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Addressing Tobacco Through Organizational Change (ATTOC) in residential addiction treatment settings

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ABSTRACT

Background: Smoking prevalence among persons in addiction treatment is 3–4 times higher than in the general population. However, treatment programs often report organizational barriers to providing tobacco-related services. This study assessed the effectiveness of a six month organizational change intervention, Addressing Tobacco Through Organizational Change (ATTOC), to improve how programs address tobacco dependence.

Methods: The ATTOC intervention, implemented in three residential treatment programs, included consultation, staff training, policy development, leadership support and access to nicotine replacement therapy (NRT) medication. Program staff and clients were surveyed at pre- and post-intervention, and at 6 month follow-up. The staff survey measured knowledge of the hazards of smoking, attitudes about and barriers to treating smoking, counselor self-efficacy in providing such services, and practices used to address tobacco. The client survey measured knowledge, attitudes, and tobacco-related services received. NRT use was tracked.

Results: From pre- to post-intervention, staff beliefs became more favorable toward treating tobacco dependence ($F(1, 163) = 7.15$, $p = 0.008$), NRT use increased, and tobacco-related practices increased in a non-significant trend ($F(1, 123) = 3.66$, $p = 0.058$). Client attitudes toward treating tobacco dependence became more favorable ($F(1, 235) = 10.58$, $p = 0.0013$) and clients received more tobacco-related services from their program ($F(1, 235) = 92.86$, $p < 0.0001$) and from their counselors ($F(1, 235) = 61.59$, $p < 0.0001$). Most changes remained at follow-up.

Conclusions: The ATTOC intervention can help shift the treatment system culture and increase tobacco services in addiction treatment programs.

1. Introduction

While tobacco use claims 5 million lives annually worldwide, tobacco control efforts in the United States have reduced smoking prevalence from 40% in 1964 to 20.6% currently (World Health Organization, 2010; Department of Health Education and Welfare, 1964; Centers for Disease Control and Prevention, 2009). Schroeder and Warner (2010) admonish us not to forget tobacco's continued toll on persons with mental health and substance use disorders, who consume 44% of all cigarettes in the U.S. (Lasser et al., 2000). Individuals with substance addiction are heavy smokers (Kozlowski et al., 1986; Hughes, 1996, 2002; Marks et al., 1997; Hays et al., 1999; Sobell, 2002), have limited success in quit attempts (Bobo et al., 1987; Kozlowski et al., 1989; Zimmerman et al., 1990; Joseph et al., 1993; Drobes, 2002; Sobell, 2002), and more often die from smoking-related causes than from other drug or alcohol-related causes (Hser et al., 1994; Hurt et al., 1996). In addiction treatment settings, client smoking prevalence ranges from 47% to 94% (Guydish et al., 2011).

The recommendation that addiction treatment programs should address tobacco, seen in the literature over 30 years (Hoffman and Slade, 1993; Currie et al., 2003; Stuyt et al., 2003; Olsen et al.,

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2005; Richter and Arnsten, 2006; Schroeder and Morris, 2010), is now codified in clinical guidelines (Fiore et al., 2008) and position statements (American Public Health Association, 2003; American Society of Addiction Medicine, 2008; NAADAC, n.d.). One longitudinal study found that self-reported smoking cessation during the first year after admission to addiction treatment was associated with improved alcohol and drug use outcomes (Tsoh et al., 2010). Despite these changes, three studies have concluded that tobacco dependence services are not provided in most addiction treatment programs (Richter et al., 2004; Fuller et al., 2007; Friedmann et al., 2008). Rothrauff and Eby (2010) attributed low adoption of tobacco cessation medications to historical program paradigms (e.g., 12-Step), among other factors. Knudsen and colleagues found that attitudes toward smoking cessation programs, type of facility (e.g., medical-based) and availability of resources affect the adoption of smoking cessation in addiction treatment (Knudsen, 2009; Knudsen et al., 2010). Other barriers include limitations on staff time and training, lack of reimbursement for tobacco services, the cost of nicotine replacement therapy (NRT), and elevated rates of staff smoking in some programs (Guydish et al., 2007). Staff resistance (Hurt et al., 1995; Hahn et al., 1999) is rooted in the belief that patients should avoid major life changes (including smoking cessation) early in recovery (Sees and Clark, 1993; Sussman, 2002). However, treating tobacco dependence does not jeopardize recovery from other drug use (Toneatto et al., 1995; Martin et al., 1997; Stuyt, 1997; Prochaska et al., 2004).

Observers have noted the systemic nature of these barriers, and suggested that organizational change is needed. For example, Campbell et al. (1995, p. 93) recommended "transforming the institutional culture so that it supports rather than conflicts with the goal of smoking cessation."

Early investigators who tried to change this culture include Hoffman and Slade, who developed an organizational intervention described in *Drug Free is Nicotine Free* (Hoffman et al., 1997). Ziedonis and colleagues modified and expanded the organizational change components of Hoffman and Slade's guidelines into the current Addressing Tobacco Through Organizational Change (ATTOC) intervention (Ziedonis et al., 2007; University of Massachusetts Medical School and Department of Psychiatry, n.d.). ATTOC has three phases and ten steps, and includes training on motivation based treatment approaches, links to quit lines and community services, use of communication planning, developing standard operating procedures, using performance improvement strategies, and assessment of agency strengths and weaknesses.

Sharp et al. (2003) reported on 3 programs that incorporated tobacco dependence treatment using an ATTOC-like approach (Slade and Hoffman, 1992; Hoffman et al., 1997) and contrasted this with failed attempts to integrate tobacco dependence without an organizational change model (Rustin, 1998). Similarly, a one-year retrospective evaluation of an ATTOC-like intervention in 30 New Jersey residential programs found that all programs provided more tobacco dependence treatment, half had adopted smoke-free grounds, and 41% of smokers did not smoke during their residential stay (Williams et al., 2005). To date, however, there are no published reports of rigorous prospective investigation concerning staff and client impacts of the manualized ATTOC intervention.

This study tested the ATTOC intervention in three agencies with residential treatment programs located in Massachusetts, Ohio and Oregon. In a multiple baseline design with each agency as its own control, the agencies participated in a 6 month ATTOC intervention that was designed to support staff-level change in tobacco-related knowledge, attitudes and practices, and increase client exposure to tobacco dependence intervention. Study hypotheses predicted improvement in: (1) staff knowledge, attitudes, and practices concerning tobacco; (2) client knowledge, attitudes, and tobacco-related services received, and (3) utilization of NRT medication.

2. Methods

2.1. The ATTOC intervention

With consultation from the University of Massachusetts ATTOC Intervention Team, each agency identified an on-site Tobacco Champion, Tobacco Counselors, and a Leadership Team. During the first month of the intervention, the consult team visited each agency to conduct a detailed assessment (e.g., smoking on the campus, tobacco signage, review of client medical records and tobacco policies), and to meet with agency leaders, staff and patients. During the visit, agency leadership were trained on the ATTOC model, including performance improvement strategies, and all clinical staff received 8 h of basic training on tobacco assessment and treatment. Each agency developed broad patient, staff, and environment goals, written implementation plans, and workgroups to support implementation. Examples of program goals include starting new treatment services, improved medical records documentation, and new policies and procedures to support sustainability (Stuyt et al., 2003). Following the site visit two to three staff were identified as Tobacco Counselors, and received an additional 3-day off-site advanced tobacco training. Champions and Tobacco Counselors received at least weekly phone/email consultation to continue motivation and address problems. Monthly phone meetings with the Tobacco Leadership Team supported and monitored progress. The six-month ATTOC intervention has been described elsewhere (Ziedonis et al., 2007; University of Massachusetts Medical School and Department of Psychiatry, n.d.). Finally, the study funded NRT medications ($11,000 per agency) for use by both clients and staff, for 10 months from the start of the intervention. This means that NRT was available during the 6-month intervention period, and for an additional 4 months after the intervention ended. Our interest was that NRT could support organizational change during the intervention, and also sustain changes in the post-intervention period. Agencies purchased, managed, and monitored use of NRT.

2.2. Study design

For each agency, there were three measurements: at pre-intervention, at post-intervention (6 months after the pre-measure), and at follow-up (6 months after the intervention ended). The intervention was implemented sequentially in Site 1 (October 2006–April 2007), Site 2 (August 2007–January 2008), and Site 3 (July–December 2008). Because the intervention was implemented at a later time in Sites 2 and 3, it was possible to collect an earlier wave of data in these two sites. We name this "Baseline" to distinguish it from pre-intervention data collection. These baseline data allow for consideration of any trends toward improvement before the intervention began.

2.3. Program eligibility

Only residential programs were eligible. A notice about the study was sent to all residential programs participating in the National Institute on Drug Abuse Clinical Trials Network (CTN), and 11 responded. Three were selected using these criteria: (a) program size sufficient to include 50 paid staff and to enable cross-sectional samples of 50 clients at each observation, (b) one large physical site or a number of smaller sites in close proximity, and (c) current program practice did not include tobacco assessment and intervention for clients. One selected program dropped out prior to the intervention and was replaced by a smaller program.

The participating agencies represented large multi-service addiction treatment organizations. Within each agency, only residential treatment programs were included in the study, and length of stay (LOS) in these programs varied. Site 1 included both a women's residential program (LOS 3–4 months) and men's residential program (LOS 2–3 months). The women's facility used a gender responsive holistic treatment approach that promoted family systems and support as well as child safety. The treatment approach at the men's facility was a Therapeutic Community model, with peer accountability and strict adherence to rules. The majority of clients at both facilities were mandated to treatment by court order. Site 2 included a short term mixed-gender residential program (average LOS 25 days), and a longer term women-focused program that prioritized pregnant women and women with children (LOS 4–6 months). Treatment in Site 2 was historically grounded in the Twelve-Step model of addiction and recovery, with more recent incorporation of cognitive therapy, motivational enhancement, and psychiatric services. Site 3 included two gender-specific halfway houses (LOS 3–6 months) and a mixed-gender transitional living program (LOS 28 days). In Site 3 there was a specific emphasis on return to employment and on a holistic and biopsychosocial approach to treatment.

2.4. Participants

All paid staff who worked at least 20% time were eligible. While clinical staff may have the most opportunity to influence client smoking, all staff contribute to the organizational climate. For example, clerical, janitorial, and kitchen staff may