An evaluation of treatment at Harmony Clinic, Hout Bay

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ABSTRACT

This study, a programme evaluation, investigates whether a particular substance abuse treatment programme is effective. This programme combines the Matrix and Minnesota Models, and thus is a short term residential programme which includes one-on-one counselling, group therapy, education, family involvement and 12-step facilitation. 22 participants were interviewed at the point of arrival and at discharge. At admission the Emotional and Behavioural Health subscales of the Global Appraisal of Individual Needs (GAIN), the WHO Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) and the Stages of Change Readiness and Treatment Eagerness Scales (SOCRATES) for both drinking and drug use were utilized. At discharge the Emotional and Behavioural Health subscales and the SOCRATES for both drinking and drug use were utilized. Findings showed that there was an association between the ASSIST, Behavioural Health and SOCRATES drug use admission scores. The only significant change between admission and discharge scores was for Behavioural Health. This indicates that the programme was effective, as patients' maintained abstinence for the 28 day period in treatment.

Keywords: programme evaluation; treatment; substance abuse; Matrix Model; Minnesota Model.

Substance abusers' use of primary treatment centres in the Western Cape has increased over the years (South African Community Epidemiology Network on Drug Use [SACENDU], 2008). However, in the Western Cape a programme evaluation of the type of inpatient primary treatment utilized at rehabilitation centres could not be identified, either in the peer-reviewed literature or in the 'grey' literature. A programme evaluation is the logical assessment of the programme's effects. It is a viable measure as it illustrates how the programme achieved its results (Donald, Dawes, & Louw, 2000). The proposed programme evaluation research therefore, has sought to assess the efficacy of the combined Matrix Model and Minnesota Model programme at a private not-for-profit treatment centre. The Matrix Model is a form of outpatient treatment that combines educational methods from cognitive behaviour therapy (CBT), 12-step approach, family involvement and urine testing (Fleming et al., 2002). The Minnesota Model is a form of inpatient treatment that includes group counselling, psycho-education and the 12-step approach (Veach, Remley, & Kippers, 2000). The aim of the study was to observe the patients' change in substance use, which was measured by the use of screening instruments at admission and discharge.

Prevalence of substance abuse
Recent statistics released by the Central Drug Authority Report [CDA] (2006), indicate that substance abuse is a severe problem in South Africa. Alcohol remains the primary drug of abuse (CDA, 2006). Approximately between 7.5% and 31.5% of South Africans abuse alcohol (CDA, 2006).

The substance abuse problem in the Western Cape contributes significantly to the substance abuse problem in South Africa. In Cape Town during the year 2000 approximately 6 out of every 10 arrestees tested positive for an illicit substance. The most common substances abused are alcohol, cannabis and mandrax (Parry, 2005). According to the Alcohol & Drug Abuse Research Unit of the Medical Research Council, a greater proportion of students in the Western Cape, have started drinking before the age of 13, as compared to other provinces. In addition to alcohol abuse, according to the Draft Operational Alcohol and Drug Strategy (2007), there is an increase observed, since 2003, in the abuse of methamphetamine and heroin.

It is evident that substance abuse is prevalent in the Western Cape. This is of great concern because substance abuse contributes to additional social problems, such as non-

natural deaths, homicide and violence, road traffic accidents, high crime rates, and increased dysfunctions in families, all of which have associated high economic costs (Parry, 2005).

Substance abusers' use of treatment

Substance abusers' use of treatment centres in the Western Cape has increased over the years. The South African Community Epidemiology Network on Drug Use (SACENDU, 2008), accumulated data from 29 specialist treatment centres in Cape Town on a monthly basis. It is necessary to note that this data is a proportion of substance abusers' who seek treatment and not the overall population of substance abusers' in Cape Town, since it reflects only those who can afford or otherwise access treatment (Myers, Louw, & Fakier, 2008).

According to SACENDU (2008), the proportion of the total amount of treatment episodes in Cape Town has increased from 2 308 in December 2004 to 2 637 in June 2008. The SACENDU (2008), stated that alcohol abuse has decreased from 55% in 2003 to 42.1%, and methamphetamine abuse has increased from 7% in 2003 to 45.8% in 2008, while the prevalence of dagga use had remained relatively stable (31% in 2003 and 30.6% in 2008) for all patients who seek treatment. Overall, in terms of specific substance, demand is increasing for treatment for crack/cocaine, heroine and methamphetamine (Wong et al., 2007).

The dominant racial group of those seeking treatment from 29 specialist treatment centres in Cape Town was Coloured (83% of patients). The overall mean age of patients in primary treatment according to SACENDU (2008), was 29.1 years. It was reported that 76% of male patients were younger than 20 years.

It is obvious that there is a substance abuse problem in South Africa. Therefore treatment centres are a necessity. The problem that arises is that there is an increasing demand for treatment centres in the Western Cape. Furthermore, these centres are unable to meet these growing demands and cannot cope with the current capacity within services (Myers et al., 2008).

Brief history of treatment centres in South Africa

The consequences of the apartheid law are one of the leading factors which contribute to the problems that treatment centres face. (The apartheid law stated that Black and Coloureds were not allowed access to services). Therefore, before the 2004 elections the Black and Coloured communities, were not funded with sufficient treatment centres, and did not have adequate access to treatment centres in rural areas (Myers et al., 2008). The treatment centres

which were implemented at this time were poorly distributed and mainly concentrated in urban areas. There was poor continuous communication of Alcohol and Drug [AOD] issues at the national, provincial and local levels between the Department of Health [DOH] and the Department of Social Development [DOSD]. As a result, the treatment centres worked in isolation and had no background support.

This brief history informs us why treatment centres are lacking in rural areas in South Africa and that there is a great need for these centres to be implemented in these areas. An additional important factor according to Myers et al. (2008), is that the number of treatment openings have increased from 1 950 in 1994 to 2 500 in 2006, and the majority of these centres are situated in the private for profit AOD treatment arena. As a result, these treatment centres typically serve the well-off minority, which leaves the majority of the population, such as the poor without health insurance, unable to afford treatment (Myers et al., 2008). The most important aspect of this issue is to implement a type of treatment centre where its programme is both accessible to the poor, has been evaluated and has shown to be successful.

Only one evaluation of outpatient tertiary treatment, at treatment centres in the Western Cape has been identified, the Cape Town Drug Counselling Centre (Coetzee, 2001). However, the point remains that there is no literature found of an evaluation of inpatient primary treatment. This shows that there is a great need for programme evaluation of treatment centres in South Africa. Coetzee's (2001), study showed that 6 months after treatment, 32 [55%] of the 58 patients contacted were abstinent. He states that the form of treatment most successful, in terms of abstinence at 6 months, included a combination of individual therapy, motivational groups and aromatherapy. However, this programme is an outpatient programme that does not admit more serious forms of substance abuse that one might expect to see in residential programmes, such as Harmony Clinic.

The Matrix Model

Harmony's primary treatment centre uses a combination of the Matrix and Minnesota Models. The original Matrix Model is an outpatient treatment which was developed systematically from data gathered from participants abusing cocaine, who were in treatment at the Matrix Institute in 1980, Los Angeles, United States Of America (Rawson et al., 2004). The treatment has a multi-component approach. According to Rawson et al. (2004), it was designed using empirically supported interventions and elements of treatment. It incorporated strategies that improved attendance at treatment and decreased the use of substances, by

objectively measuring use through weekly urinalysis. This type of treatment was created with an awareness of the range of complicated factors of becoming sober that contribute to alcohol and drug abuse. The treatment utilizes strategies of cognitive behavioural therapy groups, family education groups, social support groups, 12-step meetings and individual counselling (Rawson et al., 2004). The environment of the therapy sessions is non-judgemental and therapists focus on positive reinforcement for behaviour change (Rawson et al., 2004).

According to Rawson et al. (2004), staff implementing the Matrix Model treatment consists of psychologists, psychiatrists, doctors, clinicians, counsellors and recovering volunteers. Sessions and patients are monitored on a daily basis, with regular feedback to patients.

In eight community-based treatment programmes in the United States, patients who utilized the Matrix Model treatment were evaluated (Donovan & Wells, 2007). Results showed that 38% of the patients were more likely to stay in treatment and 27% of the patients were more likely to complete treatment, suggesting that the Matrix Model results in better compliance than comparison treatment. A 6-month follow-up of a self-reported methamphetamine use and methamphetamine-free urine samples resulted in 69% of patients' methamphetamine-free urine.

A study was conducted to evaluate the effects of a twelve-step treatment-based rehabilitation centre in the United States with physicians who were abusing substances (Galanter, Dermatis, Manksky, Mclntyre, & Perez-Fuentes, 2007). The twelve-step treatment used in the centre was similar to that of the Matrix Model. The outcome results showed that patients who attended the twelve-step gatherings had a greater length of stay in treatment than those who did not attend the twelve-step gatherings. While the results differ, the total number of months of patients who stayed in treatment resulted in 46.4 months versus 20.8 total months of patients who did not attend the twelve-step gatherings. One of the main benefits of the twelve-step based programs is that it provides social cohesiveness that assists to maintain an abstinent lifestyle over the long term.

A comparative evaluation of substance abuse treatment was conducted. The study investigated 3 081 inpatients who abused substances. Humphreys et al. (1999), found that patients who attended a treatment programme that emphasized twelve-step based treatment were 1.47 times more likely to be successful in maintaining long-term abstinence, compared to patients who attended cognitive behaviour treatment.

The Minnesota Model

This model originally evolved from the development of Alcoholic Anonymous (AA) in Minnesota between the 1940s and 1950s (Borkman, Kaskutas, & Owen, 2007), and also drew from three alcohol treatment programmes: Wilmer State (Mental) Hospitals, Pioneer House and Hazelden. Each treatment programme focused on the approach of AA. Wilmer State Hospital became aware of the limitations of their treatment programme for recovering alcoholics and focused on AA for assistance. Pioneer House utilized AA's recovering members as staff, centred towards the AA approach and recommended the use of inpatient treatment. Halzelden focused on the group of alcoholics who were from a 'professional class' before they lost their careers and family support. The three alcohol treatment programmes came together and formed "The Minnesota Civil Service Commission, called 'Counsel on Alcoholism'" (Borkman et al., 2007, p. 25).

The main principles of the treatment of the Minnesota Model consist of: the possibility for change, treatment goals, the 'disease concept' and the fundamentals of AA and Narcotics Anonymous (NA) (Neo et al., 1992). It is considered that the addiction of substances is genetically determined. It is believed that through twelve-step programs and anonymous fellowship groups, the patients are then provided with the means whereby they are able to maintain long-term abstinence (Morojele & Stephenson, 1992). Counsellors are viewed as role models and teachers who share recovery experiences with patients. Sobriety is the most crucial aspect of the Minnesota Model. Treatment, which consists of small group discussions, individual interviews, psycho-education and lectures (Borkman et al., 2007).

According to Harrison and Hoffmann (1989, as cited in Winters, Stinchfield, Opland, Weller, & Latimer, 2007), data from 924 adolescents of which 49% of the eligible follow-up sample were collected, showed 42% abstinence during a 1-year follow-up period and 23% had used fewer substances on a monthly basis. Smaller scale interventions of 12-step programmes reported abstinence of 50 – 60%.

In an investigation of the Minnesota Model's effects on beliefs, 61 patients completed questionnaires both on intake and discharge (Morojele & Stephenson, 1992). The outcome assessment illustrated a significantly greater change in 'fellowship involvement' and 'internal cognitions' on discharge questionnaires compared to intake questionnaires. Mean scores differed greatly between intake and discharge questionnaires where discharge resulted in an overall positive change in perceived control, attitude, intentions and expectations. It is

suggested that on discharge, patients are more likely to have made changes that result in positive and long-term abstinence.

Harmony Addictions Clinic

The study focuses on the combination of the Matrix Model and Minnesota Model treatment which is used at Harmony Addictions Clinic, Primary inpatient treatment, a non-profit organisation in Cape Town. Harmony Addictions Clinic accepts fee-paying patients as well as sponsored patients who are of a low socio-economic status. Harmony consists of the Harmony group which entails three different phases of treatment. The first phase of treatment is the Primary inpatient treatment, facilitated at Harmony Addictions Clinic, and which is the focus of this study. The second phase of treatment is Secondary treatment, facilitated at Harmony House. The last phase of treatment is Tertiary treatment, facilitated at Serendipity.

Primary inpatient treatment is when one first enrols into the centre. After signing a consent form, the patient is searched for any substances and a urine test is taken; if the patient is still intoxicated there is no need for the urine test to be taken. Intoxicated patients are sent to a detoxification centre for 3-4 days, prior to admission to Harmony. The patient is then admitted into the treatment centre for 28 days. A full medical and psychiatric consultation is carried out, and an individualized treatment plan is written.

Day one consists of full involvement in the 12-step programme which commences at step 1. The 12-step model is the approach that the clinic uses as the basis for its treatment, as it believes that the 12-step model is the basis for recovery. The Harmony brochure lists the 12-step model (see Appendix A for a full list of the twelve steps).

 Harmony House, the secondary phase of treatment, is based in Woodstock. It is for patients who have completed the primary phase of treatment. It is ideal if the patients can move on to secondary care and remain there for 3 months. This centre does allow for more freedom but the patients do attend a full daily programme. It is here that all the psychological and behavioural issues that underpin one's addiction are dealt with in depth.

Serendipity, the tertiary treatment centre, is also based in Woodstock. The patients here have a great deal of freedom. It is ideal if the patient remains in the centre for 3 months. The patient can have established themselves in full time employment or study, and they have the option of moving to one of three satellite houses, which they share with addicts in recovery. It is here that patients begin to put into practice all that they have learnt in their treatment process thus far, "learning to live life on life's terms" (Harmony Addictions Clinic,

2009, p. 3). Ideally after the 3 months completed here, the patient will have completed a 9-month treatment programme, which is the optimal recommended period to successful recovery"

RATIONALE FOR RESEARCH

It is evident that the Matrix Model and Minnesota Model are successful approaches to treatment. These approaches to treatment have only been studied in the U.S. However, where they have been studied the two models have been evaluated in a separate format. There was no evidence in the literature that a blend of the two models had been evaluated in this format.

SPEIFIC AIMS AND HYPOTHESES

The aim of the study was to evaluate the success of the treatment model used by the Harmony Clinic, a combination of the Minnesota and Matrix Models, and thereby also to contribute to the literature an evaluation of a substance abuse treatment centre in South Africa. The following hypotheses were proposed for the study:

1) Patients of Harmony Clinic should have statistically significant high substance use scores on the ASSIST associated with high Behavioural Health and Emotional Health scores, and low SOCRATES drinking and drug scores all at admission.

2) Patients of Harmony Clinic should have scored lower Behavioural Health and Emotional Health scores at discharge and improved SOCRATES drinking and drugs scores at discharge.

DESIGN AND METHODOLOGY

Design

This proposed study is an evaluation of an established treatment programme. Unfortunately it was not possible to identify a control group, and so within-subjects pre-post design was used.

Programme design

To assess the programme design was to understand how the treatment was supposed to carry out the desired changes. It was relevant to observe whether the programme design, addressed the patient's actual needs. It was important to observe whether the information or knowledge in the programme brought about change in the patient's behaviour (Louw et al., 2000). These questions have been resolved in the outcome results of the questionnaires.

Outcomes and impacts

This was conducted by the measured changes in the questionnaires of the patients. These changes resulted in change of emotional and behavioural health, substance abuse, recognition, ambivalence and steps towards change. The outcomes result showed whether there had or had not been a change from admission to discharge. These changes attempt to conclude whether there had been a positive or negative impact of the treatment.

Participants

Participants consisted of 22 patients recruited from a primary inpatient rehabilitation programme in a private, non-profit substance abuse treatment centre in Cape Town. Patients aged 18 and onwards were included in the study; therefore parental consent was not needed. The participants eligible for the study were those with current alcohol or drug abuse problems. The participants who had signed the informed consent forms, agreed to participate in the admission and discharge questionnaires, could understand English and were able to participate in all aspects of the treatment, were suitable for the study.

Materials

The World Health Organisation (WHO) Alcohol, Smoking and Substance Involvement Screening Test (ASSIST)

The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) was developed by the World Health Organization and specialist addiction researchers to screen for all levels of problem or risky substance abuse at primary health care settings where destructive abuse of substances among patients may be unnoticed (WHO, 2008). As a result its aim is to detect these potential risk factors at an early stage to prevent the health problem from becoming severe in great numbers of individuals (Newcombe, Humeniuk, & Ali, 2005).

The ASSIST consists of an interviewer-administered pencil and paper questionnaire. The ASSIST (Version 3.0) questionnaire is comprised of eight items per substance: firstly it deals with tobacco, then alcohol, cannabis, cocaine, amphetamine-type stimulants (including ecstasy and methamphetamine), inhalants, sedatives, hallucinogens, opioids and 'other drugs' (WHO, 2008). A risk score is calculated for each substance and scores are grouped into low, moderate or high risk. Low risk level states that one is at low risk of health and other problems from one's current pattern of use. Moderate risk level states that one is at risk of health and other problems from one's current pattern of substance use. High risk level states that one is at high risk of experiencing severe problems (health, social, financial, legal or relationship problems) because of one's use of the substance, and therefore; one's current pattern of use is possibly one of dependence on the particular substance being assessed. The scores determine the appropriate level of intervention which needs to be implemented. The instrument tests what substances the patient uses, the regularity of abuse and the desire for use.

The ASSIST is a standardized instrument that has undergone testing for feasibility, validity, reliability, flexibility, comprehensiveness, cross-cultural relevance and the ability to be linked to brief interventions. A test-retest reliability study was carried out in different substance abuse programmes in Brazil, Australia, India, Israel, Ireland, the U.K, the U.S, Zimbabwe, the Gaza Strip and the West Bank. WHO (2008), showed that the ASSIST instrument was reliable and valid. *K*-levels averaged from 0.58 to 0.90 for the question stems. For the substance group of opioids and sedatives the average and *K*-levels varied from 0.78 and 0.61 respectively.

The ASSIST was designed to be used in an interview but for the purposes of the study it will be used as a self-administered questionnaire. The reason is that there may be some social desirability, or a desire to impress the interviewer that, may either lead to under-or over-reporting of substance use.

The Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES)

The Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES) was chosen as a suitable instrument to reflect the impact of the intervention of the treatment centre. SOCRATES has three subscales: Recognition (of a substance abuse problem), Ambivalence (about substances), and Taking Steps towards change (of substance abuse behaviour). Miller and Tonigan (1996), conceptualized the three factors listed above and identified these factors

as three continua of readiness to change (Maisto, Chung, Cornelius, & Martin, 2003). Baseline values may also be predictive of compliance with efforts to change substance abusing behaviour (Miller & Tonigan, 1996). This experimental instrument is designed to assess readiness for change in alcohol and drug abusers. The SOCRATES consists of 19 items rated on a 5-point Likert-like scale, assessing the respondent's self-perception of drinking problems, readiness for change and ambivalence about change, and the taking of active steps toward change with relatively little overlap (Miller & Tonigan, 1996). High scores imply that one has a problem, wonders about one's problem and is ready to change whereas, low scores suggest the opposite.

A study that was conducted at Project MATCH, a multisite clinical trial for psychosocial treatments for alcohol problems, utilized the SOCRATES instrument. A sample of 1 726 patients was recruited to complete the SOCRATES assessment test (Miller & Tonigan, 1996). The results of the study indicate that "the SOCRATES yields three reliable, continuously distributed, and relatively orthogonal scales that are replicable in a 2-day test-retest situation" (Miller & Tonigan, 1996, p. 87). The alphas varied from 0.87 to 0.96 in the 2-day test – retest sample.

A sample of adolescents presenting for treatment of alcohol use disorder (AUD) participated in a research project where the study aimed to investigate the effectiveness of the SOCRATES instrument (Maisto et al., 2003). The findings showed that verification for validity of the SOCRATES was strong. It was calculated that Cronbach's alpha for Recognition was 0.88 and for Taking Steps was 0.93.

Global Appraisal of Individual Needs

The Global Appraisal of Individual Needs (GAIN) scale was developed collaboratively between clinicians, researchers, and policymakers from a number of behavioural agencies to create a broad bio-psychosocial assessment tool. The purpose of the tool is to support a number of treatment practices such as, primary screenings, brief interventions, referrals, standardised clinical assessments for diagnosis, placements, treatment planning, program needs assessment and evaluation (Chestnut Health Systems, 2003).

The GAIN instrument has eight core sections consisting of: the patient's background, substance use, physical health, risk behaviours and disease prevention, mental and emotional health, environment and living situation, legal, and vocational statuses (Chestnut Health Systems, 2003). The sections focus on questions of most recent problems, a wide range of

mental health symptoms, life time service utilization, most recent utilization and frequency of most utilized recent information. Only two major psychosocial index subscales of the GAIN were utilized, for this study, the Emotional Health and Behavioural Health. The reason why the researcher specially focused on these sections was because the optimal variable which the researcher aimed to measure was behaviour and variables that were linked to behaviour.

The Emotional Health subscale tests one's internal behavioural health which, specifically, includes depression symptoms (sleep trouble, feeling trapped, depressed, no energy and losing interest in daily activities), suicide risk (thoughts of killing oneself or hurting others) and anxiety or trauma (feeling anxious, memories of the past are upsetting and difficulty in expressing feelings). This questionnaire suggests one's need for intervention (Chestnut Health Systems, 2003).

The Behavioural Health subscale tests one's external behavioural health which, specifically, includes activity-inattention (difficulty paying attention, impatient and being unorganized), behaviour problems (aggressive behaviour, rebellious and lie) and general crime (reported any crime against the law) (Chestnut Health Systems, 2003).

Both Emotional health and Behavioural health score problems range from no/ minimal to moderate and high.

The GAIN has been systematically validated psychometrically (Dennis, Godley & Funk, 1999). A study was conducted to evaluate the outcome result of the impact of treatment for Hawaiian adolescents with substance abuse disorders. Kim and Jackson (2009), tested the reliability of the GAIN instrument, based on the sample from Hawaiian adolescents in the treatment programme. They found that "The Internal Mental Distress Index" had an alpha of 0.94 and "The Behavioural Complexity Index" had an alpha of 0.93 (Kim & Jackson, 2000, p. 47).

The only difference between the questionnaires at admission and discharge was that the ASSIST was not used at discharge because when the patients are in treatment, substances are prohibited from the premises. Otherwise, the questionnaires were identical.

Procedure

Patients were recruited over a three-month period at Harmony Clinic. Patients who were admitted into Harmony Clinic, had signed their consent form and had undergone detoxification were approached by a counsellor. The counsellor informed the patient of the research project and the purpose and significance of questionnaires. The patient was then

asked to sign a consent form (see Appendix B), and to complete both questionnaire sessions (see Appendix C), over the 28-day period of their stay. If the patient agreed, then the questionnaire administration was conducted. The patient was given a random number which was inserted on the first questionnaire. They then used the same number on the questionnaire at discharge. Therefore, it was possible to compare the questionnaires prior and after treatment. It worked as follows: at intake, the patient was handed an envelope with the intake questionnaire. This had the random number on it. When the patient had completed the intake questionnaire, s/he sealed the questionnaire in an envelope, and wrote the researcher's name on the envelope and sealed the flap. However, before they did that, they had to write the random number down on a separate piece of paper and seal that in a small envelope; they then wrote their names on the small envelope and signed across the flap. The purpose of the signature across the flap was to verify that no-one else had opened the envelope; that was, that no-one else had associated their name with their unique number. In this way, no names were associated with participants' numbers, and anonymity was preserved. At discharge, the patient was handed his/her own number on the questionnaire and then completed the questionnaire, before again sealing it in an envelope on which s/he had written the researcher's name.

All questionnaires were completed under strictly private conditions. Conditions were the same for all sessions. Each session consisted of completing the same questionnaires. It was possible to evaluate the questionnaires over a period of time consisting of 28 days. The first questionnaire was administered on the day detoxification ended and the first day that the treatment commenced. A 30-minute time period was used during a free time session. The second questionnaire session was administered just before the patient was discharged.

The questionnaires were formatted so that it was possible to self-administer the questionnaire with pen and paper. Firstly, the ASSIST scale was answered; this measured the patients' use of substances. This questionnaire was of importance because it measured the risk score for each substance of abuse. The score determined the necessary level of intervention that needed to be implemented. Secondly, the SOCRATES scale was completed: this measured the patients' attitude towards substances. The instrument was designed to assess the readiness to change of substance abusers. The factor scores focused on Recognition, Ambivalence and Taking Steps to change. The scores made it possible to analyze the change of attitude prior and after treatment. Thirdly, the GAIN scale was completed. This instrument measured Emotional and Behavioural Health. Emotional Health

measured recent problems interfering with individual responsibilities. Behavioural Health measured problems controlling external behaviour (e.g. mental disorder of some sort). This instrument enabled the researcher to observe if there was an underlying problem which had caused the patient to abuse substances (Dennis et al., 1999). The researcher was able to assess if there was an underlying problem which may have existed, and whether this changed significantly between admission and discharge.

As discussed with the Clinical Director at Harmony Addictions Clinic there was no need to check if all participants had attended all treatment sessions. The reason was that the patients at Harmony Addictions Clinic were so few and interaction sessions were very intimate, that checking attendance was not necessary. Therefore it was possible to assume that all patients had received the full treatment and the study was in fact evaluating the treatment used at Harmony Addictions Clinic.

At Harmony Addictions Clinic drop out rates are very low.

Data Analysis

I first, examined the Cronbach's alpha measure to observe whether the scales were reliable for my specific study. Furthermore, I examined the admission means of the SOCRATES subscales, the ASSIST specific substance involvement scores, Emotional Health and Behavioural Health scales using descriptive statistics. I then utilized a Pearson Product-Moment correlation to observe whether there was an association between the ASSIST scores, SOCRATES subscales, Emotional Health and Behavioural Health scales, at admission. Furthermore, I compared the admission and discharge scales of the SOCRATES and the Emotional Health and Behavioural using *t*- tests. The significant changes from intake and discharge were assessed.

All statistical analyzes were performed using STATISTICA version 8 (StaSoft, Inc, 2007). I had small a sample size, and some of the assumptions on normality and heterogeneity of variance were not met.

RESULTS

The admission questionnaire comprised of three different scales: the ASSIST, the SOCRATES Drinking subscales, Recognition, Ambivalence, Taking steps and SOCRATES Drug subscales, Recognition, Ambivalence and Taking Steps and the GAIN subscales

Emotional Health and Behavioural Health. The reliability of the different scales was measured. According to StaSoft, Inc (2007), Cronbach's alpha of the scale should be above 0.70 to be a reliable scale of measure. It was calculated that all the scales, except for the ASSIST inhalants, had Cronbach's alpha values that were over 0.70 and they could therefore, be considered sufficiently reliable to be used for further analyses.

One of the reasons that ASSIST inhalants had a low Cronbach's alpha, is because of the very low frequency on this scale, therefore it could not be validly assessed.

Table 1

Reliability scores for subscales

Subscale	Cronbach's alpha
ASSIST Tobacco	0.86
ASSIST Alcohol	0.84
ASSIST Cannabis	0.89
ASSIST Cocaine	0.93
ASSIST Amphetamine	0.93
ASSIST Inhalants	0.40
ASSIST Sedatives	0.90
ASSIST Hallucinogens	0.85
ASSIST Opioids	0.95
ASSIST Other	0.83
SOCRATES Drinking Recognition	0.93
SOCRATES Drinking Ambivalence	0.88
SOCRATES Drinking Taking Steps	0.90
SOCRATES Drugs Recognition	0.99
SOCRATES Ambivalence	0.86
SOCRATES Drugs Taking Steps	0.99
Emotional Health	0.82

Behavioural Health	0.84

Note. n = 22

Table 2 shows the descriptive statistics. By examining the means obtained in the SOCRATES subscales for drinking, it is clear that Taking Steps has the highest mean (*M* = 32.1; *SD* = 8.77) followed by lower means in Recognition (*M* = 24.41; *SD* = 9.41) and Ambivalence (*M* = 12.27; *SD* = 5.77). This pattern is exactly the same for the SOCRATES subscales for drugs.

This suggests that perhaps, the substance abusers feel that in entering treatment they have made an active step to change their behaviour in a positive way. They have realised they are physically in rehabilitation and are in the process of recovering. However, it is clear from the descriptive statistics that the patients have not actually acknowledged and thought about the substance abuse problem which they have.

Table 2

Descriptive statistics for the ASSIST the, GAIN and the SOCRATES admission scores

	M	*SD*
1. ASSIST Total	96.59	54.82
2. SOCRATES Drinking Recognition	24.41	9.41
3. SOCRATES Drinking Ambivalence	12.27	5.77
4. SOCRATES Drinking Taking Steps	32.1	8.77
5.SOCRATES Drugs Recognition	27.68	13.19
6. SOCRATES Drugs Ambivalence	12.23	6.52
7. SOCRATES Drugs Taking Steps	29.95	14.71
8. Emotional Health	10.18	3.75
9. Behavioural Health	7.64	4.09

Note. n = 22

Table 3 shows the specific substance involvement for the ASSIST scale. The scores stated whether the patient was at a high, moderate or low risk of substance use. High risk level means that the patient had been experiencing severe health problems and was dependent on the substance. Medium risk level means that the patient was at risk and there was a pattern of substance use. Low risk level means that the patient was not experiencing health problems

and was not dependant on the substance, or had not used it at all. From Table 3 the most predominant substances used among the patients can be observed. Firstly tobacco claimed to be the highest use of substance, followed by amphetamine, cocaine, alcohol, cannabis, sedatives, opioids and other.

Table 3

Specific substance involvement scores for the ASSIST scale

	High	*Moderate*	*No risk*
Alcohol	5	11	6
Tobacco	9	10	3
Cannabis	3	10	9
Cocaine	6	7	9
Amphetamine	8	2	12
Inhalants	0	3	19
Sedatives	3	8	11
Hallucinogens	0	6	16
Opioids	2	6	14
Other	0	2	20

Note. n = 22

Pearson Product- Moment correlations were used to test the hypothesis that high scores on the ASSIST are associated with high Emotional Health and Behavioural Health scores and low SOCRATES scores at admission. It was hypothesized that, at admission, patients would score in the high risk zone for substance abuse associated with internal and external problems because they have not yet received any treatment.

Table 4

Correlation Matrix for Cross-Test Associations (admission scores)

	1	2	3	4	5	6	7	8	9
1.ASSIST TOTAL	1	0.1	0.30	0.13	0.01**	0.01**	0.001***	0.41	0.05*
2.SOCRATES		1	0.01**	0.001***	0.66	0.86	0.61	0.17	0.59

	1	2	3	4	5	6	7	8	9
Drinking Recognition									
3.SOCRATES Drinking Ambivalence			1	0.01**	0.79	0.36	0.65	0.69	0.70
4.SOCRATES Drinking Taking Steps				1	0.15	0.35	0.17	0.09	0.13
5.SOCRATES Drugs Recognition					1	0.001***	0.001***	0.15	0.01**
6.SOCRATES Drugs Ambivalence						1	0.001**	0.25	0.01**
7.SOCRATES Drugs Taking Steps							1	0.13	0.01**
8. Emotional Health								1	0.01**
9. Behavioural Health									1

*$p < .05$, **$p < .01$, ***$p < .001$

The correlations obtained in Table 4 suggests that high ASSIST scores have a significant and positive correlation with high SOCRATES drug scores, specifically, Recognition, Ambivalence and Taking Steps; and a significant positive correlation with high Behavioural Health scores. This data suggests that patients who were at a high risk level for substance abuse recognised that they had a substance abuse problem, wondered about their problem often and were ready to take steps to make a positive change. This is at odds with the hypothesis, which suggested that they would need some treatment before recognising their need to change. Additionally, patients realised that they had a behaviour problem which suggested that they were anxious, aggressive and may have committed a crime. According to the stated hypothesis the prediction is true for high ASSIST scores correlated with high Behaviour scores, however the opposite results occurred for Drug SOCRATES scores. The results showed a strong

correlation, despite the fact that the sample size is small; this suggests great significance.

However, table 4 suggests that there were no significant correlations between the overall ASSIST scores and the SOCRATES Drinking scores, specifically, Recognition, Ambivalence and Taking Steps and there were no significant correlations with high Emotional Health scores. This suggests that patients who were drinking at high levels did not recognise this as a problem and did not have any ambition to change their problem. Additionally, it is suggested that they did not admit to having any emotional health problems.

Table 5 presents descriptive statistics for Emotional Health, Behavioural Health, the SOCRATES subscales Drinking and Drugs admission and discharge questionnaires. Multiple *t*-tests with dependant samples were performed where appropriate.

As shown in the table, there was a statistically significant difference between the Behavioural Health admission and discharge questionnaires. All other scales Emotional Health, SOCRATES subscales Drinking and Drugs admission and discharge did not show a comparative significance.

Table 5

Descriptive Statistics and t tests for dependant samples of GAIN and SOCRATES scores

	Admittance	Discharge	*T*	*P*
Emotional Health	10.18 (3.75)	9.22 (4.03)	1.49	0.15
Behavioural Health	7.64 (4.09)	5.91 (4.37)	3.09	<0.01
Socrates Drinking Recognition	26.41 (9.41)	27.50 (13.11)	-0.33	0.74
Socrates Drinking Ambivalence	12.27 (5.77)	12.95 (5.53)	-1.38	0.18
Socrates Drinking Taking Steps	32.09 (8.77)	32.45 (8.94)	-0.90	0.38
Socrates Drugs Recognition	27.68 (13.19)	27.50 (13.11)	0.94	0.36
Socrates Drugs Ambivalence	12.23 (6.52)	12.55 (6.57)	-0.86	0.40
Socrates Drugs Taking Steps	29.95 (14.71)	30.27 (14.91)	-1.91	0.06

Note. Means are presented with standard deviations in parentheses. $n = 22$

DISCUSSION

A programme evaluation of the effectiveness of treatment at an inpatient rehabilitation centre has not yet been achieved in South Africa. The only relevant literature is mainly provided by the U.S. The purpose of the study was to evaluate the effectiveness of treatment at a rehabilitation centre.

The specific substance involvement admission scores for the ASSIST correspond to SACENDU (2008), data. The data reports that the primary substance, abused by patients who enter treatment is amphetamine. From this study and previous studies it is evident that methamphetamine is one of the most popular substances used by patients who seek treatment in Cape Town. It needs to be noted that this finding does not take into account the large population who do not seek treatment.

The rest of the results differ slightly in comparison to the SACENDU (2008) report, as it shows that alcohol, heroin, dagga and cocaine are (in descending order of priority) the primary drugs of abuse among treatment-seekers after amphetamine, whereas the results of this study reported that tobacco, amphetamine, cocaine, alcohol, cannabis, sedatives and opioids were the substances of abuse (in descending order of priority). In previous years, alcohol use had been reported to be the most prominent substance of abuse among treatment-seekers in Cape Town. However, it has been reported that the misuse of alcohol has decreased slightly. Previous research, as well as this study has shown that methamphetamine abuse is on the increase in the community (CDA, 2006). Future research should continue to track this trend, to ensure that those abusing this substance continue to be able to access treatment.

The SOCRATES drug subscale means at admission showed that the highest mean was Taking Steps followed by Recognition and Ambivalence. These results are similar to the study conducted by Maisto et al. (2003). They suggest that these results are in fact positive, as they show that patients are aware of the substance problem, and that by taking steps to change, this suggests that the patient is being responsive to the problem and taking action. Additionally, patients may realise that their habit of using substances has turned into a severe enough problem that they need to make a physical change.

However, low means were calculated on the Ambivalence subscale. This result is similar to the findings of Miller and Tonigan (1996), who suggest that it is in fact very difficult to measure ambivalence directly. Previous studies have argued that the Ambivalence

subscale did not obtain a strong support as a third factor (Maisto et al., 2003). It is suggested that future studies should therefore consider not using this subscale.

The Pearson Product-Moment correlation showed that the SOCRATES drug subscale Taking Steps at admission had more of a significant association with the ASSIST score, than Recognition and Ambivalence at admission. This suggests that the patients who have scored at a high risk level of substance abuse have not yet fully recognised or wondered about their substance abuse problem. Therefore one can propose that an external motive has influenced them to go into rehabilitation. According to Callaghan et al. (2005), many a time the reason substance abusers admit into a rehabilitation centre and complete the treatment is because of threats of court, divorce, family and job loss. The patient then is under pressure from other individuals and thus is unable to recognise that they may have a problem. Their purpose to complete the treatment is to avoid severe consequences that they may have to face. Additionally, many researchers believe that eagerness to change is not a natural characteristic of substance abuse patients (Callaghan et al., 2005).

Additional research supports this argument: as a study observed the outcomes of pregnant women trying to quit smoking. These women were eager to stop smoking so that they would not harm their infants (Stotts, DiClemente, Carbonari, & Mullen, 1996, as cited in DiClemente, 1999).

Furthermore, this suggestion is supported by the results of the t-tests. It was observed that the majority of the patients scored similar results at admission and discharge on the SOCRATES drinking and drug scales. There was no significant change, as the patients did not become more aware of their substance abuse problem, had not experienced more occurring thoughts of the problem and were not motivated to take steps to change even more, even after going through the inpatient treatment. Diclemente, Schlundt and Gemmell (2004), suggest that eagerness for treatment and eagerness to change are two different concepts both in theory and practice. This is one reason that could explain the different scores of identifying the actual problem and taking steps to change it. The difference between the principles of motivation and the ability to identify and incorporate each stage of change is perhaps not grasped by the patients.

The results showed that there was no significant association between the admission ASSIST specific substance involvement scores and SOCRATES drinking scores. According to DiClemente (1999), readiness to change is observed as goal-specific and behaviour change, what this means is that some individuals are only motivated to change use of one-

specific substance. For example, a patient who misuses methamphetamine is ready to try to stop using this specific substance, but is not willing to change their drinking and smoking behaviour. This suggests is that perhaps the majority of the patients at Harmony Clinic were willing to stop (say) drugs but not alcohol, or vice versa. In future research, it should be considered how this factor would influence the abstinence of a patient, especially for those patients who abuse multiple substances. Future research should focus on patients who abuse multiple substances, and how effective treatment would be if one substance of abuse at a time was dealt with and slowly progressed to focusing on abstinence on the next substance of abuse (almost a step-by-step approach).

Positive and significant associations between the admission SOCRATES drug subscales Taking Steps, Recognition and Ambivalence (eagerness to change) and Behavioural Health admission scores were calculated. It is suggested that the patients were able to self monitor and identify personal behaviour, as they noticed the substance abuse behaviour was negatively affecting their health. As a result, the patients had admitted and noticed that their behaviour was inappropriate. Patients apparently have the ability to identify problematic behaviour characteristics which "is related to self-evaluative processes that constitute an important cognitively based source of motivation" (Gossop, Stewart and Marsden, 2006, p. 306). This shows the interconnection between the identification of the problem and motivation to change behaviour.

The one significant change identified was that behavioural health scores improved from admission to discharge. This is in accord with several other studies which found similar results (Gossop et al., 1998). The primary change in treatment is of course the complete abstinence from drugs of abuse, and it seems that this is directly linked to improvement in behaviour.

An additional explanation for this positive change in behaviour could be, due to the positive and successful effects that the Minnesota Model's techniques had on the patients. The Minnesota Model focuses on implementing change in one's beliefs, which would effect how one behaves (Morojele & Stephenson, 1992). As a result, patients could have possibly behaved in a well-mannered and moral fashion towards the fellow patients. It is suggested that the principles of the model positively changed patients' behaviour.

It was predicted that patients with high ASSIST scores would have high Emotional Health scores at admission. However, the results failed to show this prediction. The patients did not identify their emotional problems. The reason for this may have been that the patients

had only just finished their detoxification process and had, not yet gone through the treatment process enough to be able to identify and express their emotions appropriately. Gossop et al. (1998), found different results to my finding. They found that prior to treatment; patients reported feelings of anxiety, depression, hopelessness and suicidal thoughts. However, it is suggested that some participants only report these feelings in later stages of the treatment process and not in the beginning stages (Gossop et al., 2006).

In the t-tests there was no significant difference between Emotional Health scores at admission and discharge. These results differ from those obtained in a study conducted by Kim and Jackson (2009), who examined results 3 months after patients had attended treatment. However, they explain that individuals who abuse amphetamine have more serious psychological issues. Furthermore, the staff members, who participated in their study, who were involved in treating the patients, reported that, during the first few weeks of treatment the patients could not express and admit to the underlying psychological issues in therapy. Patients preferred not to express their intense feelings as their issues were too overwhelming to face. Additionally, the staff reported that only after a few months of patients within treatment, did the patients start to openly express their feelings and experiences. It is possible, therefore, that no change observed in the Emotional Health scores of the patients studied here because amphetamines were the primary drug of choice for the majority of them and they therefore had emotional issues that were more resistant to treatment.

It is suggested that this is a very realistic finding because the therapeutic process is not quick and easy. Trust needs to firstly be built between patient and therapist, and that is a long term accomplishment. The first week for patients at Harmony Clinic is detoxification and after that three weeks of intensive therapy. It is highly unlikely that in three weeks patients would have been able to deal and express deeply entrenched psychological issues. Therefore, the implications for my Emotional Health scores suggests that the study needs to be taken further, in that it is necessary to additionally score Emotional Health scores at one month after discharge. This score would ideally reflect whether Emotional Health of patients has improved over a longer period of time.

Limitations and Directions for Further Research

The existing study set out to illustrate that there may be contrasting outcomes of high substance use, motivational levels, Emotional and Behavioural Health. Although not all the

hypotheses were validated some results displayed statistical significance in the expected direction.

Limitations of the existing study need to be considered by potential researchers who plan to evaluate treatment at rehabilitation centres. Firstly, the existing sample size was relatively small and it was not feasible to compare them to a control group. Therefore, the general outcomes of the findings cannot be precise. It needs to be noted that the findings then can only be related to the specific clinical sample at Harmony Clinic and cannot account for the general population of treatment centres in Cape Town. The reason for the small sample size was due to time constraint of the Psychology department of the University of Cape Town.

Additionally, this specific sample and those of all treatment centres are from a clinical setting. The actual sample is very specific. The limitation is that this sample cannot account for the population in general. Therefore, it is not possible to generalise to substance abusers in general.

Furthermore, the research design only focused on a clinical sample therefore, it was not possible to evaluate a control group who did not undergo treatment. The comparison would have been beneficial as it would have been possible to observe whether treatment or natural improvement accounted for change in the patients. The lack of a control group means that it is not possible to ascribe any changes definitively to the treatment at Harmony Clinic; they may of course have been the result of the ordinary processes of history and maturation in clients kept substance-free for a month. A longer follow-up period would have also been helpful in assessing whether treatment successfully established abstinence, but that was not possible because of the particular time constraints of this project.

Additionally, the questionnaires entailed self-reports of patients. Researchers observing the results of the study need to be aware of the issue of accuracy of the results reported. The questions required personal and intimate information from the patient. It is possible some of the patients may have not reported true emotions, motivation and frequency of substances used at that specific moment (Maisto et al., 2003). This may be more so for the questions of admission, as patients had not yet gone through the treatment process.

Conclusion

In conclusion, this study aimed to evaluate the effectiveness of treatment at Harmony Clinic. It aimed to evaluate whether the combination of the Minnesota Model and Matrix Model were useful programmes to establish abstinence in an inpatient rehabilitation centre. The study showed that a great deal of time and intensive observation is essential to evaluate a

programme adequately. The study has showed the necessary requirements needed to perform a programme evaluation in the environment where a sensitive population exists. Future researchers could use this study as a stepping stone to perform evaluations in greater depth.

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APPENDIX A

12-STEP Model

List as follows:

1. We admitted that we were powerless over our addiction, that our lives had become unmanageable.

2. We came to believe that a Power greater than ourselves could restore us to sanity.

3. We made a decision to turn our will and our lives over to the care of God *as we understood Him.*

4. We made a searching and fearless moral inventory of ourselves.

5. We admitted to God, to ourselves, and to another human being the exact nature of our wrongs.

6. We were entirely ready to have God remove all these defects of character.

7. We humbly asked Him to remove our shortcomings.

8. We made a list of all persons we had harmed, and became willing to make amends to them all.

9. We made direct amends to such people wherever possible, except when to do so would injure them or others.

10. We continued to take personal inventory and when we were wrong promptly admitted it.

11. We sought through prayer and meditation to improve our conscious contact with God *as we understood Him,* praying only for knowledge of His will for us and the power to carry that out.

12. Having had a spiritual awakening as a result of these steps, we tried to carry this message to addicts, and to practice these principles in all our affairs.

APPENDIX B

Consent form

University of Cape Town

Department of Psychology

Consent to participate in a research study

Dear Patient,

Formal title: Programme evaluation of treatment at Harmony Clinic, Hout Bay

Study Purpose

You are being asked to participate in a research study being conducted by a researcher from the Department of Psychology, University of Cape Town. The purpose of this study is to understand treatment for alcohol and drug problems.

Study Procedures

If you decide to participate in this study, you will be asked to complete questionnaires twice, on admission to Harmony Clinic, and at the end of your treatment. This will take about 45 minutes each time. These questionnaires include questions about your alcohol and drug use, emotional and behavioural well being, readiness to quit and your overall attitude towards alcohol and drug use. All information obtained from you will be strictly confidential. If you have used illicit drugs, the police will not be informed.

What you will be asked to do: Participation will require that you 1) meet with a counsellor on Day 1 to complete the questionnaire, 2) meet the counsellor on day 14 to complete the questionnaire, 3) meet the counsellor on the day of discharge to complete the questionnaire.

Possible Risks

Participating in the interview may bring on ideas or feelings you usually avoid or were not aware of in the past. Some people may experience some initial embarrassment about certain topics included in the questionnaire. There are no other known risks specific to this kind of study participation.

Possible benefits

There are no direct benefits to you participating in this study, but we hope that the information gained from this study will help us answer important questions about alcohol and drug treatments, which an important issue in South Africa today.

Alternatives

You may choose not to participate in this study, and this decision will not affect your treatment or your relationship with the clinic in any way.

Voluntary Participation

Participation in this study is completely voluntary. You are free to refuse to answer any question. Your decision regarding participation in this study will not affect your medical care. If you decide to participate, you are free to change your mind and discontinue participation at any time without an effect on your treatment now or in the future.

Confidentiality

Information about you obtained for this study will be kept confidential. Your questionnaires and this consent form will be kept in locked filing cabinets. The information obtained from the interview will not become a part of your treatment record in any way, nor will it be made available to anyone else. Any reports or publications about the study will not identify you or any other study participant as an individual.

Questions

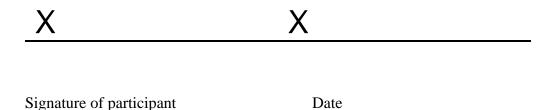Any study-related questions, problems or emergencies should be directed to the researchers:

Caroline Bosman   078 010 1882

Cathy Ward   021 650 3422

I have read the above and am satisfied with my understanding of the study, its possible benefits, risks and alternatives. My questions about the study have been answered. I hereby voluntarily consent to participation in the research study as described. I have been offered copies of this consent form.

X _____   X _____

Signature of participant   Date

X   X
_____

Name of participant (printed)   Witness