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### **B31 New Psychoactive Substances Abused in South Korea: Drug Monitoring on the Seized Materials by National Forensic Service From 2009 to April 2014**

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After attending this presentation, attendees will be informed about the recent trends of New Psychoactive Substances (NPS) seized during drug trafficking in South Korea.

This presentation will impact the forensic science community by providing information about the regional NPS trends in South Korea. International cooperation and information-sharing would be necessary to efficiently regulate the NPSs without a balloon effect.

Recent increases in the use of NPS have become a remarkable worldwide trend. These NPS are traded as “a legal high,” “herbal incense,” or “research chemicals.” Some of the NPS imported to South Korea were first interdicted by customs, while others have been seized by the police agency and the prosecutor’s office during drug trafficking. The National Forensic Service (NFS) identifies psychoactive substances seized mainly by the police agency and part of the prosecutor’s office; this collection may reflect the regional status of NPS abuse in South Korea.

According to drug statistics from the NFS, from 2009 to April 2014, the most frequently identified NPSs were synthetic cannabinoids (38 species) and synthetic cathinones (16 species). Recent trends in synthetic cannabinoids may be summarized as an increase in halogenated derivatives and new substances, including UR-144 and A-836,339, developed as analgesics by Abbot™ Laboratories. The N-pentyl fluorinated analog of UR-144 (XLR-11) has become the most frequently found synthetic cannabinoid in 2013 since its first appearance in 2012, whereas abuse of A-836,339 analogs has been little reported despite its abuse potential. Until early 2011, nicotine was the most frequently found active co-ingredient in synthetic cannabinoids; however, various psychoactive substances such as  $\Delta^9$ -tetrahydrocannabinol,  $\alpha$ -PBP,  $\alpha$ -PVT, and 5-MeO-DALT have often been found as co-ingredients in herbal highs since late 2011. On the other hand, increase of phenethylamine derivatives, including synthetic cathinones and amphetamine analogs, has recently become a new trend. It might be induced by the regional and global regulation on the herbal highs containing synthetic cannabinoids. The phenethylamine derivatives have been found in various types of materials including herbal incenses or dietary supplements.

Trade and abuse of NPS are highly restricted in South Korea by the Narcotics Control Act, which includes the temporary drug designation act and regulation on the analogs of major NPS. The numbers of chemical species and abuse cases of NPS have increased rapidly since 2010, and the Korean Food and Drug Administration (KFDA) added analogs of major NPS to the list of narcotics controlled by law in February 2011 based on the Canadian analog system; however, new compounds have continuously appeared. As a result, the KFDA applied a temporary drug designation act in June 2011 in order to reduce the interval required to legislate the drug regulation act; however, evolution of synthetic cannabinoids has become much faster than before. The most efficient ways to regulate the NPSs may include a rapid legislation system and extensive regulations of the analogs of possible abuse. For these reasons, regulatory systems should be improved continuously to cope with the endless evolution of NPS.

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#### **New Psychoactive Substance, Trend, South Korea**