

## Abstract

**Objectives:** Methylamphetamine, or methamphetamine, is a potent central nervous system stimulus. It has been misused recreationally and gives rise to methamphetamine dependence and associated psychiatric co-morbidities. It arouses concern from the public and places a huge burden to the society. The trend of sustained growing popularity of methamphetamine among illicit drug users in Hong Kong is obvious from the data and the need to address the problems is imminent. However, there is a lack of a reliable and valid instrument to detect the presence and measure the severity of methamphetamine dependence in local methamphetamine users. This study modified and translated the 20-item version of Drug Abuse Screening Test (DAST-20) and examined the reliability and validity of the Chinese version of DAST-20 for methamphetamine (C-DAST-20-MA) in a sample of treatment-seeking Chinese methamphetamine users in Hong Kong. The ability and a cut-off score to diagnose methamphetamine dependence according to the diagnostic criteria of Diagnostic and Statistical Manual of Mental Disorders - Fourth Edition (DSM-IV) were also examined.

**Methods:** A sample of 100 treatment-seeking Chinese methamphetamine users was recruited from the in-patient and out-patient setting of an acute psychiatric hospital and a community-based counselling centre for psychotropic substance abusers. Demographics and pattern of methamphetamine use were collected. The C-DAST-20-MA was administered to assess their methamphetamine use in the previous 12 months to give a total score. The diagnosis of current methamphetamine dependence was determined by Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I). The psychometric properties of the C-DAST-20-MA were examined. Test-retest reliability was assessed in 31 participants. Receiver Operating Characteristics (ROC) analysis was performed to determine an optimal cut-off score for screening of methamphetamine dependence according to the DSM-IV criteria.

**Results:** The C-DAST-20-MA had a good internal consistency ( $\alpha = 0.78$ ) and an excellent test-retest reliability (ICC = 0.94). The total score of the C-DAST-20-MA had a strong concurrent validity with significant positive correlation with the number of DSM-IV criteria of methamphetamine dependence met by the participants, duration of regular methamphetamine use and number of days of methamphetamine use in a week. The area under curve (AUC) in the ROC analysis was 0.96, reflecting the

excellent diagnostic utility in discriminating the presence or absence of methamphetamine dependence according to diagnostic criteria of DSM-IV. An optimal cut-off of 7 provided the best combination of sensitivity and specificity at 94% and 84% respectively.

**Conclusion:** The findings of this study indicate that the C-DAST-20-MA is a reliable and valid measure of the severity of methamphetamine dependence in treatment-seeking Chinese methamphetamine users. It has a high diagnostic utility and a total score of 7 may be indicative of methamphetamine dependence.

**Keywords:** methamphetamine; dependence; Drug Abuse Screening Test; psychometrics