



Full length article

Effect of electronic brief intervention on uptake of specialty treatment in hospital outpatients with likely alcohol dependence: Pilot randomized trial and qualitative interviews



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ABSTRACT

Background: A large proportion of hospital outpatients are alcohol dependent (AD) but few are engaged in treatment for their drinking. Brief intervention, designed to raise patients' awareness of their drinking, might encourage uptake of referral to specialty treatment. We assessed the feasibility of conducting a randomized trial evaluating the effectiveness of electronic brief intervention on the uptake of specialty treatment in hospital outpatients with likely AD.

Methods: This study was conducted in the outpatient department of a large public hospital in Newcastle, Australia. We randomly assigned adults who scored ≥ 10 on the AUDIT-C and were not currently receiving treatment for their drinking to electronic brief intervention (comprising an assessment of their drinking and personalized feedback) and referral (n = 59), or to referral alone (n = 64). We pre-specified two co-primary outcomes as the proportions of patients who (1) accepted and (2) attended a Drug and Alcohol outpatient clinic appointment. We interviewed 15 study participants to investigate why they had declined the appointment and what sort of help they might prefer to receive.

Results: Ten patients (five in each group) accepted an appointment, and one patient (control) attended. Most interviewees did not see their drinking as a problem or were confident they could manage it by themselves. Those who identified a preferred source of help expressed a preference for treatment by a GP.

Conclusion: Uptake of specialty treatment in hospital outpatients with likely AD was low regardless of whether they received brief intervention. Accordingly, a large randomized trial does not appear to be feasible.

1. Introduction

Alcohol dependence (AD), defined by the WHO as “a cluster of physiological, behavioural, and cognitive phenomena in which the use of [alcohol] takes on a much higher priority for a given individual than other behaviours that once had greater value” (World Health Organization, 1992), significantly increases an individual's risk of all-

cause mortality (Laramee et al., 2015). Despite this, treatment rates for AD are low. For example, only 12%–13% of the people with AD who participated in two large national surveys on alcohol use reported having had specialist treatment for an alcohol use disorder (Edlund et al., 2012). This is a concern given that only one-third of people with AD remit within the first decade after the onset of dependence (Lopez-Quintero et al., 2011), and the evidence suggesting that an increase in

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treatment coverage to 40% would reduce alcohol-attributable mortality by 13% in men and 9% in women (Rehm et al., 2013).

Screening and brief intervention is the currently accepted evidence-based approach to reducing risky drinking among patients presenting for healthcare (Moyer, 2013; National Institute for Health and Clinical Excellence, 2011; Royal Australian College of General Practitioners, 2016). This relatively low cost strategy has been shown to reduce alcohol consumption by 41 g per week (95% CI: –57 to –25) in non-dependent patients presenting to primary care (Kaner et al., 2007) but it is not widely implemented (Bachhuber and Bradley, 2016; Nilsen, 2010). Barriers to implementation include providers' attitudes and knowledge about alcohol and concerns about the effect of addressing alcohol use on relationships with patients (Derges et al., 2017; Johnson et al., 2011). Electronic screening and brief intervention refers to the delivery of key elements of traditional screening and brief intervention using computers, telephones or mobile devices. It has been judged effective in non-dependent drinkers (Tansil et al., 2016) and has the advantage of circumventing provider-level barriers. However, there is no evidence that brief intervention is effective in patients with very heavy use or dependence (Saitz, 2010), and it is standard practice for dependent drinkers who “typically need more intensive treatment” to be referred for specialty treatment (American Public Health Association and Education Development Center Inc, 2008).

As discussed elsewhere, referral to treatment alone is unlikely to motivate patients who are not seeking treatment for their drinking to do so (Bachhuber and Bradley, 2016). Given the purpose of brief intervention “is to increase the person's awareness of his or her alcohol use and its consequences and then motivate the person to either reduce risky drinking or seek treatment” (American Public Health Association and Education Development Center Inc, 2008), it is plausible that brief intervention would increase the uptake of specialty treatment in patients with likely AD if it were to be delivered immediately prior to an explicit referral. Although systematic reviews have failed to find evidence that brief intervention increases the uptake of alcohol-related services (Glass et al., 2015, 2016; Simioni et al., 2015a,b) most of the trials included in these reviews were not designed to assess this (Glass et al., 2015). In addition, only four trials contained sufficient data for outcome analyses in the subgroup of dependent drinkers (Bischof et al., 2008; Kuchipudi et al., 1990; Liu et al., 2011; Saitz et al., 2007). Accordingly, there is a need for rigorous trials testing the effectiveness of brief intervention on the uptake of specialty treatment with referral to treatment as a primary outcome among dependent drinkers.

The aim of this pilot trial was to determine the feasibility of conducting a definitive trial testing the effect of electronic brief intervention on the uptake of specialty treatment in hospital outpatients with likely AD. We chose the hospital outpatient setting because the prevalence of risky drinking is high there: one in three patients in this setting report risky drinking (15% of whom may be dependent) (Johnson et al., 2014), compared with one in four in the primary care setting (Britt et al., 2013) and one in five in the general population in Australia (Australian Institute of Health and Welfare, 2014). We conducted telephone interviews once it became apparent that few participants were accepting an appointment, to investigate why they had declined the appointment and what sort of help they might prefer to receive.

2. Methods

2.1. Design

We conducted a pilot parallel-group, individually randomized trial (Fig. 1) followed by semi-structured telephone interviews. The Hunter New England (HNEHREC Ref: 12/05/16/4.04) and University of Newcastle (H-2012-0272) human research ethics committees approved the study, and the trial was registered with the Australian New Zealand Clinical Trials Registry (ANZCTR12612000919819).

2.2. Setting

We conducted the study in one wing (South Block) of the outpatient department at a large public hospital in Newcastle, Australia. The clinics operating in South Block are: cardio-thoracic surgery, colorectal surgery, general surgery, neurosurgery, ophthalmology, oral and maxillofacial surgery, orthopedics and rehabilitation, otolaryngology, pain management, pre-operative assessment, renal surgery and transplant, vascular disease prevention, vascular surgery, and urology.

2.3. Participants and procedure

We invited adults (18+ years) waiting for an appointment between 28 August and 21 December 2012 who were capable of self-administering the online program using an iPad and who were not moving to an as yet unknown address to participate. Consenting outpatients were screened for likely AD using an iPad while seated in the large central waiting area. We considered this approach necessary, despite concerns about privacy, because we have previously found that patients rushed through the online program when taken to another area as they were worried about missing their appointment even though pagers had been provided (Johnson et al., 2013).

2.4. Screening

The web browser on the iPad displayed the online program as a series of screens of content (pages). Page 1 introduced the *Hospital Outpatient Alcohol Project* (HOAP) as a “survey of alcohol use among hospital outpatients ... [that] will take approximately 5–15 min to complete and is confidential” and page 2 collected demographic data (gender, age, postcode and email address). Page 3 asked patients if they had consumed alcohol in the last 12 months (yes/no), and page 4 asked them if they were currently receiving treatment for alcohol-related problems (yes/no). Those who responded “no” and “yes”, respectively, were excluded at this point. Page 5 comprised the brief (3-item) Alcohol Use Disorders Identification Test - Consumption subscale (AUDIT-C) (Bradley et al., 2007) because there is evidence that more extensive screening may itself reduce self-reported drinking (McCambridge and Kypri, 2011). We recruited patients who scored ≥ 10 on the AUDIT-C as research had shown that 75% of men and 88% of women with AUDIT-C scores 10–12 met standardized interview criteria for past-year alcohol dependence (Rubinsky et al., 2010). More recent research has shown that an AUDIT-C score ≥ 10 has sensitivity and specificity of 21.5% and 98.5%, respectively, when used as a screener for DSM-IV dependence in past-year drinkers aged ≥ 21 years, and sensitivity and specificity of 25.0% and 98.5%, respectively, when used as a screener for DSM-5 severe alcohol use disorder (Dawson et al., 2012).

2.5. Randomization and blinding

Immediately after screening but prior to referral for treatment, participants were randomly assigned to electronic brief intervention and referral (intervention) or to referral alone (control) in a 1:1 ratio using simple randomization (no blocking or stratification). Treatment allocation was concealed by use of computer-generated random assignment (SecureRandom.random_number method in Ruby) and effected immediately following screening via the iPads. Participants were also blind to the true nature of the study, which was presented as a series of surveys on their alcohol use, to reduce possible research participation effects (McCambridge et al., 2014).

2.6. Referral

All participants were referred to the Drug and Alcohol outpatient clinic located in the other wing (North Block) of the outpatient department. The last page of the online program advised patients “Your

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