

Legal highs: *the new psychoactive substances*

Chayanika Choudhury

The smokes of peril refuses to quietened down as the gush of monstrous atrocities blows through the human society day after day. The incessant roots of drug abuse have gripped the core of the society in a way making it nearly impossible to sneak out of its strangling claws. The many faced devourer has wrecked the jurisprudence all over the globe. The illicit drug market has always found ways to circumvent the law for the easy flow of drugs and has perpetually tried to increase the abuse for fast illegal money. The new notorious substances in the market are the **SYNTHETIC DRUGS**, also known “*Designer Drugs*”, “*Legal Highs*” or “*Herbal Highs*” or “*Bath Salts*”. These synthetic drugs have gained quick popularity among the youth because of its easy availability through internet or head shops. The assured huge flow of these drugs is due to the constant alterations in the chemical structures of the ingredients causing a problem in the ban on these drugs. The recreational use and the sale of these drugs, in pure form or preparation, pose a serious threat to the laboratories and the legal system as they are covered under neither the 1961 Single Convention on Narcotic drugs nor the 1971 Convention on Psychotropic Drugs. Though the manufacture of the NPS (New Psychoactive Substances) began around 40 years back, it the “new” emergence in the global market that is raising concern amongst clinicians, law enforcement authorities and policy makers.

The novel psychoactive substances, sometimes sold under the label of “not for human consumption” are on the rise in unprecedented rate. These range

of drugs are designed to mimic the illicit drugs such as cocaine, cannabis, LSD and ecstasy. December 2015 witnessed the emergence of 643 new substances as per registered in United Nations Office of Drugs and Crime (UNODC) Early Warning Advisory on NPS. The NPS groups are classified as Aminoindane, Phencyclidine-type substances, Phenethylamines, Plant based substances, Piperazines, Synthetic Cannabinoids, Synthetic Cathinones and Tryptamines.

The classification is not exclusive due to the immutable changes in the chemical structures.

The party pills have effects similar to amphetamines or ecstasy and are marketed under the pretext of safe natural supplements that boost energy without proper mention of its ingredients. The herbal highs with man-made chemicals (piperazines) are now replaced by new chemical free Herbal Highs which commonly lists their ingredients as caffeine, geranium extract and citrus aurantium extract. Street names include *Legal X*, *Social Tonic*, *HyperDrive*.

Synthetic cannabis are powdered chemicals mixed with solvents and added to dried herbs. These colourful packets are smoked and sometimes drunk as tea. The abusers report subjective alterations in mood, anxious and paranoid reactions, hangover like states.

Fashionably popular as “*MDAI-Gold*” and “*Pink Champagne*”, the aminoindanes have potent effects on release and reuptake of serotonin. They possess significant effects of bronchodilation and analgesia. In the recent years there has been an increase in number of reports to the UNODC EWA of new psychoactive substances. The various NPS are manufactured by N-alkylation of the prototype 2-aminoindane (2-AI) which is a cyclic analogue of amphetamine.

On the other hand, Research Chemicals (*Ivory Wave*, *Dr. Death*, *Mephedrone etc.*) are marketed as pure psychoactive drugs in the form of crystals, white powder or capsules under the names of bath salts or plant food. These substances belong to the group of cathinones, phenethylamines and tryptamines.

Plant based substances dates back to 18th century but the plague spread of the abuse has been reported to the UNODC in 2009. The social custom of chewing leaves of *khat* shrub (*celastraceae* family) have always been popular amongst people in the horns of African and Arabian Peninsula. The psychoactive effects are due to release of cathinone and cathine alkaloids. Street

names of *khat* include 'gaḥ', 'qaḥ', 'miraa' 'Arabian or Abyssian Tea'. The long term effects range from psychosis to depression though less reported.

The trees of *Kratom* (Rubiaceae family) are found in the tropical and sub-tropical regions of South East Asia. The alkaloids of *Kratom* are mitragynine, miyraphylline, 7-hydroxymitragynine. Traditionally, the farmers of Malayasia and Thailand used it as a substitute to opium and in traditional medicine due to its morphine like pharmacological effects. Recently, products containing kratom are being sold as 'incense' for their psychoactive effects. Street names include 'thang', 'kakuam', 'ketum', 'biak'. The fresh leaves are chewed whereas the powdered form is often swallowed or brewed into tea. Nine fatal cases have been reported with the use of 'Krypton' (a mixture of mitragynine and O-desmethyiltramadol) in scientific literature.

The third most widely abused is a psychoactive plant indigenous to the forest areas of Oaxaca, Mexico. *Salvia divinorum* (of the mint family Lamiaceae) had been traditionally used by the Mazatec Indians for religious and medical purposes. Neoclerodane diterpene (salvinorin A) is the active ingredient. The leaves are chewed or sucked from a cigar-like roll. They may also be crushed to make an infusion drink. Many users inhale vaporised salvinorin A extract or smoke the dried leaves. Smoking of the dried leaves produces intense short hallucinations, comparable to the effects of LSD.

Street names are popular as 'Maria Pastora', 'Sage of the Seers', 'Salvia', 'Magic Mint', 'Shepherdess's Herb' etc. 'The fresh man selection or the 'Starter Pack' is a liquid extract containing combination of salvinorin A and dried leaves.

The extent of sale and use of NPS is difficult to assess as they do not follow the conventions of non-NPS. With the rampant rise of NPS, health hazards related to NPS have come in major limelight. Amongst all, most serious effects can be attributed to Mephedrone which causes seizures, myocarditis, severe agitation and chest pain.

Online anonymous surveys, computer assisted interviews, bio-samples like hair and other indirect forms of data have been collected so far to note the prevalence and effects of these notorious substances. India is also reported to be a major producer of NPS along with China. Presently, those found in rave parties are covered under Section 27 of the Narcotic Drugs and Psychotropic Substances Act of 1985 or under Section 294 of the Indian Penal Code. However, the government has also recently placed ketamine under Schedule X of Drug and Cosmetics Act, 1940. The legal challenges faced are that these drugs do not fall under international UN conventions.

Hence a ban on these drugs cannot be drafted due to their constant changing chemical structures. A ban on NPS can also close possible future doors for medical research. NPS acted as a boon in case of discovery of Bupropion which is a cathinone derivative and is being used as antidepressant.

Queensland, New South Wales and South Australia have announced a 'Blanket Ban' on possession and sale of any substance producing psychoactive affects other than alcohol, tobacco and food.

A Global **SMART** (Synthetics Monitoring: Analyses, Reporting and Trends) programme was launched in September 2008, Bangkok consisting of 11 countries of East and South East Asia. In January 2011 it extended to Latin America. The programme helps to generate, manage, analyse, report and use synthetic drug information and the emerging trends to design effective policy and programme interventions.

The pandemic of NPS has converted the foundation of drug related laws into loose soil. Millions of youth and their energy and productivity are getting wasted in the 'high'. It is the need of the hour to draw attention into the growing problem of NPS and conduct research and draft out carefully planned policies. One of the solutions could be to bring out sustainable alternative measures amongst the farmers growing the precursors. A very successful example was displayed by South Shan, Myanmar. Over 1000 farmers converted the opium plantation into high quality coffee plantations with the help of UNODC and a French coffee company, MALONGO.

Proper extensive planning could run a long way in curbing the menace of new psychoactive substances.

It is a play of wit and will.