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Nonmedical prescription drug use among African Americans who use MDMA (ecstasy/molly): Implications for risk reduction

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HIGHLIGHTS

- A substantial proportion of African American MDMA users reported combining MDMA with at least one prescription drug
- Benzodiazepine medications were used to alleviate MDMA comedown symptoms
- Prescription opioids were used with MDMA to achieve a different quality high.
- Stimulant medications were used with MDMA to provide added energy throughout the night.
- Clinicians should pay particular attention to informing users of the risks of taking MDMA with prescription medications.

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ABSTRACT

Recent data suggest that both nonmedical prescription drug and MDMA (ecstasy/molly) use have risen among African Americans. However, studies investigating these two forms of drug use among African Americans are rare. As a result, very little is known about African-American MDMA users and their nonmedical use of prescription medications. The primary goal of this study, therefore, was to describe patterns of nonmedical prescription drug use among African Americans who use MDMA. We also assessed alcohol and illicit drug use among the sample. Surveys (n = 100) and in-depth interviews (n = 15) were conducted with African-American young adults in Southwest Florida between August 2014 and November 2015. Survey results show that a significant proportion of the sample used MDMA in conjunction with prescription medications (benzodiazepines = 59%; opioids = 35%; stimulants = 13%). Qualitative findings suggest that benzodiazepine medications were used to alleviate MDMA comedown symptoms, opioids were used to achieve a different quality high, and stimulants were used to provide added energy throughout the night. These results suggest that treatment practitioners and harm reduction professionals should pay particular attention to informing users of the potential hazards of combining MDMA with prescription medications. Although additional research is clearly needed, these findings are an important first step towards understanding both nonmedical prescription drug and MDMA use among African Americans, and could be used to tailor treatment and risk reduction interventions to this population.

1. Introduction

MDMA (3,4 methylenedioxymethamphetamine), regularly referred to as “ecstasy” or “molly,” is a synthetic psychoactive substance that is usually found in two forms (Smith, Moore, & Measham, 2009). When referred to as “ecstasy,” it is frequently found in a tablet or pill form and ingested orally. The more recent nickname for MDMA is “molly” (short for “molecule”) and has a reputation, albeit a dubious one, for being the purer of the two forms (Freudenmann, Öxler, & Bernschneider-Rief, 2006; Steinhardt, Moore, & Casella, 2014). Molly usually comes in crystal or powder form, and is either snorted or orally ingested. MDMA, in both forms, is considered to induce intense feelings of empathy, diminish anxiety, reduce inhibitions, create a sense of intimacy with others, and provide added energy (National Institute on Drug Abuse [NIDA], 2006).

According to the National Survey on Drug Use and Health, the number of Americans reporting the use of MDMA has increased from 11 million individuals in 2004 to 17 million in 2014 (SAMHSA, 2015;

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Substance Abuse and Mental Health Services Administration [SAMHSA], 2005). While MDMA-related mortality is relatively low, research has linked MDMA use to mental health problems (e.g., depression, anxiety, panic attacks; Cohen, 1996; Lamers et al., 2003; Soar, Turner, & Parrott, 2001; Vaiva et al., 2001), adverse health effects (e.g., seizures, arrhythmia, hyperthermia; Badon et al., 2002; Dowling, McDonough, & Bost, 1987; Giorgi et al., 2006), sexual risk taking (e.g., one night stands, inconsistent condom use; Klitzman, Greenberg, Pollack, & Dolezal, 2002; Klitzman, Pope Jr, & Hudson, 2000), and neuropsychiatric consequences (Montoya, Sorrentino, Lukas, & Price, 2002).Researchers have also noted that the number of emergency department (ED) visits related to MDMA have more than doubled from 2005 to 2011 (SAMHSA, 2013). These increases have made MDMA a top public health priority for researchers and practitioners.

1.1. MDMA and African Americans

Reports from the last two decades indicate that MDMA is being used by an increasing amount of African Americans, a group not historically linked to the drug (Johnston,O'Malley, Miech, Bachman, & Schulenberg, 2014; NIDA, 2006; Community Epidemiology Work Group [CEWG], 2013; Palamar & Kamboukos, 2014). In Chicago, for example, a recent report concluded that MDMA use was highest among African Americans (Ouellet, 2014). That same report also found that African Americans were represented in 89% of treatment episodes for MDMA. Additionally, a study in Miami by Buttram, Kurtz, and Surratt (2013) found that a greater percentage of Black participants reported MDMA use than did non-Black participants. While the reasons for these increases are not entirely clear, one explanation of this new trend is the drug's recent popularity in hip-hop/rap (HHR) music (Bellum, 2013). MDMA (as molly) has been widely embraced in HHR culture and several top artists (e.g., French Montana, Lil Wayne) endorse the drug as a way to party and have fun (Diamond, Bermudez, & Schensul, 2006).

Though little is known about Black MDMA users, some studies suggest aspects of their use may be distinct from other largely White subgroups (e.g., ravers, international populations). For example, previous research has suggested that Black MDMA users may have motivations for using (Rigg, 2017a), MDMA risk perceptions (Rigg & L awental, 2017), and initiation patterns (Rigg, 2017b) that are unique. These differences underscore the need for additional research on African American MDMA use.

1.2. Nonmedical prescription drug use and African Americans

Despite millions of African-Americans reporting nonmedical prescription drug use (defined as taking a medication prescribed for someone else or that was taken only for the experience or feeling that it caused; SAMHSA, 2015; Dart et al., 2015), the literature largely ignores Blacks. If race is mentioned in prescription drug studies at all, it is usually to emphasize higher rates of misuse among White Americans. To be clear, prescription drug misuse prevalence does indeed skew White, but African-Americans comprise a non-trivial and growing proportion of nonmedical prescription drug users. For example, a recent study (Ford & Rigg, 2015) found surprisingly high rates of nonmedical prescription opioid use among Black youth (6.08%), and there is evidence of significant increases in prescription opioid-related deaths among African-Americans (Kandel, Hu, Griesler, & Wall, 2017). And regarding prescription stimulants and benzodiazepines, the nonmedical use of these medications are clearly an active phenomenon among African Americans (Becker, Fiellin, & Desai, 2007; Boyd, McCabe, Cranford, & Young, 2006; Harrell & Broman, 2009; Herman-Stahl, Krebs, Kroutil, & Heller, 2006; Kroutil et al., 2006; McCabe, 2005; Simoni-Wastila & Strickler, 2004).

More studies on prescription drug misuse among African American MDMA users are needed because the combination of these two drug types can be problematic. Research suggests that MDMA users may be a population in which nonmedical prescription drug use occurs (Almeida de & Araujo Silva, 2005; Copeland, Dillon, & Gascoigne, 2006; Silins, Copeland, & Dillon, 2009). However, these studies largely used samples with little to no African-American representation so the extent to which nonmedical prescription drug use occurs among African American MDMA users remains unclear. This is an important omission from the literature because patterns of both nonmedical prescription drug and MDMA use often vary by race (Harrell & Broman, 2009; Ford & Rigg, 2015; Strote, Lee, & Wechsler, 2002; Boyd, 2014). More studies on polydrug use among African American MDMA users are needed.

1.3. The problem of polydrug use

Adverse health outcomes associated with MDMA, including deaths and ED visits, are often attributed to drug interactions brought on by polydrug use (defined as the use of two or more psychoactive drugs in combination to achieve a particular effect; Schifano et al., 2003; SAMHSA, 2013). When autopsies and toxicology reports are conducted, MDMA is very rarely the only drug found in the victim's blood (Vuori et al., 2003; Schifano, Corkery, Deluca, Oyefeso, & Ghodse, 2005; Schifano et al., 2003). Alcohol, for example, is sometimes ingested with or before MDMA in pursuit of a better high (Rigg, 2017a). Cocaine and other stimulants are also sometimes used with MDMA in an effort to sustain levels of alertness and boost energy during at all night rave parties (Boeri, Sterk, Bahora, & Elifson, 2008). And MDMA users have been known to smoke marijuana to prolong their high once the effects of the MDMA begin to wane (Boeri, Sterk, & Elifson, 2004).

Others report mixing MDMA with a wide variety of prescription medications, ranging from opioid analgesics (Kurtz et al., 2006) to selective serotonin reuptake inhibitors (Copeland et al., 2006). Additionally, benzodiazepine medications are sometimes taken for their sedative properties to counteract the simulant effects of MDMA and/or alleviate the unwanted symptoms of MDMA's so-called comedown stage (Kurtz, Buttram, & Surratt, 2017; Singer, Linares, Ntiri, Henry, & Minnes, 2004). There is also evidence that MDMA is used with Viagra and other erectile dysfunction medications to enhance and lengthen sexual experiences, a practice known as "sexstasy" (Narvaez et al., 2001). Additionally, there have been reports that moclobemide, a prescription medication used to treat depression, is also used in conjunction with MDMA (Vuori et al., 2003).

The problem, however, is that combining MDMA with other drugs can result in serious health consequences, including death (Dowling et al., 1987; Kalant, 2001; SAMHSA, 2013; Schifano, 2004; Schifano et al., 2003). The combination of MDMA with moclobemide, for example, has been shown to cause fatal serotonin syndrome (Vuori et al., 2003). Additionally, antiretroviral medications, commonly prescribed to patients with human immunodeficiency virus (HIV), are inhibitors of CYP2D6, an enzyme involved in the metabolism of MDMA (Gilhooly & Daly, 2002). Patients on antiretroviral medications may not be able to adequately metabolize MDMA, which can lead to lethal toxicity levels from just a few hits of the drug (Schifano, 2004). And mixing MDMA with alcohol can increase risk of dehydration and hyperthermia (Gill, Hayes, Marker, & Stajic, 2002; Schifano et al., 2003). These outcomes highlight the importance of research on polydrug use among MDMA users because harmful drug interactions are often the root cause of MDMA-related ED visits and death.

1.4. The current study

The research literature on MDMA and prescription drug misuse has historically ignored African-Americans. As a result, there is very little scientific reporting on African American MDMA users and their nonmedical use of prescription drugs, as well as other drugs. Research on this topic is especially important as reports from the last two decades indicate that both MDMA and nonmedical prescription drug use has increased among African-Americans (Community Epidemiology Work