et al., (2007), goes even further to include alcohol that is homemade in their definition of surrogate alcohol, as they stated that this alcohol is sometimes created using some form of non-beverage alcohol. Lastly, illicit alcohol has been identified as a term that refers to not only the consumption of ethanol or other alcohol-containing products not meant for human consumption, but also as the production of illegal alcohol, and the consumption of any alcohol (beverage or not) in illicit ways (i.e., drinking in public places). This definition is used by advocate and peer support groups of nonbeverage consumers in British Columbia as a way to identify themselves in the same way as illicit drug users are identified – that is, those that purchase and consume legal prescription drugs in illegal or illicit ways (Kesselring, 2013). For the purposes of simplicity, this report will use the term “non-beverage” to describe the properties of and harm reduction techniques for the consumption of products containing alcohol that are not meant for human consumption.

Ethanol and its related harms:

The most common form of alcohol is ethanol, or ethyl alcohol. This is true for both legal, recorded alcohol, and non-beverage alcohol. The difference between the two is the concentration of alcohol within the solution, and the purposes of the alcohol (Carnahan et al., 2005). One standard alcoholic drink is approximately 14 grams of alcohol. This translates into 12oz of beer at 5% alcohol, 5oz of wine at 12% alcohol, or 1.5oz of distilled spirits at 40%

alcohol (NIAAA, 2017). Comparatively, 14 grams of alcohol in the form of hand sanitizer, a popular non-beverage alcohol choice, at 62% alcohol would translate into less than 1oz of solution, making it to be very intoxicating in small doses.

The effects of ethanol alcohol in alcoholic beverages are fairly well known. Acute effects of alcohol intoxication include central nervous system inhibition which makes it more difficult to coordinate movement, regulate moods, and think and speak clearly. Breathing problems and death may be a risk of acute ethanol exposure, depending on the quantity and concentration of ethanol ingested (NIAAA, 2017). Ethanol can also cause heart arrhythmias as well as weaken your immune system. Chronic alcohol use is linked to liver cirrhosis, pancreatitis, steatosis, alcoholic hepatitis, and various cancers (Beyond Hangovers, 2013). The National Institute on Alcohol Abuse and Alcoholism recommends no more than 3 standard drinks per session for women, and no more than 7 drinks per week to avoid ethanol-related risks, and no more than 4 standard drinks per session for men, and no more than 14 drinks per week (Beyond Hangovers, 2013). Due to the much higher concentrations of ethanol within non-beverage alcohols, these risks are greatly enhanced, and result in more significant, detrimental health effects for individuals consuming them (Lachenmeier, Monakhova, Markova, Kuballa, & Rehm, 2013; Lachenmeier et al., 2007).

Ethanol in non-beverage alcohols is controlled by different mechanisms by the government for distribution purposes, which includes adding more chemicals to the solution. Due to the much higher concentrations of ethanol in many of these products as compared to beverage alcohol, the companies producing them would be highly taxed for their distribution of “food-grade alcohol.” Denaturing the ethyl alcohol within these solutions (making it unfit for drinking by adding foul-tasting or toxic substances) to “render it undrinkable” allows the producer to avoid the food grade alcohol regulations and taxation (Lachenmeier et al., 2007). Methanol, another form of alcohol, was the traditional denaturing agent for ethyl alcohol, but is very harmful to humans. Other denaturing agents exist that can deter someone from ingesting alcohol, including denatonium benzoate and t-butyl alcohol. These substances and others like these have the effect of bittering the ethanol to deter human consumption, while still being safer than methanol if ingested (Carnahan et al., 2005). Denatured alcohol is present in common non-beverage alcohols like hairspray, hand sanitizers, and mouthwash. Denaturing these alcohols also prevents an individual from being able to chemically separate the ethyl alcohol from the denaturants, to prevent individuals from creating their own alcoholic beverages using alcohol distilled from non-beverage sources (Lachenmeier et al., 2007). Due to the low concentration of most denaturing agents within a substance, the most toxic and high-risk component of solutions like hand sanitizer and mouthwash is the ethanol itself (Carnahan, Kutscher, Obritsch, & Rasmussen, 2005; Egbert et al., 1985).

Methanol and its related harms:

Another common form of alcohol that appears in non-beverage alcohol is methanol or methyl alcohol. Methanol is made from wood, and has historically been used to denature ethyl alcohol (Lachenmeier et al., 2007). Methanol is also commonly found on its own, or alongside ethanol in antifreeze, paint solvents, and windshield washer fluid. Its effects on the body include

minimal presentation of intoxication and a delayed onset of central nervous system depression, blurred vision, potential blindness, seizures, coma, and death (Carnahan et al., 2005; Egbert et al., 1985; Lachenmeier et al., 2007).

Methanol intoxication and death has been an issue in Ontario in the past. Between January 1, 1989 and December 31, 1991, there were 43 deaths due to methanol ingestion, mostly in the form of antifreeze and windshield washer fluid. It was determined that 51% of those deaths were accidental, or in other words, an overdose (Liu, Daya, & Mann, 1999). Liu et al., (1999) found that there were seven deaths per year in Ontario due to methanol poisoning, which is significantly higher than the American methanol per capita average of six deaths annually. While the use of methanol is no longer as common, some countries have completely abolished the use of methanol as a denaturing agent, due to its toxicity and the availability of other substances (Lachenmeier et al., 2007). It is unclear at this time if Canada is one of those countries.

Isopropyl Alcohol and its related harms:

Isopropyl alcohol, or isopropanol, is the form of alcohol that is used in rubbing alcohol, but can also be found in cosmetic and cleaning products (Carnahan et al., 2005). Isopropanol is similar to ethanol in that people who ingest isopropyl alcohol present markedly inebriated (Egbert et al., 1985). In Thunder Bay, rubbing alcohol is the fourth most reported solution that is consumed after mouthwash, hairspray, and hand sanitizer (Pauly & Stockwell, 2013). Isopropyl alcohol is also a central nervous system depressant, and consuming it can also result in nausea, vomiting, as well as severe gastritis (Egbert et al., 1985; Carnahan et al., 2005). Intoxicated individuals from isopropyl alcohol also present with fruity-smelling breath (Carnahan et al., 2005).

Why choose non-beverage alcohol?

Little research has been done that investigates why people choose to drink non-beverage alcohol. The most current research comes from an education and activist group (EIDGE) of non-beverage consumers in the downtown eastside of Vancouver.

Availability:

The most common reasons individuals turn to non-beverage alcohol is availability (Carnahan et al., 2005; Egbert, Liese, Powell, Reed, Liskow, 1986). Availability relates not only to the physical presence of stores that sell alcohol, but also the distance required to travel to the stores, the perception of purchasing alcohol by employees both at liquor stores and stores selling non-beverage alcohol, and also the availability of non-beverage alcohol being sold on the street (Crabtree, 2015). Immediacy of access also may play into the choice to consume non-beverage alcohol; preventing the effects of alcohol withdrawal may lead someone to turn to non-beverage alcohol, if that is all they have access to in that moment in time (Egbert et al., 1986; Kessler, 2013). This decision is also influenced by the time of day an individual needs to access alcohol. Non-beverage alcohol is more accessible than beverage alcohol in stores, and on the street first thing in the morning when the liquor stores are not open yet (Carnahan et al., 2005;

Crabtree, 2015; Kesselring, 2013). Availability can also refer to whether or not a store is permitting the sale of alcohol. This was seen for both the beverage and non-beverage alcohol purchasing in British Columbia, where it has been found that both grocery stores and liquor stores have put policies in place around who they sell to, how often, and for how much (Kesselring, 2013).

Cost:

Another factor for choosing to use non-beverage alcohol is related to cost (Lachenmeier et al., 2007). Unstable housing or lack of housing is a significant risk to consuming non-beverage alcohol use, and many people only choose non-beverage options towards the end of the month once they're running low on money (Crabtree, 2015). Additionally, it has also been suggested that non-beverage alcohol use may signify a more "chronic" stage of an individual's alcohol abuse struggles, as many individuals have a long history of beverage alcohol abuse before turning to non-beverage alcohols (Egbert et al., 1985). In the downtown eastside of Vancouver, cost of non-beverage alcohol is markedly higher than in areas outside of the eastside (\$2.69 outside of the eastside vs \$6.99 in the DTES (Crabtree, 2015)). Thus, the "affordability" of non-beverage alcohol is only in relation to beverage alcohol that is also in that area (Crabtree, 2015).

What are the harms related to consuming non-beverage alcohol?

It is important to recognize that health care professionals and consumers of non-beverage alcohol may differ in the harms each would identify from using. The harms identified by consumers are important to consider when looking at harm reduction strategies. The following are examples of harms non-beverage alcohol consumers have identified as unwanted harms associated with consuming non-beverage alcohol in the Downtown Eastside of Vancouver (Crabtree, 2015).

Accidents:

Injuries acquired due to accidents like falling, cuts, or even choking on vomit are some types of accidents that are a result of consuming non-beverage alcohol (Crabtree, 2015; Kesselring, 2013). Accidents pose a significant risk for this group of people, as they can range so broadly from a small bruise, to death. It should also be noted that the environment (e.g. poor housing conditions, extreme weather) that an individual is in while they are intoxicated factors into how severe an accident may be for an individual (Crabtree, 2015).

Being taken advantage of:

The marginalization of non-beverage drinkers within the community of illicit drug users puts them at a greater risk of being taken advantage of (Crabtree, 2015). Being physically assaulted, beat up, and victims of theft are all significant risks identified by those who consume non-beverage alcohol, as their level of intoxication results in an inhibited ability to properly communicate, defend oneself, or protect oneself from harm (Crabtree, 2015; Kesselring, 2013). Another unique way that participants identified being taken advantage of is in situations where

they were exploited; one individual offered an example of a situation in which they were hit by a car, and were then offered cash in exchange for not reporting the incident and illustrates the ways in which non-beverage alcohol drinkers are extremely marginalized (Crabtree, 2015).

Harms to physical health:

The range of harms to physical health is broad, and also influenced by other factors that include access to housing, food, and other social determinants of health. Identified risks to health included mental health issues, withdrawal symptoms and delirium tremens, and seizures as some of the most common and serious harms of consuming non-beverage alcohol (Crabtree, 2015; Kesselring, 2013).

Reduced access to services:

While impaired service access could be a cause of intoxication due to non-beverage alcohol consumption, the denial of services is something that was identified as harmful. Individuals stated many instances where they were turned away from medical assistance, or shelters, which caused additional harm for the person who was attempting to get themselves some sort of help (Crabtree et al., 2016; Crabtree, 2015; Kesselring, 2013).

Interactions with the police:

Interactions with police were identified in many different instances as interactions that cause harm to the individual who consumes non-beverage alcohol. Police harassment of known consumers of non-beverage alcohol, dumping out of their beverages, violence in custody, a lack of protection from the police when a victim of a crime, being fined, or being sent to the “drunk tank” were all examples of negative interactions with the police identified as a common experience (Crabtree et al., 2016; Crabtree, 2015; Kesselring, 2013).

What is harm reduction?

Harm reduction is a philosophy for service providers and the community to think and operate under that focuses on reducing the harm for individuals struggling with substances, while also not expecting them to reduce their substance use. It is an approach that can be applied to many different aspects of communities (i.e., policies, programmes) to reduce the effects of substance use for the community as well as for the individual (www.hri.global/, 2017).

Harm Reduction Techniques for Non-beverage alcohol

Few harm reduction methods exist to attempt to deter people from drinking non-beverage alcohol, but it is apparent that harm reduction techniques are necessary. Health effects of alcohol ingestion exist above and beyond the normal risk of consuming beverage alcohol, due to the concentration of ethanol and other toxic substances within these non-beverage solutions, as well as the environment in which they are consumed, and the socioeconomic status of those who consume it (Crabtree et al., 2016; Lachenmeier et al., 2007). Policy changes,

taxation changes, and front-line outreach programs have been explored, but there is little evidence for their effectiveness (Lachenmeier et al., 2011).

Policy:

Some recommendations for policy and taxation changes that attempt to prevent non-beverage consumption do exist. Most of these recommendations include legislation around the denaturing agents that cause non-beverage alcohol to become less appealing (i.e., methanol). Prohibiting methanol has been found to be an effective harm reduction tool in preventing morbidity and mortality in those who drink non-beverage alcohol (Lachenmeier et al., 2011; Lachenmeier et al., 2007). Taxation changes that include requiring all types of substances with ethanol to be taxed equally have been explored, although the increase in prices of a large variety of products would not be well-received by the general public (Lachenmeier et al., 2011). Lowering the price of beverage alcohol has also been explored, but governments and alcohol distributors do not see this as an appealing option as the profit would be lower, and would also encourage everyone to drink more (Lachenmeier et al., 2011).

Managed Alcohol Programs:

Several creative harm reduction strategies do exist which address non-beverage alcohol consumption, however these initiatives are not widely used and have only begun to be evaluated for the effectiveness. Managed alcohol programs (MAPs) are a fairly new service, with their main goal being to reduce alcohol-related harms for homeless populations. MAPs providing stable shelter and a form of beverage alcohol to stave off withdrawal symptoms as well as encourage activities of daily living that may have been lacking due to not having a permanent home. MAPs have been found to reduce the incidences requiring police/paramedic response, and increase well-being and self-esteem. Currently there are five Managed Alcohol Sites across Canada that are being studied by the Centre for Addictions Research of BC (Hammond, Gange, Pauly, & Stockwell, 2016; Pauly & Stockwell, 2013).

Street Entrenched Managed Alcohol Program (SEMAP):

A set of low-threshold harm reduction programs exists in the Downtown Eastside of Vancouver called SEMAP. This program is offered as part of the Drug Users Resource Centre through the Portland Hotel Society, and offers five different programs for homeless individuals who consumes non-beverage alcohol: the Drinker's Lounge, a support group where participants can drink alcohol and make connections with their peers onsite; the Brew Co-op, where participants pool money together every week to brew their own beer and wine; the Alcohol Exchange, where people can trade their non-beverage alcohol for the beer or wine brewed at the Brew Co-op; the Big MAP-ers, an individualized managed alcohol program for those wishing to stay completely off of non-beverage alcohol; and finally the Hydration Team, which delivers non-alcoholic beverages (tea/hot chocolate in the winter, water/juice in the summer) to help people stay hydrated (M. Wishart, personal communication, March 24 2017; Lupick, 2014; Krishnan, 2016). The effort is a creative response to reduce harm. It has been acknowledged that due to the chronic effects of alcohol consumption, much health damage has already been done for the individuals seeking the service, and thus the goal of SEMAP is to support individuals to make decisions that don't make their health worse, as well as to provide a connection to services and

to create a space for street-entrenched individuals to come together to support each other (Moore, 2014).

Eastside Illicit Drinkers Group for Education (EIDGE):

A second non-beverage, peer support and harm reduction group exists in Vancouver through the Vancouver and Area Network of Drug Users. This group is peer run, is focused on non-beverage consumer advocacy and education, and works to change the marginalization and stigma they face. The group meets weekly to share their experiences, feel supported, and learn about health services that are available to them (B. Graham, personal communication May 26, 2017). EIDGE members participate in research, and direct the topics and learning of the group each week. EIDGE also has a “sherry-rebuy program” which allows those who consume non-beverage alcohol to have the opportunity to purchase and consume a beverage alcohol at a cheaper price than what they would have been able to obtain at a store (B. Graham, personal communication May 26, 2017). EIDGE highlights that the strength and the success of the program is because it is a place that is peer led and peer run, where non-beverage users can feel safe, supported, and heard.

Conclusion

Non-beverage alcohol is a difficult to track, complex issue that oftentimes plagues individuals already experiencing harms related to chronic beverage alcohol use. It is clear that due to the increased concentration of ethanol, the other potentially toxic ingredients in these non-beverage alcohols, the environment and the ways in which non-beverage alcohol is consumed puts individuals at a greater risk for harm (Egbert et al., 1985). Understanding the effects of non-beverage alcohol on the body can sometimes be difficult due to the denaturing process as well as the lack of labelling of important toxic ingredients (Carnahan et al., 2005; Lachenmeier et al., 2007). Harm reduction techniques aimed at policy changes around eliminating toxic denaturing substances from non-beverage alcohol has been proven to be an effective way to reduce harms related to consumption, but taxing or price changes to for ethanol proves to be a difficult task (Lachenmeier et al., 2011). Harm reduction services have appeared that seem to be reducing non-beverage alcohol related harms that are both creative at responding to their population need, and also simple in design. In the future, a program similar to EIDGE or the Drinker’s Lounge at SEMAP could prove beneficial to the non-beverage alcohol drinking population of Thunder Bay.

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