



The Addiction and Behavioral Health Newsletter

A publication of JRW Behavioral Health Training and Consultation Services

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Welcome to Volume 1, Number 3 of the Addiction and Behavioral Health Newsletter. This month we are featuring an article on "K2", a drug that is new to many areas. In this newsletter you will also find information regarding current trends in substance use, on-line training announcements, available on-site workshop and in-service topics, regional and national conferences, news from the world of addiction science, and featured links to other resources for the substance dependency treatment and prevention community.

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K WHAT?♦

An enduring problem associated with street drugs is that users (and many dealers) often do not know the actual composition of the substance that they purchase or sell. In at least one case (heroin) this fact is acknowledged by virtually everyone whose life is touched by this drug: substance users (whether dependent or not), dealers, law enforcement officers, members of the scientific community and substance disorder prevention and treatment professionals. Although the purity of street heroin ("junk", "smack", etc.) has increased radically over the past two decades, a portion (often the majority) of all "junk" is not heroin, but rather adulterants and fillers, some of which are toxic, some not. With regard to other substances, the alleged content of street drugs are also something more-or other than- the dealers and their customers believe. This state of uncertainty exists in part because the same street name may refer to more than one substance or to the same substance adulterated with different "cuts" (adulterants).

With the above in mind, we report this month on the drug "K2", which is also known as "spice" and "red dragon". Recent reports from the law enforcement, medical and drug-using communities have confirmed that this relatively new substance has appeared on the street in cities throughout Europe and the U.S. It takes the form of a dried herb, but the plant material varies from one product to another. In any case, the herb is only a carrier for the actual psychoactive drug, which leads us back to the general problem of street drug adulteration, misrepresentation and naming. What is K2 *supposed* to be, and what is it in *actuality*?

Because K2 is (or was, depending on the location) a legal substance, it is often manufactured and packaged uniformly (see photos 1-3 below). Thus, if the composition of one sample can be identified, it is reasonable to assume that all products with similar branding are the same. Still, this leaves one with the question, "What drug is it that K2 contains?" This could have been an unanswered question but not for the intervention of two German entities, the Institute of Forensic Medicine at the University Medical Center Freiburg (specifically, Professor Volker Auwärter's laboratory) and the Bundeskriminalamt (BKA), Germany's federal criminal police office.



Photos 1 & 2: Examples of K2

A sample of "Spice"

Because K2 (or rather the psychoactive ingredient[s]) were at that time legal in Germany, some of Professor Auwärter's colleagues decided to obtain several of the products sold as "herbal incense" (what is known as K2 in the United States) and experiment with them. After smoking what they considered to be a low dose (about 1/3 of a gram), they experienced an intoxication similar to that produced by cannabis (marijuana), that lasted 5-6 hours. However, chemical analysis detected neither THC (the psychoactive chemical in cannabis) nor any known mood altering chemicals present. However, when the team explored the Internet, they found rumors that herbal products had been treated with synthetic cannabinoid substances that could not be detected by common drug (urine) tests. However, chemical analysis detected neither THC (the psychoactive chemical in cannabis) nor any known mood altering chemicals present. However,

♦ My thanks to Bruce Talbot (www.drugrecognition.com) for first bringing this drug to my attention, and for some of the photos that appear on these pages. An interview with Bruce on radio station WBEZ can be heard at <http://www.wbez.org/Content.aspx?audioID=40389>

when the team explored the Internet, they found rumors that herbal products had been treated with synthetic cannabinoid substances that could not be detected by common drug (urine) tests. Eventually, a pharmaceutical company in Germany announced that it had identified JBW-018, one of several cannabinoids synthesized at Clemson University, in samples of herbal incense. In the United States, HU-210 (another synthetic cannabinoid) has been identified in several brands of "herbal incense", and JBW-018 is rumored to be present in "red dragon" as well as the products shown in photographs 1-3 below. Both of these cannabinoids (and others not mentioned here) bind (attach) to the brain's naturally-occurring cannabinoid receptors (the C_1 and C_2), just as the THC in marijuana does. However, the synthetic cannabinoids have a higher affinity (attraction) to the C_1 receptor than THC does, resulting in a higher level of potency for the synthetics. Individuals who are used to smoking a certain amount of marijuana (e.g., a joint or four small pipefuls) will find themselves considerably more intoxicated if they smoke a product such as K2.



Photos 1 & 2: Examples of K2

Photo 3: A sample of "Spice"

According to Internet sites frequented by drug users (including one that asks visitors to refer to themselves as "swim" in order to avoid self-incrimination) the various herbal products have cannabis-like effects, but appear to be a more risky drug. Symptoms reported by users include hallucinations, nausea, vomiting, agitation, irritability, increased heartbeat and feelings of paranoia and anxiety. Furthermore, "swimmers" and other users have indicated that this substance has both abuse and dependence potential, and describe withdrawal symptoms including insomnia, reduced appetite, sweating, chills, and irritability; the precise signs exhibited by some marijuana users who discontinue the drug abruptly. In Illinois (the home of the ABH Newsletter), medical, law enforcement and school officials in suburban Chicago and St. Louis have noted cases of young people displaying these effects. Further, like most street drugs, K2 may be adulterated with unknown substances. An analysis of seven "Spice" samples in Germany detected high levels of a chemical solvent in one batch.

Although the availability and use of this substance appears to be minimal at this time, that situation may be changing. K2 is not a controlled substance, and so possession and/or sale is not illegal. In addition, standard urine tests do not detect it. However, it is a "banned" substance in more than a dozen countries, primarily in Europe, but extending to South Korea. Via the Internet, it is available from a variety of sources (e.g., <http://jwh018supplier.com/buy-jwh-018-online/?gclid=CK2PpuWToKACFRLxDAodPDcCbA>) at prices that range from \$30 to \$45 per gram. Only the highest quality of marijuana fetches a price that high.

Perhaps a good way to close this article would be with a cautionary tale. In her excellent article in the journal *Analytic Chemistry* author Christine Piggee states:

Reporters for German television probably thought that they were doing society a favor when they broadcast a news story about herbal incense that produced a marijuana-like high but couldn't be detected by common drug screens. But after the August 2008 broadcast, the popularity of the incense soared in Germany. Young people began to show up at emergency rooms across the country with psychosis-like panic attacks and heart and circulatory problems; these patients admitted to smoking or ingesting products marketed as "herbal incense". Despite all signs pointing to marijuana overdose, no delta-9-tetrahydrocannabinol (THC) or any of its metabolites were detected in clinical samples from the patients.

How do we guard against the use of psychoactive substances within high-risk populations without fueling an epidemic? This is an important public policy question that has yet to be answered. Perhaps it is time to begin the conversation.

References

Auwärter, K., Dresen, S., Weinmann, W., Müller, M., Pütz, M. & Ferreirós. (2009). "Spice" and other herbal blends: harmless incense or cannabinoid designer drugs? *Journal of Mass Spectrometry*, 44:5, 832-837.

Piggee, Christine (2009). Investigating a not-so-natural high: Researchers identify synthetic cannabinoids in herbal incense. *Analytical Chemistry*, 81 (9), pp 3205–3207.

On-line Training Announcements*

Free IAODAPCA-Approved Course!

We are still offering a free IAODAPCA-approved course entitled DUI: The Effects of Drugs Other than Alcohol

To register, go to www.randallwebber.com
and click on "Free Course"

Webinars**

Treatment of Heroin and Other Opiates Dependency-A Four Part Series

Module II: Psychosocial Strategies

April 13, 2010
10:00 A.M.-12:15 P.M.
OR
2:00-4:15 P.M.
IAODAPCA Approval pending
\$20

Module III: Medication-Assisted Treatment with Methadone

April 20, 2010
10:00 A.M.-12:15 P.M.
OR
2:00-4:15 P.M.
IAODAPCA Approval pending
\$20

Module IV: Medication-Assisted Treatment with Buprenorphine and Naltrexone

May 4, 2010
10:00 A.M.-12:15 P.M.
OR
2:00-4:15 P.M.
IAODAPCA Approval pending
\$20

Special Populations Series

Childhood Trauma and Adolescent Substance Abuse

IAODAPCA PROGRAM NUMBER: 9957

2 Continuing Education Units

Counselor I or II, Prevention I or II, Assessor I or II, MISA I or II or III , CCJP II, PCGC II, CAAP I, CRSS I or II, BRI II, MAATP I or II, RDDP

April 8, 2010

10:00 A.M.-12:15 P.M.

OR

2:00-4:15 P.M.

\$20

Street Drug Update Series

“K2, Spice, Red Dragon”

April 23, 2010

10:00-11:00 A.M.

May 7, 2010

2:00-3:00 P.M.

IAODAPCA Approval pending

\$15

Evidence-Based Treatment Strategies Series

Introduction to Cognitive Behavioral Therapy

April 15, 2010

10:00 A.M.-12:15 P.M.

OR

2:00-4:15 P.M.

IAODAPCA Approval pending

\$20

Home Study Courses

- ◆ Street Drug Pharmacology (8 IAODAPCA CEU)
- ◆ Advanced Street Drug Pharmacology (8 IAODAPCA CEU)
- ◆ Pharmacology and Physiology of Alcohol and Alcoholism (6 IAODAPCA CEU)

COMING SOON:

Motivational Interviewing Webinar

On-Line Street Drug Pharmacology

* For additional information or to register for any of our courses or webinars, visit our website at: <http://www.randallwebber.com>

** Call for information on group, series and multi-workshop discounts

Other On-Site Workshops Available from JRW Behavioral Health Services

This is a Partial List of Our Individualized Workshops, Seminars and In-Services

- ◆ Childhood Trauma and Adolescent Substance Abuse
- ◆ Street Drug Pharmacology
- ◆ Advanced Street Drug Pharmacology
- ◆ The Physiology and Pharmacology of Alcohol and Alcohol Dependency
- ◆ The Neuroscience of Addiction
- ◆ Using Addiction Science to Guide Treatment Planning
- ◆ Medication Assisted Treatment of:
 - Heroin and Prescription Opiates
 - Alcohol
- ◆ Understanding and Treating Dependence on:
 - Methamphetamine
 - Heroin and Prescription Opiates
 - Cocaine
 - Cannabis
- ◆ Cognitive Behavioral Therapy in the Treatment of Substance Use Disorders
- ◆ Criminal Thinking and Substance Dependency Treatment
- ◆ Recovery and Re-Entry for Criminal Justice Offenders

**For information on our workshops, in-service presentations
and consultation services, call (847) 563-8900**

OR

Go to www.randallwebber.com and click on "Contact Us"

Upcoming National and Regional Conferences

Society of Behavioral Medicine (SBM) Annual Meeting & Scientific Sessions
April 7-10, 2010
Seattle, Washington
Contact: <http://www.sbm.org/meetings/>

University of South Florida - Quality of Care in Behavioral Health
April 13-14, 2010
Clearwater, Florida
Contact: <http://bhsr.fmhi.usf.edu/main.php>

American Society of Addiction Medicine (ASAM) 41st Annual Medical-Scientific Conference
April 15-18, 2010
San Francisco, California
Contact: <http://www.asam.org/AnnualMeeting.html>

Evidence-based Treatment and Prevention in Diverse Populations and Settings
Albuquerque, N.M.
April 22-23, 2010
Sponsored by the National Institute on Drug Abuse, the University of New Mexico, the University of Arizona and the University of California-San Francisco
<http://www.sei2003.com/blendingalbuquerque/index.aspx>

California Association for Alcohol Drug Educators (CAADE) Conference 2010
April 22-24, 2010
Palm Springs, California
Contact: <http://caade.org/confrnc10.htm>

National Commission on Correctional Healthcare - 2010 Updates Spring Conference
April 24-27, 2010
Nashville, Tennessee
Contact: <http://www.ncchc.org/education/index.html>

32nd Annual Conference of Substance Abuse Librarians and Information Specialists (SALIS)
April 27-30, 2010
New York City, New York
Contact: <http://www.salis.org/conference/conference.html>

24th Annual Addiction: Focus on Women Conference 2010
May 11-14, 2010
Asheville, North Carolina
Contact: www.mahec.net/afow/

25th Annual Idaho Conference on Alcohol and Drug Dependency
May 17-20, 2010
Boise, Idaho
Contact: <http://www.attendicadd.com/>

National Association of Addiction Treatment Providers (NAATP) 2010 Annual Conference
May 22-25, 2010
La Cantera Resort
San Antonio, Texas
<http://www.naatp.org/conferences/annualconference.php>

Society for Prevention Research
May 30 - June 5, 2009
Denver, Colorado
Contact: http://www.preventionresearch.org/future_conferences.php

Would you like to see your conference listed free-of-charge in this newsletter?
Contact us at <http://www.randallwebber.com>

News from the World of Addiction Science

Prenatal Exposure to Methamphetamine May Produce Cognitive Problems in Children and Adolescents

Is well documented that prenatal exposure to alcohol can result in the negative outcomes generally known as Fetal Alcohol Syndrome (FAS) and Fetal Alcohol Exposure (FAE). It has also been demonstrated that prenatal methamphetamine exposure can produce changes in certain brain regions, and that such changes are related to poor performance on tasks that require attention and verbal memory. Now research conducted at the University of California at Los Angeles (UCLA) has indicated that children and adolescents who are prenatally exposed to both methamphetamine and alcohol have more severe brain damage than those exposed to methamphetamine or alcohol alone.

Three groups of 5-15 year-olds were examined by the research team: those who had experienced prenatally exposure to 1) methamphetamine and alcohol, 2) alcohol only or 3) no exposure to either drug. Both "exposure" groups had brain abnormalities, but the group with exposure to both drugs exhibited worse abnormalities than those exposed to alcohol alone. The damage was in a structure known as the striatum which plays a major role in cognitive function (thinking, memory, attention, reading and writing).

The Use of Naltrexone in Treating Heroin Dependence: Oral Vs. Depot (implanted) type

The opiate antagonists are substances that block or reverse the effects of opiates such as heroin, oxycodone ("OxyContin", Percodan) and hydrocodone (Vicodin). One of these, naloxone (Narcan), is used primarily to treat opiate overdoses. An injection of naloxone can quickly reverse the effects (e.g., respiratory arrest) of heroin or another opiate, often saving the patient's life. Its effects are short-lived, however. An antagonist with a longer duration of action, naltrexone, is more useful than naloxone in treating heroin dependence. Used as an adjunct to counseling, naltrexone can decrease the potential for relapse.

In a recent study, oral naltrexone was compared to a depot (implanted) form of the drug in order to determine one type was more effective in preventing heroin relapse. Fewer clients on the depot version relapsed over a six-month period, and those who did relapse did so after a longer period of sobriety.



SPECIAL ALERT
December 15, 2009



Toxic Anti-Parasite Drug Found in Cocaine Samples: A Risk Factor for Cocaine Users?

The Substance Abuse and Mental Health Services Administration (SAMHSA) has issued a public health alert indicating that a significant amount of illicit cocaine may be adulterated with levamisole, an anti-parasitic drug used by veterinarians. Its use with humans in the U.S. as a colon cancer treatment medication has been limited since 2005 due to the occurrence of serious

side effects in some patients, including rare instances of agranulocytosis, a disorder that leaves individuals vulnerable to rapidly developing, life-threatening infections.

Despite the alert from SAMHSA, which suggests a link between adulterated cocaine and agranulocytosis, there is little if any support in the medical literature for this link. Nonetheless, it is advisable to notify clients in substance disorder treatment as well as individuals targeted for selective and indicated prevention initiatives of the *possibility* of serious medical complications associated with levamisole-tainted cocaine.

**Read more on these articles at www.randallwebber.com.
Click on "Addiction Science News".
Internet Links**

Each month, we provide a new list of Internet links in addition to those important to readers from Illinois, our home state. Here are this month's links:

LOS SITIOS WEB DE LA LENGUA ESPAÑOLA (Spanish Language Sites)

LaAntiDroga <http://laantidroga.com>

Instituto Nacional en la Drogadicción/Sección de la Lengua Española
<http://www.drugabuse.gov/nidaespanol.html>

La Administración para Los Servicios del Abuso de Sustancia y de La Salud Mental/Publicaciones de la Lengua Española
<http://ncadistore.samhsa.gov/catalog/resultslang.aspx?h=publications&topic=2&language=Spanish>

NATIONAL SUBSTANCE ABUSE TREATMENT LOCATOR

Substance Abuse and Mental Health Services Administration Treatment Locator
<http://findtreatment.samhsa.gov/>

PROFESSIONAL ASSOCIATIONS AND CERTIFICATION BODIES

Illinois Alcoholism and Other Drug Abuse Professionals Certification Association
<http://www.iaodapca.org>

Illinois Alcoholism and Drug Dependence Association <http://www.iadda.org>

NAADAC-The Association for Addiction Professionals <http://www.naadac.org>

Employee Assistance Society of North American <http://www.easna.org/>

RECOVERY MANAGEMENT RESOURCES

<http://www.bhrm.org/>

<http://www.attcnetwork.org/learn/topics/rosc/docs/RecMgmt.pdf>

STATE AND FEDERAL AGENCIES

National Clearinghouse for Alcohol and Drug Information <http://ncadi.samhsa.gov>

National Institute on Alcohol Abuse and Alcoholism <http://www.niaaa.gov>

Illinois Department of Human Services, Division of Alcoholism and Substance Abuse
www.dhs.dasa.il.us.gov

SUBSTANCE ABUSE AND DEPENDENCE PREVENTION PROGRAMS

Prevention First <http://www.prevention.org>

**To Find More Links to Substance Use Disorder Resources, Visit Us at
www.randallwebber.com and Click on "Links"**

