Alcohol 65 (2017) 71–80

Contents lists available at ScienceDirect

Alcohol

journal homepage: http://www.alcoholjournal.org/

Impact of a brief intervention on reducing alcohol use and increasing alcohol treatment services utilization among alcohol- and drug-using adult emergency department patients

Roland C. Merchant [a, b, *], Justin Romanoff [c], Zihao Zhang [c], Tao Liu [c], Janette R. Baird [a]

[a] Department of Emergency Medicine, Alpert Medical School, Brown University, Providence, RI, USA
[b] Department of Epidemiology, School of Public Health, Brown University, Providence, RI, USA
[c] Department of Biostatistics, Center for Statistical Sciences, School of Public Health, Brown University, Providence, RI, USA

ARTICLE INFO

Article history:
Received 24 October 2016
Received in revised form
30 May 2017
Accepted 13 July 2017

Keywords:
Emergency medical services/methods
Motivational interviewing
Substance-related disorders/therapy
Treatment outcome
Alcoholism

ABSTRACT

Most previous brief intervention (BI) studies have focused on alcohol or drug use, instead of both substances. Our primary aim was to determine if an alcohol- and drug-use BI reduced alcohol use and increased alcohol treatment services utilization among adult emergency department (ED) patients who drink alcohol and require an intervention for their drug use. Our secondary aims were to assess when the greatest relative reductions in alcohol use occurred, and which patients (stratified by need for an alcohol use intervention) reduced their alcohol use the most. In this secondary analysis, we studied a sub-sample of participants from the Brief Intervention for Drug Misuse in the Emergency Department (BIDMED) randomized, controlled trial of a BI vs. no BI, whose responses to the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) indicated a need for a BI for any drug use, and who also reported alcohol use. Participants were stratified by their ASSIST alcohol subscore: 1) no BI needed, 2) a BI needed, or 3) an intensive intervention needed for alcohol use. Alcohol use and alcohol treatment services utilization were measured every 3 months for 12 months post-enrollment. Of these 833 participants, median age was 29 years-old, 46% were female; 55% were white/non-Hispanic, 27% black/non-Hispanic, and 15% Hispanic. Although any alcohol use, alcohol use frequency, days of alcohol use, typical drinks consumed/day, and most drinks consumed/day decreased in both the BI and no BI arms, there were no differences between study arms. Few patients sought alcohol use treatment services in follow-up, and utilization also did not differ by study arm. Compared to baseline, alcohol use reduced the most during the first 3 months after enrollment, yet reduced little afterward. Participants whose ASSIST alcohol subscores indicated a need for an intensive intervention generally had the greatest relative decreases in alcohol use. These results indicate that the BI was not efficacious in reducing alcohol use among alcohol- and drug-using adult ED patients than the self-assessments alone, but suggest that self-assessments with or without a BI may confer reductions in alcohol use.

Introduction

Previous studies have reported that many adult emergency department (ED) patients who need treatment for their alcohol or drug use do not receive it (Rockett, Putnam, Jia, & Smith, 2003), and barriers such as lack of access, insurance, motivation, and standard protocols impede referrals to outpatient services after an ED visit (Kyriacou, Handel, Stein, & Nelson, 2005; Pullen & Oser, 2014; Schuur et al., 2011). Brief interventions (BIs) conducted in the ED setting are one suggested remedy to filling this gap in care need (Babor et al., 2007). ED-based BIs for alcohol use have shown efficacy in some studies (Academic ED SBIRT Research Collaborative, 2010; Bazargan-Hejazi et al., 2005; Bernstein et al., 2010; D'Onofrio et al., 2012; Longabaugh et al., 2001; Mello et al., 2013), but not in others (Landy, Davey, Quintero, Pecora, & McShane, 2016; Nilsen et al., 2008). ED-based (Bogenschutz et al., 2014; Woodruff et al., 2014) and outpatient BIs (Roy-Byrne et al., 2014; Saitz et al., 2014) for drug use have not been efficacious, at least not as

* Corresponding author. Department of Emergency Medicine, Rhode Island Hospital, 593 Eddy Street, Claverick Building, Providence, RI 02903, USA. Fax: +1 401 444 4307.
E-mail address: rmerchant@lifespan.org (R.C. Merchant).

https://doi.org/10.1016/j.alcohol.2017.07.003
0741-8329/

previously attempted. In a previous randomized, controlled trial evaluating a BI for adult ED patients in need of an intervention for their drug use (per World Health Organization [WHO] criteria) (Humeniuk, 2010), we also found that participants who received an alcohol- and drug-use BI did not decrease their drug use more than those in an assessment-only condition (completed questionnaires but did not receive a BI) (Merchant, Baird, & Liu, 2015). However, we have not yet examined the efficacy of the BI on alcohol use outcomes.

Other limitations of previous ED-based BI studies are that BIs are focused either primarily or exclusively on alcohol or drug use, the populations studied were predominately alcohol or drug users, and the outcomes measured were restricted to either alcohol *or* drug use (as opposed to alcohol *and* drug use). In contrast to these separations, concurrent alcohol and drug use is common, particularly among adult ED patients (Macias Konstantopoulos, Dreifuss, McDermott, Parry, Howell, Mandler, & et al, 2014; Wu et al., 2012). A recent commentary about the lack of efficacy of a drug-use BI in the outpatient setting called for research investigating the impact on concurrent alcohol and drug use (Hingson & Compton, 2014). Given the co-occurrence of alcohol and drug use problems among adult ED patients, investigations of the impact of interventions on alcohol as well as drug use among those who use alcohol and drugs also are needed in the emergency medicine setting.

The primary aim of this current investigation was to determine if a BI provided to alcohol- and drug-using adult ED patients reduced alcohol use and increased alcohol treatment services utilization over a 12-month follow-up period more than no BI (assessment/questionnaires only). Participants in this secondary analysis of data from our previous trial constituted a sub-population who required an intervention for their drug use (per WHO criteria) and who also reported alcohol use, stratified by their need for no BI, a BI, or an intensive intervention for their alcohol use (per WHO criteria). Our secondary aims were to assess when the greatest relative reductions in alcohol use occurred over time during follow-up, and which patients (stratified by need for an alcohol use intervention) reduced their alcohol use the most.

Methods

Study design and setting

Brief Intervention for Drug Misuse in the Emergency Department (BIDMED) was a randomized, controlled trial of adult ED patients who qualified for a drug use intervention per WHO criteria (Humeniuk, 2010). The investigation reported in this manuscript is a secondary analysis of the BIDMED study, which focuses on the sub-population of alcohol-using BIDMED participants (i.e., adult ED patients who qualified for a BI for their drug use who also reported at enrollment using alcohol in the previous 3 months). Further details about the study methodology have been published previously (Merchant et al., 2015); a summary about the study is provided as follows. BIDMED enrolled participants from July 2010–December 2012 at two urban EDs affiliated with a medical school in the same city and hospital system in New England. One ED is a Level 1 trauma center with an annual patient volume of >100,000 adult visits, and the other is a community hospital ED with an annual patient volume of >55,000 adult visits. In 2013–2014, among 12-year-olds and older for the state in which these EDs are located, the observed prevalence was 7.7% for alcohol abuse or dependency and 3.4% for illicit drug abuse dependency, which exceeds the national average (Substance Abuse and Mental Health Services Administration, 2015). The hospital institutional review board approved the study.

Participant selection and eligibility

For the BIDMED study, bilingual (English- and Spanish-speaking) research assistants (RAs) randomly selected patients present in the ED during study collection periods (8:00 a.m. to midnight, 7 days/week), reviewed their electronic medical records for study eligibility, and confirmed eligibility through a brief interview and the study questionnaires. Potentially study-eligible patients completed an audio computer self-administered interview (ACASI)-based assessment of their alcohol and drug use using the Alcohol, Smoking and Substance Involvement Screening Test, Version 3 (ASSIST V.3) (Humeniuk & Ali, 2006). Patients were study eligible if they were 18–64 years old; English- or Spanish-speaking; not critically ill or injured; not prison inmates, nor under arrest, nor undergoing home confinement; not presenting for an acute psychiatric illness; not requesting treatment for substance use/misuse; not intoxicated or did not have a physical or mental impairment that prevented them from providing consent or participating in the study; and had an ASSIST score of $\geq$4 points for any drug category or had ever injected drugs (signifying a need for at least a BI, per WHO recommendations) (Humeniuk, 2010). Patients who were intoxicated, presenting for substance abuse treatment, or undergoing a psychiatric evaluation were excluded from BIDMED because the study followed an SBIRT model (screening, brief intervention, and referral for treatment). Per the SBIRT model, we sought patients whose need for a substance use intervention likely would be missed during usual care procedures, unlike those whose substance abuse problem was evident during their ED visit. For this secondary analysis focusing on concurrent alcohol and drug use and alcohol use outcomes, participants in the BIDMED study who denied previous 3-month alcohol use were excluded from the investigation reported in this manuscript.

Study questionnaire content and administration

Following enrollment and written consent, participants in the BIDMED study were randomly assigned 1:1 into the two study arms (BI vs. assessment/questionnaires only no BI). Participants who reported any lifetime alcohol use at enrollment through the ASSIST answered additional questions via ACASI about their alcohol use history in the previous 3 months (any alcohol use, frequency of alcohol use, days of alcohol use, usual drinks consumed/day, and maximum drinks consumed/day) and questions about their lifetime and previous 3-month involvement in alcohol treatment services (McLellan, Alterman, Cacciola, Metzger, & O'Brien, 1992). (See supplement for English-language copies of study questionnaires.) Participants also were informed that the study investigators obtained a certificate of confidentiality aimed to protect their identities concerning their responses to the study questionnaires. At 3, 6, 9, and 12 months post-ED enrollment, participants completed the same questionnaires via the internet using the ACASI. Participants completed the baseline questionnaires in approximately 10–15 min. Participants received a gift card for completing the baseline and follow-up questionnaires.

Description of the BI

The primary goal of the BI was to motivate participants to reduce their drug and/or alcohol misuse and seek appropriate treatment. A brief outline of the BI content is in the supplemental material. The BI sessions were approximately 20–30 min in duration and were based on two theoretically driven approaches to behavior change: motivational interviewing (Miller, 2002) and the health beliefs model (Rosenstock, 1974). During the BI, the RAs took on the role of a health educator and used motivational interviewing techniques