



REVIEW ARTICLE

Brief Intervention for Risky Alcohol Use: A Critical Analysis

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Abstract

Background: The negative impact of risky use of alcohol on health and well-being of individuals has been well documented. Recent reports reveal an alarming increase in the hazardous and harmful alcohol use worldwide. Brief intervention is increasingly becoming popular over the last decades in reducing harmful and hazardous alcohol use as compared to other psychosocial interventions.

Objective: This review critically appraises the results of major systematic reviews related to brief intervention conducted at different settings by various health professionals.

Methods: Major systematic reviews and clinical trials related to alcohol brief interventions as per different settings in the last decade were identified through database and related article screening. Selected reviews were analyzed as per outcomes & methodological quality.

Findings: The present review identified systematic reviews on the efficacy of alcohol brief interventions conducted in primary care population, general and hospital settings and electronic Screening and Brief Intervention (eSBI) delivered in non-treatment-seeking hazardous/harmful drinking population. There is no systematic review identified on the efficacy of alcohol brief interventions in other settings such as emergency departments, workplace, and miscellaneous settings.

Conclusion: Numerous trials tested the efficacy of brief intervention as a psychosocial intervention in reducing harmful and hazardous alcohol use. Despite the methodological limitations, brief intervention seems to be a cost effective psychological treatment strategy in reducing harmful or hazardous alcohol use in a variety of settings through various health professionals.

Keywords

Brief intervention, Harmful and hazardous alcohol use

Introduction

Alcohol - the ancient wondrous potion has emerged as a social burden due to increasing trend of alcohol use disorders and related injuries [1]. The problem due to alcohol largely depends on the volume and quality of alcohol consumed, patterns of drinking and environmental triggers [2-3]. Globally the average alcohol consumption is rampant with a variety of patterns of use. Hazardous drinking is the use of alcohol that places patients at risk for adverse health consequences and harmful drinking is defined as the pattern of alcohol use causing physical or psychological harm [4]. The available empirical data suggest that apart from the notable ill effects of the dependent use of alcohol, harmful or hazardous alcohol consumption also leads to more than 200 diseases and results in 3.3 million deaths each year [1]. The available reports on alcohol use reveal an alarming decrease in the age of onset of alcohol use in developing countries [5,6].

There is a substantial voluminous data available on various treatment modalities on harmful or hazardous alcohol use and are majorly based on preventive and psychosocial interventions. Various approaches in preventive interventions include school based prevention programmes [7], family based prevention programmes [8], restricting or banning on alcohol advertisements [9]. Psychosocial interventions aim to cut down or reduce current pattern of hazardous or harmful alcohol use [10] and incorporates the strategies such as Motivational Interviewing (MI) [11], Cognitive-Behavioural Therapy (CBT), psychodynamic approaches, Screening and Brief Interventions (SBIs) and brief personalized digital interventions [12].

Brief intervention is a time limited psychological treatment strategy in which structured therapy of short duration offered with the aim of assisting an individual to stop or reduce harmful or hazardous drinking. Screening is often offered before brief intervention and the length of the intervention is determined by the risk levels of alcohol use as per the screening instrument [13]. Most of the previous studies used the World Health Organization (WHO) developed instrument - Alcohol Use Disorders Identification Test (AUDIT) [4,14] and Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) [15] to detect harmful or hazardous alcohol use. Brief intervention is based on the principles of motivational interviewing [16,17] and uses techniques such as FRAMES (Feedback, Responsibility, Advice, Menu, Empathy, Self-efficacy), DARES (Develop discrepancy, Avoid argumentation, Roll with resistance, Express empathy, Support Self-efficacy) [18]. The present review is a critical analysis of the efficacy of brief interventions in treating risky alcohol use.

Objective

This review critically appraises the results of major systematic reviews on alcohol brief intervention conducted in different settings by various health professionals.

Methods

Major systematic reviews and clinical trials on alcohol brief interventions as per different settings were identified using the key terms "brief intervention" "harmful or hazardous alcohol use", "systematic reviews" through resources:- MEDLINE and Cochrane Library. Results of major reviews on brief intervention available in English and as per settings in the last decade were analyzed and included in this review. Two reviewers independently analyzed the selected systematic reviews in terms of major findings, the comparison between treatment and control group and methodological quality of the included trials.

Findings

The present review identified six systematic reviews on alcohol brief interventions conducted in primary care population, general and emergency hospital settings published between 2005 and 2017 and included forty-eight trials of average methodological quality. There is no systematic review identified on the efficacy of alcohol brief interventions in other settings such as emergency departments, workplace and miscellaneous settings and the results of controlled and uncontrolled trials in these settings are described. The present paper also identified a systematic review on electronic Screening and Brief Intervention (eSBI) in non-treatment-seeking hazardous/harmful drinking population and is appraised as per outcomes.

There is sufficient empirical evidence exists on the ef-

ficacy of brief interventions that warrant its implementation as a part of routine care for problematic drinking since 1990 [19-22]. Numerous trials in the last decade envisaged the role of brief interventions in various dimensions such as efficacy in a variety of settings, efficacy as per the involvement of healthcare professionals and as per outcome measures. The following are the systematic summary of the role of brief interventions in reducing harmful or hazardous alcohol use in different perspectives.

Alcohol brief interventions in primary care population & general hospital settings

A meta-analysis of 10 RCTs conducted in primary care population that brief interventions lowered alcohol consumption at one year follow up. The review further suggested that short duration (1-2 sessions) of 10 to 60 minutes of brief interventions are effective in reducing excessive drinking pattern [23]. McQueen, et al. analysed fourteen trials in terms of the impact of brief interventions in reducing alcohol consumption levels, hospital re-admission rates, alcohol related injuries among heavy alcohol users and included adolescents. The review included adolescents and adults admitted to general inpatient hospital care such as general medical wards, medical/surgical units for any reason other than specifically for alcohol treatment and found that brief intervention resulted in the reduction of alcohol consumption and death rates of male participants in this setting at 6-9 month follow up [24]. However, in a comprehensive systematic review, researchers analyzed twenty-four systematic reviews of brief intervention relevant to primary care population and identified the lacuna of evidence on the effectiveness of brief intervention in terms of its longevity, frequency and content across different population especially from developing countries. Most of the trials targeted middle aged population leaving the need for further researches on pregnant women and younger and older adults in primary healthcare settings [25].

Alcohol brief interventions in emergency departments

There were few emergency departments based randomized controlled trials of brief intervention with the reasonable methodological quality for alcohol problems. Most of the available trials have variation in the study protocol, alcohol-related recruitment criteria, screening and assessment methods, and injury severity etc. [26-28]. Although brief intervention is found to be cost effective in the emergency departments [29], evidence suggests that brief intervention resulted in the reduction of alcohol related subsequent injuries rather than reduction in excessive alcohol consumption requiring a consistent evaluation of outcome measures in this setting [30-33].

Alcohol brief interventions in workplace settings

Research on workplace alcohol brief intervention

was limited in number and identified the issues such as poor response rates, feasibility issues as per type of job and problems with self-disclosure [34-36]. Most of the studies conducted at large companies and tested the efficacy of web based as well as face to face alcohol brief intervention [37-40]. Although less attention has been given to workplace as an arena for brief alcohol interventions due to heterogeneous barriers on its acceptance and potential effectiveness, evidence on its efficacy is growing [41,42] even from developing countries [43,44].

Alcohol brief interventions in miscellaneous settings

Although very limited in number and methodological quality, there is some evidence on brief intervention for heavy drinkings such as psychiatric outpatient setting, [45] community-based counselling centres, sexual health clinics, and antenatal care and postpartum care settings [46-49]. However, none of the studies reported a superior benefit for brief intervention as compared to routine care [50,51].

Brief intervention for harmful drinking: Involvement of healthcare professionals

Healthcare professionals such as general physicians, nurses, psychologists, social workers community pharmacist were involved as a principal therapist in a variety of settings and were found to be efficacious in reducing harmful or heavy drinking regardless of the healthcare professionals involved as the therapist [52-56].

Brief intervention for risky alcohol use: From efficacy to effectiveness

Empirical evidence suggests that screening linked brief intervention is effective in reducing harmful drinking pattern in the primary care population [57]. But there is also evidence available that fails to provide an additional benefit for the implementation of the brief intervention in reducing harmful or hazardous alcohol use [58,59]. Hence "The efficacy and effectiveness distinction in trials of alcohol brief intervention" is a hot debate at the present scenario [60-62]. However, the present paper critically appraises the results of major systematic reviews of brief intervention as per specific settings by various health professionals (Table 1). The major findings are described below. (a) Most of the trials reported a significant reduction in alcohol consumption in the brief intervention group. But, it is worth to note that the control group also reduced their alcohol drinking pattern at later follow ups. Also, there was no statistically significant difference in some of the primary outcome measures in both the groups. However, a very recent review identified the superior benefit of brief intervention in five trials in various settings of middle-income countries [63]. (b) Major trials have serious methodological limitations such as allocation bias, attrition bias, and problems with blinding. (c) The optimal content, length and frequency of brief intervention are still unclear as it has been portrayed as "motivational interviewing" or "brief advice on the change in alcohol use" in most of the earlier studies.

Conclusion

Numerous trials tested the efficacy of brief intervention as a psychosocial intervention in reducing harmful and hazardous alcohol use. Despite the methodological limitations and absence of a significant superior bene-

Table 1: Critical appraisal of the major systematic reviews on alcohol brief interventions.

Author/ Type of research	Included trials (N)	Objective/ Outcome	Major findings	Brief intervention group vs. Control group	Quality of evidence
Joseph, et al. [63]	9 RCTs	Efficacy of randomized controlled trials on alcohol brief interventions in reducing hazardous or harmful drinking conducted at various settings of middle income countries.	The results of five trials suggest a benefit for brief intervention in reducing self-reported hazardous or harmful alcohol use. The content of brief intervention was based on the principles of motivational interviewing and was delivered by trained nurses in almost all the trials.	Five trials reported statistically significant reductions in self-reported alcohol consumption in the treatment groups as compared to control group at 3 months to 24 months follow up. Four trials did not find any additional benefit for brief intervention as both groups reduced hazardous or harmful drinking at 6 to 12 months follow up.	Methodological quality was found to be adequate as per standard tools, without any serious methodological issues or biases in more than half of the selected trials.
Donoghue, et al. [40]	23 trials	Effectiveness of electronic Screening and Brief Intervention (eSBI) in non-treatment-seeking hazardous/harmful drinkers.	eSBI resulted in a significant reduction in mean difference in grams of ethanol consumed per week between 3 months and less than 12 months follow-up.	A statistically significant reduction in weekly alcohol consumption between intervention and control conditions 3,6 and less than 12 months follow-up.	Apart from the reports of large attrition rate (up to 55%) in some trials, most of them have acceptable methodological quality (n = 3-high quality) as per Scottish Intercollegiate Guidelines Network (SIGN) validated checklist.

O'Donnell, et al. [25]	24 SR (56 trials)	Effectiveness of brief intervention in primary care settings across different countries and healthcare systems as per length, frequency and content of brief intervention.	Although brief intervention is effective in primary healthcare population, there is evidence gap about the effectiveness of brief intervention regarding longevity, frequency and content of brief intervention across different population especially developing countries.	Not addressed specifically the superior benefit of brief intervention group at 6-12 month follow up.	Not addressed in this review.
Kaner, et al. [23]	22 RCTs	Effectiveness of brief intervention and extended psychological interventions in primary care settings in terms of reduction in self-reported drinking quantity, frequency and intensity.	Brief interventions lowered alcohol consumption especially in men at one year of follow up and is relevant to routine clinical practice. Longer duration of counselling probably has little additional effect.	Serial sensitivity analyses showed a statistically significant benefit of brief intervention group in reduction in drinking quantity. Some trials reported non-significant lower frequency (n = 3), intensity (n = 5) of drinking and changes in biomarker (n = 4) in the brief intervention group than the control group.	Methodological limitations such as absence of adequate randomization (n = 10), allocation concealment (n = 12) blinding was found in nearly half of included trials. However sensitivity analysis were restricted to trials of good quality (n~10).
McQueen, et al. [24]	14 trials	Impact of brief interventions in reducing alcohol consumption levels, hospital re-admission rates, alcohol related injuries and improving quality of life with heavy alcohol users admitted to general hospital wards.	Brief intervention resulted in reduction of alcohol consumption and death rates of male participants in general hospital settings at 6-9 month follow up. The optimal content of brief intervention need further investigation in this setting.	Superior benefit of brief intervention group at 6 month follow up in reducing mean alcohol consumption in grams per week (4 trials). No significant differences between brief interventions and control groups at any time points for; alcohol consumption based on change scores from baseline, laboratory markers (Gamma GT), number of binges, driving offences within 3 Years.	Methodological limitations such as absence of adequate randomization, allocation concealment blinding was found in nearly half of included trials.
Havard, et al. [31]	13 trials	Effectiveness of Emergency Department (ED)-based interventions in reducing alcohol consumption and critiquing the methodological adequacy in setting.	Brief intervention did not significantly reduce subsequent alcohol consumption in this setting, but probably effective in reducing subsequent alcohol-related injuries.	No significant differences between brief interventions and control groups in reducing alcohol consumption.	Methodological quality was found to be reasonable, with the exception of poor reporting of effect-size information and inconsistent selection of outcome measures.

fit, brief intervention seems to be a cost effective psychological treatment strategy in reducing harmful or hazardous alcohol use in a variety of settings through various health professionals.

Future Prospects - Brief Intervention - What is Missing?

As low to modest evidence exists on the efficacy of brief intervention in developed countries, future studies should focus more on the implementation issues and policy changes regarding the delivery of both face to face and electronic brief intervention. However, brief intervention still remains as "unconscious" in developing countries and prompt attention and support needed to unravel the knowledge on the "royal road" to alcohol

brief intervention trials in this setting for a better transnational acceptance.

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