
Examines how delay discounting may explain both the impulsivity and loss of control exhibited by drug-dependent clients, and reviews behavioral economic models of delay discounting, the empirical literature on the discounting of delayed reinforcers by the drug dependent, and the scientific literature on personality assessments of impulsivity among drug-dependent individuals. A potential shortcoming for many of the studies described is that they used hypothetical rewards, and as a result the results may not be choices made between actual outcomes. Future directions for the study of discounting are discussed, including the study of loss of control and loss aversion in drug dependency, the relationship of discounting to both the behavioral economic measure of elasticity and outcomes observed in clinical settings, and the relationship between impulsivity and psychological disorders other than drug dependence. (PsycINFO Database Record (c) 2005 APA, all rights reserved)


This is a therapy manual for drug abuse treatment providers, mental health professionals, and all others concerned with the treatment of drug addiction that ensure the applications of the most current science-based approaches to their patients. The manual describes scientifically supported therapies for addiction and give specific guidance on session content and how to implement these techniques.


The author explains the extent to which literature is limited on the therapists who deliver treatment and the role they play in treatment outcomes citing reasons such as difficulty in studying therapist effects and increased focus on evaluating treatment outcomes rather than therapist outcomes.


The authors set out to assess the representativeness of participants in clinical trials of treatments for cocaine dependence noting that clinical trials have been criticized for being limited in external validity, with subjects usually not being representative of individuals seen in clinical practice. In the study, 243 research subjects participating in clinical trials of treatments for cocaine dependence were compared to sub-sample of 213 individuals being treated for cocaine dependence in outpatient clinical settings from large national database. The data revealed that while there were differences in demographic variables individuals participating in these research trials were similar to other treated cocaine abusers not participating in research trials. Further, the authors note that research patients may be similar to, if not more severe than, individuals with cocaine problems seen in regular clinical settings in the community.

To assess the effectiveness of contingency management in enhancing naltrexone treatment, the study involved assigning 55 detoxified opioid-dependent individuals randomly to 1 of 3 treatments delivered over 12 weeks: standard naltrexone maintenance, standard naltrexone plus low-value contingency management (CM), or standard naltrexone plus high-value CM. The results indicated significant reductions in opioid use over time for both CM groups regardless of the highness or lowness value of the reinforcement. The participants in the CM groups also reported significant reductions in readiness to change compared to the non-CM group. Findings underscore the relevance of targeted behavioral therapies in the utilization of available pharmacotherapies.


In this article, the authors argue that there is an increased need for the realization that the appropriate roles and content of manuals should evolve with the stage of development of a given treatment. The authors propose different guidelines for the content of manuals at different stages and ways to develop "clinician-friendly" manuals that will facilitate the use of empirically supported treatments.


In a sample of substance-dependent individuals participating in a randomized clinical trial of three psychotherapies, the psychometric properties of six measures of therapeutic alliance (California Psychotherapy Alliance Scales; Penn Helping Alliance Rating Scale; Vanderbilt Therapeutic Alliance Scale; and the Working Alliance Inventory—therapist, client, and rater versions) were compared for internal consistency, interrater reliability, and inter-correlations. Findings showed construct validity and acceptable reliabilities of the therapeutic alliance. Reliabilities varied by treatment condition and correlations between observer and participant measures were comparatively low.


This study explored the role of nicotine and sensory cues in the relationship between craving and smoking. The aim was to explain the contributions of sensory and pharmacological variables in the process. 15 participants engaged in one session each of rapid smoking (up to nine cigarettes with puffs taken every 6 s) and normal paced smoking with nicotinized and denicotinized cigarettes (total of four sessions). Craving and withdrawal was assessed and plasma nicotine levels measured. The results indicated that craving ratings were suppressed regardless of the smoking pace or nicotine content; latency to smoke was significantly longer after rapid smoking of nicotinized cigarettes, and changes in craving were associated with choices to smoke.

This study assessed whether larger doses of methadone in the treatment of opioid dependence produced greater or longer-lasting blockade of the effects of heroin in addition to adequate withdrawal suppression. In this double-blind, within-subject, inpatient study, participants were maintained on 30, 60, and 120 mg methadone (ascending order) for approximately 3 weeks at each dose. Heroin challenges were administered at 4, 28, and 52 h at each maintenance period. Before each challenge, Opioid agonist effects and opioid withdrawal symptoms were assessed. Findings revealed that higher methadone doses are more effective at reducing heroin use because low to moderate doses of methadone suppress withdrawal, but fail to eliminate the effects of heroin.


A meta-analysis was conducted on contingency management interventions in outpatient methadone treatment settings. The outcome measure of interest was drug use during treatment, as detected through urinalysis. The results confirm that contingency management is effective in reducing supplemental drug use for these patients. Significant moderators of outcomes included type of reinforcement provided, time to reinforcement delivery, the drug targeted for behavioral change, number of urine specimens collected per week, and type of subject assignment. These factors represent important considerations for reducing drug use during treatment.


In this study, smokers who were not trying to quit were offered monetary incentives to abstain from smoking while residing in their usual environments with the aim of assessing nicotine withdrawal during a 5-day period. The participants were assigned to one of three groups. In the first and second groups, payment was delivered based on breath carbon monoxide levels (CO≤8 ppm) revealing recent smoking abstinence. The rates of payment for the first 2 groups were different. The third group was used as a control group and whose payment was made independent of smoking status. Findings revealed no significant differences in abstinence as a function of the monetary gains. Participants in both experimental groups experienced more withdrawal symptoms than those in the control group, including increases in anxiety and nervousness, impatience and restlessness, hunger, and the desire to smoke.


Provides an overview of research on the voucher-based incentives approach to substance abuse treatment. This approach was originally developed as a novel method for improving retention and increasing cocaine abstinence among cocaine-dependent outpatients. The efficacy of vouchers for those purposes is now well established, and plans are underway to move the intervention into effectiveness testing in community clinics. The use of vouchers also has been extended to the
treatment of alcohol, marijuana, nicotine, and opioid dependence. Particularly noteworthy is that vouchers hold promise as an efficacious intervention with special populations of substance abusers, including pregnant and recently postpartum women, adolescents, and those with serious mental illness. It is concluded that voucher-based incentives hold promise as an innovative treatment intervention that has efficacy across a wide range of substance abuse problems and populations. (PsycINFO Database Record (c) 2005 APA, all rights reserved)


This study examined the contributions of community reinforcement therapy to outcome in the community reinforcement approach (CRA) and vouchers plus vouchers outpatient treatment for cocaine dependence. One hundred cocaine dependent outpatients were randomly assigned to one of two treatment conditions: CRA plus vouchers or vouchers only. All patients earned incentives in the form of vouchers exchangeable for retail items contingent on cocaine free urinalysis results during treatment weeks I to 12. Incentives were combined with a 24-week course of CRA therapy designed to promote healthy lifestyle changes in the CRA plus vouchers condition, while incentives represented the primary treatment in the vouchers only condition. Patient drug use and psychosocial functioning were assessed at intake and at least every 3 months for 2 years after treatment entry. Patients treated with CRA plus vouchers were retained better in treatment, used cocaine at a lower frequency during treatment but not follow-up, and reported a lower frequency of drinking to intoxication during treatment and follow-up compared with patients treated with vouchers only. Patients treated with CRA plus vouchers also reported a higher frequency of days of paid employment during treatment and the initial 6 months of follow-up, decreased depressive symptoms during follow-up. Combining CRA with vouchers had therapeutic effects on substance abuse and psychosocial functioning during treatment and post-treatment follow-up in cocaine dependent outpatients, although effects on cocaine use appear to be limited to the treatment period.


This study assessed whither contingent incentives can be used to reinforce cocaine abstinence in dependent outpatients. Seventy cocaine-dependent outpatients were randomized into 2 conditions. All participants received 24 weeks of treatment and 1 year follow-up. The treatment provided to all participants combined counseling based on the community reinforcement approach with incentives in form of vouchers exchangeable for retail items. In 1 condition, incentives were delivered independent of urinalysis results. Abstinence-contingent incentives significantly increased cocaine abstinence during treatment and 1 year follow-up compared with non contingent incentives.


This study's goals were to characterize the relationship between early and longer term cocaine abstinence and assess whether increasing early abstinence increases longer term abstinence. Results from 190 cocaine-dependent outpatients were analyzed. Participants were divided into 2 conditions: (a) those treated with community reinforcement approach (CRA) plus contingent
vouchers (n=125) and (b) those treated with control treatments (n=65). A period of sustained abstinence during treatment was associated with significantly greater odds of post-treatment abstinence, with no evidence of differences between the 2 treatment conditions in that regard. Treatment conditions differed in that CRA plus contingent vouchers increased the proportion of participants who sustained a period of during-treatment abstinence and increased abstinence during 6-month post-treatment follow-up. Devising interventions that increase the proportion of individuals who achieve an early period of sustained abstinence may be key to increasing longer term cocaine abstinence.


The contributors to this volume review and critique research efforts to use contingency management interventions to motivate behavior change among illicit-drug abusers. Each chapter is intended to be sufficiently detailed and current to be of value to researchers, clinicians, and policymakers alike who are involved in decreasing illicit-drug abuse. This volume begins with a chapter that details the conceptual and empirical foundations of contingency management approaches illustrated in the remainder of the book. The diversity of settings, drug problems, and people whose lives have been positively affected by the use of contingency management procedures is demonstrated. The information in this text will provide guidance to practitioners interested in the application of specific contingency management interventions and will also be of value as a teaching tool for illustrating rigorous clinical research. (PsycINFO Database Record (c) 2005 APA. all rights reserved)


This study assessed whether incentives improved treatment outcome in ambulatory cocaine-dependent patients. Forty cocaine-dependent adults were randomly assigned to behavioral treatment with or without an added incentive program. The behavioral treatment was based on the Community Reinforcement Approach and was provided to both groups. Subjects in the group with incentives received vouchers exchangeable for retail items contingent on submitting cocaine-free urine specimens during weeks 13 through 24. 75% of patients in the group with vouchers completed 24 weeks of treatment vs. 40% in the group without vouchers. Average durations of continuous cocaine abstinence documented via urinalysis during weeks 1 through 24 of treatment were 11.7 weeks in the group with vouchers vs. 6.0 in the group without vouchers. At 24 weeks after treatment entry, the voucher group evidenced significantly greater improvement than the no-voucher group on the drug scale of the Addiction Severity Index (ASI), and only the voucher group showed significant improvement on the ASI Psychiatric scale. Incentives delivered contingent on submitting cocaine-free urine specimens significantly improve treatment outcome in ambulatory cocaine-dependent patients.


Extensive scientific evidence indicates that reinforcement plays an important role in the genesis, maintenance, and recovery from substance use disorders. In this chapter, we review recent clinical research from laboratory, clinic, and naturalistic settings examining the role of reinforcement in substance use disorders. Well-controlled human laboratory studies are reviewed characterizing orderly interactions between the reinforcing effects of drugs and environmental context that have
important implications for understanding risk factors for substance use disorders and for the development of efficacious interventions. Recent treatment-outcome studies on voucher-based contingency management and community reinforcement therapy are reviewed demonstrating how reinforcement and related principles can be used to improve outcomes across a wide range of different substance use disorders and populations. Overall, the chapter characterizes a vigorous area of clinical research that has much to contribute to a scientific analysis of substance use disorders. (PsycINFO Database Record (c) 2005 APA, all rights reserved)


A pilot study was conducted to examine the use of vouchers redeemable for retail items as incentives for smoking cessation during pregnancy and postpartum. Of 100 study eligible women, 58 women still smoking upon entering prenatal care, were recruited from university-based and community obstetric practices to participate in a smoking cessation study. The 58 participants were assigned to either contingent or non-contingent voucher conditions, the vouchers being handed to them during pregnancy and for 12 weeks postpartum. In order to earn the vouchers, the contingent group was biochemically verified smoking abstinence while the non-contingent group earned their vouchers independent of smoking status. Abstinence was monitored in the initial 5 days of the cessation effort and then every other week ante-partum. It was increased to once a week during the initial 4 weeks postpartum, and then decreased again to every other week for the remaining 8 weeks of the postpartum intervention period. Findings revealed monitoring and associated voucher delivery increased prevalence of abstinence with pregnant and post-partum smokers with maintenance of the effects through 24 weeks postpartum.


This study aimed at exploring the role of medication in modulating dopamine levels. The authors examined the effects of the selective MAO-B inhibitor selegiline on withdrawal symptoms, smoking behavior and smoking satisfaction ratings. For 2 study weeks, 15 smokers received selegiline (10 mg/day) and placebo (in counterbalanced order) on Monday through Thursday separated by a 2-week washout. Smoking behavior both before and after a brief period of abstinence was assessed, and subjective withdrawal symptoms and mood were measured daily. Findings revealed that medication, Selegiline decreased craving, especially during abstinence and reduced number of cigarettes smoked and smoking satisfaction ratings during the smoking sessions both before and after the brief abstinence attempt.


In this study to examine an abstinence-contingent voucher incentive program in opiate-dependent clients enrolled in outpatient drug-free (nonmethadone) treatment, participants were randomly assigned to either voucher or non-voucher conditions. Both groups received intensive cognitive-behavioral counseling. The 2 groups did not differ significantly on mean days retained in treatment (35.9 vs. 39.3 days), mean number of opiate-and cocaine-negative urines submitted (8.3 vs. 6.2), longest duration of continuous abstinence (16.8 vs. 12.1 days), or percentage of participants abstinent for 4 weeks (20.7% voucher vs. 9% no voucher). The authors conclude that voucher programs need to be tailored to the clinical population and behavioral targets being addressed.

This paper explores the impact of the adoption of the contingency management approach by the Chemical Dependency Treatment Services of the New York City Health and Hospitals Corporation (HHC). The utilization of this approach grew out of an alliance between NIDA Clinical Trials Network-affiliated clinicians and researchers and a leadership team at the HHC. Interviews and dialogues with administrators, staff, and patients revealed a shared sense that the use of contingency management had: (1) increased patient motivation for treatment and recovery; (2) facilitated therapeutic progress and goal attainment; (3) improved the attitude and morale of many staff members and administrators; and (4) developed a more collegial and affirming relationship not only between patients and staff, but also among staff members.


The authors effectively demonstrate that there is a difference between patients who might succeed on a take-home incentive program and patients who may not improve without additional treatment intervention by examining the demographic, behavioral, and psychiatric differences between patients in a methadone maintenance treatment sample who achieved drug-free status and earned the maximum level of take-homes (n = 20) during a one-year assessment period and patients matched on race, gender, and days in treatment who failed to meet take-home criteria.


This study examined the relationship between a period of sustained abstinence from smoking and the reinforcing effects of cigarette smoking. 63 adult smokers were randomized into 14-day (14C), 7-day (7C), or 1-day (1C) contingent payment conditions for smoking abstinence. Results indicated a significantly lower proportion of participants in the 14C condition choosing the smoking option as compared to those in the other 2 conditions. The results indicate evidence that sustained abstinence can decrease the relative reinforcing effects of smoking.


Examines the three recommendations made by W. K. Bickel et al (see record 1998-03285-001) for drug-abuse treatment: (a) adopting methods to decrease drug availability, (b) increasing the availability of substitutable non-drug activities, and (c) using treatment methods that will increase the extent to which delayed rewards control the behavior of substance abusers. Advantages of a "consumer choice" model for both understanding individual drug use and promoting access to new treatment alternatives are considered. Implications from behavioral-economic theory for drug policy decisions and enforcement, selection of and access to treatment, and techniques utilized in cognitive-behavioral treatment methods are reviewed. Finally, because behavioral economic approaches to drug use and treatment treat drug users as consumers, ways to make the treatment environment more attractive and user-friendly through 10wthreshold prevention and intervention efforts are discussed. The article concludes with a brief description of the parallels between the harm-reduction model of drug treatment and behavioral economic theory. (PsycINFO Database Record (c) 2005 APA, all rights reserved)

The author comments on the positive direction and benefits of moving contingency management approaches into real life settings in the drug abuse field. He offers suggestions for moving the next generation of studies toward less complicated populations, using more robust reinforcements with a consideration of administrative and financial boundaries.


This study assessed within-gender differences in the nature of drug dependence. Using cluster analysis and standardized ratings, data was collected from 153 women seeking methadone maintenance treatment was used to define 4 groups with different profiles of problem. The four clusters were characterized as Unemployed, Medically Ill, Psychiatrically Distressed, and Higher Functioning. The findings revealed a need to pay attention not only to gender differences but also ways women differ from one another in the development of gender-sensitive treatment programs.


This study evaluated the short-term effects of a reinforcement contingency management system for 10 chronic public drunkenness offenders. Chronic inebriates were provided with required goods and services through skid row community agencies contingent on their sobriety. Intoxication resulted in as-day suspension of all goods and services. Excessive drinking behavior was assessed by direct observations of intoxication and by randomly administered breath alcohol analyses. Clients substantially decreased their number of public drunkenness arrests and their alcohol consumption, and increased their number of hours employed. No such changes were observed in a control group that received services on a non contingent basis. Longer-term research studies of 1-2 years rather than a few months would be required before any widespread use of this approach would be warranted. (19 ref) (PsycINFO Database Record (c) 2005 APA, all rights reserved)


The authors applied multiple analytic strategies to follow-up data from a clinical trial to illustrate the limitations of commonly used methods of handling missing data when using ANOVA models while at the same time revealing the advantages of random-effects regression models. The findings call attention to the importance of models that utilize all data collected in the analysis and the importance of complete data collection to minimize sample bias.


This article addresses the importance of taking into account “missing data” in analyses and presentation of clinical trial findings. The authors analyzed data from a clinical trial of treatment for cocaine dependence, using 3 strategies to deal with missing data. The first strategy addressed
treatment effectiveness based on data from participants up to drop-out; the second addressed treatment effectiveness based on data from the full intended duration of the protocol plus data after participant dropout; the final strategy utilized an intention-to-treat strategy for the full duration of the trial and the full sample, as well as evaluated the effect of treatment retention outcomes. The authors concluded that there was a very clear need for investigators to conduct intent-to-treat analyses and to use of multiple analytic strategies in understanding treatment effects.


The authors apply contingency management interventions that provide incentives in a community drug abuse treatment setting by comparing the outcomes achieved when a lower-cost prize-based contingency management treatment is added to usual care in community methadone hydrochloride maintenance treatment settings. In the study, 388 stimulant-abusing patients enrolled in methadone maintenance programs for at least 1 month and no more than 3 years are randomly assigned to usual care with (n = 198) or without (n = 190) abstinence incentives during a 12-week trial. Stimulant and alcohol-negative samples, longest duration of abstinence, retention, and counseling attendance are measured. Results indicated that abstinence incentive approaches increased stimulant abstinence than usual care.


Controlled clinical research has demonstrated the efficacy of contingency management procedures in treating substance use disorders. Now is the time to begin introducing these procedures into standard clinical practice. This article reviews the rationale of contingency management interventions and provides a review of representative scientific work in the area. It also discusses behaviors that can be modified, reinforcers that can be used, and behavioral principles that can be adapted to improve outcomes. This paper provides practical advice and a guideline for clinicians and researchers to use when designing and administering contingency management interventions. The recommendations are based on empirically validated manipulations. Areas in which more research is needed are suggested as well.


The authors in this article describe and discuss their experience with the prize incentive system.


This study evaluated the efficacy of low-cost contingency management (CM) procedure in reducing concurrent cocaine and opioid use among methadone patients. Forty-two patients were randomly assigned to 12 weeks of standard treatment or standard treatment plus CM. CM patients earned the opportunity to draw from a bowl and win prizes ranging from $1 to $100 in value for submitting
samples negative for cocaine and opioids. Patients in the CM condition achieved longer durations of continuous abstinence than patients in the standard treatment condition, and these effects were maintained throughout a 6-month follow-up period. On average, patients in the CM condition earned $137 of prizes. These data suggest that this prize reinforcement procedure may be suitable for community-based settings.


This study assessed the utility of contingency management in the treatment of alcohol dependence. 42 alcohol dependent veterans were randomly assigned to either receive standard alcohol treatment or standard treatment plus CM by winning a chance win prizes for negative breathalyzer samples and completing steps towards treatment goals. At the end of the study period of 8 weeks, 69% of those receiving CM were still abstinent while 61% of those on standard treatment had consumed alcohol. The authors concluded that CM was effective in standard treatment.


This study describes a contingency management intervention applied in group treatment. In an HIV drop-in center, groups were held on Tuesdays and Thursdays for 35 weeks. An ABB/CA design was used, in which reinforcers were available in non-A phases. In the initial B phase, reinforcers were available only on Tuesdays, and they switched to Thursdays in the B and C phases. The reinforcer was a drawing that was associated with the possibility of winning a prize. Reinforcers were provided for attending group and completing steps related to treatment goals. The number of drawings escalated with weeks of consecutive attendance and activity completion in the B phase; in the C phase, a fixed number of draws were provided. Overall, the procedure increased attendance, with an average of 0.7 clients (range 0-4) per session in the initial baseline phase to an average of seven clients (range 2-12) during reinforcement phases. The percentage of activities completed also rose from 25% during baseline to 65% during reinforcement phases. These data suggest the feasibility of group-based contingency management intervention.


In this study, the authors evaluated a low-cost contingency management (CM) procedure for reducing cocaine use and enhancing group therapy attendance in 77 cocaine-dependent methadone patients. Patients were randomly assigned to 12 weeks of standard treatment or standard treatment with CM, in which patients earned the opportunity to wind prizes ranging from $1 to $100 for submitting cocaine-negative samples and attending therapy. Patients in the CM condition submitted more cocaine-negative samples and attended more groups than patients in standard treatment. The best predictor of cocaine abstinence at follow-up was duration of abstinence during treatment. On average, patients in reinforcement can be implemented in group therapy in community-based clinics.

This study evaluated the efficacy of a low-cost, prize reinforcement contingency management (CM) intervention for reducing cocaine use. Cocaine-abusing out-patients were assigned randomly to one of three 12-week conditions: standard treatment, standard treatment plus CM with an expected maximum of $80 of reinforcement or standard treatment plus CM with an expected maximum of $240 of reinforcement. In the CM condition, patients earned the opportunity to win prizes for submitting negative urine samples and completing goal related activities. Drug use was measured at intake and throughout a 3-month treatment period. Patients in the $240 CM condition achieved more abstinence than patients in the standard condition. Patients who initiated treatment with positive urinalysis results were most responsive to the CM intervention, with the $240 CM condition engendering the best effecting in this subgroup. In contrast, patients who initiated treatment with negative urinalysis results generally remained abstinent during treatment, regardless of treatment assignment. On average, patients in the two CM conditions earned $36 and $68 in prizes. This study suggests that prize reinforcement CM may be suitable for community-based settings, and beneficial effects may be magnitude-dependent in more severe patients.


The authors in this article use 3 case studies to illustrate the utilization of contingency management procedures in clinical practice noting the similarities and divergences of contingency management when applied across settings and clients.


Cocaine-using methadone-maintenance patients were randomized to standard contingency management (abstinence group, n = 49) or to a contingency designed to increase contact with reinforcers (shaping group, n = 46). For 8 weeks, both groups earned escalating-value vouchers based on thrice-weekly urinalyses: The abstinence group earned vouchers for cocaine-negative urines only; the shaping group earned vouchers for each urine specimen with a 25% or more decrease in cocaine metabolite (first 3 weeks) and then for negative urines only (last 5 weeks). Cocaine use was lower in the shaping group, but only in the last 5 weeks, when the response requirement was identical. Thus, the shaping contingency appeared to better prepare patients for abstinence. A 2nd phase of the study showed that abstinence induced by escalating-value vouchers can be maintained by a non-escalating schedule, suggesting that contingency management can be practical as a maintenance treatment. (PsycINFO Database Record (c) 2005 APA, all rights reserved)


This study compared 2 psychosocial approaches for the treatment of cocaine dependence: contingency management (CM) and cognitive behavioral therapy (CBT). Patients with cocaine
dependence who were receiving methadone maintenance treatment were randomly assigned to 1 of 4 conditions: CM, CBT, combined CM and CBT (CBT + CM), or treatment as usual. The CM procedures and CBT materials were comparable to those used in previously published research. The active study period was 16 weeks, requiring 3 clinic visits per week. Participants were evaluated during treatment and at 17, 26, and 52 weeks after admission. Urinalysis results during the 16-week treatment period show that participants assigned to the 2 groups featuring CM had significantly superior in-treatment urinalysis results, whereas urinalysis results from participants in the CBT group were not significantly different than those from the MMTP-only group. At the 26-week and 52-week follow-up points, CBT participants showed substantial improvement, resulting in equivalent performance with the CM groups as indicated by both urinalysis and self-reported cocaine use data. Study findings provide solid evidence of efficacy of CM and CBT. Although the effect of CM is significantly greater during treatment, CBT appears to produce comparable long-term outcomes. There was no evidence of an additive effect for the 2 treatments in the CM + CBT group.


In this pilot study the authors utilized the randomized controlled design to assess the feasibility and efficacy of two interventions for improving adherence to antiretroviral therapy regimens in HIV-infected subjects. Conducted at the Department of Veterans Affairs HIV clinic and community-based HIV clinical trials site, 55 HIV-infected subjects on stable antiretroviral therapy regimens participated. Of the 55, 89% were male, 69% were African American, and 80% had histories of heroin or cocaine use. Interventions included 4 weekly sessions of either nondirective inquiries about adherence, cue-dose training, and feedback about medication taking using Medication Event Monitoring System (MEMS) pill bottle caps. Subjects were in three groups. The control group subjects (C) were asked about medication adherence and encouraged in their efforts to improve adherence. The cue-dose training group (CD) was asked to identify cues that would enable them to remember to take their medications correctly. The cue-dose training plus cash reinforcement group (CD + CR) group received cash reinforcement for correctly timed bottle opening. Findings indicated that medication adherence was enhanced in the cash-reinforced group but not the CD group, compared with the control group. Findings also revealed that eight weeks after training when reinforcement was discontinued, adherence in the cash-reinforced group returned to near-baseline levels. The authors concluded that in a population including mostly African Americans and subjects with histories of drug abuse, cue-dose training with cash reinforcement led to improved adherence to antiretroviral therapy.


Monetary reinforcers have not been widely used as contingent reinforcers in the treatment of drug abuse, despite their demonstrated effectiveness. This is primarily due to concern that drug abusers will use monetary reinforcers to procure drugs. The present study addressed this concern by examining 48 cocaine-dependent outpatients’ biweekly self-reports of how they used their earned reinforcers. For each subject, their reinforcement usage was classified into 12 higher-order categories and 34 subcategories. Usage proportions were calculated for each. Results indicated that monetary reinforcers were used very infrequently to acquire drugs or alcohol (2%). Reinforcers were used primarily for daily life activities (25%) (e.g., food and gas), money-related uses (18%) (e.g., savings and repaying debts), personal use (15%) (e.g., cosmetics and clothes), and household items (11%) (e.g., rent and bills). These findings challenge the concern that drug
abusers use monetary reinforcers to purchase drugs and have important implications for the use of contingent monetary reinforcers in treatment settings.


A randomized controlled trial compared voucher-based reinforcement of cocaine abstinence to non-contingent voucher presentation. Patients were selected from 52 consecutively admitted injecting heroin abusers in a methadone maintenance treatment program. Patients with heavy cocaine use during baseline period (n=37) participated. Except where otherwise indicated, the term cocaine abuse is used in this article in a generic sense and not according to the DSM-III-R definition. Patients exposed to abstinence reinforcement received a voucher for each cocaine free urine sample provided three times per week throughout a 12week period; the vouchers had monetary values that increased as the number of consecutive cocaine free urine samples increased. Control patients received non-contingent vouchers that were matched in pattern and amount to the vouchers received by patients in the abstinence reinforcement group. Patients receiving vouchers for cocaine free urine samples achieved significantly more weeks of cocaine abstinence and significantly longer durations of sustained cocaine abstinence than controls. Nine patients (47%) receiving vouchers for cocaine free urine samples achieved between 7 and 12 weeks of sustained cocaine abstinence; only one control patient (6%) achieved more than 2 weeks of sustained abstinence. Among patients receiving vouchers for cocaine free urine samples, those who achieved sustained abstinence had significantly lower concentrations of benzoylecgonine in baseline urine samples than those who did not achieve sustained abstinence. Patients receiving voucher reinforcement rated the overall treatment quality significantly higher than controls. Voucher-based reinforcement contingencies can produce sustained cocaine abstinence in injecting polydrug abusers.


This study sought to determine whether cocaine abstinence could be promoted in a population of treatment-resistant cocaine-abusing methadone patients by increasing the magnitude of voucher-based abstinence reinforcement. The participants were 29 methadone patients (mean age 35.7 yrs) who previously failed to achieve sustained cocaine abstinence when exposed to an intervention in which they could earn up to $1,155 in vouchers for providing cocaine-free urines. Each patient was exposed in counterbalanced order to 3 9-week voucher conditions: zero, low, and high magnitude, in which they could earn up to $0, $382, or $3,480 in vouchers, respectively, for providing cocaine-free urines. Analyses for 22 patients exposed to all 3 conditions showed that increasing voucher magnitude significantly increased patients’ longest duration of sustained cocaine abstinence and percent of cocaine-free urines, and significantly decreased patients’ reports of cocaine injections. Almost half of the patients in the high magnitude condition achieved...4 weeks of sustained cocaine abstinence, whereas only 1 patient in the low and none in the zero magnitude condition achieved more than 2 weeks. Reinforcement magnitude was a critical determinant of the effectiveness of this abstinence reinforcement intervention. (psycINFO Database Record (c) 2005 APA, all rights reserved)

This study evaluated a voucher-based reinforcement system to sustain cocaine abstinence in 37 cocaine-abusing patients receiving methadone maintenance. After completing baseline measures, clients were assigned to a control sample or a reinforcement sample who received vouchers for providing cocaine-free urine samples according to 2 independent schedules over 12 weeks; vouchers increased in value for each consecutive urine sample. Controls received vouchers of comparable value and frequency independent of urinalysis results. Clients in the reinforcement group achieved significantly longer durations of sustained cocaine abstinence than controls. Urine benzoylecgonine concentrations were decreased by approximately one half for the reinforcement group compared to baseline, but were unchanged for the control group. Mean ratings of the helpfulness of vouchers were significantly higher for reinforcement than for controls. (PsycINFO Database Record (c) 2005 APA, all rights reserved)


This study determined whether long-term abstinence reinforcement could maintain cocaine abstinence throughout a yearlong period. Patients who injected drugs and used cocaine during methadone treatment (n = 78) were randomly assigned to 1 of 2 abstinence-reinforcement groups or to a usual care control group. Participants in the 2 abstinence-reinforcement groups could earn take-home methadone doses for providing opiate- and cocaine-free urine samples; participants in 1 of those groups also could earn $5,800 in vouchers for providing cocaine-free urine samples over 52 weeks. Both abstinence-reinforcement interventions increased cocaine abstinence, but the addition of the voucher intervention resulted in the largest and most sustained abstinence. Therefore, voucher-based reinforcement of cocaine abstinence in methadone patients can be a highly effective maintenance intervention. (PsycINFO Database Record (c) 2005 APA, all rights reserved)


In this study to assess contingent methadone take-home privileges for effectiveness in reducing ongoing supplemental drug use of methadone maintenance patients, 53 new intakes were randomly assigned to CM procedure (receiving take-home privileges after 2 consecutive weeks of drug-free urines or to a non-contingent procedure. The CM group produced more individuals with at least 4 consecutive weeks of abstinence and some of the noncontingent subjects (28%) achieved abstinence after shifting to the contingent procedure. The findings support the use of contingent take-home incentives to motivate abstinence during methadone maintenance treatment.