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## The Effect of Motivational Incentives on Clients' Religious Self-Regulation in an Institutionalized Drug Treatment Program

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### Abstract

Performing religious and spiritual activities is known to have a positive effect on substance use treatment and rehabilitation. Thus, this study aimed to examine the effect of motivational incentives in motivating clients to perform religious activities in a Narcotic Treatment and Rehabilitation Centre, also known as PUSPEN in Malaysia. A true experimental study was conducted involving the randomization of participants into the experimental groups that received tangible incentives for performing compulsory religious activities and the controlled groups that doesn't receive any incentive. A total of 44 clients were selected as participants based on the inclusion criteria set by the researcher. The participants were assessed by their achievement in memorizing surahs as well as adherence to religious programs and activities in the PUSPEN within 12 weeks of study. A total of seven surahs and three extra surahs were targeted to be memorized by the participants throughout the study period. For the experimental group, participants were given incentives for each successful surah memorized. Meanwhile, for the control group, no form of incentive was given to the participants. CM rewards are in the form of stickers with a monetary value of RM5.00 each which can be used to exchange for items within the PUSPEN. Pre-test analysis to obtain baseline data was done prior to the study session and the post-test analysis was done after week-12 of study. Participants were gathered after one month the study ended for the follow-up test using the same instrument. The Religious Self-Regulated Questionnaire (SRQ-R) which have been translated into the Malay language and adapted into the Islamic version was used to examine the level of religious self-regulation during pre, post and follow-up test. The findings showed that there are no significant differences between the experimental group and the control group on the client's level of religious self-regulated in pre, post and follow-up tests. CM incentives helped improve the performance of the clients in memorizing surahs but did not significantly affect the clients' motivation in performing religious activities during rehabilitation in the PUSPEN. The implementation of CM in the psycho-spiritual aspect in the PUSPEN environment is still considered as new and inconclusive. Future researchers can improve the study by increasing the sample size and uses higher incentives values to obtain a

more accurate and comprehensive findings on the effectiveness of CM intervention on religious self-regulation.

**Keywords:** Motivational Incentives, Contingency Management, Religiosity, Substance Use Disorders, Addiction Treatment and Rehabilitation, Effectiveness, PUSPEN.

## Introduction

Malaysia is one of the few countries in the region that implemented a compulsory rehabilitation programme for drug use disorder. Drug treatment and rehabilitation programmes in Malaysia are put under the responsibility of the National Anti-Drugs Agency (NADA) and The Prison Department, overlooked by the Ministry of Home Affairs. The strategy of the Malaysian government is basically to eliminate drug dependence by reducing the supply and the demand for illicit substances. In the effort to reduce the demand for drugs, drug users and addicts were apprehended and put on treatment and rehabilitation programmes under the Drug Addiction Act (Treatment and Rehabilitation, 1983). This includes institutionalized and community-based drug treatment and rehabilitation facilities.

The institutionalized treatment under NADA has applied the psychosocial model with the inclusion of religious and spiritual elements. The religious and spiritual aspects encompass a comprehensive system of life including rules and Syariah known as 'ad-din' (Din, 2002). Religion encourages every human being to head towards goodness and stay away from heinous and evil deeds that lead to social symptoms like drug addiction. Moreover, religious and spiritual activities (worship) provide a sense of overall support and protection for recovering drug addicts not to return to drug use (Gorsuch, 1995; Pardini et al., 2000). Data indicate that involvement in religious practice has a significant relationship with a person being longer abstinent (Al-Omari et al., 2015; Heinz et al., 2010).

Religious and moral guidance programmes have been implemented since the 1980s (Mahmood, 2006) until today with the introduction of new approaches such as the halaqa (learning group) and the adaptation of the Inaba programme from Indonesia which was also found to be effective in altering the behaviour of the drug addicts (Abdullah, 2000; Kohar, 2000; Mohamed et al., 1998). Religious and spiritual elements include worship (ibadah) such as zikr, prayer, fasting, reading and understanding of the Qur'an. The implementation of a religious approach is important in applying the basics of faith and good morals in daily life to prevent clients from being trapped again with negative symptoms that lead to drug addiction problems. According to drug addiction statistics released by the National Anti-Drugs Agency (2021), found that 70% of drug addicts treated in rehabilitation centres nationwide are from the Malay Muslim community. Religious and spiritual approaches are important elements in drug addiction rehabilitation but their success is often limited due to clients' perception that they were ordered for treatment not of their own volition but were sent to the centre as punishment (Mohamed et al., 1998).

Drug addiction is a disease that affects the bio-psycho-social of an individual and treatment must also be comprehensive involving all aspects of the individual (Dodge & Pettit, 2003). The physical or biological elements can generally be treated using a medical approach. However, the behavioural element is the most difficult and nevertheless the most important aspect that needs to be treated. Studies conducted suggest that drug abuse is a disease caused by the process of learning and reinforcement to responses as expressed in Operant Conditioning Theory and Classical Behavioural Theory (Carroll & Onken, 2005). One of the interventions that apply the concept of Operant Conditioning Theory is motivational incentives or also known as contingency management (CM). CM was developed based on the

principle of strengthening drug-free behaviour through rewards. CM interventions help detect drug use directly and increase clients' commitment to participate in activities that support recovery through rewards (Petry, 2000). Many studies have demonstrated the effectiveness of CM interventions in the treatment of substance abuse (Higgins et al., 2013; Petry et al., 2004; Roll et al., 2006). However, these interventions are still yet to be fully implemented in Malaysia.

### **Problem Statement**

Religion and spirituality play a very important role in substance use treatment and rehabilitation. In Malaysia, religiosity is considered an important element in the approach to addiction recovery. It refers to all religions or beliefs that drive every adherent towards goodness. Religious elements have been applied in an addiction recovery programme since the birth of Alcoholics Anonymous (AA) in 1935 with the publication of the first edition of the "Big Book". AA members developed the Twelve Steps and the Twelve Traditions of the organization which relate to the higher power (God) in the path to sobriety. AA has grown into a fellowship of over 15 million individuals and over 500,000 groups in 114 countries (Stevens & Smith, 2013).

Performing religious activities is believed to provide a feeling of sustenance, protection and optimism among drug users. Correlational data suggest that engaging in religious practices is associated with drug abstinence and greater retention in drug abuse treatment programmes. Furthermore, some substance abusers attributed their recoveries to "divine intervention." In a study of CM intervention in relation to religiosity, Petry et al. (2008), investigates whether participants choosing to engage in religious activities during CM treatment would have better during and post-treatment outcomes compared to participants who did not. Cocaine abusers (n = 184) randomized to CM intervention were categorized based on whether they engaged in three or more religious activities. Those engaged in religious activities (n=34) remained in treatment longer, were abstinent for longer durations, and submitted more substance-negative samples than non-engagers (n = 150), even after controlling for the number of activities completed overall. Thus, encouraging religious involvement during CM treatment may improve treatment outcomes.

In the context of the PUSPEN, religious programs are usually perceived as another form of rules and regulations that the client needs to follow to avoid being punished. Thus, by using CM intervention it is assumed that it can improve clients' involvement in religious activities and help alter their perspective in performing the ibadah (worship) because of their own volition rather than fear of punishment. Ryan et al. (1993), classified the reasons why a person engages in religious activities into two types of internalization namely introjected and identified. Based on the Self-Determination Theory (SDT), the concept of internalization implies that a value can be assumed by the individual with different degrees of autonomy (or self-determination), in a continuum between performing a behaviour because of external pressure or constriction (introjected) to a behaviour which is performed because it is personally valued in an independent and autonomous way (identified) (Ryan & Deci, 2000).

To increase the success of religious programs at the PUSPEN, an increase in motivation is needed. CM acts as an external motivation towards treatment but in a positive way. CM's approach through motivational incentives is able to have the same effect of motivating children to memorize doa (prayer), recite the Quran and even fast during the holy month of Ramadan. CM helps mobilize religious activities at an early stage through positive reinforcement and the elimination of the negative association or punishment. CM, although

seen as just an external motivation and temporary solution, can increase the sense of competence for the activities (religious) performed (Promberger & Marteau, 2013) thus, maintaining it in the long run. In addition, coupled with the process of habituation to the relationship of rewards with the achievement of religious programs as stated in the Theory of Operant Conditioning, it can further increase the potential of clients to remain abstinent. Strengthening behaviour through rewards for adherence to religious programs and achievement of the goals of certain religious activities (memorization of surahs) can increase the motivation of clients to perform such activities and increase the level of religious clients in the long run. Thus, the objective of this study is to examine the effectiveness of motivational incentives in motivating clients in performing religious activities in a PUSPEN.

## **Research Methodology**

### ***Research Design***

A mixed-method explanatory sequential design was implemented as the research design for this study. The primary design in this study was a quantitative experimental design. The participant participating in the study are randomly allocated to either the group receiving the treatment or to a group receiving standard treatment or the controlled group (Curtis et al., 2009). The second phase of this study was qualitative in nature and implemented for the purpose of enhancing the initial results of the clients' perceived motivation after experiencing CM intervention. The intent of adding qualitative data into an experiment is to provide personal, contextual, qualitative experiences drawn from the setting of the participants along with the quantitative outcome measures. In this study, the researcher collects qualitative data after the intervention was completed with an intention to explore in more detail the outcome results and explain why the intervention may or may not have worked (Creswell & Plano-Clark, 2017).

### ***Scope of Study***

The guidelines developed by Petry (2000) have clarified six principles of CM program implementation namely by identifying target behaviours, determining target population, type of reinforcement, magnitude of reward, timing of reward, and duration of intervention implemented. Based on these principles, this study focuses on the achievement of memorization of common surahs along with adherence to other religious programs. The religious aspect of the PUSPEN involves a wide scope of activities involving worship such as prayer, fasting, zikr, pillars of faith, pillars of Islam and the understanding of the concepts of aqidah, sharia and morality. However, in the context of CM interventions, the behaviours measured need to be clear and provable. Worship such as prayer, fasting and zikr can indeed be measured and proven but it requires extensive observation and monitoring by researchers. Given the limitations, the researcher has chosen to evaluate only one clear context to be contingent with incentives which was the memorization (hafazan) of common surahs. Although only the hafazan aspect is given reinforcement, the researcher has determined that other aspects such as the five-times congregational prayer and adherence to other religious activities are required before they are eligible for the incentive. Rewards with a monetary value of RM5.00 each are given as reinforcement to the subject's achievement. Assessments and rewards are on a weekly basis with each incentive shown on a weekly achievement chart displayed in class. A time period of 12 weeks was given to see the subject memorization achievement for both experimental and controlled groups.

***Population and Research Sample***

A total of 94 clients were invited to participate in the study. After screening, a total of 44 people met the inclusion criteria and were selected to participate in the study. To determine the appropriate sample size for both study groups, researchers used G\*Power software to determine statistical power analysis (Faul et al., 2009). G\*Power is used to calculate the effect size and displays the results of the power analysis graphically to determine the appropriate number of subjects in the group. For the purpose of this study, researchers have set the values for these three factors as  $\alpha = 0.05$ , power = 0.80, and effect size = 0.50 which is the standard value used in social science studies (Cohen, 1977, 1988; Lipsey, 1990). Based on G\*Power analysis, the number of appropriate subjects for one study group is 18 people or 36 people for both groups, a total of 44 subjects in this study is appropriate.

In making sure the subjects in each group are homogenous and the issue of research validity and bias can be minimized, the researchers have pre-determined the criteria of the subjects as follows; entering PUSPEN for the first time; aged between 19 to 39 years old (youth age - the highest age group in the institution); participate in psychosocial and spiritual programmes; male; Muslims; free of any psychiatric disorder or chronic disease; did not participate in any drug substitution therapy; and, agree to join the study and signing a consent form.

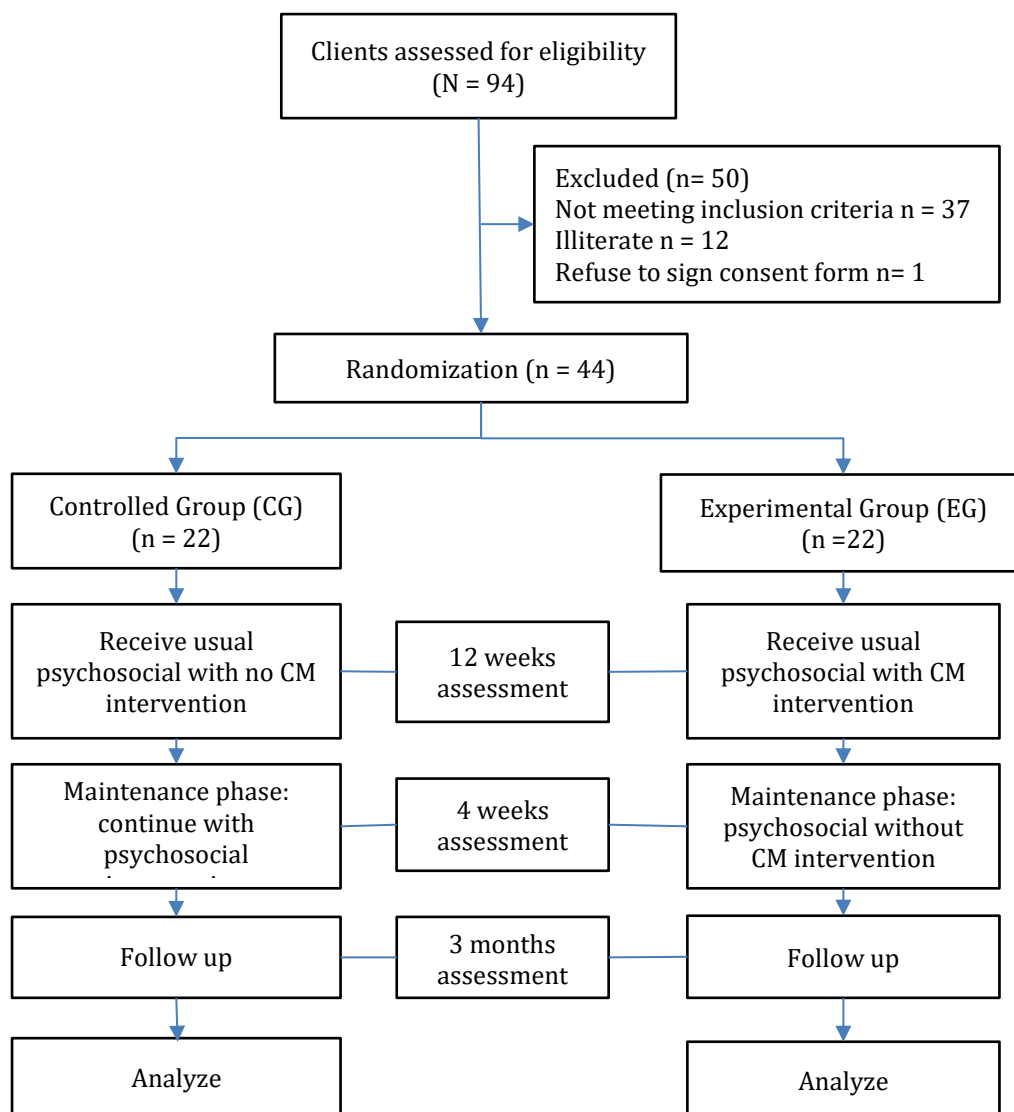


Figure 1: Participant's Flow Diagrams

### Research Procedure

PUSPEN Dengkil which met the research criteria in terms of the implementation of religious and spiritual programs has been identified and selected as the study location. At the initial stage, a meeting and discussion with NADA were made to state the intention and purpose of the study. Researchers used the services of officers from the centre to assist in administering CM and clients' memorization assessments. An explanation was given to the officer on the method of implementation and how to collect the information required for this study.

In phase one, a pre-test assessment was conducted to obtain the baseline data. Subjects who are qualified and agree to participate in the study need to sign the consent form that has been prepared. For this study, scores on baseline data were used to divide subjects into study groups. The subjects were then divided into two groups randomly using Excel Random number generator software. The first group is the experimental group (EG) was given CM reinforcement for each surah memorization achievement and religious program, and the second group is the control group (CG) that went through surah memorization and religious program without any reinforcement or reward. Each group has members who correspond in terms of certain individual traits or characteristics.

Both groups followed the intervention separately and they are not allowed to discuss and share their experiences during the treatment session with the other groups. This is intended to avoid rivalry and threats to the validity of the study. Evaluation of the achievement of religious programs is recorded through the evaluation of memorization of surahs as well as the attendance of clients to religious activities such as prayers and other religious programs. Seven surahs were targeted to be memorized by the clients and for those who successfully memorized all seven surahs, three additional surahs were added to the memorization list. The list of memorized surahs is shown in table 1.

Table 1  
List of Surahs

	Surah
1.	3 Qul (An-Nas, Al-Falaq, Al-Ikhlās)
2.	Ayat Kursi
3.	Al-Masad
4.	Al-Nasru
5.	Al-Kafirun
6.	Ad-Dhuha
7.	Al-Insyirah
8.	Al-A'ala (Additional)
9.	Al-Kahfi (1-10 & 101 -110) (Additional)
10.	Al-Mulk (Additional)

Source: (National Anti-Drugs Agency, 2012)

In the second phase, a semi-structured interview was conducted with seven participants to get a better understanding of their perceived motivations for participating in CM intervention. The qualitative approach provides a unique perspective of the experience from the clients' point of view with their own choice of words (Creswell, 2014). The participant was purposively chosen by the researcher among the EG based on their capability to explain and express their experiences verbally in the interview. The interviews were conducted after the initial study was completed.

### Research Instrument

This study uses the Religious Self-Regulation Questionnaire (SRQ-R) from (Ryan et al., 1993) which has been translated into Malay Language (BM) and adapted to Islam. This questionnaire contains information related to the factors a person is involved in religious behaviour. In total, there were 12 items on the SRQ-R. There was a longer version with 48 items, however, the analysis revealed that the 12-item version used by the researchers had good psychometric values comparable to the longer version. Written permission was obtained from the original author of the instrument and a pilot test was conducted to test the reliability and validity of the BM version of the questionnaire. The results of the pilot test found that this test tool has a good reliability value with a value of  $\alpha \geq 0.7$ .

### Data Analysis

The statistical analysis used in this study was performed using IBM-SPSS software (version 22). Group comparisons for baseline characteristics were made using a t-test for continuous data, while the  $\chi^2$  test for categorical data. To see the differences in pre, post and follow-up



levels, analysis was done using Analysis of Variance (ANOVA). Meanwhile, for qualitative data, content analysis was used to analyse the finding of the semi-structured interview (Bryman & Bell, 2011).

### Characteristics at Baseline

Socio-demographic characteristics of the 44 subjects were based on the inclusion criteria determined by the researcher. However, a few extra information was added such as education level, marital status, and occupational information to further explore the background of the subjects. Overall, 100% of subjects are male with an average age of 28 years old and Muslims in religion. Around 50% (EG) to 65% (CG) have an education level of Sijil Pelajaran Malaysia (SPM). More than 60% of them are single, and less than 20% of them are working and have an average income of between RM1500 to RM2200 (Table 2).

Table 2

#### *Baseline Demographic Characteristics*

Variables <sup>a</sup>	Controlled Group (n=22)	Experimental Group (n=22)
Gender (% male)	100	100
Age	28.9 (4.8)	28.7 (4.6)
Ethnicity (% Malays)	95.7	100
Religion (% Islam)	100	100
Education level (%)		
Diploma	0	9.1
SPM	65.2	50.0
PMR	21.7	27.3
Primary school	13.0	13.6
Marital status (%)		
single	60.9	68.2
married	30.4	31.8
divorced	8.7	0
Occupation status (% working)	21.0	16.0
Average income	2215.7 (2014.8)	1577.3 (946.1)

<sup>a</sup> Values are mean (SD), otherwise declared.

Clinical characteristics at baseline showed an average drug use starting age at 23 years old for EG, and at 24 years old in CG, with a period of addiction between 4 to 5 years. Reasons for drug use were different for both groups; with 50% of EG citing the cause by peer influence, and 61% from the CG as due to curiosity to try. All subjects enter the PUSPEN for treatment for the first time and are methamphetamine users. Clinical assessment using the Severity of Dependence Scale (SDS) showed most clients have a mean score of 1.4 which is at a moderate level of severity. Comparison between both groups showed that there was no significant difference between both groups which revealed that randomization has worked (Table 3).

Table 3

*Baseline Clinical Characteristics*

Variables <sup>a</sup>	Controlled (n=22)	Group Experimental Group (n=22)
Drugs use starting age	24.3 (5.2)	23.4 (5.3)
Period of addiction	4.1 (2.0)	4.9 (2.7)
Reason for using (%)		
Peer influence	34.8	50.0
Wanted to try	60.9	40.9
Family problem	4.3	4.5
Others	0	4.5
First time getting treatment in PUSPEN (%)	100	100
Type of drug (% meth)	100	100
The severity of Dependence Scale (SDS)	1.3 (0.4)	1.4 (0.6)

<sup>a</sup> Values are mean (SD), otherwise declared.

**Findings*****Achievement in Memorization of Surahs***

The results of the study for 12 weeks through the reward of CM to EG found that the number of surahs memorized was recorded more from the EG compared to the CG. CG without CM showed more people failed to memorize even one surah which is 39% compared to only 14% of clients from the EG. Only one client managed to memorize eight of the ten surahs prescribed in the study period which was a subject from the EG. However, analysis using *t-test* found that there was no significant difference between the EG and the CG based on the number of surahs memorized by clients ( $t(43) = 1.387, p > 0.05$ ).

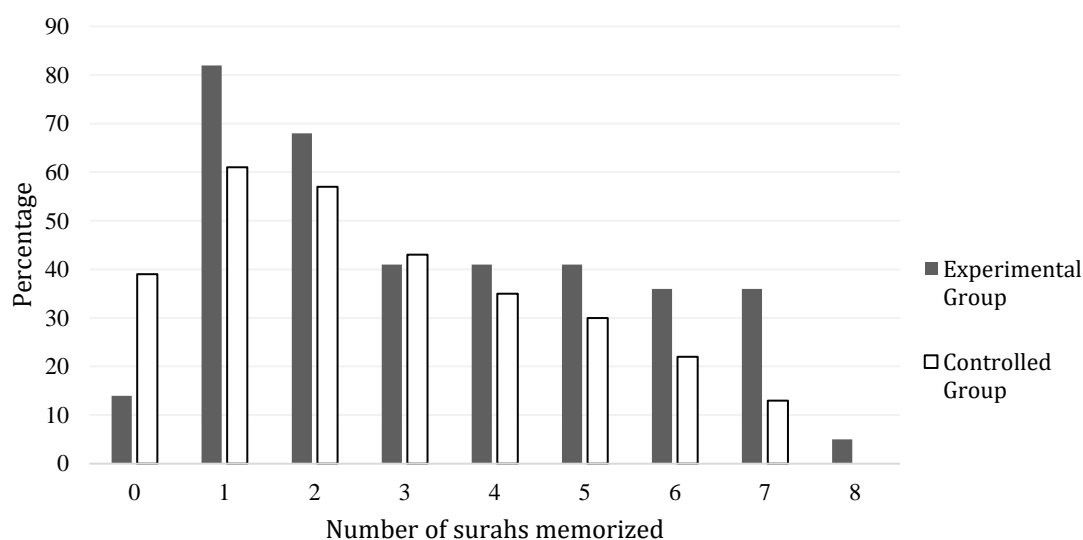
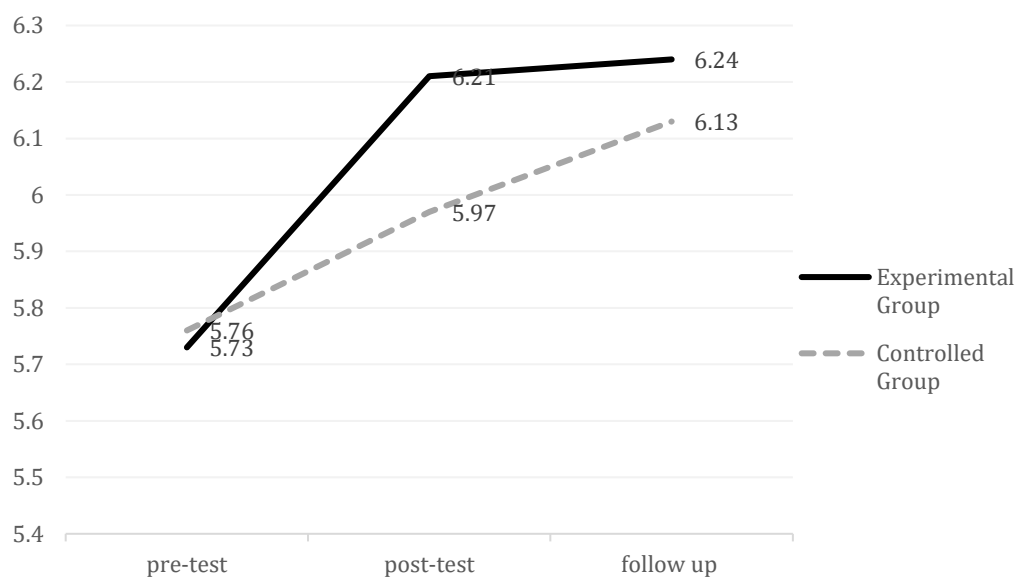


Figure 2: Number of surahs successfully memorized by the clients

***Differences in the level of Religious Self-Regulation***

Based on analysis of variance (ANOVA) on the level of Religious Self-Regulation (SRQ-R) found no significant differences between the EG and the CG during pre, post and follow-up tests ( $F(1,43) = .456, p > 0.05$ ). The data differences descriptively showed that overall, the EG had a

higher mean score value on post-test (mean: EG = 6.21, CG = 5.97) and follow-up test (mean: EG = 6.24, CG = 6.13) (Figure 3).



**Figure 3:** Mean of Religious Self-Regulation scores over the three study periods

### Qualitative Findings

The findings of the semi-structured interview were carried out to further support and explain the results achieved from the quantitative analysis. A total of seven clients were selected as respondents for the interview, who were believed to be able to give accurate and reliable information regarding their experience receiving motivational incentives for performing religious activities. A content analysis technique was conducted manually for the qualitative data analysis, and important statements from the interviewees were quoted to support the research findings. The findings indicated four main themes that were considered related to the effects of CM on clients' motivation. The four themes are (a) increased interest in the programs (interest), (b) increased enjoyment of the program (enjoyment), (c) improved desire to gain new insights and to use the knowledge (inherent satisfaction), and (d) renewed awareness to change. The four themes found are closely related to the intrinsic motivation suggested in the Self-Determination Theory (Ryan & Deci, 2000).

### Discussion

CM interventions have been proven to assist in treating substance use disorder and changing clients' behaviours by rewarding them for any positive behaviour shown (Davis et al., 2016; Stitzer & Petry, 2006; Walker et al., 2010). However, studies that examine the CM approach from religious and spiritual perspectives at a drug rehabilitation centre are rarely conducted. CM in this study did affect clients' behaviour in performing a religious activity of hafazan, however, the effect was not statistically significant. Clients' religious self-regulation was observed to increase with time with or without the presence of CM rewards. In this study, CM intervention did help at the beginning of the client's involvement in religious activities, however as time progressed, the religious activities performed in both groups were a result of the clients' inner self-regulation. In performing religious activities, CM rewards were found to have no significant effect on clients. This might be due to the magnitude of the rewards

themselves which were too small to counter the effect of punishment or to counter the effect of the ultimate reward of paradise from Allah S.W.T.

Religiousness cannot be influenced by mere rewards, but it is necessary for religious regulation to present intrinsically through the faith and piety of an individual. The ultimate goal in performing religious activities or rituals (ibadah) is to get the pleasure of Allah S.W.T and to be rewarded with heaven in the hereafter (Din, 2002). Religious self-regulation in the study showed that CM does not influence clients' behaviours but rather other factors such as individual or environmental aspects within the PUSPEN. Religious and spiritual approaches are indeed important elements in the development of behaviour, especially among drug addicts (Al-Menayes, 2016; Ghani & Adam, 2014; Heinz et al., 2010). Nevertheless, the application of the Reinforcement Theory applied in the CM interventions was found to improve the client's religious behaviour although it was not significant enough in affecting clients' religious self-regulation.

Reinforcing religious activities through the use of rewards as implemented in the CM intervention is related to the Islamic teachings on rewards and punishments, as mentioned in the Quran and the Hadiths whereby every good deed will be rewarded in the hereafter (Nazri et al., 2011; The Hadith, n.d.)CM improved clients' performance in terms of achievement of the hafazan and increased motivation and enthusiasm to perform better. However, reinforcing clients' religious regulation in the PUSPEN depends on the intrinsic factors of the individual. According to a study by Stapa et al., (2011), most clients have the desire to approach themselves with religious programmes when they seek treatment at the rehabilitation centres. This is likely to be a contributing factor indicating an increase in the religious self-regulation levels for the entire study on both groups. Clients' tendency to perform ibadah or religious activities was developed within the client intrinsically over time in the CCRC. This has demonstrated that even though the use of coercion or punishment will motivate clients externally, this motivation grows within themselves and after some time starts improving their religiousness without the need for external factors. This is in line with the principles suggested by the National Institute on Drug Abuse (2012), which stated that substance use treatment need not be voluntary to be effective. In addition, the effectiveness of existing religious programmes in the PUSPEN may also be the contributing factor to the clients' religious self-regulation to be increasing over time. This is supported by many studies showings that religious and spiritual elements in the PUSPEN have a positive influence on clients' recovery (Mohamad, 2006; Muhamad et al., 2015; Stapa et al., 2011).

Based on suggestions by social psychologists, attitudes and behaviour change can only occur when religious values are internalized and incorporated into the individual daily lives (Blais et al., 1990). An individual performs a behaviour, such as praying, because they feel that it is an important or valued activity to which they are personally committed. These reflect their motivations as more internalized, and their actions are more autonomous or freely chosen. Similar to what was experienced by clients in the PUSPEN, motivation in performing ibadah improves from time to time, from the feeling of being pressured to an internalized reason. Religious values become an important aspect of their lives that suit their values and beliefs, thus developing their religious self-regulation over time. Although the results of this study do not support CM's effectiveness on clients' religious self-regulation, it still provides useful information regarding the client's tendency in approaching religious activities in a compulsory treatment centre. This finding, however, is still considered inconclusive and needed to be investigated further in the future due to the limitations faced by the researcher

including the selection of religious activity to be incorporated with the CM intervention, and also the monitoring aspect of the clients' religious activities within the PUSPEN.

### Limitations and Suggestions

Some limitations can be improved by future researchers, among them is increasing the study sample size. A larger sample size is proposed to obtain more accurate and comprehensive findings on the effectiveness of CM intervention. Financial resource factors should also be taken into account since CM incentives require high costs of implementation. However, some studies use lower costs of implementation that can also be put into consideration (Branson et al., 2012; Petry & Martin, 2002). In addition, the determination of larger reward values may need to be considered to look at the differences of effects based on reward values as studied by (Ghitza et al., 2008) who suggested that higher reward values will improve the effectiveness of CM.

The location of the study also plays a major role in determining the results of the findings. According to (Gendreau et al., 2014), the implementation of CM in a controlled environment such as in prison or an institutionalized setting should take into account the strength of reinforcement (incentives) given. One of the principles of CM implementation in such an environment is that the influence of CM incentives should be four times greater than the influence of the fear of punishment. PUSPEN, although applying more elements of treatment than punishment, still emphasizes punishment in each of its programs and activities. Incentives that were provided for each achievement in this study might not be sufficient enough to overcome the influence of punishment in the PUSPEN.

### Conclusion

CM is an intervention approach that has the potential to be studied more widely in Malaysia. The implementation of CM in the psycho-spiritual aspect needs to be improved if it is to be implemented in the PUSPEN environment. The Malaysian government has spent a lot of money and energy to treat recovering drug addicts and these costs are increasing every year. It is hoped that motivational incentives can be implemented more in treatment and rehabilitation settings in Malaysia and replace the coercion approach that was found to be less effective in the long run (Chie et al., 2015; Ibrahim et al., 2009; Scorzelli James, 1992; Ting Chie et al., 2016).

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