D10 Abuse of Synthetic Cannabinoid and Cannabimimitic Smoking Blends

Elizabeth M. Guest, PhD, and Jeffrey H. Comparin, BS, 22624 Dulles Summit Ct, Dulles, VA 20166*

After attending this presentation, attendees will understand the importance of laboratory analysis to determine the contents in the various smoking blends.

This presentation will impact the forensic community by showing that assumptions cannot be made as to the contents of any smoking blend, regardless of labeling.

The abuse of synthetic cannabinoid and cannabimimetic smoking blends is prevalent among teenagers and young adults who are seeking materials that emulate the effects of marijuana. These individuals often read internet blogs to determine which brand of smoking blend will result in the best euphoric feeling or "high." Users commonly make naïve assumptions concerning the active ingredient(s) and concentration based on the brand name or packaging of the smoking blends. In reality, the users do not know what compounds they are actually consuming. At present, there are at least two dozen different compounds that have been identified in smoking blends.

In addition, the manufacturing of these smoking blends is highly inconsistent. The compound is dissolved in a solvent such as acetone and either sprayed onto the plant material or mixed with the plant material in a mixer. The irregularity in these dosing processes leads to widely varying concentrations even within individual packages. Furthermore, many manufacturers often imitate the packaging of popular brands, thus leading to additional variability in the active compound and its concentration in blends with the same brand name. And finally, some blends contain more than one active component.

The Drug Enforcement Administration frequently receives law enforcement inquiries concerning a specific brand of synthetic cannabinoid smoking blend. These inquiries often stem from numerous local incidents or overdoses where a certain brand was used by the victims. Many hospitals are being flooded with abusers who overdosed on smoking blends. Medical personnel are handicapped when attempting to determine proper treatments because of the variability between samples.

This study investigated the concentration (percent by weight) of JWH-018 on dried plant material sampled within individual packages of smoking blend products across several popular brand names, including K2, Mr. Kwik-E, and Kush. The samples were first screened using gas chromatography-mass spectrometry (GC/MS) to determine if they contained JWH-018. A GC method was used to quantitate JWH-018 in each smoking blend. Cone and sampling techniques were used to investigate the concentration of JWH-018 in individual smoking blends of the same brand. These results confirmed the variability in the concentration of these compounds even within individual packages due to the dosing process. As a result, all other studies used plant material that was ground in a coffee grinder. The variability of the JWH-018 concentration between different packages of smoking blends with the same brand name and same packaging was then studied. Next, the concentration of JWH-018 was investigated across smoking blends with the same brand name but different labels (i.e., K2 blond and K2 melon). The concentration of JWH-018 was determined across smoking blends with the same brand name but different flavors (i.e., Florida Spice and Florida Spice Melon). Finally, the concentration of JWH-018 was compared in different smoking blends (i.e., Kush, K2, and Mr. Kwik-E).

This study proves that assumptions cannot be made as to the contents of any smoking blend, regardless of labeling. All such products require laboratory analysis to determine the contents in the various smoking blends.

JWH 018, Cannabinoid, Cannabimimitic

 ** Presenting Author*