Journal of Substance Abuse Treatment 35 (2008) 125–136

Journal of Substance Abuse Treatment

Regular article

Use of vouchers to reinforce abstinence and positive behaviors among clients in a drug court treatment program

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Received 5 April 2007; received in revised form 28 August 2007; accepted 2 September 2007

Abstract

In response to the growing number of drug offenders cycling in and out of the criminal justice system without treatment for underlying drug problems, the judicial system has increasingly adopted drug courts as a strategy to divert these offenders from incarceration to supervised drug treatment. Our aim was to determine if drug court treatment effectiveness could be improved using contingency management, in the form of twice-weekly vouchers, to reinforce abstinence and positive behaviors for 163 clients over 26 weeks. We found no significant differences in outcomes among the study groups, although the Treatment Plan Group that received reinforcement for positive behaviors showed a trend toward poorer performance. We suspect that the influence of the judge within the courtroom had a stronger impact on drug court clients' attitudes, drug use behaviors, and other outcomes than the relatively low-value vouchers awarded as part of the treatment protocol.

Keywords: Drug court treatment; Contingency management; Voucher-based reinforcement therapy; Experimental design

1. Introduction

1.1. Drug courts

Drug courts arose within the context of the multiple efforts at all government levels—federal, state, and local—to carry out a "war on drugs" in the 1980s. Fed in large part by an expanding crack cocaine epidemic and the public's perception that illicit drug use represented the nation's most formidable criminal justice problem, all levels of government, as well as the private sector, began pursuing a zero-tolerance drug policy against any form of illicit drug use. In addition, federal and state legislatures passed laws that substantially reduced the ability of judges to exercise discretion when sentencing defendants convicted of drug-related offenses (Inciardi, McBride, & Rivers, 1996). These circumstances placed a heavy burden on state and federal courts by subjecting more individuals to arrest and prosecution and on federal and state correctional systems by increasing prison and jail populations beyond capacity—conditions that continue to exist today. According to the Bureau of Justice Statistics (BJS), in 2002, 68% of jail inmates met substance abuse or dependence criteria (BJS, 2005a). The number of adults arrested for drug abuse violations increased steadily over the past two decades, from 708,400 in 1984 to 1,745,712 in 2004, an increase of 246% (BJS, 2005b).

Beginning about 1990, drug courts became an increasingly popular response by the judicial system to deal with this growing number of offenders with drug abuse problems who cycled in and out of the criminal justice system and who frequently received little or no treatment for their drug problems. Although there were previous diversion programs for drug-abusing offenders (e.g., Treatment Alternatives

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0740-5472/08/$ – see front matter
doi:10.1016/j.jsat.2007.09.001

to Street Crime [TASC], expedited processing of drug offenders), drug courts introduced a new model for dealing with this population. This model includes early identification and referral of drug-involved defendants to community-based treatment following arrest or conviction, a specialized court docket, close integration of judicial supervision and treatment, a nonadversarial approach, frequent monitoring by the judge for compliance with treatment, use of graduated sanctions and rewards, and frequent drug testing (see Huddleston, Freeman-Wilson, Marlowe, & Roussell, 2005, for a description of the current status of drug courts nationwide).

Although most research on drug courts has suffered from weak evaluation designs, some consistent findings have emerged from the data that have been reported (Belenko, 2001; Government Accountability Office [GAO], 2005). Most consistent is the finding that drug courts are better able to closely supervise drug offenders in the community than other forms of community-based supervision, such as probation or TASC (Belenko, 2001). In addition, a recent report summarizing drug court evaluations from GAO (2005) indicated that drug courts show consistent reductions in recidivism but that results for other outcomes, particularly drug use, are mixed.

Although the judge is likely a central feature in the effectiveness of the drug court model (Marlowe, Festinger, & Lee, 2004), the treatment provided to drug court clients is also important. The treatment programs associated with drug courts vary widely in their approach and quality, but most of them are outpatient drug-free programs that use some combination of psychosocial treatment, drug testing, self-help groups, and group and individual counseling. The effectiveness of such programs might be enhanced by incorporating a structured protocol with a strong evidence base, such as contingency management (CM).

1.2. Contingency management

CM interventions are based on a robust theoretical and empirical body of literature that supports the position that drug use is a form of operant behavior in which drugs have reinforcing effects that are not adequately controlled by the potential reinforcing effects of other activities (Bigelow & Silverman, 1999; Higgins, 1997). As such, the likelihood of using drugs, and of continuing to use drugs, is influenced by the environmental context in which drug use occurs. Specifically, the availability of alternative (nondrug) reinforcers should decrease drug use if they are available at sufficient magnitude and if they are delivered according to a schedule that helps maintain continuous abstinence (Carroll, Lac, & Nygaard, 1989; Higgins, Bickel, & Hughes, 1994; Higgins, Roll, Wong, Tidey, & Dantona, 1999; Nader & Woolverton, 1991). Several literature reviews and meta-analyses have found CM to be a highly effective treatment for drug abuse disorders, particularly in its ability to establish and maintain continuous abstinence during treatment (Higgins & Silverman, 1999; Lussier, Heil, Mongeon, Badger, & Higgins, 2006; Prendergast, Podus, Finney, Greenwell, & Roll, 2006; Silverman, 2004). The reinforcers commonly used in CM studies include cash, methadone take-homes, methadone dosage increases, vouchers, and increased privileges (Prendergast et al., 2006).

Voucher-based reinforcement therapy (VBRT) is a procedure in which clients receive "vouchers" for the provision of biological samples (urine or breath) that indicate no recent drug use or for the performance of other behaviors (Higgins, Alessi, & Dantona, 2002; Higgins et al., 1994; Higgins et al., 1993; Lussier et al., 2006). The vouchers are withheld when the biological sample indicates recent drug use. Once earned, clients can exchange vouchers for goods or services that are compatible with the development of a drug-free lifestyle. In a recent meta-analysis, Lussier et al. (2006) found that the use of VBRT to target abstinence from drug use is effective with a variety of primary drugs and with an average effect size (r) of .32.

One concern about the broader application of VBRT in nonresearch settings is whether abstinence from illicit drug use continues once the reinforcement procedures are discontinued. In real-world settings, the use of CM to promote abstinence would be in effect for a finite period. Once the contingencies are removed, will drug use resume? Research has indicated that there is reason for concern about the durability of abstinence achieved through contingent reinforcement. For example, several studies have found that when reinforcement for abstinence from drug use was discontinued, there was a return to drug use, although not necessarily to baseline levels (Schumacher, Mennemeyer, Milby, Wallace, & Nolan, 2002; Silverman, Chutuape, Bigelow, & Stitzer, 1996; Stitzer, Bigelow, & Leibson, 1980; Stitzer, Bigelow, Leibson, & Hawthorne, 1982).[1]

To address this concern, several investigators have changed the basic "vouchers-for-drug-free-urines" paradigm to a procedure in which contingencies are applied to the development of new, prosocial alternative behaviors that are (in principle) incompatible with illicit drug use. An extensive body of experimental research demonstrates that reinforcing an alternative, competing behavior can be a powerful strategy in reducing the frequency of a target behavior (Leitenberg, Rawson, & Bath, 1970; Petry, Tedford, & Martin, 2001; Rawson & Leitenberg, 1973). One method for systematically implementing this strategy with illicit drug users is to specify behaviors that are incompatible with illicit drug use (e.g., family activities, new hobbies, employment) and to use CM procedures to increase the frequency of these "competing" behaviors. The rationale is that the reinforcement of prosocial, non-drug-related behaviors is necessary to initiate new behaviors and

[1] It should be noted, however, that other treatment approaches also suffer from this diminution of the during-treatment effect once the client leaves treatment.