Published in final edited form as:
Am J Drug Alcohol Abuse. 2009 ; 35(5): 290–294. doi:10.1080/00952990902968577.

Treatment Entry among Individuals on a Waiting List for Methadone Maintenance

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Abstract

Background—Many methadone programs in the United States have waiting lists for care.

Objectives—To examine specific predictors of treatment entry among individuals on a waiting list for methadone maintenance.

Methods—Heroin users placed on a waiting list for methadone treatment (n=120) were administered a urine screen for drug use and assessed with a battery of measures at study entry and at 4 month follow-up as part of a larger clinical trial. Logistic regression was used to examine hypothesized predictors of treatment entry. Outcomes for those failing to enter treatment were also examined.

Results—Only 25 individuals (20.8%) entered treatment within four months of being placed on a waiting list. Intravenous drug users were more likely to enter treatment ($p<.05$) whereas cocaine users were less likely to do so ($p<.01$). Motivation did not predict treatment entry, and cocaine use did not moderate this relationship. There were some improvements in heroin use among those who did not enter treatment.

Conclusions—Additional research is needed on the relationship between motivation and treatment entry. Programs may need to make special efforts to facilitate entry for treatment-seeking heroin users who also use cocaine.

Scientific Significance—These findings have implications for improving access to methadone treatment.

Keywords

methadone; waiting list; treatment entry

INTRODUCTION

Methadone maintenance is a highly effective treatment for heroin addiction [1]. Yet, demand for methadone treatment often outpaces supply, resulting in waiting lists for care [2]. Waiting for treatment can be a distressful experience [3], and longer waiting times are associated with lower likelihood of treatment entry [4]. Waiting list practices vary across treatment systems and across clinics. In Baltimore, the site of the present study, prospective patients may be required to call the methadone treatment program (MTP) on some regular basis to remain active on the list, and/or may be required to keep initial appointments prior to gaining admission to comprehensive services. As such, treatment entry from the waiting list could be a function of motivation for treatment.

Motivation has been found to be predictive of important drug abuse treatment process variables, including treatment entry [5], shorter waiting periods for admission [6], greater service utilization [7], and improved retention [8]. Motivation is also important to consider given the demonstrated potential of motivational interventions to facilitate positive behavior change, including reduction of substance use [9]. However, several randomized trials have not supported the efficacy of motivational interventions in improving treatment entry into methadone maintenance or other modalities among out-of-treatment heroin users [10–13].

The current study examined predictors of treatment entry among heroin-addicted adults on a waiting list for methadone maintenance, focusing on the effects of intravenous drug use, cocaine use, and motivation for treatment. Four hypotheses were examined: *(1)* Intravenous drug users (IDUs) would have a different likelihood of treatment entry than intranasal users; *(2)* heroin users who also used cocaine would have a lower likelihood of treatment entry; *(3)* motivation for treatment ('treatment readiness') would be predictive of treatment entry; and *(4)* cocaine use would moderate the effects of motivation, such that motivation would be less predictive of entry among participants who used cocaine.

Intravenous drug use was included as a central hypothesis because of its important public health implications with respect to HIV transmission. It was thought that concomitant cocaine use would make it more challenging for heroin users to meet entry requirements, and cocaine use has been found to be negatively associated with treatment entry among street-recruited drug users [11–12]. The cocaine *x* motivation interaction was hypothesized to be significant, based on the rationale that cocaine misuse might make it difficult for even highly-motivated individuals to follow through with calling the program or keeping appointments.

METHODS

Research Design

Data for this study was drawn from a clinical trial in which heroin-addicted adults seeking treatment at a community MTP were randomly assigned to receive interim methadone (IM) or placed on the standard MTP waiting list [14]. IM consisted of daily methadone administration without accompanying psychosocial services for up to 120 days while waiting for a full service treatment slot to become available. The present study utilized the waitlist control sample (n=120) from the parent study to examine specific predictors of treatment entry. The sample represents a 'natural' waiting list condition as participants received no special services.

Measures

Participants were interviewed at study enrollment and at 4 month follow-up or at treatment entry (whichever occurred first). A urine sample was collected at each assessment. Measures included the Addiction Severity Index [15], a study-specific questionnaire on participant behaviors and attitudes, and the Texas Christian University (TCU) Motivation Scales [16]. The TCU measure includes three scales, each measuring a distinct motivation construct: problem recognition, desire for help, and treatment readiness. While the scale questions have remained consistent, the response format has varied from a 3- to a 7-point agreement scale. The 7-point versions were used in this study.

Treatment Entry—Treatment entry was determined by participant response to a questionnaire. Participants were considered to have entered treatment if they reported being admitted to any MTP in the city within four months of study enrollment. At follow-up, four

individuals were in prison, one was deceased, and eight could not be located. For this analysis, these eight were assumed to have not entered treatment.

Intravenous Drug Use, Cocaine Use, and Motivation—IDU was determined by self-report. Participants were classified as cocaine users if they reported using cocaine in the past 30 days, *or* if they had a cocaine-positive urinalysis at baseline. The TCU 'treatment readiness' scale was used as the focal motivation measure because this was thought to be the most relevant motivation construct for treatment-seeking heroin users.

Control Variables—Several explanatory variables were included in the model: gender, age, number of lifetime treatment episodes for drug abuse, number of close friends, and incarceration history. Race was not included as an explanatory variable, because the majority of the sample was African American. Number of lifetime treatment episodes was included based on previous research showing an association between treatment entry and prior treatment experience [4–5,11–12]. The number of close friends was included as an indicator of social support, although direction was not predicted because having heroin-using close friends could make it more difficult to follow through with treatment. Incarceration history was included to account for criminal justice problems. This dichotomous variable indicated whether the participant had ever been incarcerated for more than a month, a cut-off selected for its differentiation of lengthier incarceration experiences from more ephemeral detentions.

Statistical Analysis

Logistic regression was used for the analysis, with an array of diagnostics pointing to the model presented here [17]. This model excludes three other variables (age of onset for heroin use and the other two TCU motivation scales) that were included in the initial specification but removed because they were non-significant *and* had comparatively weak conceptual underpinnings. (A likelihood ratio test confirmed that these variables were not jointly significant). The revised model was superior on virtually all measures of model performance, with no consequence to the substantive conclusions of the analysis. Hence, the model presented here was adopted as the recommended specification. (Detailed analyses are available from the first author). The moderation hypothesis was assessed using the procedure described by Norton and colleagues [18], which provides more accurate interaction effects for binary logit models. To contextualize the findings, we also examined pertinent descriptive data and outcomes for those who did not enter an MTP.

RESULTS

Participants

Participant characteristics are shown in Table 1. Twenty five (20.8%) individuals on the waiting list entered an MTP within 4 months, after a mean (*SD*) of 58.5 (38.5) days. The mean age of the sample was 41.2 years, 62% were male, 93.3% were African American, and 6.7% were white. Forty one percent used heroin intravenously, while 68% were cocaine users. All three motivation measures were skewed towards higher values. This is consistent with self-report on a questionnaire item asking "how important is getting into a methadone maintenance program for you?" The response categories consisted of a 5-point scale ranging from '*not very important (I'm doing ok)'* to '*extremely important (it is my only chance to decrease my heroin use)*'. Ninety-three percent of the sample indicated getting into methadone maintenance was 'extremely important', and none thought it was less than 'important'.

Predictors of Treatment Entry

The logistic regression model is shown in Table 2. Consistent with our first two hypotheses, IDUs were more likely to enter treatment ($p<.05$), while cocaine users were less likely to do so ($p<.01$). However, the motivation hypothesis was not supported as treatment readiness was not a significant predictor of entry, and the interaction between motivation and cocaine use was non-significant (model not shown).

Outcomes for Individuals Failing to Enter an MTP

Given the low likelihood of MTP entry for the sample, we examined access to other forms of treatment while on the waiting list as reported at 4-month follow-up. Only 10 individuals accessed any formal drug abuse treatment while on the waiting list. Seven of these accessed only short-term outpatient detoxification (non-methadone). Four of these seven successfully entered an MTP. Three individuals accessed inpatient treatment, none of whom entered an MTP. While 22 individuals reported attending Narcotics Anonymous meetings while on the waiting list, there was no significant relationship between Narcotics Anonymous attendance and MTP entry.

We also examined drug use and related outcomes from baseline to 4-month follow-up among those who did not enter an MTP (Table 3). There were no significant baseline differences on these variables between those who entered and MTP and those who did not, except that a higher proportion of those who failed to enter treatment had a cocaine-positive urinalysis at baseline (67.8% *v.* 39.1%; $p<.05$). Among those failing to enter an MTP, there was a significant decrease from baseline to follow-up in self-reported days of heroin use ($p<.001$) and heroin-positive urinalysis ($p<.01$), as well as money spent on drugs ($p<.01$).

DISCUSSION

Remarkably few individuals in this study were able to gain admission to an MTP within four months of waiting list placement. This finding is of some importance. Heroin addiction is associated with overdose death [19], HIV transmission [20], and criminal behavior [21]. Methadone treatment is a low-cost and highly effective approach to reducing these problems [1]. Nevertheless, availability of methadone treatment has remained inadequate for some time [2,22]. Given even the lower cost and proven efficacy of interim methadone [14,23], its more widespread use could greatly improve treatment access and outcomes.

The finding that IDUs on the waiting list were more likely to enter treatment is encouraging because of their higher risk for HIV infection. Beginning with the Anti-Drug Abuse Act of 1988, the federal government has emphasized priority admission to drug treatment for IDUs. Currently there is a requirement tied to states' receipt of drug treatment block grants that programs admit IDUs within 14 days of request, or provide interim services when such timely admission is impossible (45CFR 96.126). However, rapid treatment access for IDUs has long been interpreted as something to strive for rather than something to achieve, and there has been variability in compliance with the rule [22]. The finding that cocaine users were less likely to enter treatment is disconcerting but not surprising. Cocaine abuse has long been recognized as a factor that may undermine the ability of methadone maintenance to reach its full potential [24]. Methadone programs may need to develop strategies for facilitating admission among treatment-seeking heroin users who also use cocaine.

Motivation was not associated with treatment entry and there was no significant interaction effect between motivation and cocaine use. Some barriers to treatment access are rooted in the characteristics of drug users (e.g., lack of readiness), while others represent program- and system-level deficiencies [25]. It is possible that the role of motivation is more pronounced in the initial stages of treatment-seeking, a contention supported by previous

research with out-of-treatment users [5,11–12]. The pretreatment process may best be conceptualized as having at least two distinct stages: the out-of-treatment stage, when treatment-contemplating individuals have not sought care; and the period between first contact with a service provider and admission. Recent research also suggests further stages within the waiting period itself [6].

Limitations of this study include the relatively small sample size and the racial and socioeconomic homogeneity of the sample. However, these characteristics are thought to resemble those of the population in publicly-funded methadone treatment where the study was conducted. These findings should not be viewed as necessarily generalizable to other treatment systems. However, the results do point to several avenues for future inquiry. A more nuanced understanding of the various stages of the pre-treatment process could help to identify barriers to treatment entry with increased precision. Research elaborating on the role of motivation in various stages could help to pinpoint the most promising contexts for interventions targeted at the individual seeking care. In doing so, research could also identify gaps where program or system-level enhancements are needed. Future research should also focus on the development and evaluation of techniques for facilitating treatment entry among cocaine-using heroin addicts and other vulnerable groups in an already vulnerable population.

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Table 1

Selected Characteristics of the Waiting List Sample (*N*=120).

Demographic and Social Characteristics		
Age, mean (SD)§	41.2	(6.5)
Male, No. (%)§	74	(62%)
African American, No. (%)	112	(93%)
Married, No. (%)	21	(18%)
Education, in years, mean (SD)	11.5	(1.4)
Number of close friends, No. (SD)§	1.4	(1.4)
Drug Use		
Previous treatment episodes for drug abuse, No. (SD)§	1.7	(1.5)
Age of onset for heroin use, mean (SD)	23.1	(6.8)
Days of heroin use in last 30 days, mean (SD)	29.8	(1.0)
Days of cocaine use in last 30 days, mean (SD)	6.3	(9.6)
Cocaine User, No. (% yes)§	82	(68%)
Intravenous Drug User, No. (% yes)§	49	(41%)
Criminal Justice History		
Lifetime months of incarceration, No. (%)	19	(32%)
Incarcerated for 1 month or more in lifetime, No. (% yes)§	66	(55%)
TCU Motivation Scales		
Problem Recognition Scale [possible range 9–63], mean (SD; range)	54.8	(8.2; 25–63)
Desire for Help Scale [possible range 7–49], mean (SD; range)	46.2	(4.1; 28–49)
Treatment Readiness Scale [possible range 9–63], mean (SD; range)§	51.4	(5.5; 35–56)
Treatment Entry [Dependent Variable]		
Treatment entry within 4 months, No. (% yes)§	25	(20.8%)

§Variables included in the final logistic regression model

Table 2

Logistic regression predicting entry into methadone treatment within 4 months.

Variable	Odds Ratio	95% CI
Intravenous Drug User	4.286*	1.263–14.541
Cocaine User	.180**	.053-.607
Gender (male=1)	1.249	.402–3.881
Age	.923	.850–1.003
Number of close friends	.680	.449–1.030
Ever incarcerated for over 1 month	.443	.151–1.302
Previous treatment episodes	1.281	.930–1.766
Treatment readiness scale	1.037	.937–1.148

N=120; Prob> χ^2 =.004; McFadden Pseudo R^2=.182

* $p<.05$;

** $p<.01$

Table 3

Outcomes for individuals on the waiting list who did not enter an MTP.

Variable	Baseline	4-month follow-up	*Sig.*
Days of heroin use in past 30 days, mean (SE)[a]	29.8 (.121)	25.7 (1.068)	<.001
Heroin-positive urinalysis, percent (SE)[b]	98.7% (.013)	84.0% (.042)	<.01
Days of cocaine use in past 30 days, mean (SE)[a]	7.1 (1.178)	6.1 (1.053)	NS
Cocaine-positive urinalysis, percent (SE)[b]	67.6% (.054)	64.9% (.056)	NS
Days of illegal activity in past 30 days, mean (SE)[a]	6.7 (1.306)	6.1 (1.179)	NS
Money from illegal sources in past 30 days, in $, mean (SE)[a]	468.1 (117.383)	321.5 (124.476)	NS
Money spent on drugs in past 30 days, in $, mean (SE)[a]	802.4 (95.440)	450.3 (55.340)	<.01

[a] Paired-samples t-test. *n*=79 due to approximately 10% lost-to-follow and missing data.

[b] Paired-samples test of proportions. *n*=75 due to approximately 10% lost-to-follow and missing data.