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Digital tools and apps to reduce alcohol use

A scalable intervention as part of a wider strategy to reduce and prevent alcohol harm

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Europe has the highest levels of alcohol use in the world[1] and a wide variety of evidence based policies and interventions are already available to reduce harm from alcohol.[2]

Prevention of ill health has the potential for the biggest health gains as well as financial return on investment. In a linked paper, Bertholet and colleagues report findings from their trial that investigated use of a smartphone app to reduce alcohol consumption in students.[3]

Prevention can be categorised in three ways: primary prevention, which for alcohol can include population level interventions such as taxation; secondary prevention, including brief interventions such as the app tested by Bertholet and colleagues; and tertiary prevention, which includes relapse prevention. A comprehensive approach to preventing alcohol harm involves a range of stakeholders from within and beyond healthcare systems. In England, for example, we have been in a "cycle of rhetoric about prevention",[4] but actions are yet to match the scale of the health, healthcare, and equity challenges that we face. Further evidence from high quality randomised trials such as this study is very welcome, especially as healthcare increasingly becomes digital.

Bertholet and colleagues tested a smartphone app among 1770 students who screened positive for unhealthy alcohol use. The authors describe the effort that went into the design, interface, and components of the app, which was developed with input from the target population—a sign of good practice. They blended components with a strong evidence base (eg, personalised feedback and goal setting) with game-like features (eg, the designated driver selfie tool), which is often the case with digital interventions because these features can boost engagement. Participants in the intervention group were asked to download the smartphone app and received a low value gift coupon for doing so, but they were not incentivised for using the app beyond this. The participants in the control group received the same value coupon in return for registering their details but they did not receive any intervention regarding their alcohol use.

Although we cannot know from this study how well the intervention moved people from higher to lower risk groups, a clinically relevant outcome,[5] the trial found consistent and significant reductions in alcohol use in the intervention group compared with the control. The primary outcome measure for the trial was standard drinks per week based on alcohol use in the past month, and the statistically significant findings (incidence rate ratio 0.90 (95% confidence interval 0.85 to 0.96)) equated to a reduction in alcohol consumption of about half a Swiss standard drink per week. The nature of this intervention lends itself to being reproduced at scale at limited cost, and the authors say a free version of the app will be made available given the results of the study.

How do these results compare with the evidence base more broadly? A 2017 Cochrane review of digital interventions (including apps) found moderate quality evidence for reductions in alcohol consumption compared with the control, with an average reduction of up to three UK standard drinks per week.[6] A 2020 systematic review of randomised trials of app interventions for substance use (ie, alcohol, other drugs, and tobacco) reported mixed findings overall, although with more promising results for alcohol than other substances.[7] Challenges remain for engagement,[8][9] evidence translation to real world use (with apps that are effective in research studies not always being made available publicly outside of the study),[10] and establishing a consensus on choice of control conditions.

Importantly, existing digital alcohol interventions are fairly low intensity. They are usually aimed at people who are at an increased risk from their drinking, but not suitable for those at the most harmful and dependent end of the alcohol use disorder continuum, who may need detoxification from alcohol, and require, or prefer,[11] more intensive in person ongoing psychological and pharmacological support.

Overall, do we have enough evidence on digital interventions and apps for alcohol use to inform clinical and wider practice? In the UK, the National Institute for Health and Care Excellence thinks so, with a recommendation in place since 2020 to consider digital and mobile health interventions as an option to reduce alcohol intake in addition to existing services;[12] although this guidance contains caveats relating to evidence quality. Internationally, recommendations are less specific about digital interventions. Recommendations are broadly aligned with the health services response recommendations in the World Health Organization's 2010 global strategy to reduce the harmful use of alcohol,[13] and in WHO's SAFER initiative for a world free of alcohol harm, the letter F in SAFER stands for facilitate access to screening, brief interventions, and treatment.[14]

Digital interventions, including apps, hold potential for being scaled up and reaching a wide audience. However, equity considerations should be prioritised, and people who are older, marginalised, or have a low level of health literacy should not be missed out as these interventions become more mainstream.

The significant effect of this trial is positive, but these kinds of interventions are no magic fix in the context

of international goals, such as the WHO's target of a 20% relative reduction in the harmful use of alcohol by 2030.[15] A report from 2021 by the Organisation for Economic Cooperation and Development recommends introducing so-called prevention packages of policies to prevent harmful alcohol use.[16] Mirroring this, the Institute of Alcohol Studies in the UK talks about reaching a critical mass effect to escalate the reduction in alcohol harms.[17] This effect can be met through a coherent strategy of complementary evidence based policies and interventions, such as reducing alcohol's availability, affordability, and marketing, alongside expanding access to treatment and support for alcohol use disorders. Both the Organisation for Economic Cooperation and Development and the Institute of Alcohol Studies underline the importance of a multicomponent strategy to tackle alcohol harm, of which digital interventions are one such tool.

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