

Introduction

Program objectives

- To provide intervention through exercise approach for rehabilitees & substance abusers in:
 - Drug Treatment and Rehabilitation Centers (DTRC)
 - Counselling Centres for Psychotropic Substance Abusers (CCPSA)
- Train up staff in Non Governmental Organization (NGO) in basic assessment and ensure the continuum of service
- Provide preventive education talks to secondary schools / NGOs

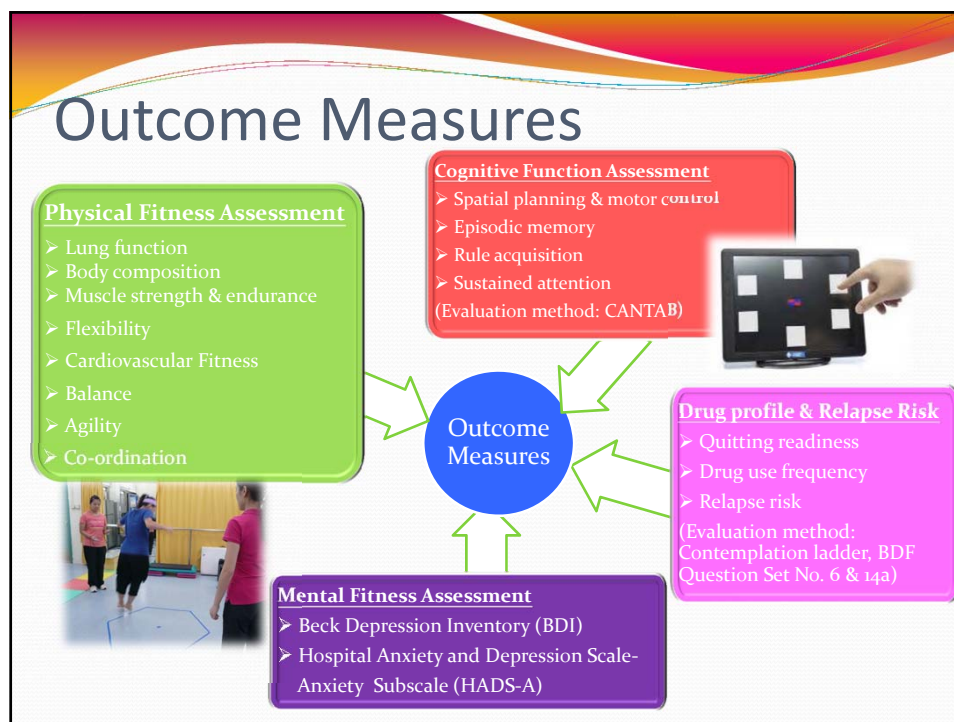
Project Content

- **Assessment**
 - Including physical, mental and cognitive assessment
- **Tailor-made Training Program**
 - Exercise training program (including aerobic kickboxing / Fitball/ Pilates/ Relaxation & Stretching)
 - Sharing group
 - Educational talk
- **Public Education – talk**
- **Training for NGO staff**



Output Measures

- **No. of participants from CCPSAs (substance abusers) & DTRCs (rehabilitees) (including assessment, exercise & education talk)**
- **No. of participants for education talks (general youths / high-risk youths in secondary schools / NGOs)**
- **Evaluation method: Information retrieved from registration / attendance record**



Output Evaluation (1)

Output Indicator	Expected Result	Actual Result
Output Indicator 1	<u>Physical, Mental, and Cognitive Assessment</u> Provide physical, mental, and cognitive assessment service to 140 rehabilitees and 60 substance abusers	193 participants in DTRC (rehabilitees) 60 participants in CCPSA (substance abusers)
Output Indicator 2	<u>Tailor-made Exercise Training Program</u> Provide tailor-made exercise training program (aerobic kickboxing/pilates class/ fitball exercise/gymnasium training/relaxation and stretching exercise) followed by post-exercise sharing group to 140 rehabilitees and 60 substance abusers (Total 3,360 man-time, inclusive of assessment and exercise sessions)	193 participants in DTRC (rehabilitees) 60 participants in CCPSA (substance abusers) (Total man-time, inclusive of assessment and exercise sessions: 4520)

Output Evaluation (2)

Output Indicator	Expected Result	Actual Result
Output Indicator 3	<u>Educational Talk</u> Provide educational talk to 140 rehabilitees and 60 substance abusers	149 participants in DTRC (rehabilitees) 61 participants in CCPSA (substance abusers)
Output Indicator 4	<u>Educational Talk</u> Provide educational talk to 1,000 general youths/ high-risk youths in secondary schools/NGOs	1,841 general youths in secondary schools

Outcome Evaluation (1)

Outcome Indicator	Expected Result	Actual Result
Outcome Indicator 1	70% of participants who complete exercise training program show improvement in stage of change in quitting readiness (or significant improvement found using paired t-test)	57 questionnaires distributed with pre-test done, 9 returned questionnaires with post-test done. Among the 9 cases evaluated, 89% cases showed no change in stage of change in quitting readiness. 11% case showed deterioration in stage of change in quitting readiness.

Outcome Evaluation (2)

Outcome Indicator	Expected Result	Actual Result
Outcome Indicator 2	70% of participants show reduction in drug use in the past 3 months (or significant reduction found using paired t-test)	17 valid cases evaluated. Among 7 cases indicated drug use in pre-test, 71.4% cases showed reduction in drug use frequency. Among 10 cases indicated no drug use in pre-test, 90% cases avoided relapse.
Outcome Indicator 3	70% of participants show no relapse after discharge from DTRC in the past 3 months	58 valid cases evaluated, 98% showed no relapse after discharged from DTRC in the past 3 months.

Outcome Evaluation (3)

Outcome Indicator	Expected Result	Actual Result
Outcome Indicator 4	70% of participants show reduction in relapse risk (or significant reduction found using paired t-test)	146 valid cases evaluated, statistical significant reduction in relapse risk (overall $P=0.000$) found by paired t-test
Outcome Indicator 5	70% of participants show reduction in depression level or anxiety level (or significant reduction found using paired t-test)	151 valid cases evaluated, significant reduction in depression level ($P=0.003$) and anxiety level ($P=0.000$) found by paired t-test

Outcome Evaluation (4)

Outcome Indicator	Expected Result	Actual Result
Outcome Indicator 6	70% of participants show improvement in cognitive functioning (or significant improvement found using paired t-test)	107 valid cases evaluated for the Stocking of Cambridge (SOC) test, statistical significant improvement in spatial planning and motor control (P=0.001) found by paired t-test 131 valid cases evaluated for Paired Associated Learning (PAL) test, no significant improvement (P=0.13) found in spatial memory

Outcome Evaluation (5)

Outcome Indicator	Expected Result	Actual Result
Outcome Indicator 6 (continued)	70% of participants show improvement in cognitive functioning (or significant improvement found using paired t-test)	126 valid cases evaluated for Intra/extradimensional Set Shift (IED) test, marginally statistical significant improvement in rule acquisition and attentional set shifting (P=0.05) found by paired t-test 103 valid cases evaluated for the Rapid Visual Information Processing (RVP) test, statistical significant improvement in visual sustained attention (P=0.008) found by paired t-test

Outcome Evaluation (6)

Outcome Indicator	Expected Result	Actual Result
Outcome Indicator 7	70% of participants show improvement in physical fitness (or significant improvement found using statistical tests)	102 cases completed all pre- and post- test for all evaluation tools, significant improvement in physical fitness found by paired t-test (P<0.05 in all tests)

In-depth Study -Physical Fitness

- Between groups- Post-intervention

	Ex group (N=40)		Control group (N=40)		p-value
	Mean (SD)	Median	Mean (SD)	Median	
Waist circumference		27.50		29.50	U=343.00 p=0.00
BMI		21.70		21.34	U=516.00 p=0.73
PFR	410.43 (±48.48)		406.45 (±57.36)		t=0.31 p=0.76
Sit and Reach		37.00		32.50	U=353.50 p=0.01
Sit-up		25.00		20.00	U=380.00 p=0.04

In-depth Study - Physical Fitness

- Between groups- Post-intervention

	Ex group (N=40)		Control group (N=40)		p-value
	Mean (SD)	Median	Mean (SD)	Median	
Push up		29.00		21.50	U=465.50 p=0.05
Chester step test	41.59(±5.78)		44.46(±7.93)		t=-1.67 p=0.10
Hexagon jump		16.53		16.00	U=504.00 p=0.96
Agility (Left)		5.03		5.57	U=343.50 p=0.04
Agility (Right)		5.18		5.56	U=305.00 p=0.01

In-depth Study - Mental Fitness & Relapse Risk

- Between groups- Post-intervention

	Ex group (N=40)		Control group (N=40)		p-value
	Mean (SD)	Median	Mean (SD)	Median	
HADS-Anx		6.00		7.00	U=393.00 p=0.05
BDI		9.00		10.00	U=458.50 p=0.28
Ladder		9.00		9.00	U=494.50 p=0.48
SRRS	55.17(±11.97)		57.32(±16.94)		t=-0.60 p=0.55

In-depth Study - Cognitive Function

Between groups- Post-intervention

	Ex group (N=40)		Control group (N=40)		p-value
	Mean (SD)	Median	Mean (SD)	Median	
SOC (correct)		10.00		9.00	U=242.00 p=0.02
IED (error)		11.00		17.00	U=416.00 p=0.03
PAL (error)		4.00		9.00	U=402.50 p=0.03
RVP (score)		0.93		0.91	U=365.00 p=0.12

Experience Gained

- Reason behind success
 - Gained the trust with clients
 - Co-operation with NGOs
- **Lesson learnt**
 - Fair compliance of clients from the community

Conclusion

- Female substance abusers under rehabilitation were found to benefit from aerobic kickboxing training in terms of physical fitness and cognitive function in Hong Kong