

Effect of Individual Psycho-Education on Self-Determination among Opiate-Dependent in Methadone Treatment: A Randomised Controlled Trial

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Abstract

Self-determination is a useful concept for analysing individual experiences with internal controls and demonstrates the critical role of self-determined motivation in addiction treatment. This study was designed to evaluate the effect of individual psycho-educational treatment based on integrated self-awareness and self-determination theories (i-SEAZ) toward self-determination among opiate-dependent patients in Methadone Treatment (MT). 75 methadone patients from five methadone clinics were randomly assigned to the experimental (n=38) or control (n=37) groups. Ten individual i-SEAZ sessions were administered to the experimental group, while the control group received only MT. The Treatment Motivation Questionnaire (TQM) was used to evaluate the effect of self-determination on four sub-constructs: External Motivation, Internal Motivation, Treatment Confidence, and Seeking Help. The evaluation was performed twice, once before (as a pretest) and once after (as posttest). The experimental group demonstrated a significant increase in self-determination. However, sub-construct analyses revealed that External Motivation improved significantly, but not Internal Motivation, Treatment Confidence, or Seeking help. Thus, the i-SEAZ appears to significantly improve self-determination, particularly in opiate-dependent patients. More research is needed to determine the efficacy of i-SEAZ in other drug treatment modalities. This study aims to increase counsellors' use of evidence-based treatments such as i-SEAZ in order to increase self-determination among opiate-dependent Methadone patients.

Keywords: Self-Determination, Self-Awareness, Psycho-education, Methadone Treatment, Opiate-Dependents

Introduction

The effectiveness of drug abuse treatment has always been debated as the incidence of relapse cases is still higher. Based on National Anti-Drug Agency (NADA) statistics, the percentage of recurrent opioid abuse (53.77%) is higher than that of other drugs (NADA, 2018). This growing trend in recurring cases

suggests that there is still a need to improve drug abuse treatment. The United Nations World Drug Report 2013 estimates that approximately 16.5 million people worldwide aged 15 years abuse heroin or opium (Burns, 2013). They estimated that around 23% depending on opiates (Hser et al., 2015, Volkow, 2014). Approximately 1.3 per cent of

the population is involved in drug abuse, with the HIV epidemic among heroin addicts in Malaysia (Wickersham et al., 2013). This situation makes it difficult to eradicate opioid addiction (Mohamad et al., 2010). The issue of opioid abuse is also a global issue as developed countries such as the United States are also still struggling to find effective treatment solutions (Mumba et al., 2018; Ratycz et al., 2018).

Methadone therapy (MT) has been introduced as part of the Harm Reduction (HR) program under the Malaysian Ministry of Health. This program aims to prevent HIV infection from spreading among injection drug addicts (MOH, 2005). In addition, Methadone could help reduce withdrawal and heroin craving because it does not cause 'high' (Reist, 2010). Furthermore, several local studies on quality of life found that MT had a positive impact, including improving the quality of life of patients in four aspects: physiological, psychological, social, and environmental in patients in methadone clinics in Malaysia (Malini, Shamsudin & Wahab, 2018; Ali et al., 2018).

Nevertheless, this MT is still debated its impact when participants who have completed the entire program in the estimated period are still small (Cheong, Vaughan, Lau & Gonzalez, 2020). Moreover, the patient's retention rate in treatment remains low compared to the increasing evolution of MT in Malaysia (Othman & Gani, 2017; Wan Shakira, Sarimah & Norsahadah, 2017). The study also discovered that some individuals continue to drop out of treatment while others stay on it for a long time. As a result, the government have to bear the cost of long-term treatment. Furthermore, the usage of Methadone in therapy has been linked to the failure of total abstinence (Banazadeh, Abedi & Kheradmand, 2009) and high dropout in Methadone treatment (Hong et al., 2017).

Existing literature stated that the causes of drug relapse could be divided into two factors: individual variables and social and environmental factors (Chan, Lo, Tam & Lee, 2019; Miller & Carroll, 2011). Individual differences include sex, concomitant use of drugs, first traumas and adversities, and past experiences with drug use (Wemm & Sinha, 2019). Meanwhile, Chan et al. (2019) suggested that low self-control and self-determination were important individual

determinants. Drug abusers who do not seek or receive treatment have fewer psychological, social and drug use problems than those treated. These differences may be due to: (a) a lack of self-awareness among untreated participants or (b) more immediate motivations to seek treatment in treated individuals (Scherbaum & Specka, 2008). A few empirical studies exploring self-awareness about substance abuse treatment, Brody et al. (2016) demonstrated an interconnection between self-awareness and self-efficacy in life lessons from women with HIV; those with the most significant insight benefited the most from treatment.

The psychological experience of drug users is a crucial factor in determining whether they relapse. Satisfaction of psychological needs is the internal motivation of drug addicts, which prompts them to leave the drug and pursue healthy development (Chan et al., 2019). However, some research has found that motivation remains the main challenge, especially when most people who have recovered from drug rehabilitation treatment relapse into old bad habits (Wegman et al., 2017). In addition, the strong impulse, the drug search behavior (Almeman, Ismail & Mohamad, 2017), peer influences, and inability to cope with stress (Salleh, 2012) contribute to relapse.

It has been shown that motivation strongly correlates with the commitment to treatment, retention, and accession. High motivation foresees lower relapses, retention and produces better treatment outcomes (Smith, 2016). Furthermore, Wild et al. (2016) noted that clients with intense internal stimulation might defect early at the beginning of the admission. On the contrary, the clients who require high intrinsic motivation were excellent for use with a high cognitive commitment (Wild et al., 2016). In addition, a study by Ayres et al. (2014) revealed that the motivating interview with treatment based on self-determination improved health and autonomy, crime reduction, stress and drug abuse. There was also greater motivation among participants, and this rank of bases has increased self-effectiveness and helped in the cognitive confusion that emerged. The roles of motivation in treatment can be seen in Chan et al. (2019), which used self-determination theory as a framework to examine the psychological experiences of drug addicts and

the trend towards drug abuse, with particular emphasis on the concept of relativity.

Integrating theories in the treatment would build on strengths and thus gain more insight into behavioral health (Noar and Zimmerman (2005). Moreover, SDT researchers have recommended integrating SDT with other theories to improve psychological issues (Hagger & Chatzisarantis, 2008; Wilson, Mack & Grattan, 2008). Meanwhile, Fishbein and Yzer (2003) integrated two approaches between behavioral models and media mining theory in constructing treatments. Integrating theories were made to identify specific beliefs that need to be addressed to change or maintain behavior. A study by Wells, Golub, and Parsons (2011), which similarly used the integrated theory technique, underlined the importance of integrating current theories into other theories because of the necessity to evaluate specific behaviors. In this regard, the researchers developed an individual psycho-education treatment that integrated these two theories; SDT and SAT.

These two theories, notably SDT, have been widely used as therapeutic treatments in various settings (Hancox, Queded, Ntoumanis & Thøgersen-Ntoumani, 2018; Sebire et al., 2016; Murray et al., 2015). In addition, SDT has also been used to develop a motivational framework for different clinical treatments and randomised clinical trials (Cornelius et al., 2017; Goodman, Peterson-Badali & Henderson, 2011; Ryan & Deci, 2017). However, applying SDT to the context of drug abuse and relapse is assumed to provide external motivations is not enough to stop drug abuse because one can engage in treatment out of fear of any consequences, but not because of an internal sense of control and autonomy (Cleverley et al., 2018). Meanwhile, Brown and Ryan (2003) suggest self-awareness is simply a "knowledge of oneself". Others suggest that self-awareness is awareness or understanding of one's thoughts, emotions and behaviors and can be considered a state; therefore, it can be situational (Fenigstein, Scheier & Buss, 1975). Furthermore, it is similar or synonymous with other constructs, such as self-consciousness (Webb, Marsh, Schneiderman & Davis, 1989) and insight (Grant, Franklin & Langford, 2002; Roback, 1974). In this study, the self-awareness theory is explained by Zaborowski and Oleszkiewicz (1988) as known as a Content Form (CF)

theory (66). The CF theory is expected to help expand the theory of psychology.

As Noar and Zimmerman (2005) pointed out, it was best to integrate a complete theory. Sweet and his colleagues with cross-sectional data conducted this procedure. They tested the comprehensive model of the SDTS self-efficacy theory and found support for the extended model (Sweet, Fortier, Strachan & Blanchard, 2012). Furthermore, several studies have demonstrated that the correlation between self-awareness and self-determination make a person more aware and have a strong internal belief that oneself can achieve the desired outcome (Engin & Cam, 2009). Therefore, this study determines the effect of integrated theories on psycho-education treatments addressing self-determination, including the four sub-constructs; external motivation, internal motivation, help-seeking, and confidence in treatment among opiate-dependent patients in Methadone Clinic. In addition, we conducted this study to understand this population's motivations better and extend the integrated model to another population.

Methodology

Participants

In the beginning, 100 samples were selected randomly from five Methadone clinics under the Ministry of Health Malaysia (MOH) control located in Kuala Lumpur and Selangor. The method of determining this sample's size is based on Hair et al. (2010), which described the minimum sample for each variable are five samples, but the most acceptable ratio was a 10:1. We also used the G* Power 3.1 to calculate the sample size to cover the effect size and statistical advantage.

The randomized controlled trial design was chosen because the study met the following conditions; 1) The distribution of samples was random to the control and treatment groups, and 2) Both groups were considered similar characteristics. To be eligible for treatment, participants must meet the diagnosis for Opioid Use Disorder (moderate or severe) according to DSM-5 criteria (APA, 2013). In addition, the following inclusion criteria are listed for participants:

1. The patient is over 18 years of age.
2. The patient received at least three months of Methadone treatment.
3. The researchers obtained consent and cooperation for voluntary intervention.

4. The participants do not have a chronic mental illness such as schizophrenia and bipolar disorder.

5. If the patient suffers from chronic infectious diseases, such as HIV/AIDS and tuberculosis (TB), they should be admitted until they are stable, under care and supervision.

The researchers use these criteria to help reduce the incidence of dropout and adherence to sample presence during the intervention. The study samples were divided into two groups, (n = 50) for the experimental group and (n = 50) for the control group.

Data Collection

The treatment was presented from 13th August - 21st October 2020 at five Methadone clinics. Participants in the experimental group attended the weekly individual treatment sessions conducted by a trained facilitator for ten weeks. This treatment is divided into five phases; i) Introduction, ii) Self-Awareness, iii) Self-Determination, iv) Reinforcement and v) Closing Phase. The time allocated for each session was approximately 60 minutes. Therefore, the total duration of the treatment for ten weeks was ≈600 minutes, as shown in Table 1.

Data Analysis

Upon completion of the study period, a valid number of samples to be analysed were 75 people from the control group, n = 37 and the experimental group, n = 38. The reduction was due to several unavoidable factors, such as transferring patients to other rehabilitation centres, defaulting patients, being arrested by the authorities, and missing treatment. The flow of the study had been shown in Figure 1.

This study uses the Treatment Motivation Questionnaire (TMQ) by Ryan, Plant, and O'Malley (1995). The pretest was administered two weeks before the treatment, and the posttest was given two weeks after completion of treatment. In this study, descriptive and inferential statistics were used to analyze the data using SPSS V20. The administration of TMQ and consistently decreases the risk of assessment bias by the research assistants. Participants should complete the TMQ questionnaires within 30 minutes. For inference analysis, ANCOVA was utilised to compare treatment effects at the posttest level for both experimental and control groups with a significance level of 0.05, sampling distribution $n > 30$. In addition, ANCOVA was used to compare the effect of independent variables on dependent variables between at least two groups. The flow of the study can be shown in Figure 1.

Table 1: Allocation of the i-SEAZ

Phase	Content	Session	Num. Activity	Duration
1.	Introduction	1	3	≈60 minutes
	Self-awareness components:			
	Individual	2	2	≈60 minutes
2.	Defensive	3	2	≈60 minutes
	External	4	2	≈60 minutes
	Reflective	5	2	60 minutes
	Self-determination components:			
	Autonomy	6	2	≈60 minutes
3.	Competent	7	2	≈60 minutes
	Relatedness	8	2	≈60 minutes
4.	Reinforcement	9	2	≈60 minutes
5.	Closing	10	3	≈60 minutes
Total		10	22	≈600 minutes

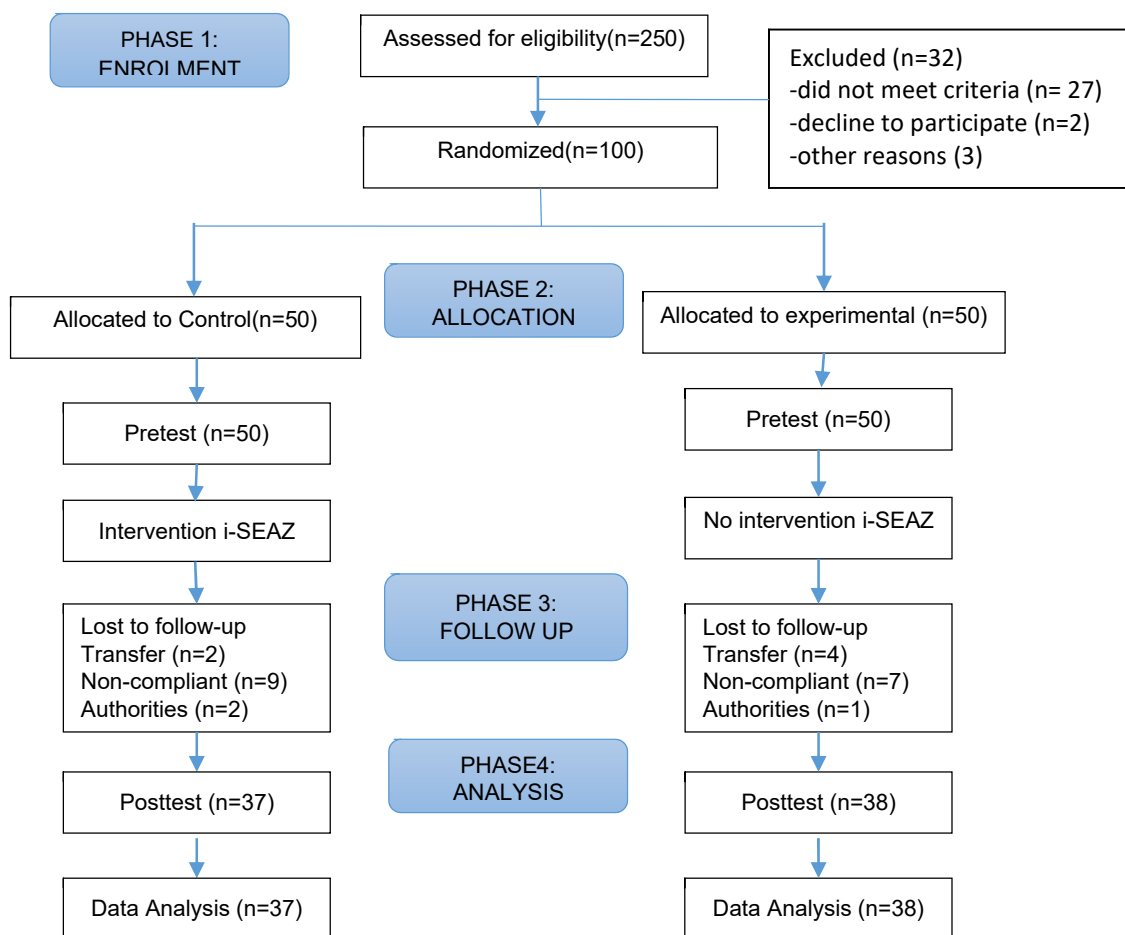


Figure 1: Flow of Study

Result

Men participants outnumbered women participants in both groups. The age group with most participants was between 41 to 50 years. In the control group, the age group with the least participants were between 61 to 70 years (5.4%), while the experimental group were between 21 to 30 years (5.3%). Approximately 40 per cent of participants were never married. Participants in the control group were more likely to use the smoking method to administer opiates, but participants

in the experimental group were more likely to perform the injection. The majority of them admitted that they also experienced illicit drugs besides opiates.

Data has revealed that the onset of drug use recorded was as early as 12 years and up to 40. About half of them started taking drugs after school, which were during 18 to 23 years old. Participants reported they had several attempts to quit but kept failing because of the absence of proper treatment. Table 2 summarises the demographic profile of the participants.

Table 2: Demographic profile of the participants

Measures	Group				
	Control (N=37)		Experimental (N=38)		
Demographic		N	(%)	N	(%)
Gender	Male	36	97.3	36	94.7
	Female	1	2.7	2	5.3
Age	21 - 30 years	4	10.8	2	5.3
	31 - 40 years	12	32.4	11	28.9
	41 - 50 years	14	37.8	14	36.8
	51 - 60 years	5	13.5	7	18.4
	61 - 70 years	2	5.4	4	10.5

Status	Single	15	40.5	16	42.1
	Married	17	45.9	15	39.5
	Widow/Widower	5	13.5	7	18.4
Occupation	Unemployed	8	21.6	3	7.9
	Odd jobs	14	37.8	15	39.5
	Employed	1	2.7	3	7.9
	Business	14	37.8	17	44.7
Duration of addiction	0 - 10 years	12	32.4	13	34.2
	11 - 20 years	15	40.5	13	34.2
	21 - 30 years	10	27	12	31.5
Use of other illicit drugs	Yes	32	86.5	35	92.1
	No	5	13.5	3	7.9
Heroin administration	Smoke	23	62.2	15	39.5
	Intravenous	10	27	22	57.9
	Snort	4	10.8	1	2.6
Start of heroin abuse (Age)	12 - 17 years	10	27	7	18.4
	18 - 23 years	19	51.4	17	44.7
	24 - 29 years	6	16.2	11	29
	30 - 35 years	2	5.4	2	5.3
	36 - 41 years	0	0	1	2.6
Previous attempt to quit	Yes	24	64.9	17	44.7
	No	13	35.1	21	55.3

ANCOVA analysis is used to examine this difference with pretests score as a covariate was carried out. Analysis of covariance showed a significant difference between pretest and posttest for control and experimental groups. Thus, a follow-up test was conducted. Post Hoc test with Bonferroni correction revealed that self-determination for the experimental group was significantly higher than self-determination in the control group. Overall, the findings indicated that adding the i-SEAZ treatment into existing methadone treatment significantly improved self-determination among patients.

Based on results from ANCOVA analysis in Table 3, there was a significant difference between the control group and experimental group ($F = 5.022$, $p < .05$, $\eta^2 = 0.65$), with a large effect size according to Cohen (1988). Thus, it explained the difference between pretest and posttest for both groups on self-determination. Further details on analysis were shown in Table 4. The experimental group has higher mean score ($M = 5.617$, $SE = .075$) compared to the control group ($M = 5.378$, $SE = .076$), using the posttest adjusted mean scores.

Table 3: ANCOVA Analysis for Self-Determination

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1.076 ^a	2	.538	2.524	.087	.066
Intercept	71.040	1	71.040	333.249	.000	.822
PREdetermination	.005	1	.005	.023	.880	.000
Group	1.071	1	1.071	5.022	.028	.065
Error	15.349	72	.213			
Total	2284.751	75				
Corrected Total	16.425	74				

a. R Squared = .066 (Adjusted R Squared = .040)

Table 4: Standardised mean scores for Self-Determination

Groups	Mean	Std. Error
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Control	5.378 ^a	.076
Experimental	5.617 ^a	.075

a. Covariates appearing in the model are evaluated at the following values: PREdetermination= 4.5677.

As the difference found was significant, a Bonferroni Post Hoc test was conducted to identify which group contributed to the significant difference seen. In addition, adjusted post-tests scores were used. Results in

Table 5 indicated that the experimental group contributed significantly more self-determination after participating in the i-SEAZ treatment than the control group (MD = .239, p < .05).

Table 5: ANCOVA Analysis for Self-Determination

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig. ^B
Control	Experimental	-.239*	.107	.028
Experimental	Control	.239*	.107	.028

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Bonferroni.

External Motivation

Table 6 showed a significant difference between the External Motivation of experimental and control groups (F = 9.765, p < .05, ηp²= 0.119), with a large effect size according to Cohen (1988). This finding indicated that the External Motivation sub-construct in the post-tests results for both

groups differed significantly from the pretest results. Details on analysis were shown in Table 7. Using adjusted post-tests mean score, the experimental group obtained higher External Motivation (M = 4.692, SE = .165) compared to control group (M = 3.958, SE = .167).

Table 6: ANCOVA analysis for External Motivation sub-construct

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	11.801 ^a	2	5.901	5.763	.005	.138
Intercept	86.338	1	86.338	84.325	.000	.539
PREexternal	1.030	1	1.030	1.006	.319	.014
Group	9.998	1	9.998	9.765	.003	.119
Error	73.719	72	1.024			
Total	1491.688	75				
Corrected Total	85.520	74				

a. R Squared = .138 (Adjusted R Squared = .114)

Table 7: Standardised post-tests mean scores for External Motivation

Group	Mean	Std. Error
Control	3.958 ^a	.167
Experimental	4.692 ^a	.165

a. Covariates appearing in the model are evaluated at the following values: PREexternal= 3.5367

Since the group difference was found significant, a Post Hoc analysis with Bonferroni correction was carried out using the adjusted mean score of the posttest. The purpose was to identify which group significantly contributed to the observed difference. Table 8 showed the result details of

the Post Hoc Bonferroni tests. Patients in the experimental group were significantly improved in terms of External Motivation when they received i-SEAZ treatment during their methadone treatment compared to patients in the control group (MD = .734, p < .05).

Table 8: Post Hoc Bonferroni test results for External Motivation

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig. ^b
Control	Experimental	-.734*	.235	.003

Experimental	Group	.734*	.235	.003
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*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Bonferroni.

Internal Motivation

Table 9 showed the difference seen between experimental and control groups for Internal Motivation sub-construct was not significant ($F(1,72) = 1.851, p > .05, \eta^2 = 0.002$). Details of analysis using standardised mean scores for both experimental and control groups are shown in Table 10. This study

indicated that despite having a higher standardised mean score for the Internal Motivation sub-construct in the post-tests result, patients in the experimental group ($M = 6.082, SE = .102$) were not significantly performing better than patients in the control group ($M = 6.277, SE = .101$).

Table 9: ANCOVA Analysis for Internal Motivation

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.851 ^a	2	.426	1.108	.336	.030
Intercept	114.193	1	114.193	297.151	.000	.805
PREinternal	.163	1	.163	.425	.516	.006
Group	.711	1	.711	1.851	.178	.025
Error	27.669	72	.384			
Total	2893.512	75				
Corrected Total	28.521	74				

a. $R^2 = .030$ (Adjusted $R^2 = .003$)

Table 10: Standardised post-tests mean scores for Internal Motivation

Group	Mean	Std. Error
Control	6.082 ^a	.102
Experimental	6.277 ^a	.101

a. Covariates appearing in the model are evaluated at the following values: PREinternal = 5.2570.

Seeking Help

Table 11 showed the difference seen between experimental and control groups for Seeking Help sub-construct was not significant ($F(1,72) = 0.16, p > .05, \eta^2 = 0.002$). Table 12 showed the details of the results when

analysed using standardised mean scores. In the post-tests result, the control group ($M = 5.834, SE = .151$) obtained higher mean score that was not significantly differ from the mean score of experimental groups' ($M = 5.807, SE = .149$).

Table 11: ANCOVA Analysis for Seeking Help

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.112 ^a	2	.056	.066	.936	.002
Intercept	141.532	1	141.532	166.941	.000	.699
PREseeking	.099	1	.099	.117	.733	.002
Group	.013	1	.013	.016	.900	.000
Error	61.041	72	.848			
Total	2601.583	75				
Corrected Total	61.153	74				

a. $R^2 = .002$ (Adjusted $R^2 = -.026$)

Table 12: Standardised posttests mean scores for Seeking Help sub-construct

Group	Mean	Std. Error
Control	5.834 ^a	.151
Experimental	5.807 ^a	.149

a. Covariates appearing in the model are evaluated at the following values: PREseeking = 4.4178

Confidence of treatment

Table 13 showed the group difference was not significant ($F = 0.63$, $p > .05$, $\eta^2 = 0.001$).

Both groups' post-test scores may differ but the difference remained insignificant. Table 14 showed that Confidence of Treatment scores

for the experimental group ($M = 4.427$, $SE = .162$) not vary much from the control group's ($M = 4.484$, $SE = .159$) when analyzed using standardized post-tests scores.

Table 13: ANCOVA Analysis for Confidence of Treatment

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.078 ^a	2	.039	.040	.961	.001
Intercept	92.625	1	92.625	95.975	.000	.571
PREconfidence	.016	1	.016	.017	.896	.000
Group	.061	1	.061	.063	.803	.001
Error	69.487	72	.965			
Total	1558.760	75				
Corrected Total	69.565	74				

a. R Squared = .001 (Adjusted R Squared = -.027)

Table 14: Standardised post-tests mean scores for Confidence of Treatment

Group	Mean	Std. Error
Control	4.427 ^a	.162
Experimental	4.484 ^a	.159

a. Covariates appearing in the model are evaluated at the following values: PREconfidence = 4.0560.

Discussion

This study aimed to effectively integrate SDT and SAT to develop self-determination in opiate dependents in Methadone treatment. To our knowledge, the current study was the first to test a fully integrated model of SDT and SAT in a motivation context while using randomised control trial. Furthermore, previous studies tested specific concepts from each theory rather than all theoretical constructs from SDT and SAT (Ahmad, Din & Chua, 2013; Hussin, Alias, Othman, & Abd Razak, 2014). In addition, this research answered the call from SDT researchers for integrating SDT with other prominent theories and added to the general literature on theory integration (Nigg, Allegrante & Ory, 2002).

The study indicated that the integrated treatment significantly affected external motivation but not internal motivation, seeking help, or treatment confidence. Motivation is a consistently strong drive in one's change, whether from within or outside themselves. According to Ryan & Deci (2000), this external motivation arises from external stimuli to motivate the individual to perform an activity that benefits him. The external motivation provided in the treatment is that recognising and appreciating participants' privileges and skills positively impacted the development of one's self-concept. Therefore, patients would be positively motivated to heal

as a result of these external development factors. This viewpoint is consistent with Ryan & Deci (2000), who believe that motivation is ongoing and that external motivating impulses can lead to internal motivation.

To identify the causes contributing to the insignificant results of the three sub-constructs of self-determination, we have identified several contributing factors. First, internal motivating elements remain a challenging challenge to tackle, owing to the severe physical and psychological impacts of opioid dependence. These challenges are related to drug addictive behavior (Heather, 2017) and compulsive behavior (Foddy & Savulescu, 2010; Gould, 2010; Pickard, 2012). It can be demonstrated by a study by Almeman et al. (2017), which showed that even when Methadone was provided to patients optimally to avoid treatment dropout, craving and drug-seeking behavior were still present. In addition, Sayegh et al. (2017) found that the significant role of intrinsic and extrinsic motivation in drug treatment is still unclear, especially when considering the potential impacts of each drug. Sayegh and colleagues concluded that treatments aimed at improving extrinsic motivation are challenging to enhance intrinsic motivation. It is supported by the SDT, which defines change as the progression of a process through externally controlled behaviors that are compatible with

one's own beliefs and aims (Deci & Ryan, 1985).

Furthermore, relapse is frequently linked to the influence of intrapersonal factors. The three critical hurdles in treating addiction are the importance of motivation for recovery, behavioral changes to quit drugs, and the drive to maintain recovery (Sussman & Workaholism, 2012), and these challenges affect success (Baba et al., 2018). Effective treatment is complicated and demanding because OUD is a chronic disease that requires continuous medication, behavioral counseling, more excellent protection, and screening and treatment for infectious diseases and psychiatric comorbidity (SAMHSA, 2015). Previously, the Department of Health and Human Services of the United States of America stated that it is common for patients receiving Methadone to return to heroin and other illegal drugs throughout treatment (Workowski, Levine & Wasserheit, 2002). Brady, Back, and Greenfield (2009) explains that effective treatment is still complex for populations of opioid use disorders (OUDs) because they differ in etiological constructs and addictive substances, motivation for treatment, and causes of relapse, including significant differences between men and women.

More generally, the attitude of seeking help also affects the process and outcomes of MT (Kilpatrick et al., 2000). Since attitudes and beliefs about Methadone play a role in completing treatment, attitudes toward psychological help predict the intention to seek help (Pheko, Chilisa, Balogun & Kgathi, 2013) and affected a person's response to treatment (Schwartz et al., 2008). Since Methadone was first used to treat opioid dependence, patients and healthcare professionals have had various responses and attitudes toward Methadone (Cheong et al., 2019). It showed that the attitudes from both parties, patients and healthcare professionals, towards seeking help might also affect the efficacy of the treatment. People with opioid dependence may need necessary MT and other adjunctive drug treatments (Vijay et al., 2015). Since addiction counseling and therapy are associated with better treatment outcomes, we must provide MT patients with resources on how and where to obtain counseling services and the relative benefits. In addition, health professionals can use skills to promote change in the people who

implement the plan (Cheong et al., 2019; Miller & Rollnick, 2012).

Thirdly, demographic data on the age in this study show that most samples were over 40 years old and have used drugs for more than ten years. A study by Li et al. (2011) found that the motivation score of patients over 40 years old is lower than that of patients under 40 years old. The study linked age to long-term addiction in patients 40 years and older. A similar survey of UMMC found that MT patients over 50 years of age with HIV-positive virus symptoms have difficulty improving their quality of life (Teoh, Yee & Danaee, 2018). Therefore, these findings contradict previous studies that reported that older drug users showed higher change levels (Freyer et al., 2005). In other words, patients under the age of 30 experienced decreasing internal motivation and confidence in the treatment. Most 40-year-old patients are enthusiastic, less receptive, and less interested in incentive programs. They just came forward to the clinic for taking Methadone with minimal initiative in improving themselves. In addition to the age factor, it also predicts that long-term opioid dependence affects the study. The reason for this situation can be a long history of drug use and a lifestyle that has become accustomed to drug use (Li et al., 2011). This situation makes it difficult for patients to be internally motivated to the treatment. Therefore, it would be challenging for them to succeed in recovery. These findings support the self-service cognitive distortion model introduced by Barriga and Gibbs (1996) when describing the role of cognitive structure in the ABC model. According to this model, opioid addicts need a relatively long time to regain their mood (A) and remain in a painful emotional state for a long time (B). This situation would slow down the transformation process of drug addicts. Over time, the relapse is not for pleasure but to avoid withdrawal symptoms.

Limitation

This study provides important information on the effect of treatment bases on integrated SDT and SAT on self-determination in a sample of opiate dependents. Nevertheless, there are important avenues for research in this field. For example, future studies might consider polydrug use prevalent among heroin-dependent patients (Chen et al., 2019) since the finding shows that the relapse risk

among heroin polydrug users differs from single-drug users (Zielinski et al., 2016). This present study also did not test the treatment effect on gender. Therefore, it represents a limitation and an area for future research. While data from the National Anti-Drugs Agency, Ministry of Home Affairs in Malaysia, indicate women represented fewer than 5% of individuals with a substance use problem, Malaysian women may have different treatment needs. Methodologically, future studies would benefit from accessing larger and more representative samples of MT patients in Malaysia. This study comprised a small selection of patients from Klang Valley, Malaysia. Further research replicating the current findings in a larger sample that includes other regions. In addition, future research should also test other demographic variables that might affect MT engagement, such as employment and socioeconomic status.

Conclusion

Despite that, this individual psycho-education had no impact on some of the sub-constructs in self-determination; the integrated model still partially supported the addiction treatment. The result suggests that combining the Self-Determination Theory and the Self-Awareness Theory can hold together in one model treatment to increase the self-determination among opiate use disorders. This integrative insight is essential when looking at the broader behavior problem of addiction dependence. Instead of amassing mini-literature for any specific theory, we may gain more insight and knowledge of motivation to change the process of addictive behavior if we join theoretical forces. However, we still need future research testing integrative models to augment our understanding of the constructs leading to participation in self-determination.

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