

## Executive Summary on **“A Community Study of Uro-Psycho-Physical Changes in Young Adults Using Ketamine.”**

This study aims to identify the relative risk of dosage, frequency and duration of ketamine abuse for changes in body system functions and the extensiveness of damage caused in community young adults. From January 2011 to December 2012, 18 outreach mega-clinics were established at specific community centres. Two hundred and thirty teens attended the clinic for assessment. We have set up clinics in North District, Tai Po, Kwai Chung and Tsuen Wan. A total of 230 ketamine abusers were recruited into this research project

The mean age of starting drug abuse is 15.1years. The mean duration of ketamine abuse is 55.8months. 79.5% participants have abused ketamine for over 4 years. 60.1% abuse more than 5 times per week. 50% consumed alcohol while taking drug. Use of multiple drugs was reported by 68.3% (n=157) of the ketamine users, with the most common additional drugs being cocaine (48.9%), methamphetamine (26.1%), nimetazepam (15.5%) and cannabis (14.3%). Only 37.4% of them admitted themselves as dependent to the substance use.

This study identified the relative risk of dosage, frequency and duration of ketamine abuse for changes in body system functions and the extensiveness of damage caused in community young adults. The frequency of taking ketamine was inversely correlated with BMI. The dosage of ketamine use was correlated with BMI. 29.5% of abusers are underweight. Female is more likely to be underweight than male in this population. For male abusers with ketamine abuse frequency more than 2 times per week, the risk of BMI below average is 2.5 times of those who abuse less. For those with ketamine abuse more than 5 years, the risk of poor lung function is significantly higher than those who abuse less.

Among 52 participants in fine hand coordination test, 40.4% failed. The failure

rate of those with ketamine abuse for more than 5 years is 7 times to those who abuse less.

76 participants were assessed on perceptual motor and memory (visual and verbal) aspects. Results indicated that memory was more prominently affected in this group of clients mainly abusing Ketamine. 24% of those also had impairment in both perceptual and memory aspects. These clients might anticipate more problems in coping with daily living and work tasks.

The frequency of taking ketamine was associated with “Pelvic Pain, Urgency, Frequency” (PUF) symptoms score, bother score and total score. 47.8% of subjects suffered from overactive bladder symptom. Increase one day per week of ketamine use would increase 0.521 times probability of having overactive bladder symptom. Duration of ketamine use was inversely correlated with max flow rate. Frequency of taking ketamine was inversely correlated with max flow rate. Frequency of taking ketamine was inversely correlated with voided volume.

Out of 216 subjects with ultrasound performed, we picked up 14 bilateral hydronephrosis, 23 right hydronephrosis and nil left hydronephrosis. The duration of ketamine use was significantly correlated with having hydronephrosis. It indicated that increase in 1 year ketamine use would increase 0.977 times probability of having hydronephrosis. The dosage of ketamine use was significantly correlated with having hydronephrosis. It indicated that increase in 1 gram ketamine use would increase 0.579 times probability of having hydronephrosis.

The frequency of taking ketamine was significantly associated with higher Beck Depression Inventory (BDI) total score. The duration of ketamine use was significantly correlated with higher Hospital Anxiety and Depression Scale (HADS) total score. 58 subjects (48.3%) had reported experiencing one or more types of childhood adversities prior to age of 16. The reported adversity items included physical abuse,

parental divorced/separation, parental substance use, parental mental disorder and sexual abuse.

There were 41 cases (18%) referred to Urology clinic after UROK outreach assessment. 34 cases (15%) were referred to Substance abuse clinic for management of significant psychiatric symptoms.

A press conference was held 25.8.2011 to release the results from the pilot study of this research. The preliminary outcomes of this research were presented on 11.11.2012 to peer doctors in the annual scientific meeting of Hong Kong Urological Association. The pilot study was published in Journal of Urology (an international peer-review journal). Education DVD on the services for psychotropic substances abusers is designed and produced.

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