Interventions in sports settings to reduce alcohol consumption and alcohol-related harm: a systematic review protocol

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ABSTRACT

Introduction: Alcohol consumption is a primary cause of physical, psychological and social harm to both the user and others. At both the professional and non-professional level, sports players and fans report consuming alcohol at greater levels than people not involved in sports. Limited systematic reviews have been conducted assessing interventions targeting alcohol consumption behaviour and related harms in the sporting context.

Methods and analysis: The review aims to determine if interventions implemented in the sport setting decrease alcohol consumption and related harms. Participants may include all persons regardless of age or other characteristics. Studies will be included which have implemented interventions within the sport setting and have either measured: alcohol consumption, excessive alcohol consumption or intoxication or alcohol-related injury or violence. Randomised controlled trials, staggered enrolment trials, stepped-wedged trials, quasi-randomised trials, quasi-experimental trials and natural experiments will be included. Studies without a parallel comparison group will be excluded. Data will be sourced from a range of electronic databases and sources of grey literature. Two authors will independently screen all titles and abstracts of papers identified through the search strategy. Two authors will independently examine the full text of all remaining papers to determine eligibility. Two authors will independently extract data from eligible studies and independently assess risk of bias by assessing the adequacy of study characteristics. Where studies are sufficiently homogeneous, trial results will be synthesised using a fixed-effects meta-analysis. Standardised mean differences will be used for continuous outcomes and RRs will be used for binary outcomes.

Dissemination: The findings of this study will be disseminated widely through mechanisms including peer-reviewed publications and conference presentations.

ARTICLE SUMMARY

Article focus
- The aim of the review is to determine if interventions implemented in the sport setting are effective relative to a comparison group in:
  - reducing alcohol consumption at the sporting venue and/or overall alcohol consumption or intoxication or alcohol-related injury or violence
  - reducing excessive alcohol consumption or intoxication at the sporting venue and/or overall excessive alcohol consumption or intoxication or
  - reducing alcohol-related violence or injury at the sporting venue and/or overall alcohol-related violence or injury.

Key messages
- At both the professional and non-professional level, sports players and fans report consuming alcohol at greater levels than people not involved in sports.
- Few systematic reviews have been published describing the impact of interventions targeting excessive alcohol use and injury in the sporting club setting.

Strengths and limitations of this study
- The review will employ a comprehensive search strategy to identify relevant English and non-English language peer-reviewed and grey literature publications.
- Trial screening and data extraction will be conducted independently by two review authors.

INTRODUCTION

Rationale
Alcohol consumption is a primary cause of physical, psychological and social harm to both the user and to others.1,2 Alcohol consumption that is linked to short-term harm most frequently occurs in licensed venues (such as clubs and bars)3–6 in workplaces7 and in private homes3–5 and occurs with greater prevalence among particular population groups, including people involved in sports. At both the professional (or elite) level and non-professional level, both sports players and fans have reported consuming alcohol at greater levels than people not involved in sports.8–14 For instance, studies of college athletes in the USA have found significantly higher levels of binge drinking among male (61%) and female (50%) college athletes compared with males (43%) and females (36%) not involved.
Reducing alcohol consumption and harm from sports settings: review protocol

in college athletics. Similarly, research in New Zealand has documented rates of binge drinking among elite (56%–59%) and non-elite sportspeople (51%) that are considerably higher than non-sportspeople (31%) and non-elite sportspeople in Australia have reported higher rates of risky drinking (35%) compared with the general population (26%). Rates of binge drinking among sports fans (males: 53%; females: 53%) have also been reported to be significantly higher than among non-fans (males: 41%; females: 37%).

A settings-based approach to health promotion has been widely used to target alcohol consumption behaviour in licensed premises. Such approaches have a basis in ecological and social ecological theories of health promotion, which recognise the importance of the physical, social and cultural environment in health risk behaviours such as alcohol consumption. Given the prevalence of at-risk consumption among sports players and fans, interventions targeting alcohol consumption at sporting settings may represent an effective strategy in mitigating the adverse effects of excessive alcohol consumption. Such interventions may include the sale of low-alcohol and non-alcohol beverages and the prohibition of drinking games and promotions including cheap or discounted drinks and alcohol-only awards or prizes.

To our knowledge, to date, only one systematic review has been conducted assessing interventions targeting health behaviour change in the sporting context. However, this review only examined policy interventions and focused on alcohol consumption behaviour, rather than including broader alcohol-related harms such as violence.

Objectives

To determine if interventions implemented in the sport setting are effective relative to a comparison group in:

1. reducing alcohol consumption at the sporting venue and/or overall alcohol consumption or
2. reducing excessive alcohol consumption or intoxication at the sporting venue and/or overall excessive alcohol consumption or intoxication or
3. reducing alcohol-related violence or injury at the sporting venue and/or overall alcohol-related violence or injury.

METHODS AND ANALYSIS

Eligibility criteria

Study characteristics

Participants

Participants may include people of all ages and may include, but are not limited to: players; fans/spectators; coaches/trainers; sporting club, venue or team management; and, sporting club or venue staff or volunteers. There will be no exclusion criteria for participants.

Interventions

Interventions will be included that are implemented in a sporting setting and that aim to modify at least one of the following: alcohol consumption behaviour, alcohol-related intoxication or alcohol-related violence or injury. These could include health promotion, health education (eg, targeting the skills, knowledge, attitudes or belief or sports players, club members or spectators), regulatory (eg, enforcement of legislation regarding the sale or supply or alcohol) and environmental (eg, serving alcohol in plastic containers or the provision of safe transport options to club patrons) initiatives. Interventions that aim to address such outcomes and aim to modify other health risk behaviours will also be included. Interventions with a treatment focus, such as those aiming to treat alcohol addiction, will be excluded. For the purposes of the review, sport settings will be defined as settings where an organised sporting event or activity occurs, whether it is a competition game or event, a training session or another type of club or team event at a professional (elite) or non-professional (amateur/community) level. Terms used to refer to such settings may include arenas, stadiums, grounds, complexes or ovals, as used by a particular sport or for general sports use.

Comparisons

Comparisons could include no intervention, attention controls, waitlist controls or an alternative intervention.

Primary outcomes

Studies with the following primary outcome measures will be included:

- alcohol consumption, such as number of drinks consumed or alcohol consumed at excessive/risky levels, as assessed via survey or direct observation.
- alcohol-related intoxication, such as proportion of people intoxicated or average level of intoxication, measured by surveys, observations or biochemical measures and
- alcohol-related violence or injury, such as number of incidents of alcohol-related assault or number of alcohol-related injuries, measured by surveys, observations or records kept by police, medical facilities or sporting facilities, which may include incidents that are either self-reported or witnessed.

Study design

Studies with the following study designs will be included:

- randomised controlled trials, including cluster randomised controlled trials,
- staggered enrolment trials or stepped-wedge trials,
- quasi-randomised trials, where group allocation is not purely random but may be determined by a factor such as birth date,
- quasi-experimental trials with comparison/control groups, including non-randomised pre- and post-trials (before—after) with one or more intervention and control groups, time-series/interrupted time-series trials (including multiple baseline trials) with
Reducing alcohol consumption and harm from sports settings: review protocol

independent control groups,\textsuperscript{26, 30} preference trials,\textsuperscript{27} and regression discontinuity trials and\textsuperscript{26}  

\textbullet natural experiment studies that have a comparison group.\textsuperscript{31}  
Any trials without parallel comparison or control groups will be excluded.

\textbf{Length of follow-up}  
There will be no eligibility criteria based on length of follow-up.

\textbf{Publication characteristics}  
There will be no eligibility criteria based on year of study publication or language.

\textbf{Information sources}  
\textbf{Electronic databases}  
The following electronic databases will be searched: the Cochrane Central Registry of Controlled Trials (CENTRAL, The Cochrane Library), MEDLINE, EMBASE, PsycINFO, SPORTDiscus, Dissertations and Theses, ERIC and PsycEXTRA.

\textbf{Other sources}  
Studies will also be obtained from the following sources:  
\textbullet Reference lists of included studies.
\textbullet Hand searching of three relevant journals in the field (volumes from the past 5 years).
\textbullet Internet searches engines, such as Google Scholar.
\textbullet Corresponding authors of all included trials.

\textbf{Search strategy}  
The search strategy for MEDLINE is in online Appendix I. This strategy will be applied to the other electronic databases where relevant, with any modifications reported in the review manuscript. Authors will be contacted via email to obtain any studies that are identified through searching other sources.

\textbf{Study selection}  
Two review authors will independently screen all titles and abstracts of papers identified as a result of the search documented above. Endnote (version X4.02) will be used for the screening process, with review authors employing a standardised pre-piloted screening tool to assess study eligibility. The abstracts of papers that are in a language other than English will be translated using Google Translate and, if considered eligible or eligibility is unclear, professional translation of the full paper will be undertaken. Based on an assessment of paper title and abstract, papers will be excluded which do not meet the eligibility criteria of the review. Two review authors will independently examine the full text of all remaining papers to determine study eligibility. Reasons for study ineligibility will be recorded for all full-text articles, and this information will be documented in a table accompanying the published review. For papers where there is insufficient information to determine eligibility, the study authors will be contacted for clarification. Where sufficient information to determine the eligibility of a trial is not available, the trial will be excluded from the review. Disagreement regarding study eligibility will be attempted to be resolved through discussion between the two reviewers responsible for trial screening. The decision of a third reviewer will determine study eligibility in instances where consensus cannot be reached. Review authors will not be blind to the name or institution of study authors or to journal titles.

\textbf{Data extraction}  
Two review authors will independently extract data from eligible studies. A pre-piloted form designed specifically for this review will be used to extract data from eligible studies for assessment of study quality and evidence synthesis. Disagreement regarding data extraction will be attempted to be resolved through discussion between the two reviewers. A third review author will review any papers on which consensus cannot be reached. One review author will transcribe data from data extraction forms into the systematic review software Review Manager (RevMan) and the second review author will check this process. In instances where data are unclear or is not available from the published manuscript, attempt will be made to contact study authors. Review authors will not be blind to the name or institution of study authors or to journal titles.

\textbf{Data items}  
Extracted information will include authors, study funding and/or other sources of conflicts of interest, study setting (including country, type of sport and level of professionalism), study population and participants demographics (including age, gender and role, such as player or spectator/fan), study design, intervention and control conditions (including number of conditions, content, duration and intensity), trial outcomes and results (including study consent rates and attrition, sample size, number of participants per experimental condition and per cluster if relevant, inter-class coefficients if relevant and results of the primary outcomes described above) and information for assessment of study bias (see below).

Attempts will be made to contact the corresponding authors of included trials in instances where data are unavailable in the published manuscript. Any assumptions or simplifications made in the data extraction or
man...
Categorical comparisons for subgroup analyses will be developed following inspection of the study characteristics and outcomes reported in the included trials.

ETHICS AND DISSEMINATION
Ethics is not required given this protocol is for a systematic review. The findings of this study will be disseminated widely through mechanisms including peer-reviewed publications and conference presentations.

DISCUSSION
This systematic review will provide a detailed summary of the current state of evidence for the effectiveness of interventions in sports settings that are aimed at reducing alcohol consumption and related harms. Such a review will be of benefit to researchers and policy makers with an interest in reducing alcohol-related problems associated with the sports setting.

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Contributors MK will lead the review. All authors have contributed to the conception of the research and will be involved in the preparation of the review, including providing comment on drafts.

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Competing interests The authors are currently undertaking a randomised controlled trial of an intervention to decrease excessive alcohol consumption at community sports clubs which may be included in this review. The authors have not received any benefit, in cash or in kind, any hospitality or any subsidy from the alcohol industry or any other source perceived to have an interest in the outcome of this review.

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