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Journal of Substance Abuse Treatment 39 (2010) 318–328

Journal of Substance Abuse Treatment

Regular article

Predicting nonresponse to juvenile drug court interventions

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Received 26 January 2010; received in revised form 29 July 2010; accepted 30 July 2010

Abstract

Using data from a recent randomized clinical trial involving juvenile drug court (JDC), youth marijuana use trajectories and the predictors of treatment nonresponse were examined. Participants were 118 juvenile offenders meeting diagnostic criteria for substance use disorders assigned to JDC and their families. Urine drug screen results were gathered from weekly court visits for 6 months, and youth reported their marijuana use over 12 months. Semiparametric mixture modeling jointly estimated and classified trajectories of both marijuana use indices. Youth were classified into responder versus nonresponder trajectory groups based on both outcomes. Regression analyses examined pretreatment individual, family, and extrafamilial predictors of nonresponse. Results indicated that youth whose caregivers reported illegal drug use pretreatment were almost 10 times as likely to be classified into the nonresponder trajectory group. No other variable significantly distinguished drug use trajectory groups. Findings have implications for the design of interventions to improve JDC outcomes.

Keywords: Juvenile drug court; Adolescent substance abuse; Trajectory outcomes; Treatment nonresponse

1. Introduction

The growing recognition of the need to address substance abuse among adolescent offender populations (Grisso & Underwood, 2004) combined with the success of adult drug courts (General Accountability Office, 2005) has led to the development and proliferation of juvenile drug courts (JDCs), in which drug treatment services are integrated with intensive judicial oversight (Belenko & Logan, 2003). Approximately 500 JDCs are in operation within the United States as of June 2009 (Bureau of Justice Assistance Drug Court Clearing House, 2009), which represents an almost fivefold increase over the number in operation 10 years earlier (Bureau of Justice Assistance Drug Court Clearing House, 2007). The widespread transport of JDCs across the nation has occurred in spite of relatively limited evidence of their effectiveness. Several recent meta-analyses (Aos, Miller, & Drake, 2006; Shaffer, 2006; Wilson, Mitchell, & Mackenzie, 2006), for example, have found that the average effect sizes for the capacity of JDCs to reduce criminal activity is positive but relatively small. Yet, as reviewers of substance abuse treatment for adolescents have noted (e.g., Waldron & Turner, 2008), outcomes from any given intervention can vary widely.

The overriding purpose of this study, therefore, is to examine the nature of the variability in JDC outcomes in the hope that findings can be used to inform the development of more effective JDC services. Specifically, this study uses data from a rigorous randomized trial of JDC (Henggeler et al., 2006) that was published after the aforementioned meta-analyses. Findings from this clinical trial showed that JDC was more effective than family court at decreasing adolescent substance use over a 12-month period, with effect sizes considerably higher than those reported in the meta-analyses. As noted by Wilson et al. (2006), substance use outcomes are

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0740-5472/10/$ – see front matter
doi:10.1016/j.jsat.2010.07.011

rarely reported in drug court evaluations in spite of their centrality to drug court and well-documented link with crime (Chassin, 2008).

The design of the study is informed by the small extant literature on the predictors of youth substance use treatment responsiveness. In a conceptually similar study, Waldron, Turner, and Ozechowski (2005) evaluated substance use change trajectories for adolescents receiving one of several substance abuse treatments. The investigators identified four different types of change trajectories for marijuana use over an 18-month period: improvers, slow improvers, relapsers, and resistant. Importantly, 25% of the sample was included in the resistant group—youth who continued heavy marijuana use without showing any reductions throughout the study period. Another 25% of the youth comprised the relapser group—youth who demonstrated improvements during the initial 4 months but then deteriorated. Other studies of both adolescents and adults have also identified distinct trajectories of substance use following substance abuse treatment, including trajectories reflecting no improvement (Brown, D'Amico, McCarthy, & Tapert, 2001; Chung, Maisto, Cornelius, & Martin, 2004; Xie, Drake, & McHugo, 2006).

In attempting to understand differential treatment response, investigators have examined a range of predictors. Waldron et al. (2005), for example, found that the improver group was generally low in other antisocial behavior at pretreatment and that the relapsers were generally high in depression. Consistent with the broader child and adolescent treatment outcome literature (e.g., Reyno & McGrath, 2006; Silverman, Pina, & Viswesvaran, 2008), Williams and Chang (2000) concluded in their review that pretreatment variables associated with better outcomes following adolescent substance abuse treatment fall within individual, family, and peer domains. Across a range of individual- and family-based treatments, the most consistent predictors included severity of pretreatment substance use and parent- and peer-related variables.

In sum, this study aims to identify trajectory groups for substance-abusing juvenile offenders participating in JDC. As in the aforementioned studies of differential treatment response, all youth received substance abuse treatment. Unique to this study, however, all youth were also enrolled in JDC. The increased structure (e.g., weekly court appearances, specified behavioral demands, and consequences for positive and negative behavior) and oversight (e.g., frequent contact with judge, probation officer, and other court personnel) inherent in JDC might lead to different types of drug use trajectories than observed by Waldron et al. (2005). Similarly, in the context of considerable judicial supervision, perhaps predictors of differential treatment response will emerge that have clear implications for improving the effectiveness of JDC. For example, research on adult offenders suggests that drug court services may have increased efficiency if offenders are matched to the level of judicial supervision based on their level of risk (Marlowe, Festinger, Lee, Dugosh, & Benasutti, 2006). Thus, using data from a recent clinical trial of JDC (Henggeler et al., 2006), the current investigation identifies trajectories of marijuana use among youth participating in drug court and examines factors associated with trajectory groups.

2. Method

2.1. Design and procedures

As noted, this study was conducted using data from youth participating in Henggeler et al. (2006). The purposes of the original study were to evaluate the effectiveness of JDC relative to traditional family court services and to determine whether the inclusion of two evidence-based treatments of adolescent substance abuse (multisystemic therapy [MST] and contingency management [CM]) would enhance JDC outcomes. In the original study, youth were randomly assigned to one of four intervention conditions: family court with usual community substance abuse services (FC), JDC with usual community substance abuse services (DC), JDC with MST (DC/MST), and JDC with MST and CM (DC/MST-CM). Because of the focus on JDC drug use trajectories, youth in the FC condition were excluded from all analyses.

Assessments were conducted with each youth and his or her caregiver at three points in time: within 72 hours of recruitment into the study (pretreatment); 4 months postrecruitment, corresponding to the average end of MST/MST-CM treatment; and 12 months postrecruitment, corresponding to the average end of JDC. Research assistants administered the assessment battery to families in their homes or in detention facilities for youth in juvenile justice custody. Families were paid $75 for each completed assessment as compensation for their time, and all procedures were approved by the university's institutional review board.

2.2. Participants

Participants were 118 adolescents recruited from the Department of Juvenile Justice (DJJ), which is the public agency responsible for adjudicating and intervening with juvenile offenders in the community where the study took place (Charleston, SC). All youth met *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (American Psychiatric Association, 1994) diagnostic criteria for alcohol or drug abuse or dependence. Additional inclusion criteria were (a) age of 12–17 years, (b) residence in Charleston County, and (c) residence with at least one parent figure. Adolescents were excluded if they were already involved in substance abuse treatment or if a family member had already received MST treatment. To enhance generalizability, no youth was excluded due to mental health, physical health, or intellectual difficulties. All families of