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Review article

Electronic communication based interventions for hazardous young drinkers: A systematic review

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ABSTRACT

Previous reviews have specifically looked at computer-based or Internet-based approaches. However, there has been no systematic review focused upon electronic communication based interventions for hazardous young drinkers.

Out of 3298 relevant citations, 13 papers consisting of 11 studies met the inclusion criteria. Effectiveness of intervention delivery was assessed using behavioural outcomes. Eight papers delivered interventions using the Web, three implemented text messaging, one used a mobile phone app and the remaining paper used a social networking site.

The ability to provide personalized electronic feedback resulted in a reduction in alcohol consumption, frequency of binge drinking, and drinking in a non-risky way. However, intervention length did not appear to have an impact on overall effectiveness.

Usage of text messaging and Social Network Sites (SNS) increased accessibility and ease of engaging in an intervention that is appealing and acceptable for young adults.

Contents

Abbreviations: SNS, social network sites; SMS, short message service; MMS, multimedia message service; NES, National Health Service Education Scotland; NHS, National Health Service; NICE, National Institute for Health and Care Excellence; SIGN, Scottish Intercollegiate Guidelines Network; WHO, World Health Organisation.

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1. Introduction

Heavy episodic drinking is a significant public health concern, tending to peak in late adolescence and early adulthood (Gmel et al., 2010). A high prevalence of excessive alcohol consumption has been reported by young people in the UK, with first year students consuming an average of 18.9 units per week (males 24.0 units, females 15.4 units) (Bewick et al., 2008). One university has previously reported that over half of students have participated in binge drinking at least once in the previous week (Dodd et al., 2010).

As the number of those engaging in heavy episodic drinking is rapidly increasing (Kypri et al., 2005; McAlaney and McMahon, 2007), there is a disproportionate number of mortality and morbidity amongst young people through alcohol-related injuries (Anderson and Baumberg, 2006; Rehm et al., 2011). The increased affordability of alcohol (Rabinovich et al., 2009; The Information Centre, 2010), combined with a wider product range (Measham, 2006; Mintel International Group, 2005) and amended UK alcohol policies e.g. extension of opening hours (Office of Public Sector Information, 2003), has resulted in excessive alcohol consumption becoming the dominant trend within Western cultures (Farke and Anderson, 2007; Hibell et al., 2009), particularly student populations (D'Alessio et al., 2006).

The term hazardous drinking is defined as the regular consumption of 5 units per day for men and 3 units per day for women (SIGN, 2014), or through less frequent sessions of binge drinking (NHS Choices, 2013). This pattern of alcohol consumption can increase someone's risk of harm, resulting in physical or mental health consequences, whilst some would extend this definition to include social consequences (NICE, 2010a; WHO, 2016). Preventative measures and interventions have been identified as essential in order to reduce levels of hazardous alcohol consumption amongst younger adults.

There are a number of methods and recommendations for delivering alcohol interventions, consisting mainly of traditional face-to-face or group work sessions (NICE, 2010b). Evidence suggests that this technique is effective in reducing alcohol use of binge drinkers and levels of alcohol-related harm (Bernstein et al., 2010; Daeppen et al., 2011; Patton et al., 2014). This has also been demonstrated within group sessions (LaBrie et al., 2006), particularly when comparing motivational interviewing with information only sessions (LaChance et al., 2009).

From a global perspective there has been a 23.5% increase in alcohol consumption from 2001 to 2005 and worldwide, 3.3 million deaths every year result from harmful use of alcohol. This represents 5.9% of all deaths. Within the UK alcohol misuse has been estimated to cost £2.7 billion a year, and the estimated cost of alcohol-related harm upon society being £17–22 billion (Department of Health, 2013; NHS Information Centre, 2009). Interventions utilizing technology have demonstrated effectiveness in improving health outcomes across a number of domains: diabetes (Liang et al., 2011), smoking cessation (Free et al., 2011; Whittaker et al., 2012), obesity (Coons et al., 2012), and HIV (Mustanski et al., 2013). By delivering methods via interactive devices such as mobile phones and personal electronic devices, a wider population can be targeted who may not have ordinarily been reached through traditional methods (Guse et al., 2012; Lee et al., 2014; Strecher, 2007). Mobile phone and internet technology are becoming increasingly integrated into society, as an estimated 40% of the world's population have access to the internet, and the number of mobile broadband subscriptions will reach 2.3 billion globally by the end of 2015 (ITU, 2014). Consequently, utilising mobile and internet technology potentially can be a time and cost-effective method of delivery intervention, reaching a larger population.

Previous reviews have specifically investigated computer-based (Khadjesari et al., 2011) or Internet-based approaches (White et al., 2010), however, there has been no systematic review focused upon electronic communication based interventions for hazardous young drinkers. Such a review is therefore timely.

1.1. Objective

To review the efficacy of electronic based communication interventions for alcohol misuse amongst hazardous young drinkers.

2. Methods

2.1. Literature search

Systematic searches of Web of Science, PsycINFO and Scopus were conducted for English abstracts published (except dissertations) between January 2010 and January 2016. This specified time frame was selected as a review analysing similar papers of interest was conducted in 2010 (White et al., 2010). The terms: (1) alcohol; (2) computer, online; (3) Internet, Web; (4) text message; (5) AND intervention; (6) AND young adult, student were used to search for relevant studies. The quality of papers was assessed using the Cochrane Collaboration's Tool for Assessing Risk of Bias, enabling reviewers to consider the potential limitations of the included studies, in relation to its design, conduct, analysis and presentation (Higgins et al., 2011). This comprehensive and well-disseminated approach has demonstrated empirical evidence for detection bias, attrition bias, and reporting bias (Higgins and Green, 2008).

2.2. Inclusion criteria

2.2.1. Study design

Quantitative studies were included. Specifically, only randomised controlled trials and cohort studies with comparison groups were considered. Comparison groups consisted of treatment as usual, placebo groups, and no intervention groups.

2.2.2. Populations

Those who were screened as being hazardous drinkers with the use of validated alcohol screening tools before intervention delivery were included. Hazardous drinking is defined as the regular consumption of 5 units per day for men and 3 units per day for women (SIGN, 2014), or through less frequent sessions of binge drinking (NHS Choices, 2013). This pattern of alcohol consumption can result in an increase in someone's risk of harm, (physical, mental health, or even social consequences) (NICE, 2010a,b; WHO, 2016). Samples comprising of both males and females, aged 18–25 years old were included within this study.