TOWARDS A HIGHER PERCENTAGE OF RECREATIONAL DRUGS-FREE AMONG PATIENTS ON METHADONE MAINTENANCE TREATMENT IN LARKIN HEALTH CLINIC

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Abstract

Methadone Maintenance Treatment (MMT) Clinic in Larkin Health Clinic was established in 2007 as part of Malaysia's Harm Reduction Programme, mainly to prevent blood-borne viral infections, improve patients' mental and physical health, improve their socio-economics ability in society, and curb opiate addiction. A verification study in January 2017 found that only 34.9% of patients on MMT were recreational drugs-free after undergoing treatment. This study aimed to increase the percentage of recreational drugs-free among patients on MMT to 60% within one year. This quality improvement study was conducted among 63 patients and five healthcare providers. Face-to-face structured interviews with the respondents and brainstorming sessions with the healthcare providers were conducted to identify possible contributing factors. Four main contributing factors were identified; (i) healthcare workers were not formally trained for counselling techniques (100%), (ii) ineffective counselling (53%), (iii) unable to resist desire to take drugs (48%), and (iv) society's negative views (45%). In the post-intervention phase, all contributing factors had improved except for two factors that were beyond the group intervention, which were easy access for patients to drug supplies (38%) and peer influence (38%). Strategies implemented include Psychosocial Intervention Strengthening Courses, FRAMES counselling techniques (Feedback, Responsibility, Advice, Menu of Options, Empathy, Self of efficacy), Metha Club establishment, group counselling, and reward system in Phase 1. Inter-agencies involvement was held in Phase 2 and reinforcement of spiritual elements was implemented in Phase 3. The Sustainability Phase strengthened the process of defaulter tracing and introduced a drug abuse legal awareness. At post-intervention, the percentage of recreational drugs-free patients had increased from 34.9% (verification study) to 47.9% (Phase 1), 49.2% (Phase 2), 61.3% (Phase 3), followed by 65.1% (Sustainability Phase). ABNA reduced from 25.1% (Pre- Intervention) to -1.3% (Phase 3) and -5.1% (Sustainability Phase), thus the standard set in this study was successfully achieved.

KEYWORDS: Methadone Maintenance Treatment, Methadone, Recreational drugs, Illicit drugs use, Psychosocial intervention.

Problem

Drug addiction has been a big issue in Malaysia since 1983. According to National Anti-Drugs Agency (NADA), the number of drug addiction cases increased to 26,080 cases in 2019 compared to 21,777 cases in 2014. In Johor alone, there were 2,071 drug addicts reported compared to 1,999 in 2014 and heroine remains the main type of recreational drug used (1,2).

Methadone Maintenance Treatment (MMT) in Malaysia started in 2005 to provide treatment to opioid dependence patients, which is eligible to Malaysians who are 18 years and above. Methadone syrup is given as a treatment in MMT with an initial treatment dose of 20-30 mg per day, which can be titrated up accordingly. Generally, the optimum dose for methadone syrup is between 60-80 mg per day to achieve continuous abstinence. However, some patients may require a higher dose. In this MMT, the patient is monitored daily and methadone is administered by Daily Observational Therapy (DOT) (3). MMT in Malaysia is managed in the form of outpatient clinics and counselling in both government and private settings.

In 2018, there were a total of 484 government and private facilities that provided MMT service (4) and Larkin Health Clinic is one of the clinics under the Johor Bahru District Health Office. MMT in Larkin Health Clinic was established in 2007 and served by at least four healthcare workers from multidiscipline professions including Family Medicine Specialist, medical officer, pharmacist, and assistant medical officer. During the establishment in 2007, there were a total of 50 registered patients. This clinic was started as part of Harm Reduction Programs to treat opioid drug addiction and there were a total of 94 patients registered from 2007 until May 2016. Out of the total, only 63 patients are currently active. Based on the verification study, only 22 patients (34.9%) are recreational drugs-free based on their negative urine drug test results. Each patient is requested to do a urine test at least once a month. Recreational drugs are psychoactive drugs used for purposes other than medication that can be addictive and lead to pleasure effects such as opiate, cannabis, methamphetamine, and benzodiazepines (5). Negative urine is defined as negative urine drug test results for all drug groups analysed in Urine Drug Test (opiate, cannabis, methamphetamine, benzodiazepine). This study aimed to increase the percentage of recreational drugs-free patients from 34.9% to 60% (standard) or more within a year.

Background

Ever since drug addiction has been recognised by the World Health Organization (WHO) as one of the chronic diseases, many efforts have been made to identify a better and effective treatment (6) following the Malaysia's objective to be a drug-free country. MMT has been scientifically proven to be able to control and reduce addiction to opiate drugs and other related risks. Besides, MMT can also reduce the severity of withdrawal symptoms and gradually eliminate physical and psychological dependence (7,8). In 2012, there were 256,000 heroin and other opiate drug abusers in England alone with 155,000 under treatment (9). Opioid replacement therapy is believed to be cost-effective and recommended by the National Institute for Health and Care Excellence (NICE) as the most effective treatment to complement the psychological therapies to change behaviour (9). Opioid addiction is usually characterised as a chronic and relapsing condition (10). A study found that 60% of heroin addicts relapsed following inpatient treatment and others estimated that less than 25% of heroin addicts remained abstinent after MMT (10). Thus, psychosocial treatments may also be an important approach in improving relapse and treatment retention. In a study by Veilleux et al. (10), two psychosocial approaches such as reinforcement-based intensive outpatient treatment and enhanced outreach counselling were found to be beneficial compared to psychopharmacological treatment alone, but the small sample sizes do not support a robust conclusion. Another review that compared agonist treatment alone to agonist treatment with an adjunct psychosocial component

found that the benefit of adding psychosocial treatment was by increasing the number of people who remained abstinent during the follow-up.

MMT was introduced in Malaysia as a strategy to curb HIV/AIDS among drug addicts who share needles as well as to tackle the issue of opiate addiction especially heroin in Malaysia. This program aims to improve the quality of life and health of drug addicts by reducing the rate of addiction relapse especially among hardcore addicts and increasing their mental and physical fitness. Furthermore, it also aimed to increase psychosocial functions including acquiring and maintaining job quality and elevating their self-esteem to re-integrate into society (6,11). It was also reported that this treatment could reduce injection drug use, overdose mortality, and the risk of blood-borne pathogen transmission (11).

The use of any recreational drugs together with methadone may lead to serious adverse effects such as overdose, respiratory, and cardiovascular depression (12). Besides, the intake of recreational drugs is harmful and might increase the rate of morbidity and mortality.

However, the problem of drug addiction is something that cannot be solved easily as there are many relapse cases after being discharged from successful treatment in the rehabilitation centre. According to NADA, 3,095 out of 12,079 drug addicts were identified as repeat offenders or relapses from January to June 2010 (13). It was found that the number of repeat offenders increased from January to June 2009 as compared to only 1,136 people repeat offenders were detected.

According to a study by Alia et al. (13), among factors contributing to drug addiction relapse are low self-efficiency as they do not have the strength and self-confidence that they can continue living without drugs and bad influence from their friends. Additionally, lack of family and community support also contributes to a high relapse rate (13).

In order to tackle the relapse issue, a relapse prevention (RP) treatment was introduced based on the cognitive behavioral model (14). The model was primarily implemented in a study by Marlatt and Gordon et al. (14) towards heroin addicts in a Chinese rehabilitation center. This model incorporates both a conceptual model of relapse and a set of cognitive and behavioral strategies to prevent or limit relapse episodes (15). Treatment approaches based on the RP model begin with assessing the environmental and emotional characteristics of situations that are potentially associated with relapse such as high-risk situations. After identifying those characteristics, the therapist works forward by analysing the individual response to the situation before planning the strategies to target weaknesses in clients' cognitive and behavioral repertoire, thereby reducing the risk of relapse. RP has been widely used in many studies, providing theoretical and practical support for this model. A meta-analysis on RP was conducted based on 26 studies representing a sample of 9,504 participants (14). The overall treatment effects demonstrated that RP successfully reduced substance use and improved psychosocial adjustment.

A similar adjunct treatment to manage the relapse such as contingency management was also mentioned in a study among heroin addicts undergo opioid substitution treatment in the United Kingdom (9). Contingency management is a behavioural therapy that uses motivational incentives and tangible rewards to help a person become abstinent from drugs. It is proven that contingency management can significantly increase attendance as well as reduce illicit opiate use during treatment and follow-up when combined with methadone replacement treatment (9). In addition to MMT, other non-pharmacological approaches such as acupuncture, transcendental meditation, electrosleep, biofeedback, and hypnotism (16) can induce relaxation that appears to exert specific neurophysiological changes in the brain. This method is useful for some addicts and also helps to understand the addiction process.

Measurement

The objective of this study was to increase the percentage of recreational drugs-free patients. The standard set was 60% as NADA successfully achieved 60% rehabilitation retention (recreational drugs-free) in 2016 compared to its action plan target of 40% (17). The indicator used was the percentage of recreational drugs-free patients on MMT calculated based on the following formula:

$$\frac{\textit{Number of Drug-Free Patients}}{\textit{Total Patients on Methadone Maintenance Treatment}} \times 100$$

The verification study found that only 34.9% of patients on MMT in Larkin Health Clinic successfully achieved recreational drugs-free.

This study was a Quality Improvement Study conducted on 63 patients on MMT. Verification study to determine the magnitude of the problem and a study to identify the factors were conducted in January 2017. Remedial measures were implemented in three phases; (i) Phase 1 was conducted in February - April 2017, (ii) Phase 2 in May - June 2017, and (iii) Phase 3 continued in July - September 2017. Re-evaluation of the effectiveness of improved strategies took place in April 2017 (Phase 1), June 2017 (Phase 2), and September 2017 (Phase 3).

The inclusion criteria were all patients on MMT registered at Larkin Health Clinic. Patients registered for *Sistem Pendispensan Ubat Bersepadu* (SPUB), patients transferred in or out throughout the study period, and patients using Methadone Flexi (M-Flex) service were excluded.

Initial Assessment of the Problem

During the early stage of this study, the team had a session to brainstorm on possible contributing factors to the problem as illustrated in the Cause-Effect Analysis (Figure 1).

In order to identify the contributing factors from patients' perspectives, face-to-face structured interviews with all 63 patients were conducted by two pharmacists before the DOT. The interview questions included duration of addiction, causes of drug addiction, factors leading to relapse, and their view on existing intervention given. Each question has a list of possible answers for the interviewer to choose with an additional space for a new response that is not included in the list. On the other hand, a brainstorming session was conducted among the healthcare members to identify the factors from their perspectives.

These lead to the findings of the main opposing factors from the patients' perspective, which were counselling conducted did not affect patients (53%), patients were unable to resist their desires to take drugs (48%), society's negative views (45%), patients' easy access to free drug offers (40%), unconcerned health personnel (40%) as well as other factors. Based on the brainstorming session with the healthcare workers, they agreed that the unavailability of special formal training for counselling techniques was the main factor of the problem (100%).

Each step in the Process of Care outlined by MOH Methadone Maintenance Treatment Procedures (3) including treatment initial, dispensing, the patient undergoing treatment and counselling, and patients' assessment were reviewed to identify the gap that could be improved (Figure 2).

Based on the review, few steps were identified as critical and included in the MOGC (Table 1). Achievements for each step before intervention were 0% for health care providers attended Psychosocial Intervention Strengthening Course, 30% for individual counselling session, 0% for both group counselling, and 25% for the reward system. All criteria were set with 100% standards for comparison before and following remedial actions.

Verification study showed that only 34.9% of patients on MMT successfully achieved recreational drugs-free. ABNA was 25.1% (optimum standard = 60.0%).

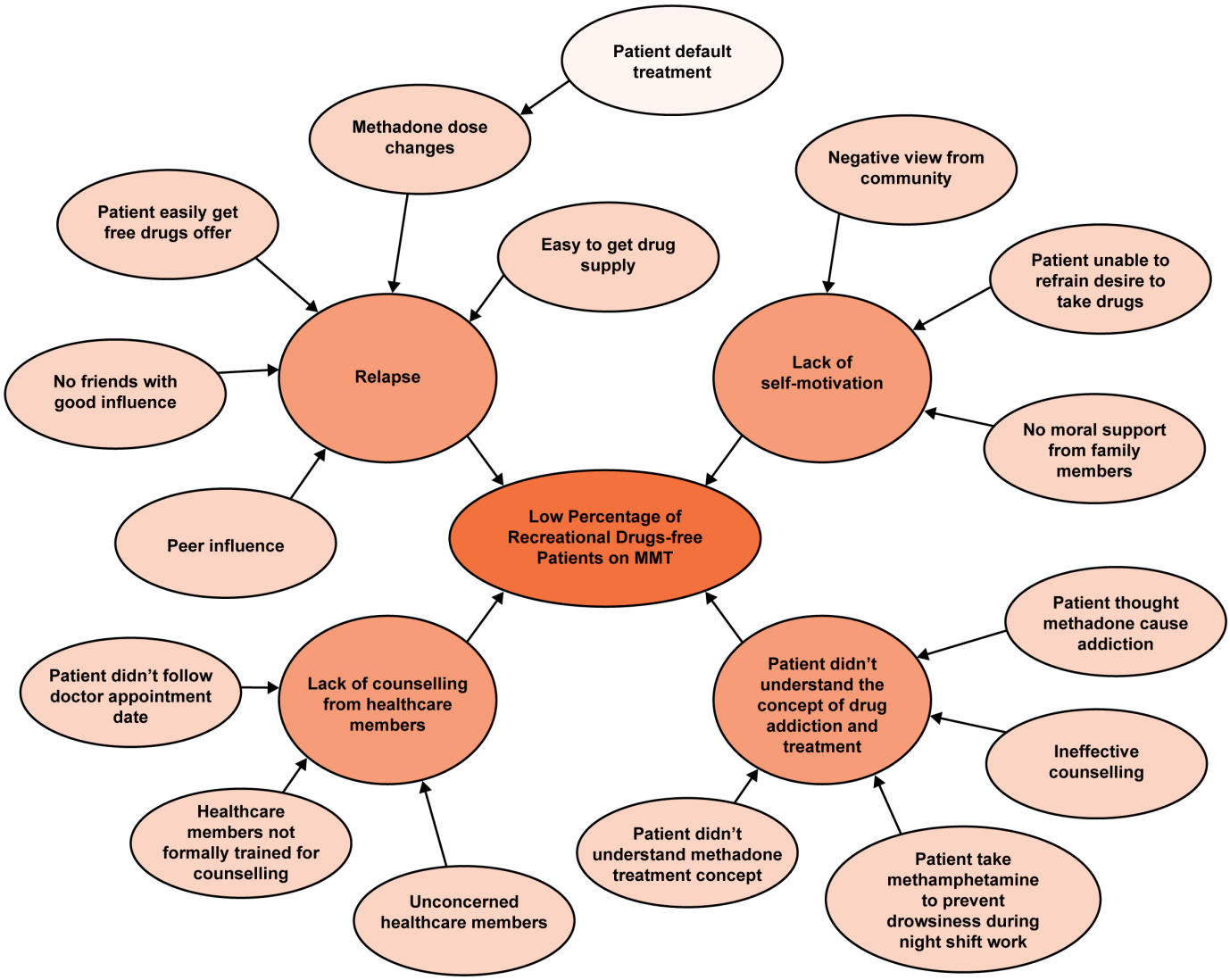


Figure 1: Cause-Effect Analysis

Strategy

Four phases were completed in implementing the strategies.

a) Phase 1:

In this phase, improvement strategies were formulated to strengthen health personnel's counselling skills and competency, particularly those in the Methadone Unit, as none of the health care members had received formal training on counselling techniques. Besides, this phase also emphasised strengthening health personnel-patient relationships as patients felt the healthcare members were unconcerned.

The first strategy was to enrol the Methadone Unit Members for a Psychosocial Intervention Strengthening Course organised by the Johor Bahru District Health Office (PKDJB) to provide training on simple techniques to handle patients on MMT. The training and experience sharing session was conducted by experts in counselling and managing drug addicts and also assisted by Intan Lifezone, a non-governmental organisation (NGO).

The second strategy was applying the of FRAMES counselling technique (Feedback, Responsibility, Advice, Menu of Options, Empathy, Self of Efficacy), which was introduced during the Psychological Intervention Strengthening Course. This

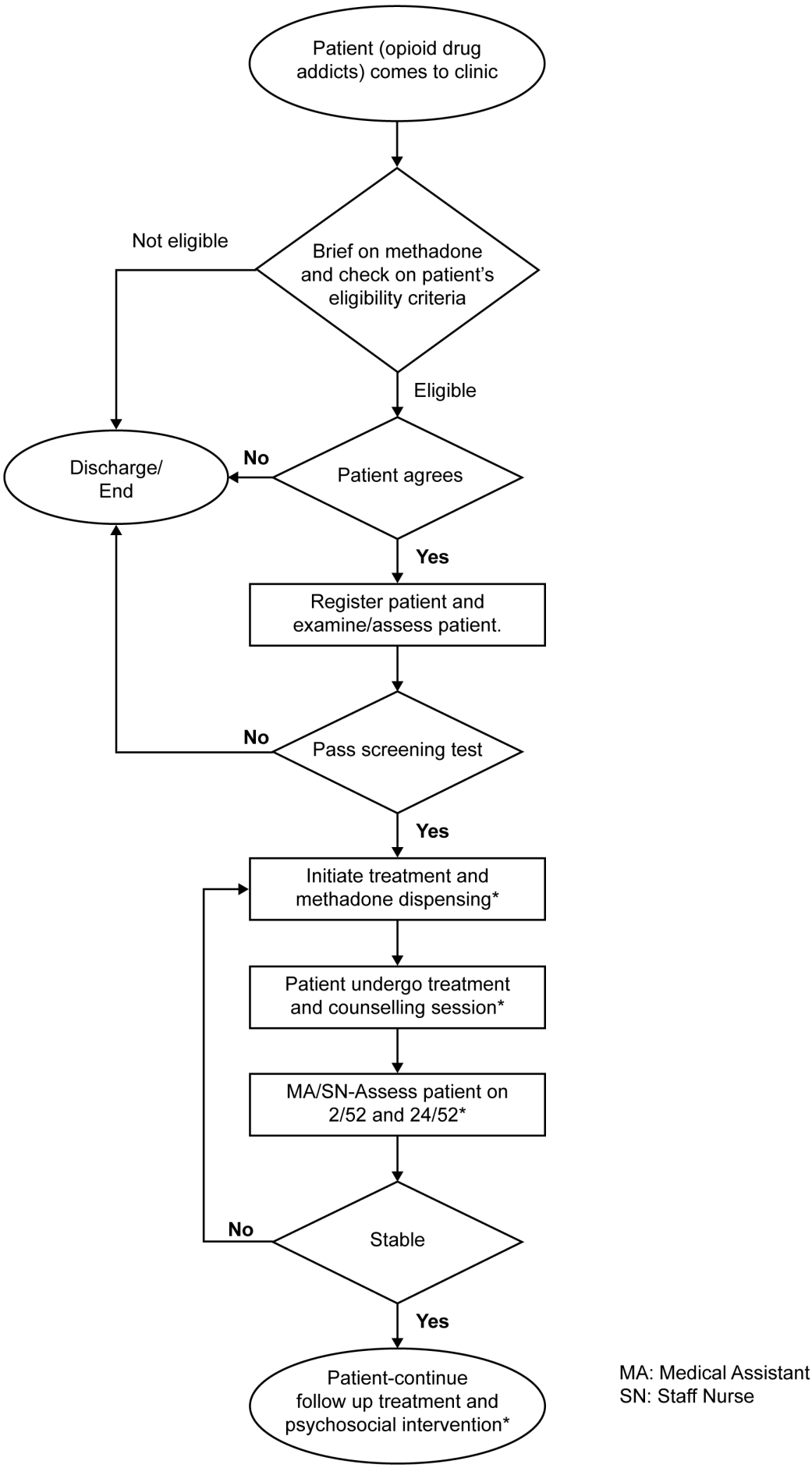


Figure 2: Process of Care for Methadone Treatment Clinic
(* indicates critical steps)

technique was applied in routine individual counselling. This technique is simpler and can be carried out in a shorter time as only one pharmacist will be scheduled to dispense methadone at one time. This counselling technique also allows for the improvement of personnel-patient relationships.

The third strategy was to set up a Metha Club, a peer support group consisting of all MMT patients in Larkin Health Clinic. This support group has its committee members and the highest committee members were appointed among methadone patients themselves. The support group aimed to improve the patient's identity as well as to train the patient to be more responsible.

The fourth strategy was to introduce group counselling on a regular basis. Group counselling was divided into two types: small counselling groups that consisted of ten patients or below and large counselling groups. Small counselling groups were chaired by a Psychologist from PKDJB and carried out at least once a month. A large counselling group was chaired by Medical Officer or Family Medicine Specialist conducted at least once or every two months.

In small group counselling, the session focused on problem sharing and motivational input from the psychologist. As for large group counselling, the input was initially provided by the Family Medicine Specialist or Medical officer on awareness of the MMT clinic and the importance of drug abstinence. At the end of the counselling program, a small birthday celebration for the patients was held to add on some joy and excitement for them to join such program again in the future. The attendance for the large group counselling was 59 patients.

The fifth strategy was introducing of a reward system, which was implemented using Take Away Dosage (TAD) coupons. One TAD coupon with TAD permission for two days was given if the patient managed to achieve recreational drugs-free for three consecutive months. Patients were also given Activity Coupons if they attended a large group counselling session with TAD permission for a day.

b) Phase 2:

Phase 2 improvement strategies were implemented to strengthen the existing strategies with involvement from inter-agency in managing of drug addicts in both individual and large group counselling sessions.

NADA, an expert agency that involves directly in handling drug addicts and rehabilitation was invited to provide individual counselling on a regular basis, which was once a month visit to the clinic. Priority was given to patients with positive urine test results (still taking drugs). NADA was also invited to participate in group counselling especially in the large counselling group.

c) Phase 3:

Phase 3 improvement strategies were improved by incorporating spiritual elements in the module, which involved *Majlis Agama Islam Johor* (MAIJ) in large group counselling. Emphasis was given in the aspect of patient spiritual strengthening to say no to drugs. The total of patients attended this session was 60 patients including both Muslim and non-Muslim.

d) Sustainability Phase

The sustainability phase focused on the implementation of strategies to tackle relapse issues among defaulter and missed dose patients. Defaulter patients are those who have missed methadone dose for more than 5 days while missed dose patients are those who missed methadone dose for 1 to 3 days (3). Defaulter tracing was done when the patient was absent after 2 days by contacting him through a phone call to avoid methadone dose adjustment. Patients who required dose adjustment (at least after 3 days of absence) would relapse to drug addiction as the original dose might be reduced into half or less (3).

Another factor contributing to the above problem was patients' non-adherence to appointments with medical officers or family medicine specialists. In order to overcome this, patients' appointments were rescheduled and set earlier to improve their adherence. The patients were informed of the date for

their appointment in advance to allow them to plan their daily or working scheduled ahead, which was not done before. For each patient, appointment with family medicine specialist was set at least once a year, appointment with medical officer was once in 6 months, while monthly appointment with assistant medical officer. These appointments are meant to review their medical and health condition and needs.

In order to tackle the issue of patients who were unable to restrain their desire to take drugs, an officer from the Narcotic Unit of South Johor Bahru District Police Office was invited to deliver a talk during a large group counselling session. The objective of this talk was to enforce and introduce drug abuse legal awareness to patients on MMT. This counselling session was attended by 51 patients.

All strategies in each phase are summarised in Figure 3.

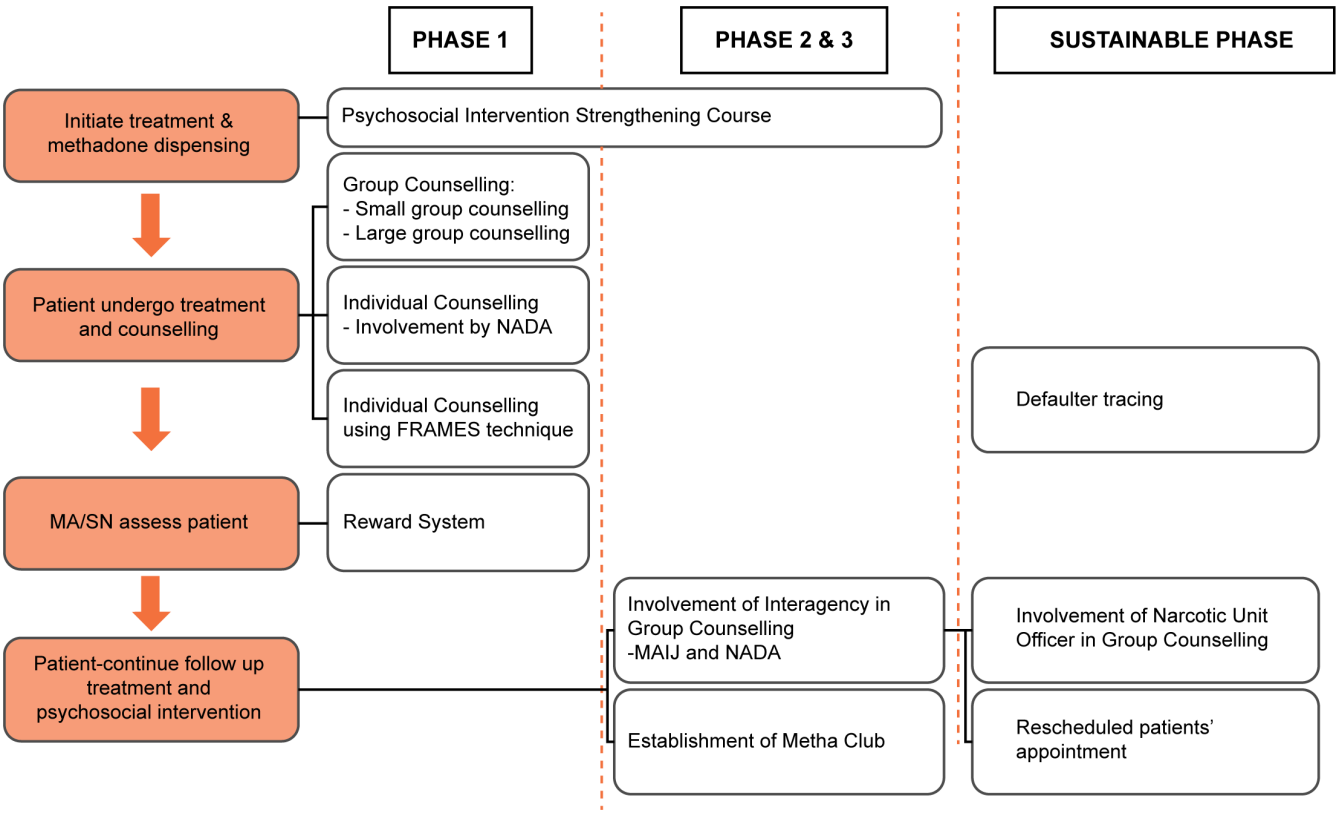


Figure 3: Strategies implemented by phases

Results

Phase 1 improvement strategies resulted in 47.9% of recreational drugs-free patients on MMT with an increase of 13.0% from the verification study. The percentage was further increased to 49.2% with an increase of 1.3% from Phase 1. The strategy implemented in Phase 3 achieved 61.3% of recreational drugs-free patients on MMT within one year, which was slightly higher than the 60% target standard set by NADA (17).

Contributing factors to the problem were re-assessed during the Sustainability Phase to further improve the outcome. It was found that 100% of defaulter patients and patients who missed doses (more than 3 days) would experience relapse after dose adjustment. It was also found that 15% of patients were unable to follow their appointments with the medical officer. The percentage of recreational drugs-free patients was further increased to 65.1% after the implementation of improvement strategies in the sustainability phase (Figure 4).

All standards set in the Model of Good Care also showed improvement (Table 1), in which referral for individual counselling sessions increased to 80% in Phase 3 then up to 100% in the Sustainability Phase, while 75% for small group counselling in Phase 3 and further increased to 100% in Sustainability Phase. Both large group counselling and reward system showed 100% improvement in Phase 3 and continued to Sustainability Phase. Last but not least, defaulter tracing improved to 50% following strategies in Sustainability Phase.

Achievement in Phase 3 and Sustainability Phase exceeded the optimum standard of 60% as illustrated in Figure 4.

Table 1: Model of Good Care

Process	Criteria	Standard (%)	Pre-Improvement Strategies (%)	Phase 3(%)	Post-Improvement Strategies (%)
1. Initiation of treatment	All healthcare workers to attend Psychosocial Intervention Strengthening Course	100	0	100	100
2. Patient undergo treatment and counselling:					
a) Patient referral for individual counselling	All patient is referred for individual counselling by pharmacist and AADK officer	100	30	80	100
b) Patient referral for small group counselling	All patients are referred for small group counselling.	100	0	75	100
c) Patient referral for large group counselling	All patients are referred for large group counselling.	100	0	100	100
3.MA/SN assess patients	Patient able to achieve negative urine test or join large group counselling will be given TAD coupons as a reward.	100	25	100	100
4. Patient-continue follow up treatment and psychosocial intervention	Defaulter will be traced when patient missed dose for 2 consecutive days to prevent methadone dose adjustment	100	0	0	50

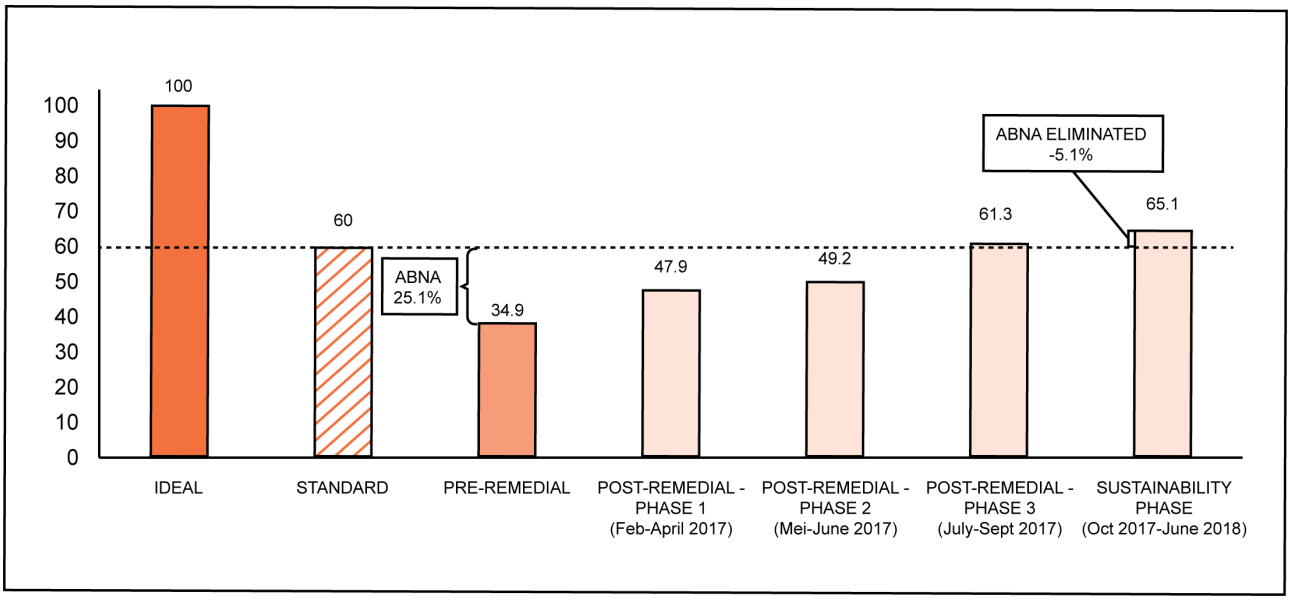


Figure 4: Percentage of Recreational Drugs-Free Patients on MMT

Lessons and Limitations

Based on this study, strengthening individual communication skills is critical to ensure the improvement of counselling method given. Apart from that, strengthening group and individual counselling session are deemed necessary to ensure the patients continue to be motivated and remain free from drug abuse as relapse cannot be solved by a medical approach alone. It is also proven that the involvement of inter-agencies during the counselling session gives better improvement and impact on the patients. The introduction of a reward system also helps to boost their motivation to continue to be drug-free and attract them to join any organised program.

However, there are limitations in this study in terms of financial and human resources, especially in organising workshop involving external agencies for the large group counselling. Besides, it is also time-consuming and requires a lot of commitments to plan and execute programs for the patients. It is a known fact that drug addiction and relapse cannot be solved in a blink of eye as the patients' awareness is not easily tackled. All the efforts done during the initial phase of the study seemed useless and impossible to make the patients drugs-free. But in the end, everything was worth it and showed positive effect with continuous intervention and supports from various parties and individuals. At the same time, the community has to believe that all drug addicts deserve to have their second chance to improve themselves to be better.

Therefore, we would highly encourage various related parties to come forward and involve in managing drug addiction and relapse especially for patients on MMT.

Conclusion and the Next Steps

In conclusion, collective strategies implemented such as strengthening individual counselling skills, group counselling, and inter-agencies involvement had successfully increased the percentage of drugs-free patients on MMT in Larkin Health Clinic from 34.9% to 65.1%. Involvement of family members in individual and group counselling sessions is highly needed to continually motivate patients to achieve recreational drugs-free status. Counselling on work management and communication skills can also help the patients in their self-management by improving the quality of interaction between them and their colleagues as well as the community. With the percentage increment of drugs-free patients on MMT, more than 90% of the patients can secure employment and live properly. At the same time, cases of patients on MMT being arrested for drug abused are also reduced.

As for the next steps, data collection and strategies for improvement will be continued to ensure continuous monitoring of the effectiveness of existing interventions not only for study purposes but more importantly for clinic-based monitoring. In addition, patients' feedback should be collected to provide new and innovative ideas in improving the target percentage towards the ideal standard of 100%.

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Conflict of interest

None

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