Available online at www.sciencedirect.com

SciVerse ScienceDirect

General Hospital Psychiatry 34 (2012) 439–449

General Hospital Psychiatry

Psychiatry and Primary Care

Recent epidemiologic studies have found that most patients with mental illness are seen exclusively in primary care medicine. These patients often present with medically unexplained somatic symptoms and utilize at least twice as many health care visits as controls. There has been an exponential growth in studies in this interface between primary care and psychiatry in the last 10 years. This special section, edited by Jürgen Unutzer, M.D., will publish informative research articles that address primary care-psychiatric issues.

Motivational enhancement therapy coupled with cognitive behavioral therapy versus brief advice: a randomized trial for treatment of hazardous substance use in pregnancy and after delivery

Kimberly A. Yonkers, M.D.[a,*], Ariadna Forray, M.D.[b], Heather B. Howell, M.S.W.[b], Nathan Gotman, M.S.[b], Trace Kershaw, Ph.D.[c], Bruce J. Rounsaville, M.D.[d,1], Kathleen M. Carroll, Ph.D.[d]

[a]*Departments of Psychiatry and, Obstetrics, Gynecology and Reproductive Sciences and the School of Epidemiology and Public Health, Yale University School of Medicine, New Haven, CT 06510, USA*

[b]*Department of Psychiatry, Yale University School of Medicine, New Haven, CT 06510, USA*

[c]*School of Epidemiology and Public Health, Yale University School of Medicine, New Haven, CT 06510, USA*

[d]*Department of Psychiatry, Yale University School of Medicine, New Haven, CT 06510, USA*

Received 12 March 2012; accepted 5 June 2012

Abstract

Objective: The objective was to compare the efficacy of motivational enhancement therapy coupled with cognitive behavioral therapy (MET-CBT) to brief advice for treatment of substance use in pregnancy.

Method: This was a randomized, parallel, controlled trial that was yoked to prenatal care and delivered at hospital outpatient clinics. We enrolled 168 substance-using women who had not yet completed an estimated 28 weeks of pregnancy. Obstetrical clinicians provided brief advice, and study nurses administered manualized MET-CBT. The primary outcome was percentage of days in the prior 28 days in which alcohol and/or drugs were used immediately before and 3 months postdelivery.

Results: There were no significant differences across groups in terms of self-reported percentage of days in which drugs or alcohol were used prior to and 3 months postdelivery. Biological measures showed similar results. There was a trend (P=.08) for lower risk of preterm birth among those who received MET-CBT.

Conclusions: The tested interventions had similar therapeutic effects. Hence, both treatments may be suitable for pregnant substance users, depending on the population, setting and provider availability. Interventions that are intensified after delivery may decrease postpartum "rebound" effects in substance misuse.

Keywords: Pregnancy; Postpartum; Drug abuse; Drug dependence; Alcohol abuse; Alcohol dependence; Behavioral treatment

1. Introduction

Among women aged 15–44 years, about 5% use illicit drugs, 24% have at least one episode of binge drinking (≥5 drinks on one occasion), and 7% qualify for heavy drinking (≥5 occasions) in the past month [1]. Pregnant women are half as likely to use illicit drugs as compared to nonpregnant women, while past-month episodes of binge drinking and heavy drinking drop to about 4% and less than 1%, respectively [1]. Despite this, over a million offspring are exposed to drugs or alcohol in pregnancy. Moreover, by 1 to 2 years postdelivery, use approximates prepregnancy rates [2].

There is limited controlled research on behavioral interventions that promote drug abstinence in pregnancy and

* Corresponding author. Tel.: +1 203 764 6621; fax: +1 203 764 6766.
E-mail address: Kimberly.Yonkers@yale.edu (K.A. Yonkers).

[1] Deceased.

0163-8343/$ – see front matter © 2012 Elsevier Inc. All rights reserved.
doi:10.1016/j.genhosppsych.2012.06.002

immediately after delivery [3–6]. Among women enrolled in substance abuse treatment programs, voucher incentives for drug abstinence have shown success in reduction of cocaine [6] and opiate use [7]. However, other studies show that only treatment attendance is enhanced by vouchers incentives [4,5,7–12]. In pregnant smokers, vouchers increase abstinence [13] and improve birth outcomes [14].

Manual-based interventions, such as cognitive behavioral therapy (CBT), motivational interviewing and motivational enhancement therapy (MET), are more limited and show mixed results. CBT for pregnant injection drug users coupled with methadone does not diminish drug use to a greater extent than methadone alone [15]. Motivational interventions for pregnant alcohol and illicit drug users have shown varied success with either no group differences [16–18] or a reduction in drug [19] or alcohol use [20].

The majority of referenced studies included women participating in comprehensive substance abuse treatment programs that include an array of services, including integrated prenatal care, childcare, parenting classes and vocational training [5,8–10,16–18]. Few studies have evaluated interventions that are randomized, controlled and implemented in outpatient settings among non-treatment-seeking pregnant women. Brief interventions, such as simple health recommendations, patient education and self-help manuals provided by physicians or nurses, can motivate pregnant women to reduce alcohol and illicit drug use and obviate the need for more intensive and complex behavioral interventions [21–25]. Outpatient behavioral treatment that is integrated into prenatal care also shows promise in the promotion of drug and alcohol abstinence [21,26,27], although such interventions have not been tested in randomized, controlled studies. Well-controlled studies are needed to test attention effects, as women often decrease alcohol and drug use during pregnancy even without treatment [2,28].

In this population, attention to the dependent variable (substances used) is critical. Pregnant women sometimes continue one drug and discontinue another that they feel is more harmful to their fetus or replace one substance with another that is perceived to be less harmful [29]. Thus, to accurately assess harm reduction, it is important to assess whether an intervention is effective for a range of drugs that may be used in pregnancy or after delivery. Accordingly, the goal of this study was to evaluate changes in the use of a range of substances immediately prior to delivery and at 3 months postpartum between groups who received one of two behavioral treatments that were yoked to prenatal and postnatal care. A secondary aim was to assess the impact of the interventions on birth outcomes. The behavioral interventions were (a) MET integrated with CBT for substance misuse and administered by a nurse and (b) brief advice from an obstetrical provider. We hypothesized that the MET-CBT group would show greater reductions in illicit drug and alcohol use and better birth outcomes as compared to women who received brief advice.

2. Method

This was a randomized, controlled, parallel-group study conducted in two hospital-based reproductive health clinics in New Haven and Bridgeport, CT, between June 2006 and July 2010. We drew from work on alcohol and polysubstance use [30], marijuana [31] and cocaine [32] to estimate effect size. Cocaine had the lowest effect size and was used to determine the target sample size. This conservative estimate suggested that 110 women per group would provide more than 80% power. No interim analyses or predefined stopping criteria were stipulated.

2.1. Participants

Women were eligible if they were age ≥16 years, fluent in English or Spanish, had not yet completed 28 estimated weeks of pregnancy at screening, were planning to deliver at a collaborating hospital and were using alcohol or an illicit drug (other than opiates) during the 28 days prior to screening or scored at least a "3" on the modified TWEAK [33–35]. Although the latter group may not have been actively using during the latter portion of pregnancy, they were at high risk of relapse immediately after delivery.

Women were ineligible if they were already engaged in substance use treatment, endorsed nicotine or opiates as their only substance, had plans to relocate, were not willing to provide consent, were an imminent danger to themselves or their fetus, or required inpatient general medical or psychiatric treatment. Opiate users were given a referral to a local methadone maintenance treatment facility. A Certificate of Confidentiality was obtained from National Institute of Drug Abuse, and the human subjects' board at participating hospitals approved the study.

2.2. Treatments

Individual behavioral therapy that combined MET [36,37] and CBT [38–41] (MET-CBT) was adapted from existing manuals [36–41] but was formatted into six sessions that could be delivered in conjunction with prenatal and immediate postnatal care visits [42]. The content included motivational enhancement, functional analysis, safe sexual behavior, communication skills, relapse prevention and problem-solving skills [42]. Research nurse therapists had the flexibility to offer additional sessions or to repeat topics if there were time and need. Each session lasted approximately 30 min.

Brief advice was a manualized version of standard interventions offered by obstetrical doctors and nurses. The manual provided guidance on the risks of substance use, the importance of abstinence, and the benefit of seeking drug and alcohol treatment outside of the prenatal setting. Brief advice was administered by the participant's obstetrical provider and typically lasted around 1 min.