

# Application of mobile messaging in the treatment of methamphetamine use disorder

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| <b>Submission date</b><br>17/12/2020   | <b>Recruitment status</b><br>No longer recruiting             | <input type="checkbox"/> Prospectively registered<br><input checked="" type="checkbox"/> Protocol |
| <b>Registration date</b><br>30/12/2020 | <b>Overall study status</b><br>Completed                      | <input type="checkbox"/> Statistical analysis plan<br><input checked="" type="checkbox"/> Results |
| <b>Last Edited</b><br>04/01/2024       | <b>Condition category</b><br>Mental and Behavioural Disorders | <input type="checkbox"/> Individual participant data  |

## Plain English summary of protocol

### Background and study aims

Methamphetamine is a powerful, highly addictive stimulant that affects the central nervous system. Also known as meth, blue, ice, and crystal, among many other terms, it takes the form of a white, odorless, bitter-tasting crystalline powder that easily dissolves in water or alcohol. The most effective treatments for methamphetamine addiction at this point are behavioral therapies, such as cognitive-behavioral and contingency management interventions. For example, the Matrix Model—a 16-week comprehensive behavioral treatment approach that combines behavioral therapy, family education, individual counseling, 12-step support, drug testing, and encouragement for non-drug-related activities—has been shown to be effective in reducing methamphetamine misuse.

Recently, researchers have used communication technology (e-mail, SMS, and videoconferencing) to enroll patients into treatment programs, access patients during treatment periods, provide substance use interventions, deter risky behaviors, and promote adherence to treatment.

In Taiwan, approximately 82.1% of adults have access to the internet and 96.8% own mobile phones. This provides a practical opportunity to integrate mobile health technology with treatment delivery services. This study aimed to extend current research by investigating the role of mHealth systems, which could deliver SMS and videoconferencing, on therapeutic outcomes during outpatient treatment among people who use MA. The primary aim was to compare treatment retention and the results of urine drug tests between experimental and control groups.

### Who can participate?

Adult patients aged 18 - 65 years, with diagnosis of MA abuse or dependence and no initial diagnosis of severe physical or mental illness.

### What does the study involve?

Participants were randomly allocated to receive mobile messaging–assisted treatment (MMAT) or treatment as usual (TAU).

During the 6 months of participation, the MMAT group received treatment reminders by text message every week that coincided with their treatment schedule. Participants had videoconferencing sessions with case managers once every 2 weeks to discuss MA use problems

and facilitate changes in their behavior. All participants were required to attend relapse prevention group therapy sessions once per week for a total of 8 weeks and attend OPD follow-up sessions for 6 months.

What are the possible benefits and risks of participating?

Participants who receive MMAT are expected to have more negative drug urine test results compared with patients receiving TAU. Since MMAT is delivered through individual communication devices, the possibility of stigmatization while others know participants with MA use is considered as a risk.

Where is the study run from?

Jianan Psychiatric Center (Taiwan)

The study was introduced as an adjuvant treatment for MA use disorder. Those who were willing enroll in this study were given an information sheet and asked to provide contact details. After informed consent was obtained, case managers scheduled further visits for this study. All study procedures were approved by the ethical committee review board of Jianan Psychiatric Center.

When is the study starting and how long is it expected to run for?

January 2018 to July 2019

Who is funding the study?

This work was supported and funded by the Integrated Drug Addiction Treatment Center of the Jianan Psychiatric Center by Ministry of Health and Welfare in Taiwan.

Who is the Main Contact?

Dr Lee Chun-Hung

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## Contact information

**Type(s)**

Scientific

**Contact name**

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## Additional identifiers

**Clinical Trials Information System (CTIS)**

Nil known

**ClinicalTrials.gov (NCT)**

Nil known

**Protocol serial number**

Nil known

## Study information

### Scientific Title

Mobile messaging assisted treatment (MMAT) for patients with methamphetamine use disorder: a preliminary randomized controlled trial

### Acronym

MMAT

### Study objectives

The hypothesis is that patients who receive mobile messaging have better retention in treatment and drug urine test results compared with patients under TAU.

### Ethics approval required

Old ethics approval format

### Ethics approval(s)

Approved 07/02/2018, Jianan Psychiatric Center Research Ethics Committee (No. 539, Yuzhong Rd, Rende Dist., Tainan City 717, Taiwan (R.O.C.); +886 (0)62795019), ref: 18-017

### Study design

Randomized controlled trial

### Primary study design

Interventional

### Study type(s)

Treatment

### Health condition(s) or problem(s) studied

Methamphetamine users

### Interventions

The study population is recruited from outpatients of the Addiction Unit from Jianan Psychiatric Centre, which is a mental health hospital in southern Taiwan. The study is introduced as an assisted treatment for methamphetamine use disorder. Those willing to be enrolled in this study are given an information sheet and asked to provide contact details. After informed consent is obtained, case managers schedule further visits for this study. All study procedures are approved by the ethical committee review board of Jianan Psychiatric Centre.

The design of this study is a randomized controlled trial (RCT) that uses a quantitative approach to collect and analyse data. Each participant receives a comprehensive interview by well-trained psychiatrists for recording demographic data (name, age, gender, marital status, educational level, employment status), drug use history (age at first use, duration of use, number of criminal

records, current dosage in last month) and diagnostic interviews are also performed for confirming the diagnosis of substance use disorder. The severity of MA use is defined as the number of DSM-5 criteria (2-3 criteria: mild, 4-5 criteria: moderate, equal or above 6 criteria: severe). Eligible patients are randomly assigned to two groups separately on the day of enrolment after baseline measurements and informed consent are obtained. Randomization is performed with a 1:1 allocation using a permuted block design to achieve balanced sample sizes and blinded to individual group assignment.

During the 6 months of participation, the experimental group receive text messages for treatment reminders every week correlated with its treatment schedule. The psychoeducative messages consist of 80 messages based on the early recovery group of Matrix model which includes (1) how to stop the addiction cycle, (2) identifying external triggers, (3) identifying internal triggers, (4) mutual-help activities, (5) body chemistry in recovery, (6) common challenges in early recovery, (7) thinking, feeling and doing and (8) 12-step wisdom. Videoconferencing with case managers is provided for discussing MA use problems and facilitating behaviour change. All participants need to attend eight sessions of the relapse prevention group once a week and OPD follow up for 6 months. Treatment retention, psychotherapies attendance and results of monthly urine tests are analysed as outcome measurements. Feasibility and participant satisfaction are also assessed by Mobile Phone Use Questionnaire developed for the purpose of the study to obtain patients' experiences with using mobile phones for MA use disorder treatment.

### **Intervention Type**

Behavioural

### **Primary outcome(s)**

1. Retention calculated as [(remained days in treatment/treatment course for half year)]
2. Drug urine test measured at baseline and every month, and the cases who drop out are recorded as positive for the intention to treat analysis

### **Key secondary outcome(s)**

Feasibility and participant satisfaction measured using questionnaires at 6 months

### **Completion date**

01/07/2019

## **Eligibility**

### **Key inclusion criteria**

1. MA abuse or dependence was diagnosed by DSM-IV-TR
2. Age between 18 and 65 years old
3. No severe mental or physical illness, such as schizophrenia, bipolar I disorder diagnosed initially at baseline survey
4. Would like to participate in the standard outpatient treatment for 1 year
5. People who were unwilling to participate in this study, incarcerated by the criminal-justice system, or hospitalized due to physical or mental illness are defined as drop-outs

### **Participant type(s)**

Patient

### **Healthy volunteers allowed**

No

**Age group**

Adult

**Lower age limit**

18 years

**Upper age limit**

65 years

**Sex**

All

**Total final enrolment**

99

**Key exclusion criteria**

Severe mental or physical illness

**Date of first enrolment**

01/07/2018

**Date of final enrolment**

31/01/2019

## **Locations**

**Countries of recruitment**

Taiwan

**Study participating centre**

**Jianan Psychiatric Center**

No. 539, Yuzhong Rd

Rende Dist

Tainan City

Taiwan

702

## **Sponsor information**

**Organisation**

Ministry of Health and Welfare

**ROR**

# Funder(s)

**Funder type**

Government

**Funder Name**

Ministry of Health and Welfare

**Alternative Name(s)**

Ministry of Health and Welfare, Taiwan, , MOHW

**Funding Body Type**

Government organisation

**Funding Body Subtype**

National government

**Location**

Taiwan

# Results and Publications

**Individual participant data (IPD) sharing plan**

The datasets generated during and/or analysed during the current study are/will be available upon request from Lee Chun-Hung (yuhsinliu87@gmail.com). Data form: .sav (SPSS), could be shared with other investigators for 7 years. Consent should be obtained under the Jianan Psychiatric Center's regulation. Any investigator who wants to obtain data should complete an application form. All the data are anonymous.

**IPD sharing plan summary**

Available on request

**Study outputs**

| Output type                                   | Details                       | Date created | Date added | Peer reviewed? | Patient-facing? |
|---|-------------------------------|--------------|------------|----------------|-----------------|
| <a href="#">Results article</a>               |                               | 07/07/2023   | 04/01/2024 | Yes            | No              |
| <a href="#">Participant information sheet</a> |                               |              | 04/01/2021 | No             | Yes             |
| <a href="#">Participant information sheet</a> | Participant information sheet | 11/11/2025   | 11/11/2025 | No             | Yes             |
| <a href="#">Protocol file</a>                 |                               |              | 04/01/2021 | No             | No              |