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Using Acceptance and Commitment Therapy during Methadone Dose Reduction:
Rationale, Treatment Description, and Case Report

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Abstract

Many clients who undergo methadone maintenance (MM) treatment for heroin and other opiate dependence prefer abstinence from methadone. Attempts at methadone detoxification are often unsuccessful, however, due to distressing physical as well as psychological symptoms. Outcomes from a MM client who voluntarily participated in an Acceptance and Commitment Therapy (ACT) – based methadone detoxification program are presented. The program consisted of a 1-month stabilization and 5-month gradual methadone dose reduction period, combined with weekly individual ACT sessions. Urine samples were collected twice weekly to assess for use of illicit drugs. The participant successfully completed the program and had favorable drug use outcomes during the course of treatment, and at the one-month and one-year follow-ups. Innovative behavior therapies, such as ACT, that focus on acceptance of the inevitable distress associated with opiate withdrawal may improve methadone detoxification outcomes.

KEYWORDS: Acceptance; mindfulness; psychological flexibility; experimental avoidance; Acceptance and Commitment Therapy; opiate dependence; methadone detoxification.

Using Acceptance and Commitment Therapy during Methadone Dose Reduction:

Rationale, Treatment Description, and a Case Report

The burden of illicit opiate use is substantial, including high morbidity and mortality rates, health care utilization costs, legal involvement, family discord, and lost productivity (Amato, Davoli, Ferri, Growing, & Perucci, 2004). To date, methadone maintenance (MM) is the treatment of choice for opiate dependence. Patients typically enter MM treatment after heroin or other opiate dependence is well-established, with the average length of stay at any particular clinic being 1-2 years (D'Aunno, Folz-Murphy, & Lin 1999). Many MM patients transfer from clinic to clinic, however, remaining on methadone for many years, and, for some, the remainder of their lives. MM is a successful treatment as it is associated with decreases in client's illicit drug use and health risk behaviors, as well as significant improvement in social functioning (Simpson, Joe, & Bracy, 1982). Yet, MM remains controversial (Magura & Rosenblum, 2001). Many professionals believe that substituting one addiction for another is not ethically or therapeutically acceptable. In addition, long-term MM treatment incurs significant financial burden, restrictions in daily activities, and unpleasant stigma. The majority of MM clients state a preference for abstinence (e.g., Lenne et al., 2001), and a number of them request detoxification or attempt to detoxify themselves (Latowsky, 1996).

The primary obstacle, however, lies in the physical and psychological discomfort accompanying methadone detoxification (Magura & Rosenblum, 2001). Withdrawal from methadone results in severe and protracted physiological symptoms (e.g., nausea, diarrhea, bone pain). Methadone withdrawal experiences are reported to be even more

severe than heroin withdrawal (e.g., Gossop & Strang, 1991), with failure to successfully taper off methadone being the rule, rather than the exception (Magura & Rosenblum, 2001). Adverse psychological experiences are also deterrents to detoxification. Most prominent is an intense fear related to experiencing detoxification symptoms (e.g., Eklund, Hiltunen, Melin, & Borg, 1997). Long before symptoms are physically present, anxiety and worry about impending pain and suffering are reported. Consequently, clients who report detoxification phobia are more likely to stay in MM treatment longer and make fewer detoxification attempts (Milby et al., 1994). MM clients who have failed methadone detoxification report that anticipation or fear of intense withdrawal, rather than actual physical symptoms, was the predominant reason for the discontinuation of detoxification (Berger & Schwegler, 1973).

Thus, relapse to opiates or other illicit substances and premature termination of detoxification are the most common outcomes especially when clients undergo rapid methadone dose reduction in a poorly supervised outpatient setting (Gossop, Marsden, Stewart, & Treacy, 2001). Many experts, for this reason, advocate for life-long MM treatment. Methadone detoxification is typically patient-initiated and may only be recommended to a selected group of clients who have a relatively stable life without the current use of illicit drugs.

Behavioral strategies, such as systematic desensitization (e.g., Hollands & Turecek, 1980) and contingency management (e.g., Robles, Stitzer, Strain, Bigelow, & Silverman, 2002) have been tested to improve detoxification outcomes. These studies revealed equivocal results (e.g., short-term effects), however. Given the inevitability of physical and psychological struggles in methadone detoxification, these treatments could

possibly be made more effective by teaching clients skills to function more effectively while experiencing these difficulties. In other words, the problem in this context may not be simply the presence or intensity of detoxification fears and withdrawal symptoms, but the ways in which individuals act on their distressing psychological experiences.

This line of reasoning overlaps with a contemporary behavioral process purported to underlie psychopathology, psychological inflexibility (PI; Hayes, Luoma, Bond, Masuda, & Lillis, 2006). Psychological inflexibility is defined as one's limited and rigid behavioral repertoires in the presence of negatively evaluated private events (thoughts, feelings, bodily sensation, etc), and is the overarching process targeted by Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999). According to the model, the inflexible patterns are due to the domination of unavailing avoidance- and control-based coping strategies, collectively referred to as experiential avoidance (Hayes et al., 2006). The domination of these behavioral patterns is thought to suppress value-directed and constructive behaviors. The ACT model suggests that the primary problem of negative affect is its function, rather than its existence per se. In other words, these events are problematic only because they occasion problematic behavior.

Research has shown that PI is linked to a wide range of psychological problems and functions as a mediator of treatment outcomes (Hayes et al., 2006). Recent studies suggest that PI may be a key process involved in the methadone detoxification process. Individuals with chronic opiate use tend to have greater fear of anxiety and anxiety-related sensation (e.g., Lejuez, Paulson, Daughters, Bornovalova, & Zvolensky, 2006). Those undergoing MM treatment have less distress tolerance than those who do not have substance use problems and display limited behavioral repertoires (i.e., predominantly

avoidance strategies) when experiencing negative affect (Compton, Charuvastra, & Ling, 2001).

Several studies, ranging from case report studies to randomized controlled trials, have shown promising outcomes with ACT in substance use problems (e.g., Gifford et al., 2004; Hayes, Wilson, et al., 2004; Twohig, Schoenberger, & Hayes, 2007; Heffner, Eifert, Parker, Hernandez, & Sperry, 2003) . In one randomized controlled trial (Gifford et al., 2004), ACT was compared to Nicotine Replacement Therapy. Results revealed that ACT participants were more likely to remain abstinent at one-year follow-up (35% vs. 10%). The study also showed that smoking-related PI mediated smoking outcomes, while negative affect and withdrawal symptoms did not. These findings suggest that an individual's approach to distress related to smoking cessation, rather than their absolute *level* of emotional discomfort or distress, may be a crucial factor contributing to treatment outcome. ACT components likewise showed considerable promise in a recent pilot study examining a multicomponent distress tolerance treatment for early lapsing smokers (Brown et al., 2008).

The impact of ACT on substance use among poly-substance-abusing MM clients has also been investigated (Hayes, Wilson et al. 2004). Results revealed that compared to MM treatment alone, the 16-week ACT combined with MM resulted in lower opiate use (61% vs. 28%) and lower total drug use (50% vs. 12%) at 6-month follow up.

To date, no study has examined whether ACT facilitates methadone detoxification. We present a case report of an adult MM client who received weekly individual ACT adjunctive to a 24-week gradual methadone dose reduction program. The case investigation has three purposes: (1) To illustrate how an ACT model of treatment

can be applied to methadone detoxification; (2) To evaluate the effect of a 6-month ACT-enhanced methadone dose reduction program on treatment completion, opiate use, and the use of other illicit drugs; (3) To gather preliminary data on the relation between PI and treatment outcomes. If the ACT model were supported, the client would successfully complete the program, while showing a reduction in PI.

Case Description

To protect the client's confidentiality, the identity of the client was altered. The client was a 57-year-old Hispanic American male with a high school education. He lived in a house with his second wife and her two teenage daughters in a large Southern US city. The client also had two biological children, a son and daughter, from his first marriage. They were now adults and living independently elsewhere. The client's first wife died 7 years prior from Hepatitis C contracted through heroin use. Five years after her death he married his current wife. At the time of intake, the client was employed full-time at an oil/gas factory.

Intake screening with the *Structured Clinical Interview for DSM* (SCID: First, Spitzer, Gibbon, & Williams, 2002) and the *Addiction Severity Index* (ASI: McLellan, Luborsky, Woody, & O'Brien, 1980) revealed that the client had a history of dependence on alcohol (sustained full remission) and opiates (with agonist replacement therapy), and abuse of cocaine. The client began drinking alcohol during his adolescent years, eventually drinking 12-24 drinks daily. At age 32, he attended a residential alcohol treatment program, which resulted in complete abstinence from alcohol thereafter. Many other substances were used periodically from adolescence through his 40s including diazepam, barbiturates (20 yrs), marijuana (20 years), amphetamines/ methamphetamine

(10 years), cocaine (10 years), LSD/glue (3 years). For a period of 17 years he reported using more than one substance daily. Beginning at age 40, the client began using heroin almost daily for 10 years and then entered MM treatment. He was at the MM clinic for 7 years prior to voluntarily transferring to our methadone dose reduction program. Over the last two years the client attempted methadone detoxification at his MM clinic twice unsuccessfully; each time resuming his original dosing schedule within a few weeks. The client attributed the discontinuation of detoxification to intense withdrawal symptoms and emotional distresses. He reported being nervous and jittery and experienced increased sweating, insomnia, and depression. No other Axis I or II psychiatric disorders were identified. However, his score on the *Beck Depression Inventory-II* (BDI-II; Beck, 1996) was 10, indicating that he experienced slightly elevated levels of depression at the time of intake.

The client was a highly appropriate candidate for methadone detoxification. He had a relatively stable life in that he was married, employed, and had been abstinent from alcohol and other drugs for at least 10 years (intake urine screen was negative for all substances except methadone). He displayed strong motivation for methadone detoxification, stating lack of freedom as his major motive. Nevertheless, he reported that methadone detoxification seemed extremely challenging due to withdrawal symptoms and previous lack of success. He had a long and extensive substance use history, and thus his coping seemed to be limited to avoidance and control-oriented strategies, such as distraction and positive-self talk; strategies intended to escape or eliminate negative thoughts, feelings, and bodily sensations. Given the apparent deficit of alternative skills, it was predicted that he would likely report withdrawal symptoms and psychological

distress relatively early in the course of treatment. His narrow repertoire of coping skills, however, seemed balanced by his strong self-reported desire to pursue personal values (e.g., being free).

Setting and Staff

The ACT-enhanced methadone detoxification was conducted in a university substance abuse research center staffed by interdisciplinary treatment team (e.g., nurses, psychiatrist, pharmacist, masters-level therapists, principal investigator, and therapist supervisor). The ACT therapy was conducted by a masters-level therapist with a cognitive-behavior therapy background who had worked in the field of substance use treatment for several years. She was trained and supervised in doing ACT by the second and third authors and on substance abuse treatment issues by the first author.

Assessment

Substance Use. Throughout the course of the dose reduction program, the client's substance use and subjective withdrawal experience were measured twice weekly and at the one-month and one-year follow-up assessments. Substance use was measured using *Qualitative urine toxicology* screens for the presence of cocaine, heroin, amphetamines, barbiturates, benzodiazepines, tetrahydrocannabinol, caffeine, nicotine, and methadone. Breath alcohol concentration (BAC) in breath samples were also measured using an alcohol meter (Alco Sensor 3) which detects recent alcohol use.

Subjective Withdrawal Experience. The client's withdrawal experience was assessed weekly and at both follow-up time points using the *Subjective Opiate Withdrawal Scale* (SOWS; Handelsman, Cochrane, Aronson, Ness, Rubinstein, & Kanof, 1987). The SOWS contains items to rate the intensity of 16 different withdrawal

symptoms using a scale of 0 (not at all) to 4 (extremely), with greater scores suggesting greater subjective withdrawal experiences. The SOWS has established psychometric properties and provides a sensitive measure of withdrawal severity and changes in withdrawal severity (Gossop, 1990). Interclass correlations assessing test-retest reliability were significant at the $p = .001$ level (Handelsman et al., 1987). The SOWS items reflect: feeling sick, stomach cramps, muscle spasms/twitching, feelings of coldness, heart pounding/racing, muscle tension/feeling tense, aches and pains, yawning, runny eyes, and insomnia/sleeping problems.

Negative Affect. The BDI-II (Beck, 1996), one of the most widely used self-report measures of depression, was administered at pretreatment and at both one-month and one-year follow-up time points to assess the levels of depression.

The *Detoxification Fear Survey Schedule* (DFSS-27; Gentile & Milby, 1992) is a 27-item measure of fear of relapse, withdrawal symptoms, and AIDS rated on a Likert scale. The DFSS has demonstrated adequate internal consistency, ranging from .74 to .96 and good two-week test-retest reliability ($r = .77$). Based on a sensitivity analysis, a cut-off score of 70 was selected for identifying diagnostically significant and severe detoxification fear. The DFSS was administered monthly and at one month and one year follow-up time points.

Psychological Inflexibility. The *Acceptance and Action Questionnaire* (AAQ; Hayes, Strosahl, et al., 2004) was administered monthly and at the follow-up time points to measure level of psychological inflexibility (PI) or inflexible behavior repertoires, such as experiential avoidance, in the presence of negatively evaluated private events (thoughts, feelings, bodily sensation, etc). The AAQ (i.e., 9-item version) is a 7-point

Likert scale with adequate internal consistency (alpha of .70; Hayes, Strosahl, et al., 2004).

Program Overview

Methadone Dose Reduction Schedule

Based on a previous agonist-replacement therapy detoxification study using levo-alpha acetyl methadol (LAAM; Grabowski et al., 2005), a 24-week detoxification period was selected, beginning with a 4-week stabilization phase, in which methadone doses were adjusted based on client weight (1.2 mg/kg). The dose stabilization phase was then followed by a 20-week linear dose reduction phase. The client was dosed twice per week at the treatment-research clinic, with “take home” doses provided for the intervening days. This client’s initial dose was 120 mg. Some flexibility in the dose reduction schedule was permitted to accommodate severe withdrawal and medical concerns. For example, the client’s dose was held steady for an extra week in the last month of the detoxification due to an increase in blood pressure.

Acceptance and Commitment Therapy

The present ACT protocol was largely drawn from existing ACT manuals (e.g., Hayes et al., 1999) and the previous ACT project on polysubstance use (Hayes, Wilson, et al., 2004) (see Table 1). Modifications were made to reflect issues specific to methadone detoxification. The ACT protocol consisted of 24 50-minute sessions delivered weekly beginning in the stabilization period and continuing through the dose reduction period. Each session typically started with a 5 to 10 minute mindfulness exercise (e.g., breathing, sitting still, noticing and observing thoughts, feelings, bodily sensations). Session specific components were introduced using the client’s personal

experiences related to the methadone dose reduction and/or other life events.

Implementation and rationale for the four overarching ACT intervention components are described generally in Table 1 and more specifically below.

 Insert Table 1 here

Values Clarification. In contrast with several ACT protocols, values-focused interventions were introduced to the client early, prior to beginning the methadone dose reduction, for several reasons. One reason was to firmly establish ACT congruent treatment goals and therapeutic rationale. Clarifying the client's personal values gave the therapy an overarching purpose based on what the client deemed most important. Methadone detoxification itself was not the end-goal, but a step in the direction of a less constricted and ultimately more meaningful life. Second, values-clarification was introduced during the stabilization period to increase the client's motivation and commitment to enter into methadone detoxification. Finally, the client's expected trajectory of emotional and physiological distresses throughout the course of methadone detoxification was taken into account for the timing of value-focused interventions. Greater emotional and physiological distress was expected as his dose was decreased. Strengthening personal values early in the treatment was thought to increase the probability of program completion.

Linking the costs of previous and current substance use (and associated shame and guilt) with personal values was extremely powerful in the value-focused phase. For example, the client reported that the loss of his first wife was a most difficult and painful

experience for him (e.g., strong sense of guilt for introducing her to heroin). When the client emotionally disclosed his pain from the loss, the therapist gently said to the client:

“It seems like you have this pain and guilt because you cared about her. You cared about intimacy, family, and trust. You still do. These are very important to you. There are values under the pain and guilt. Perhaps you are about to start methadone detox for this”.

The client was well-connected to the perspective and reported his willingness to commit to methadone detoxification in order to have a value-directed life.

Shifting Perspectives. Sessions 5 through 9 primarily focused on shifting perspectives from avoiding and controlling aversive private events (i.e., detoxification fear, feelings of uncertainty, fear of failure, physical withdrawal experience) to letting go of struggles (e.g., psychological acceptance). This was one of the most challenging tasks for the client. He seemed to believe, as most people do, that negative private experiences were likely to prevent him from staying committed to value-directed activities, including methadone detoxification. Given this belief, he tried not to have these events by engaging in distraction and positive self-talk (e.g., “I’ll be OK and stay positive!”), which seemed quite logical. However, these strategies were highly unlikely to help him through the detoxification process because distressing private experiences were simply inevitable. Further, avoidance and control strategies and their failure to alleviate suffering were likely to make these events worse, jeopardizing detoxification success. The only way to ultimately control the physical symptoms of withdrawal is to use methadone or heroin again. With this conceptualization, it was extremely crucial for the client to have the shift in perspective.

We found it helpful to suggest to the client that anxiety, depression, and physical withdrawal symptoms are expected given his history and that these experiences do not have the power to lead to the premature termination of detoxification or relapse to heroin. After several sessions with this focus, the client began freely admitting and sharing his feelings with the therapist and became open to an alternative to distraction and positive self-talk.

Acceptance and Mindfulness. The stance of acceptance and mindfulness was introduced to the client midway through the dose-reduction schedule as the client was experiencing detoxification fears and subjective withdrawal symptoms at this time, but not to a severe degree. For this client, more frequent voicing of his withdrawal symptoms (sleeplessness, leg pain, upset stomach, etc) was considered an indication of increased psychological acceptance, relative to his previous attempts to avoid all discussion of such experiences.

In addition to using conventional ACT metaphors and experiential exercises (see Hayes et al, 1999), we found that the phrases “I am having the thought that...” and “I am noticing that ...” were useful to create distance from and reduce the attachment to his distressing thoughts and feelings. These techniques helped to increase the client’s psychological openness and nonjudgmental stance toward these private events. The client learned experientially that withdrawal symptoms and negative affect did not automatically lead him to substance use or premature discontinuation of therapy.

Commitment to Value-Directed Life. Sessions 18 through 24 focused on maintaining an ongoing commitment to value-directed actions, including methadone dose reduction. By week 18 of the therapy, the reduced dose of methadone resulted in highly

distressing withdrawal symptoms (e.g., bone pain, nausea, sweating, insomnia). The client's experience of psychological and physical struggles (e.g., uncertainty, fear, pain) were identified, validated and normalized, and put into context with the aspects of life he found most important (i.e., values). Personal values were revisited, including his commitment to finishing the program, to strengthen value-directed activities. Client-initiated value congruent actions (e.g., calling his biological son) were especially reinforced. In session 23 and 24, the client continued to report the gradually intensified experience of withdrawal symptoms. Nevertheless, he also continued to report his commitment to methadone detoxification and progress in communicating with his wife, stepdaughters, and biological children, a self-identified target behavior. In the last session, progress in treatment and plan for his future were discussed, and the individual therapy session was terminated.

At the one-month follow-up, the client reported he was doing well, with only a few residual withdrawal symptoms, mainly insomnia. At one year, he and his 2nd wife were in the process of divorcing. He reported increased anxiety related to this situation, but overall, he reported functioning well.

Results

Withdrawal Symptoms and Negative Affect. At intake, the client's methadone dose remained stable at 120 mg, yet his SOWS score indicated moderate degrees of perspiration, teary eyes, running nose, and hot flushes and mild degrees of muscle aches (see Figure 1). Throughout the course of the 24-week methadone dose reduction program, his SOWS scores did not exceed pretreatment levels, despite fluctuation (i.e., ranging from 1 to 13). During the second half of program, his SOWS scores indicated the

presence of moderate stomach cramps, running nose, and anxiety. At the one-month follow-up, the client reported no subjective withdrawal symptoms in the SOWS.

 Insert Figure 1 here

The client's BDI-II score was slightly increased at the one-month follow-up relative to that of baseline (BDI-II = 15). The client endorsed some physiological symptoms of depression that overlapped with the withdrawal symptoms of methadone, such as fatigue and difficulty in sleeping. Increased negative affect at post-detoxification is commonly reported and often associated with relapse to opiate use (e.g., McLellan, Childress, Ehrman, O'Brien, & Pashko, 1986). In the midst of divorce process, he scored 17 on BDI-II at a one-year follow-up. He endorsed past failure, loss of pleasure, and loss of sexual interest.

The client's DFSS scores at the various time points were low relative to the cut-off score of 70 set by Milby and colleagues. Thus, although fear was reported, the client is not part of the minority of MM clients who report diagnostically severe detoxification phobia. Visual inspection of the data also indicates the client's levels of detoxification fears fluctuated over time, ranging from 10 to 20 (see Figure 1).

Psychological Inflexibility. The client's AAQ-9 score at pretreatment (= 44) fell within the upper quartile (AAQ-9 > 41; Hayes, Strosahl, et al., 2004) of PI among clinical populations. A reduction was observed in week 4 (=38) and scores fluctuated between 40 and 35 throughout the course of dose reduction. His average AAQ-9 score during the program was 38. The client scored 37 at the one-month follow-up and his AAQ at the

one-year follow-up was 36. Throughout the study, his score did not go below the mean of non-Caucasian, non-clinical population (= 34.5).

Substance Use. Urine drug screen data revealed that the client was highly successful in the methadone detoxification program. No use of any substances (i.e., cocaine, opiates, benzodiazepines, stimulants, or psychedelics) was found during the entire 24-week program nor at the one-month follow-up, despite significant withdrawal symptoms. Once his methadone dose reached zero, urine data indicated that methadone was no longer present. The breath samples revealed continued abstinence from alcohol. These findings were also consistent with his self-report collected during the course of the program. At the one-year follow-up assessment, the client still remained opiate-free, yet reported use of prescribed benzodiazepines which was confirmed by the urine screen.

Discussion

Growing evidence suggests a significant impact of emotional and cognitive processes on substance use (Marlatt & Gordon, 1985) and the potential utility of acceptance-based intervention for substance-related problems (Hayes, Wilson, et al., 2004). The present investigation reports on the first client enrolled in a treatment development study designed to examine the utility of ACT-based treatment for methadone detoxification. Positive findings indicate that, despite the well-documented odds against successful methadone detoxification, the client completed the program without relapsing to illicit substances, maintained abstinence from all substances at one-month follow-up, and remained opiate-free one year post-treatment.

Particularly of relevant for ACT are the elevated subjective withdrawal symptoms reported *at intake*—an entire 4 weeks before the first reduction in dose. These data

underscore the significance of the client's anticipation and fear of withdrawal and other unpleasant detoxification experiences which manifest as anxiety-related physical symptoms. The presence of detoxification fear was also corroborated by a higher score at intake on the DFSS relative to other time points. These variables fluctuated throughout the course of methadone detoxification and at follow-up points, and do not seem to have systematic relations to substance use outcomes.

A primary target in the ACT model is the way in which a client approaches difficult private events, not these events. ACT is designed to increase client's willingness to be open to difficult private events, while increasing value-based actions, collectively referred to as psychological flexibility. Although the present case report did not clearly show significant reduction in psychological inflexibility (PI), small changes in the expected direction were noted. Future methadone detoxification studies should further explore the role of PI on detoxification fears, subjective withdrawal symptoms, and substance use outcomes.

It may seem surprising that the client chose to use benzodiazepines reportedly due to emotional distress around the time of the one-year follow-up. This result could be viewed as a failure of the ACT treatment or its durability, which of course are valid hypotheses. However, the benzodiazepine use must be viewed within the context of the typical methadone detoxification course and the client's substance use history. First, the success rates for methadone detoxification are dismal at best. Most studies report high drop-out rates, with few patients achieving abstinence (~ 25%; Hall 1984). Some studies have documented that all subjects returned to methadone or other opiate use during or in the month following treatment (Grabowski et al., 2005). Second, this client has used

substances his entire life since adolescence to cope with the inevitable and difficult experiences of life. He used almost every class of drug available and became physiologically dependent at different times on alcohol and heroin. Within this context, the fact that the client went to a doctor and acquired a prescription for an anti-anxiety medication (a behavior engaged in by many Americans), versus returning to opiates or other illicit drugs, can arguably be viewed as responsible behavior in the context of a distressing environmental situation (divorce)—a significant accomplishment for this client. Of course, if the client used the medication such that it began to interfere with pursuing important life values, then the durability of ACT may be questioned and the need for booster sessions may be entertained. If the client uses benzodiazepines for a period of time without negative consequences in other life domains, however, we would not consider him a treatment failure.

Methodologically, it should be noted that although reductions in PI were found using the general, non-problem-specific AAQ, the decrements were not large. Failure to find large changes on the general AAQ has been reported in other studies as well (e.g., Hayes et al., 2006). A measure of psychological inflexibility related to the experience of methadone detoxification may more precisely capture the specific fears and avoidance strategies typical of the population. Future research is needed to develop and test such a measure.

It is important to note that there are competing explanations for treatment success. The first factor is simply age. The client was 57 years old, and based on the typical course of substance abuse, he was more likely to achieve abstinence from drugs compared to substance users in younger age groups. It is important to note, however, that

he failed detoxification twice in very recent years, and that many other clients in our substance abuse clinic of similar age have not succeeded to this level. Another factor that could influence treatment outcome is the dose-reduction schedule. The duration of the preset dose reduction program (i.e., 24 weeks) was longer than those used in most previous studies (e.g., 3, 6, or 12 weeks). Positive results in the present case might be simply due to the longer period of gradual dose reduction. Perhaps even more importantly is that this client was abstinent from all other substances upon commencing the detoxification program. This is not the norm in the methadone-using population and may have played a large role in his ability to achieve and maintain opiate abstinence.

Thus, further study with methodological rigor is needed to determine whether the ACT-enhanced methadone dose reduction is effective for more complicated MM clients. Exploration of client characteristics indicative of success with the ACT-based treatment also seems warranted, particularly examining the relation between PI and treatment outcomes. Given the results of the present case study, it seems worthwhile to continue research on this promising behavioral therapy for the methadone-using population.

Finally, it is important to acknowledge that methadone dose reduction is extremely complicated. The physical and psychological distress experienced by these clients should not be underestimated. Although there is much research to be done to determine the conditions under which clients will benefit from methadone detoxification, the present case suggests that there are MM clients who *can* successfully detoxify and lead drug-free lives. Researchers have an obligation to better understand the process in order to develop more precisely focused and effective treatments.

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Table 1. Overview of ACT Components and Strategies

Sessions	Components/Strategies	Goals/Purposes
1-4	<ul style="list-style-type: none"> • Rapport Building • Choosing a valued direction (value clarification) 	<ul style="list-style-type: none"> • Client and therapist develop ACT-consistent treatment alliances and goals. • Client identifies values and increases motivation for having a value-directed life as well as commitment to methadone detoxification.
5-9	<ul style="list-style-type: none"> • Shifting Perspective: Control is the problem • Letting go of struggle 	<ul style="list-style-type: none"> • Client identifies his previous and current coping styles for difficult psychological events (e.g., anxiety, self-doubt, fear, negative bodily sensation, etc). • Client learns these coping strategies are for <i>controlling and avoiding</i> negative psychological events. • Client learns that these coping strategies are not working well in the long run. • Client explores ways in which control and avoidance attempts prevent him from engaging in value-directed behaviors. • Attempts to control and avoid problematic private events might have negative iatrogenic effects. • Client notices the futility of control and avoidance attempts and is willing to consider an alternative approach to his difficult private events (e.g., fear of uncertainty, fear of failure).
10-18	<ul style="list-style-type: none"> • Acceptance and Mindfulness 	<ul style="list-style-type: none"> • Client learns psychological acceptance as an alternative to avoidance and control attempts. • Client chooses to be open to or to allow whatever he is experiencing as it is (i.e., acceptance), even difficult psychological events. • Client learns to observe his private events. • Client learns not to get sidetracked by his difficult psychological events.
19-24	<ul style="list-style-type: none"> • Commitment 	<ul style="list-style-type: none"> • Client progresses toward a committed and value-directed life (e.g., the completion of methadone detoxification).

Figure Caption

Figure 1. Methadone dose schedule, subjective opiates withdrawal experiences, detoxification fear, and psychological inflexibility throughout the course of ACT-enhanced methadone detoxification program.

