

'Drug abuse' of a different 'wave' length

NEW(S)

An alarming new stimulant, legal in many states...reports are emerging from hospitals around the country, as doctors scramble to figure out the best treatment for people high on bath salts. The drugs ... have unusually dangerous and long-lasting effects.^[1]

VIEW(S)

What are bath salts?

Bath salts are a range of water-soluble products (e.g. Epsom salt, Himalayan salt) that are added to a bath to improve the bathing experience (claimed, among the many, to remove odor, make skin softer and relax the mind). They are available in a variety of fragrances. They are used premixed in bath water or made into paste and applied over the skin before bathing.^[2] It is pertinent to note that this information is not from scientifically proven source.

Why they are in news now?

How and when the bath salts abuse started is not known exactly. "Bath Salts" are the latest addition to a growing list of items that young people can obtain to get high. The synthetic powder is sold legally online and in stores under a variety of names, such as "Ivory Wave", "Purple Wave", "Red Dove", "Blue Silk", "Zoom", "Bloom", "Cloud Nine", "Ocean Snow", "Lunar Wave", "Vanilla Sky", "White Lightning", "Scarface", and "Hurricane Charlie".^[3]

From November 2010 to January 2011, the Marquette County (United States) received patients with hypertension, tachycardia, tremors, motor automatisms, mydriasis, delusions, and paranoia. Some were violent. The patients reported using "bath salts" purchased at a local store for about US\$20 a package and labeled "not intended for human consumption". Unlike traditional cosmetic bath salts, the drugs that are sold as "bath salts" have no legitimate use for bathing and are intended for substance abuse.^[4] Since then more and more reports of bath salts abuse started to pour, and many countries have recently started banning (Britain, USA) them.

What are the chemical constituents of the recent so-called "bath salts"?

These products contain amphetamine-like stimulant

chemicals (promoted as equivalent to cocaine) such as *methylenedioxypyrovalerone (MDPV)*, *mephedrone*, and *pyrovalerone*. They have a high abuse and addiction liability with intense cravings. They are administered orally, by inhalation, or by injection, with the worst outcomes associated with later routes of administration.^[3] MPPV inhibits norepinephrine-dopamine reuptake and thus act as central nervous system stimulant.^[5]

Clinical effects of bath salts

They are also referred to as *psychoactive "bath salts"* (PABS) or as "legal cocaine", as alertness enhancers, or as aphrodisiacs. Akin to many other abused drugs, they also suffer from properties such as development of tolerance, withdrawal, and intense craving. As low as 3–5 mg PABS produces a rush, their effects last for 3–4 h followed by a harsh crash.^[6]

Clinical findings were similar to that of intoxication with stimulants. In fact, PABS has all the features of lysergic acid diethylamide (LSD), phencyclidine (PCP), methylenedioxymethamphetamine ("ecstasy"), cocaine, and methamphetamine.^[7]

The physical, behavioral effects, and the laboratory findings have not been well documented. There is a profound sympathetic stimulation with effects such as tachycardia, severe hypertension, hyperthermia, seizures, and deaths. The patients present with altered mental status such as, severe panic attacks, agitation, paranoia, hallucinations, and violent behavior (e.g., self-mutilation, suicide attempts, and homicidal activity). Nearly half the patients had a history of serious mental illness (e.g., bipolar disorder, schizophrenia, or depression).^[6]

Management of bath salts intoxication

Treatment is largely supportive and symptomatic. Physical restraint and sedatives (i.v. benzodiazepines) in large doses may be needed to prevent harm to self and others. Seizures again need to be controlled by benzodiazepines. Routine intravenous fluids are indicated.

Why bath salts are unique among abused drugs?

- They are cheap (about US\$10 a pack of 500 mg).
- Easy availability.
- Cause profound effects almost similar to other abused stimulants.
- Synthetic drugs originally made in China and India, now abused in developed countries.
- They do not show up in routine drug screen tests.
- "Bath salts" typically are labeled "not for human consumption", and thus fail to meet all attributes of

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a scheduled substance. (However, the governments of affected countries have pursued legislation to add these chemicals under Schedule I of controlled substances).

The pseudo scientists (public) have shown the euphoric side of bath salts, is it not time for the real scientists to seek whether a drug-like clonidine would be ideal to deal with the profound sympathomimetic effects of PABS?

Before the menace spread to third world countries, let the concerned governments wake up and do something proactive, else such news spread faster than the speed of light, in the present era of communication super highway, especially among the youth.

REFERENCES

1. An Alarming New Stimulant, Legal in Many States. Available from: <http://www.nytimes.com/2011/07/17/us/17salts.html?pagewanted=all> [Last accessed on 2011 Sep 12].
2. How to Use Bath Salts. Available from: http://www.bathsalt.net/How_to_Use_Bath_Salts.html [Last accessed on 2011 Sep 12].
3. Message from the Director on "Bath Salts" - Emerging and Dangerous Products. Available from: <http://www.nida.nih.gov/about/welcome/MessageBathSalts211.html> [Last accessed on 2011 Sep 12].
4. Emergency department visits after use of a drug sold as "bath salts" -- Michigan, November 13, 2010-March 31, 2011. MMWR Morb Mortal Wkly Rep 2011;60:624-7.
5. United States Drug Enforcement Administration. Methylenedioxypyrovalerone, December 2010. Available from: http://www.deadiversion.usdoj.gov/drugs_concern/mdpv.pdf [Last accessed on 2011 Sep 12].
6. Ross EA, Watson M, Goldberger B. "Bath salts" intoxication. N Engl J Med 2011;365:967-8.
7. Halladay J. States race to ban risky 'bath salts' drug. USA Today. February 11, 2011. Available from: http://www.usatoday.com/news/nation/2011-02-11-bathsalts11_ST_N.htm [Last accessed on 2011 Sep 12].