CLINICAL RESEARCH STUDY

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A Randomized Trial of Cognitive Behavioral Therapy in Primary Care-based Buprenorphine

David A. Fiellin, MD,[a] Declan T. Barry, PhD,[b] Lynn E. Sullivan, MD,[a] Christopher J. Cutter, PhD,[a] Brent A. Moore, PhD,[b] Patrick G. O'Connor, MD, MPH,[a] Richard S. Schottenfeld, MD[b]

[a]Department of Internal Medicine and [b]Department of Psychiatry, Yale University School of Medicine, New Haven, Conn.

ABSTRACT

OBJECTIVE: To determine the impact of cognitive behavioral therapy on outcomes in primary care, office-based buprenorphine/naloxone treatment of opioid dependence.

METHODS: We conducted a 24-week randomized clinical trial in 141 opioid-dependent patients in a primary care clinic. Patients were randomized to physician management or physician management plus cognitive behavioral therapy. Physician management was brief, manual guided, and medically focused; cognitive behavioral therapy was manual guided and provided for the first 12 weeks of treatment. The primary outcome measures were self-reported frequency of illicit opioid use and the maximum number of consecutive weeks of abstinence from illicit opioids, as documented by urine toxicology and self-report.

RESULTS: The 2 treatments had similar effectiveness with respect to reduction in the mean self-reported frequency of opioid use, from 5.3 days per week (95% confidence interval, 5.1-5.5) at baseline to 0.4 (95% confidence interval, 0.1-0.6) for the second half of maintenance ($P < .001$ for the comparisons of induction and maintenance with baseline), with no differences between the 2 groups ($P = .96$) or between the treatments over time ($P = .44$). For the maximum consecutive weeks of opioid abstinence there was a significant main effect of time ($P < .001$), but the interaction ($P = .11$) and main effect of group ($P = .84$) were not significant. No differences were observed on the basis of treatment assignment with respect to cocaine use or study completion.

CONCLUSIONS: Among patients receiving buprenorphine/naloxone in primary care for opioid dependence, the effectiveness of physician management did not differ significantly from that of physician management plus cognitive behavioral therapy.

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KEYWORDS: Analgesics; Buprenorphine; Cognitive therapy; Opioid; Opioid-related Disorders; Primary health care

Buprenorphine has effectively more than doubled the capacity of the US health care system to provide opioid agonist treatment for patients dependent on prescription opioids and heroin. Before buprenorphine's introduction in 2002, there were less than 200,000 patients who received only methadone annually.[1] In 2008 and 2009, there were an estimated 268,071 patients receiving methadone and more than 600,000 patients receiving buprenorphine.[2,3] The majority of this increase is the result of primary care and other office-based physicians who prescribe buprenorphine and provide limited ancillary counseling.[4,5] Prior research has demonstrated that adding counseling to opioid agonist treatments such as methadone or buprenorphine can increase abstinence rates but has no effect on treatment retention.[6] Cognitive behavioral therapy is a counseling intervention that has demonstrated efficacy in a variety of psychiatric conditions and substance use disorders.[7-10] A unique feature of cognitive behavioral therapy is prolonged efficacy beyond the period of treatment, a so-called sleeper effect.

The impact of adding cognitive behavioral therapy to office-based buprenorphine is unclear. There are logistic barriers to arranging for additional counseling services with

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Requests for reprints should be addressed to David A. Fiellin, MD, Yale University School of Medicine, 367 Cedar St, PO Box 208093, New Haven, CT 06520-8093.

E-mail address: david.fiellin@yale.edu

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office-based buprenorphine, and they add to the expense of treatment. The objective of this study was to evaluate the impact of adding cognitive behavioral therapy to physician management in opioid-dependent patients receiving buprenorphine treatment in primary care.

MATERIALS AND METHODS

Setting and Patients

Patients were seen at the Primary Care Center of Yale-New Haven Hospital. Research assistants, who did not participate in treatment allocation, assessed all patients for eligibility. All enrolled patients met criteria for opioid dependence. Patients were excluded if they met criteria for current dependence on alcohol, benzodiazepines, or cocaine; were dangerous to themselves or others; were psychotic or had untreated major depression; were unable to comprehend English; or had life-threatening medical problems. Women of childbearing age agreed to use contraception and undergo monthly pregnancy monitoring. Study enrollment was from November 2006 to November 2009 once the appropriate number of patients had been randomized. Informed written consent was obtained from all patients. The study was approved by the Human Investigation Committee of Yale University School of Medicine.

CLINICAL SIGNIFICANCE

- Currently in the United States, more opioid-dependent patients receive buprenorphine than methadone, and most receive this treatment from primary care, office-based physicians.
- Cognitive behavioral therapy did not improve abstinence or treatment retention when added to physician management.
- The results of this study do not support the routine addition of cognitive behavioral therapy to physician management in patients receiving buprenorphine treatment in primary care.

Buprenorphine

Buprenorphine was provided by the National Institute on Drug Abuse, which played no role in the trial design, data accrual or interpretation, or manuscript preparation. Take-home medication was provided for the days on which the patients did not receive medication in the office. We used the buprenorphine/naloxone combination tablet (Suboxone [Reckitt Benckiser, Richmond, Va]). After a 2-week induction and stabilization period (mean, 12.1 days; 95% confidence interval [CI], 11.4-12.8), during which time patients were seen by nurses 3 times per week, 16 mg of buprenorphine daily was provided for 24 weeks. Successive increases to 20 mg and 24 mg were permitted depending on the patient's level of discomfort or evidence of ongoing (for 3 successive weeks) illicit opioid use. The mean ($\pm$ standard deviation) dose of buprenorphine during the maintenance phase was 17.8 ± 2.8 mg and did not differ significantly across the treatment groups ($P = .27$).

Allocation to Treatment

After induction and stabilization, patients were randomly assigned in a 1:1 ratio to receive 1 of 2 treatments: physician management or physician management and cognitive behavioral therapy. An urn randomization procedure,[11] under the control of an investigator who was not involved with enrollment or assessment for eligibility, was used to ensure that the groups were similar with regard to sex ratio, employment status, and achievement of abstinence during induction and stabilization. Treatment allocation was communicated by an investigator, not involved in assessment for eligibility or randomization, who notified each patient of his/her treatment assignment in a sequential manner.

Counseling

Physician management was provided during 15- to 20-minute sessions by internal medicine physicians with experience providing buprenorphine but no training in cognitive behavioral therapy.[12] Sessions occurred weekly for the first 2 weeks, every 2 weeks for the next 4 weeks, and then monthly. During physician management, the physician followed a structured note that reviewed the patient's recent drug use; provided brief advice on how to achieve or maintain abstinence; supported efforts to reduce drug use or remain abstinent; reviewed medical and psychiatric symptoms; assessed social, work, and legal function; discussed weekly urine toxicology results; and reviewed attendance at self-help groups.

Cognitive behavioral therapy was provided by masters- and doctoral-level clinicians who were trained to competence, as previously described,[13] using a manual adapted from the use of cognitive behavioral therapy for cocaine dependence.[14] To ensure fidelity, therapists completed adherence ratings as part of a structured clinical note for each cognitive behavioral therapy session, all sessions were audio- or videotaped, and clinicians underwent weekly supervision by a doctoral-level psychologist. During supervision, the supervisor and therapists reviewed session tapes and structured clinical notes, and they compared ratings of manual adherence and competence for each taped session reviewed. The supervisor identified and addressed therapists' performance strengths and problems, and reviewed intervention plans for the subsequent cognitive behavioral therapy session. Patients were offered up to twelve 50-minute weekly sessions during the first 12 weeks of treatment. The main components of counseling focused on performing a functional analysis of behavior, promoting behavioral activation, identifying and coping with drug cravings, enhancing drug-refusal skills, enhancing decision-making about high-risk situations, and improving problem-solving skills.