



01 May 2018 – 30 April 2021

BDF170028

A Comprehensive Program for Evaluation of Musculoskeletal Health and Pharmacist Medication Review

綜合肌肉骨骼健康評估及藥劑師藥物復審方案

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Project Name (BDF170028)

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2. Project Content

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Introduction

- Drug abuse is a chronic disorder associating with significant personal, societal, and public health consequences.
- Drug abuse is also known to affect other physiological systems, such as musculoskeletal system.



Aims – Service component

To offer the participating drug abusers / rehabilitees

1. Bone health assessments;
2. Muscle health assessment;
3. Medication review and drug counselling service provided by pharmacist; and
4. Educational talks and small group discussion provided by pharmacist and academic staffs from the University of Hong Kong.



Aims – Research component

To explore the relationship between drug abuse history / behavior and musculoskeletal health



Project Content





Project Content

- Educational talks for drug abusers and rehabilitees



體·操 at PS33 on 4 September 2018



藥即藥離-對精神科藥物的迷思 at PS33 on 06 Nov 2018



Project Content

- Educational talks for drug abusers and rehabilitees



毒品與骨質疏鬆 at SARDA (Hong Kong Social Service Centre) on 12 November 2018

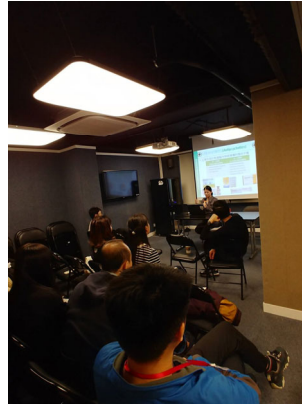
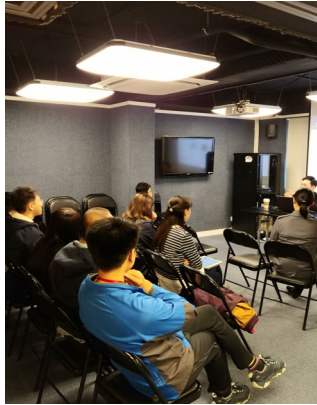


毒品與骨質疏鬆 at SARDA (North Kowloon Social Service Centre) on 11 Jan 2019



Project Content

- Training workshops for frontline staff
 - 13 sessions offered to 56 social workers and 40 frontline staff




Train the trainers workshop at AIDS Concern on 26 February 2019




Output evaluation - Methods

- Recruitment of drug abusers / rehabilitees
 - Referral from supporting organizations and roadshows
- Musculoskeletal health screening
 - Self-reported questionnaires
 - Biochemical variables collected from blood and urine samples
 - Bone mineral density and body composition measurement by dual-energy X-ray absorptiometry
 - Muscle health assessment
 - Gait and balance assessment
- Compare the data from drug abusers / rehabilitees with participants from the Hong Kong Osteoporosis Study



Output Evaluation – Benchmarks and results

	Expected Result	Achieved Result
Output Indicator 1*	Provide 240 sessions of musculoskeletal health screening and medication review/ drug counselling sessions to 120 drug abusers and rehabilitees.	117 drug abusers and rehabilitees were recruited. A total of 342 sessions were offered.
Output Indicator 2*	Provide 600 assessments of musculoskeletal health (5 assessment per client) to 120 drug abusers and rehabilitees.	117 drug abusers and rehabilitees were recruited. A total of 585 assessments of musculoskeletal health were offered.

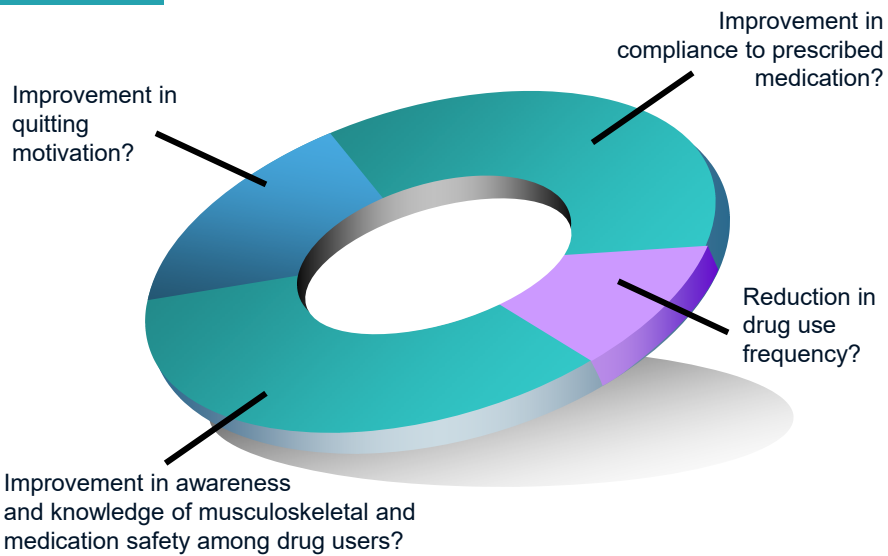


Output Evaluation – Benchmarks and results

	Expected Result	Achieved Result
Output Indicator 3	Provide 100 sessions of educational talks and small group discussion for 120 drug abusers/ rehabilitees and 100 participants from high-risk group (MSM).	128 sessions of educational talks and small group discussions were offered. 179 drug abusers/rehabilitees and 116 from the high-risk group participated.
Output Indicator 4	Provide 10 sessions of educational talks for 50 social workers and 20 frontline staff.	13 sessions of educational talks were offered. 56 social workers and 40 frontline staff participated.




Outcome Evaluation



Outcome Evaluation - Methods


- Compliance to prescribed medication was evaluated by Self-efficacy for Appropriate Medication Use Scale (SEAMS) (Pre-test and post-test survey)
- Quitting motivation was assessed by Beat Drugs Fund Question Set No. 13 (Pre-test and post-test survey)
- Drug use frequency was evaluated using Beat Drugs Fund Question Set No. 6 (Pre-test and post-test survey)
- Whether the frontline staff attending the educational talks have improvement in their awareness and knowledge of musculoskeletal and medication safety was assessed by Beat Drugs Fund Question Set No. 21 (Post-test survey)



Outcome Evaluation – Benchmarks and results

- 108 drug abusers/rehabilitees have completed 2 sessions of medication review/ drug counselling.

	Expected Result	Achieved Result
Outcome Indicator 1	Drug abusers and rehabilitees show improvement in their compliance to prescribed medication.	99 of the 108 (91.67%, exceeding the target of 70%) showed improvement in their compliance to prescribed medication. The remaining nine obtained full score at baseline.
Outcome Indicator 2	Drug abusers show improvement in their quitting motivation.	108 valid cases evaluated. 61.1% of participants show improvement in their quitting motivation. Statistical significant improvement as indicated by paired t-test



Outcome Evaluation – Benchmarks and results

	Expected Result	Achieved Result
Outcome Indicator 3	70% of drug abusers show reduction in their drug use frequency.	108 valid cases evaluated. 97.22% of drug abusers show reduction in their drug use frequency.
Outcome Indicator 4	70% of participants show improvement in their awareness and knowledge of musculoskeletal and medication safety among drug abusers	96 sets of questionnaires were returned. For Q1-3, 96.9% rated the activity as useful, rich or satisfactory. For Q4, 93.8% rated the activity as satisfactory.



Experience Gained

- Reason behind success
 - We have closely collaborated with local social rehabilitation service centres and substance abuse clinic in Queen Mary Hospital for client referral.
 - We organized educational talks with our collaborating organizations for drug abusers / rehabilitees, enhancing their knowledges in medication safety and musculoskeletal health, and attracting potential participants to join our programme.
 - We offered flexible timeslots for the drug abusers / rehabilitees to attend our musculoskeletal health assessment and medication review.



Experience Gained

- Reason behind underachievement of target: Difficulties in recruiting study participants amid COVID-19 pandemic
 - The HKSAR Government has implemented social distancing measures since March 2020 to reduce the transmission of SARS-CoV-2.
 - Potential study participants refused to join our programme due to fear of infection.
- Remedial actions taken
 - We continuously put effort and resources to offer flexible sessions for the drug abusers/rehabilitees to attend our musculoskeletal health assessment and medication review.
 - We kept liaising with collaborating organizations in client referral matters and successfully reached 90% of the recruitment target.



Lesson Learnt

- Frequent contact and humanized care to drug abusers / rehabilitees gained their trust and increased their response rate at follow-up
- Regular organization of education talks engages potential study participants and encourages them to join the programme
- Recruitment of study participants should be timely
 - Before the COVID-19 pandemic, we regularly organized educational talks with our collaborating organizations and we often exceeded the target for subject recruitment. However, the social distancing measures arisen from the pandemic has disrupted our recruitment schedule. Recruitment of study participants should be timely to avoid schedule disruption due to unexpected events.



Experience Gained

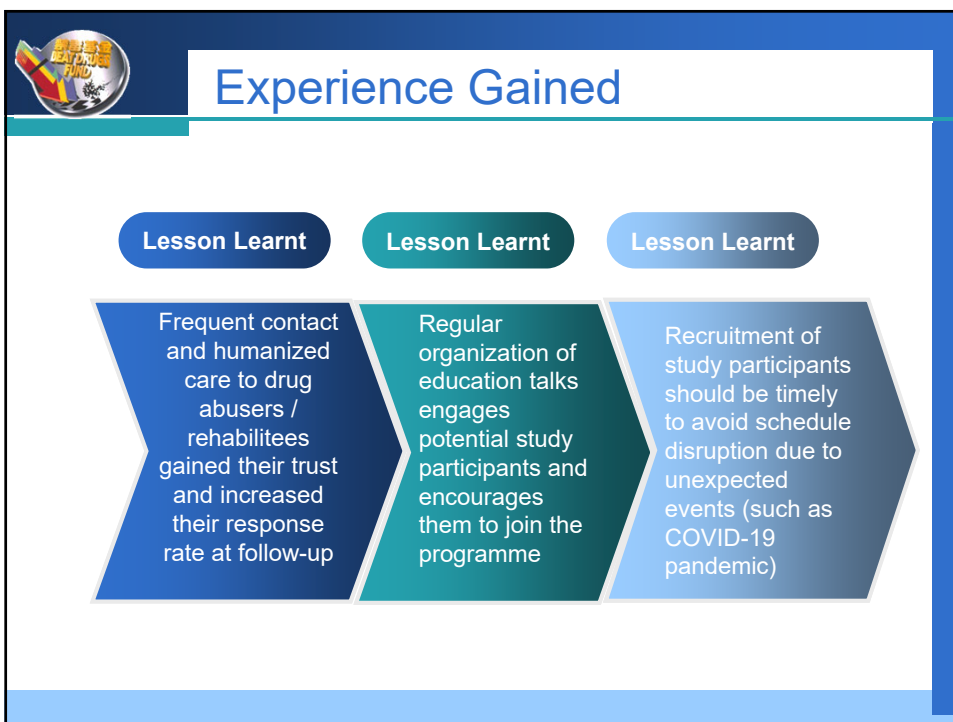
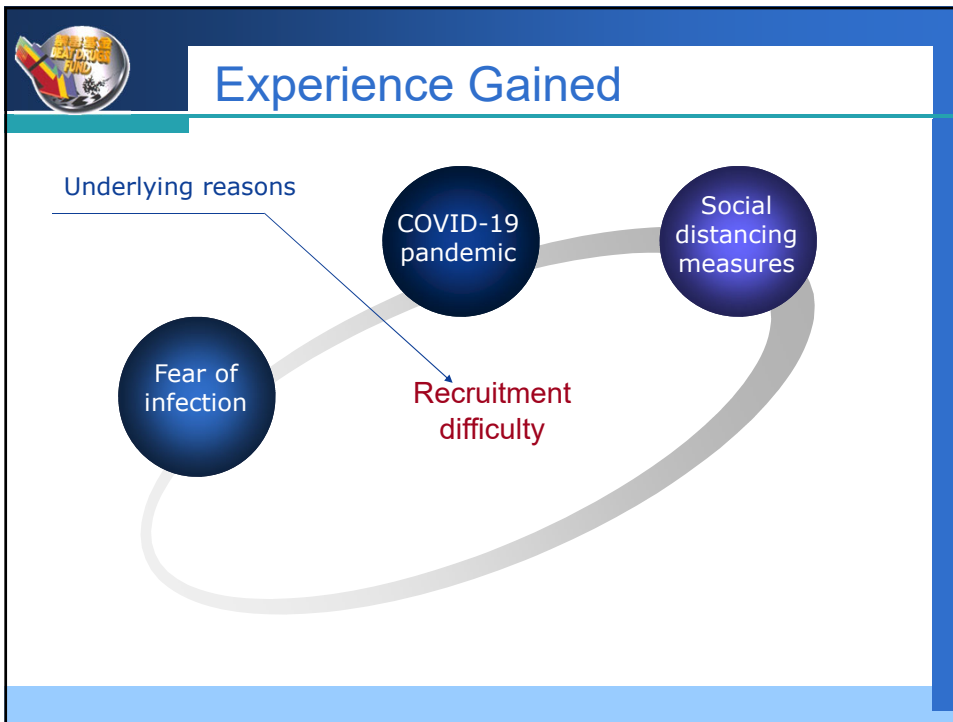
Reason behind success

Collaboration with local service centres and clinics

Provide professional and humanized care

Organization of educational talks for potential study participants

Offered flexible timeslots for potential participants to join





Other Findings

- Our research findings demonstrated that drug abuse history / behavior **IS** associated with musculoskeletal health
- When compared to controls, subjects with drug abuse history / behaviour had
 - lower bone mineral density at lumbar spine, femoral neck and total hip;
 - lower appendicular lean mass, gait speed, grip strength and peak expiratory flow rate; and
- Bone parameters between current and former drug abusers were **not** significantly different.



Conclusion

- Research Component:
 - Drug abusers have significantly lower bone mineral density and muscle parameters (lean mass, gait speed, and grip strength) when compared with the general population.
- Service Component:
 - Pharmacist intervention is useful in improving drug compliance to prescribed medication, quitting motivation, as well as reduction in drug use frequency.



Conclusion - Suggestions

- Poor musculoskeletal health is a neglected clinical outcome of drug abuse
- Poor musculoskeletal health could lead to increased risk of fracture, morbidity, and immobility. This is not only a healthcare issue, but also a social welfare issue, as patients may need to be institutionalized due to poor musculoskeletal health, while there is a well-known shortage of vacancy in nursing home.



Conclusion - Suggestions

- Thus, prevention of deterioration of musculoskeletal health among drug abusers or rehabilitees should be considered as one of the top priorities.
- This message should also be widely disseminated
- Given that pharmacist may help improving drug quitting motivation, future RCT is required to confirm the role of pharmacist in drug abuse management.



Conclusion – Way forward

- To discourage drug abuse, we will disseminate the research findings on the association of drug abuse history / behavior with worse musculoskeletal health by
 - Press conference / release;
 - Presentation at local (Regional Osteoporosis Conference) and international conference (the Annual Meeting of the American Society of Bone and Mineral Research); and
 - Submission of manuscript to international peer-reviewed journals.

- This will also improve the clinical management of musculoskeletal health of drug abusers/ rehabilitees.