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Web-based alcohol screening and brief intervention for Māori and non-Māori: the New Zealand e-SBINZ trials

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Abstract

Background: Hazardous alcohol consumption is a leading modifiable cause of mortality and morbidity among young people. Screening and brief intervention (SBI) is a key strategy to reduce alcohol-related harm in the community, and web-based approaches (e-SBI) have advantages over practitioner-delivered approaches, being cheaper, more acceptable, administrable remotely and infinitely scalable. An efficacy trial in a university population showed a 10-minute intervention could reduce drinking by 11% for 6 months or more among 17-24 year-old undergraduate hazardous drinkers. The e-SBINZ study is designed to examine the effectiveness of e-SBI across a range of universities and among Māori and non-Māori students in New Zealand.

Methods/Design: The e-SBINZ study comprises two parallel, double blind, multi-site, individually randomised controlled trials. This paper outlines the background and design of the trial, which is recruiting 17-24 year-old students from seven of New Zealand's eight universities. Māori and non-Māori students are being sampled separately and are invited by e-mail to complete a web questionnaire including the AUDIT-C. Those who score >4 will be randomly allocated to no further contact until follow-up (control) or to assessment and personalised feedback (intervention) via computer. Follow-up assessment will occur 5 months later in second semester. Recruitment, consent, randomisation, intervention and follow-up are all online. Primary outcomes are (i) total alcohol consumption, (ii) frequency of drinking, (iii) amount consumed per typical drinking occasion, (iv) the proportions exceeding medical guidelines for acute and chronic harm, and (v) scores on an academic problems scale.

Discussion: The trial will provide information on the effectiveness of e-SBI in reducing hazardous alcohol consumption across diverse university student populations with separate effect estimates for Māori and non-Māori students.

Trial registration: Australian New Zealand Clinical Trials Registry (ANZCTR) ACTRN12610000279022

Background

Hazardous alcohol consumption is a leading cause of mortality and morbidity in high and middle income countries and an increasing problem in low income countries [1,2]. In an era in which state controls on the availability of alcohol have dramatically decreased [3], effective interventions to reduce demand for alcohol, that are deliverable to many, are needed.

Screening and brief intervention (SBI), involving the systematic identification of people with hazardous alcohol consumption and the provision of brief advice on how to reduce this, is now accepted as a key plank of public policy to reduce alcohol-related harm in the community. A meta-analysis of opportunistic SBI, which examined the outcomes of 34 randomised controlled trials, revealed significant reductions in consumption and alcohol-related problems [4].

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Web-based screening and brief intervention (e-SBI) has certain advantages over practitioner-delivered SBI: it involves little or no clinician contact and it can be conducted anonymously. Additionally, e-SBI may be more acceptable to many drinkers than a face-to-face intervention [5]. While various computerized methods for delivering SBI have been developed [6,7], there had, until recently, been no rigorous efficacy trials of these interventions published in the scientific literature [8].

Hazardous alcohol use among university students

University students have been found to have considerably riskier drinking patterns than their non-student peers [9-11]. For example, in New Zealand, a random sample of students (response rate 82%) from one large public university were found to have a prevalence of hazardous drinking (a score of 8 or higher on the Alcohol Use Disorders Identification Test; AUDIT[12]), which was double that of their peers in the general population [9]. The prevalence of harmful drinking, as indicated by a score of 15 or higher on the AUDIT, was three times higher than that among their non-student peers.

Previous research on e-SBI

On the basis of extensive development research conducted at a university student health service in New Zealand [13,14], a first randomised controlled trial involving 104 participants was conducted in 2002. Students who screened positive for hazardous drinking (AUDIT ≥ 8) at an initial assessment, conducted electronically in the reception area, were randomly assigned to a leaflet-only control group or to receive an assessment and personalised feedback intervention, delivered entirely via the Internet [15]. This took an average of 15 minutes and was completed during the waiting time to see medical staff. Participants were followed up after six weeks and again after six months. Relative to controls, those who received the intervention drank 26% less alcohol after six weeks and had 24% fewer problems six months later [16].

These promising results were confirmed in the next trial of e-SBI, in which 1,010 students were screened over a 3 week period in the reception area and 576 were randomised to intervention or control groups. Participants were re-assessed 6 and 12 months later, with 85% retention. The effects were similar to those of the first trial [17]. At six months, relative to controls, patients receiving e-SBI reported significantly lower drinking frequency (-21%), lower total consumption (-23%), and fewer academic problems (-24%). Encouragingly, intervention effects endured. At 12 months, significant differences in total consumption (-23%; equivalent to 3.5 standard drinks per week) and academic problems (-20%) remained, and AUDIT scores were 2.2 points lower than those of controls [17].

This reduction in AUDIT score was estimated to be equivalent to an absolute risk reduction of 9% (95% CI 3% to 14%) in diagnoses of alcohol abuse and dependence [18]. Assuming the program could be implemented with 50% of the New Zealand student population, this equates to 1,424 cases of alcohol use disorders prevented per year, a significant public health benefit. A clear limitation of the primary care based delivery of e-SBI is that in many universities the student health service does not provide healthcare to the majority of the student population. Accordingly, to realise the population-level benefits of e-SBI, a pro-active case finding approach would be required.

To address this limitation, a third trial was conducted at an Australian university, where we sought to determine whether an e-SBI program called THRIVE (Tertiary Health Research Intervention Via E-mail) could be delivered on the basis of a universal screening program, i.e., by-passing the primary care setting. In addition to circumventing the problems of interfacing with a busy primary care service, the approach takes advantage of the economy of scale that can be achieved with the Internet, making it possible to offer assistance to thousands of students at low cost, including many who would not routinely come into contact with health services of any kind.

We invited 13,000 17-24 year-old students to complete a web-based AUDIT and 7,237 responded [19]. A third (n = 2,435) scored in the hazardous/harmful range (≥ 8) and were randomised to THRIVE or screening alone, and 2,050 (80%) completed at least one follow-up assessment. Intervention, delivered immediately following the assessment, consisted of 10 minutes of web-based assessment and personalised feedback. After one month, participants receiving intervention drank significantly less often (-11%), smaller quantities per occasion (-7%) and consumed a lower volume of alcohol overall (-17%), than did controls. At six months, intervention effects persisted for drinking frequency (-9%) and volume of alcohol consumption (-11%) [20].

Overall, the effects seen in the New Zealand trials were replicated but were somewhat smaller in the THRIVE trial. Nonetheless, given the reach of the intervention delivered on the basis of universal screening, THRIVE has greater potential to produce a population effect than primary-care based delivery of e-SBI.

The need for large effectiveness trials

We are at the stage when there is a pressing need for large effectiveness trials. There being several recent trials conducted among university students, however, much of the research has been conducted in conditions which