



B52 Drug Profile of Urine Specimens From Arrestees in Taiwan

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Not only in the United State but also in Taiwan, using drugs are criminal behaviors and the drug abusers have the tendency of using polydrug. From this presentation, attendee could learn, retain and even implement into their practice about drug use and profile of urine specimens from arrestees.

Drug abuse is a global phenomenon and its extent and characteristics differ from region to region. This presentation describes the most common combinations including MDMA identified were MDMA/ketamine and MDMA/Methamphetamine use in Taiwan, and will impact the forensic community and/or humanity by assisting forensic community to understand the poly-drug combinations.

Introduction: Drug abuse is a global phenomenon and its extent and characteristics differ from region to region. Club drugs, MDMA, marijuana and ketamine, have emerged in Taiwan in recent years. MDMA and ketamine positive rates as high as 76% and 47% from rave party participants were shown by Lua *et al.* in 2001.¹ Easy accessibility of precursors and of manufacturing know-how, relatively low prices and the trendy and benign image with popular techno-music and rave culture were all responsible for the spread of MDMA, MDA and MDEA rapidly as reported by UNODCCP in Global Illicit Drug Trends 2000.² In Taiwan, using drugs are criminal behaviors and the drug abusers have the tendency of using poly-drug which causes complicated and serious health problems owing to its variety of combination. To understand the drug profile and the combinations of poly-drug use in Taiwan, the authors conducted a study of urine drug testing on drug related arrestees who might commit crime(s) by using drugs.

Experiments: 930 urine specimens were collected from police arrestees suspected of drug abuse from twelve of the twenty-three counties in the Taiwan island from Jan 2002 to July 2002. In this study, screened urine specimens were screened with immunoassay reagents adapted to Merck Selectra Vista II and Hitachi 705 automatic biochemistry analyzers according to the manufacturer's recommendations, then confirmed the presence of morphine, codeine, methamphetamine, amphetamine, ketamine, MDMA and marijuana with GC/MS. At the meantime, REMEDi HS Drug Profiling System was used to screen for the other drugs. Thirtynine drugs were identified positively in 930 specimens.

Results and discussion: The REMEDi HS system is widely used in hospital emergency rooms to identify poisons in a patient's urine or serum. It is highly automated and fast with a potential to screen over 900 drugs and metabolites, including stimulants, local anesthetics, antidepressants, antibiotics and pesticides. In this study, specimens were screened for more than 100 drugs out of the over 200 on Taiwan's controlled drug list. The drugs include benzodiazepines, barbiturates, synthetic opiates and stimulants. Morphine and methamphetamine were verified as still the major drugs detected in Taiwan, followed by Benzodiazepine (18.3%), MDMA (17.7%) and ketamine (7.2%). Complicated poly-drug use patterns were observed and up to six drugs or metabolites were detected in some specimens which included methamphetamine, benzodiazepine, opiate, precursor, MDMA, MDA and ketamine. The most frequently identified drug combinations were morphine/Methamphetamine (19%), Codeine/Methamphetamine (15%), morphine/amphetamine (15%) and morphine/benzodiazepine (13%). The most common combinations including MDMA identified were MDMA/ketamine and MDMA/Methamphetamine.

Conclusion: Morphine and Methamphetamine were verified as still the major drugs of abuse in Taiwan, followed by Benzodiazepines, MDMA and ketamine. Ketamine and benzodiazepines were detected at high rates and became a significant problem. Also for the drug combinations, of ketamine positive specimens, MDMA was most frequently identified and of benzodiazepines positive specimens, morphine, methamphetamine and opioid were found mostly. The detection rates for THC and barbiturates were low in arrestees. These results revealed important information for further research and policymaking.

Reference:

1. Lua, A.C., Lin, H.R., Tseng, Y.T., Hu, A.R. and Yeh, P.C. 2003. Profile of Urine Samples from Participants at Rave Party in Taiwan: Prevalence of Ketamine and MDMA Abuse. *Fore. Sci Intl.* 136: 47-51.
2. UNODCCP: United Nations Office for Drug Control and Crime Preventions, Studies on Drugs and Crime: Global Illicit Drug Trends, 2000.

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