

## Executive Summary

### Introduction

1. Physical exercise modalities have always been used as a tool, along with other treatment methods, in drug treatment and rehabilitation services.
2. While there is no controversy regarding the role of physical exercise as an adjunct treatment modality in helping drug-dependent populations in treatment and rehabilitation, recruitment and adherence to physical exercise interventions has always been an issue. Research has pointed out that subjective exercise experience during treatment and rehabilitation is crucial.
3. No integrative synthesis, combining quantitative and qualitative evidence, has been conducted to generate a comprehensive understanding of the exercise experiences of the drug-dependent population all over the world. There is a need for drug treatment and rehabilitation service providers in Hong Kong to be informed by literature that examines both the objective effects and subjective experiences of the drug-dependent population when they participate in a physical exercise intervention as treatment and rehabilitation modality.

### Identification of physical exercise intervention for drug-dependent group from the literature

4. Majority of the physical exercise interventions were conducted in China, followed by the United States. The majority of the interventions adopted a co-gender approach, with less than 30% of the studies adopting a gender-specific approach.
5. For the young adult group, the top three most frequently investigated physical exercises types were 1) aerobic exercise; 2) mind-body exercise; and 3) structured fitness training.
6. For the female group, the top three were 1) mind-body exercise; 2) aerobic exercise and 3) movement therapy.

Identification of existing outcome measures for use in the evaluation of physical exercise intervention for drug-dependent group in the literature by narrative description methodology

7. The literature review identified a total of 62 outcomes and 184 related instruments used to evaluate physical exercise interventions for the drug-dependent group.

8. The interdisciplinary scientific committee categorize these outcomes into ten major outcomes. They are a) physical and physiological outcomes; b) behavioural outcomes; c) clinical or health outcomes; d) neurological or cognitive outcomes; e) psychological outcomes; f) sleep outcomes; g) substance-use outcomes; h) quality of life outcomes; i) social outcomes and j) multi-dimensional outcomes.

Systematic synthesis of the effectiveness of different types of physical exercise intervention for different drug-dependent groups (i.e., young adult and female) using meta-analysis methodology

9. Mind-body exercise, aerobic exercise and structured fitness training are the three major types of physical exercise consistently found to be significantly more effective than control groups in improving outcomes in the ten major domains.

10. For female drug-dependent subgroup, mind-body exercise was consistently better than control in improving both quality of life and flexibility outcomes.

11. For young adult drug-dependent subgroup, structured fitness, aerobic exercise, mind-body exercise and mixture of leisure activities and exercise are the four major types of physical exercise consistently found to be significantly more effective than control groups in improving several outcomes.

Qualitative synthesis of the recurring themes related to the subjective experiences of physical exercise intervention among the drug-dependent groups

12. Ten major themes emerged as unique benefits of exercise and sports intervention for the drug-dependent groups. They are, “distraction”, “expressing true self”, “attaining a different kind of euphoria”, “establishing courage to face challenges”, “found new purpose in life”, “establishing a disciplined lifestyle”, “improved communication skills”, “engaging with

a supportive social network”, “having a supportive social space”, and “re-engaging with community”.

## Recommendations

### *For practitioner*

13. Exercise prescription to the drug-dependent group or subgroup should base on updated scientific evidence. For instance, practitioners’ decision of choosing a particular type of physical exercise modalities in influencing certain outcomes should be based on the results from meta-analyses presented in this report (i.e., effect size). Apart from effect size, practitioners may also consider the subject experience of the drug-dependent population in exercise participation through qualitative studies as documented in the literature.

14. Based on the integrative synthesis, to facilitate drug addicts to re-integrate into community, non-government organisations should set up physical/virtual social space and network that facilitate drug-dependent group to continuously engage in physical exercise with enhanced social support.

### *For researcher*

15. Qualitative study on how the drug dependent group perceive physical exercise as treatment modality in their recovery trajectory is absent among the Chinese population. Future experiments conducted in Hong Kong should consider mix-method study that capture data that cannot be measured quantitatively.

16. All qualitative studies found focused on the young adult group, and not even one qualitative study investigates how female or mother drug addicts apply physical exercise modality in the rehabilitation process and how physical exercise play a role in the recovery and community reintegration process. Future qualitative study should focus on female and the mother sub-group.