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▶ Effectiveness of e-self-help interventions for curbing adult problem drinking: a meta-analysis.

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This synthesis of nine relevant studies of non-student adult samples confirmed that computer-delivered self-help interventions offer a low-cost way to extend the public health impact of interventions for risky drinkers. Yet to be shown is that they can replace therapists for severely dependent individuals seeking treatment.

Summary Computer-delivered self-help interventions offer a low-cost way to extend intervention to risky and problem drinkers. Stigmatisation concerns are reduced because there need be no face-to-face contact, often the recipient retains anonymity, and they can access the intervention free of charge. Automation assures treatment is consistently delivered as intended.

Such interventions can be divided in to:
• alternatives to face-to-face 'brief interventions', typically for people whose drinking has been identified by screening, and consisting of a single session featuring 'normative feedback' on how the drinker's consumption compares with low-risk drinking guidelines and with usual drinking levels in their own cohort or peer group; and
• alternatives to more extended face-to-face therapy for people who have sought treatment themselves or been referred for help; recommended to span at least six weeks, typically these consist of protocol-driven therapeutic programmes based on principles of behavioural self-control, cognitive-behavioural therapy, motivational interviewing, or a combination of these.

This analysis is the first to meta-analytically combine findings from studies of computer-delivered e-self-help interventions (either web-based or packaged on a CD-ROM) for adult risky or problem drinkers versus no intervention. Included were studies available up to February 2010 which randomly allocated adults (other than students in college and university settings) whose drinking exceeded low-risk guidelines to e-self-help involving

no therapist contact, or to a no-intervention control group, and assessed the impacts on their drinking.

Nine trials were found involving 1553 participants, all conducted in high-income countries: the United States, Canada, the Netherlands, and Germany. Five tested single-session personalised normative feedback interventions, four more extended programmes. All the studies involved non-clinical samples recruited usually through media adverts.

Main findings

Substantial differences in the results of the studies meant it was advisable to analyse them on the assumption that there was no single 'true' impact of e-self-help, but that this varied across the studies. On this basis, across all the studies the impact of e-self-help on drinking amounted to a statistically significant moderate effect size of 0.44 adjusted for sample size.

One 'outlier' study found an atypically large and another a small negative impact. Excluding these (slightly reducing the effect size to 0.39) or excluding the largest single study barely affected the overall picture. The findings were equivalent to needing to intervene with five excessive drinkers in order for one to achieve the desired reduction in drinking sustained over the next six to nine months. These results did not seem likely to be changed by unpublished studies or any missed by the search.

Excluding outlier studies, the three studies of extended self-help interventions registered a large and significantly greater effect size (0.61) than the four of (0.27) brief interventions, though both exerted statistically significant impacts. However, no significant differences in impact were related to whether the intervention was delivered at home or elsewhere, how the control group was constructed, the size of the sample, or whether only people who actually participated in the intervention were included in the analysis.

The authors' conclusions

Up to six to nine months later, e-health interventions for adult problem drinking in the general population have resulted in a moderate reduction in consumption compared to offering no intervention. Such an impact could cumulate to major health benefits if similar interventions were (as in many countries they could be) accessed across a population. E-self-help interventions might also be an effective first-line choice in a 'stepped-care' approach to problem drinking, followed only if needed by more extensive or expensive interventions. Requiring no face-to-face contact, in economic terms they have considerable promise compared to other approaches with relatively high implementation costs.

The impact of extended therapy programmes was significantly greater than that of brief interventions, suggesting the former are more effective. Impacts beyond nine months have not been sufficiently investigated, but two studies suggest a diminished effect by one year.

The medium-size omnibus effect registered in this analysis is larger than those in other similar analyses, possibly because these variously included studies which compared computer-based intervention to other treatments rather than none, included younger

people and student populations, or focused on brief interventions. A medium impact also compares well with the impacts of face-to-face brief interventions for adults primary care patients, postal self-help interventions, and brief interventions for risky drinkers not seeking help, but identified through screening or some other means. Similarity in impact suggests that computer-based intervention can extend the array of public health services to combat problem drinking,

Because of the studies from which they were derived, the results can only be considered applicable to self-referred adult problem drinkers in high-income countries recruited via the media – samples likely to be ready and motivated to curb their drinking. To a degree too, the results can only be considered applicable to people who complete the interventions and/or the study's assessments; many do not.

FINDINGS Though only a minority of site visitors may sign up for web-based alcohol programmes, nevertheless the numbers engaged can be large, and the risk-reductions seem of the order typical in studies of brief advice to drinkers identified in health care settings. In these settings screening programmes typically identify people who are not actually seeking help for drinking problems – 'pushing' them towards intervention and change – while web sites 'pull' in people already curious or concerned about their drinking. As such these two gateways can play complementary roles in improving public health and offering change opportunities to people who would not present to alcohol treatment services. However, in Britain and elsewhere, both tactics reach only small fractions of the population who drink excessively, leaving the bulk of the public health work to be done by interventions which drinkers generally cannot avoid and do not have seek out, such as price increases and availability restrictions.

About the featured analysis

The studies included in the featured analysis did not test computer-delivered therapy as an alternative to face-to face therapy for people attending alcohol treatment services, whose problems are typically much more severe and resources less than those of respondents to the adverts which recruited most study participants. For this role they are as yet unproven. The conclusion that extended interventions were more effective than brief interventions requires testing in studies intended for this purpose. For example, it could be that people prepared to participate in studies which involve a longer-term commitment have both more scope and more motivation to improve. Generally studies of brief alcohol interventions which have included longer and shorter versions have found these equivalent (for example, see this study of hospital inpatients and this of emergency department patients), but sometimes the offer of extra sessions has been found critical to the impact.

Stepped care of the kind recommended in the featured analysis has been evaluated in Germany, where a computerised intervention incorporating feedback on the patient's risky drinking was followed by up three 40-minute telephone calls depending on the success of the first-line intervention. Stepped-care patients absorbed roughly half the number of intervention minutes as those automatically offered full intervention yet did just as well, and better than patients offered no intervention.

The outlier study which found an atypically strong impact from computerised intervention tested a series of five psychoeducational TV programmes sent to participants as DVDs but intended to be normally broadcast. These

were backed by an internet site but few of the sample accessed it and the study was seen by its evaluators as one of a TV intervention rather than a computer-based one. The study exemplifies the probability that people who agree to participate in such studies are unusual. It was nationally advertised in the Netherlands yet just 210 people participated.

The other outlier study said to have found a counterproductive effect of ehealth intervention was considered unusual partly because the emergency department patients were "given an e-self-help intervention that did not address alcohol as such, but provided general lifestyle advice". The alcohol content of the intervention was though typical of those in other studies (normative feedback), and was embedded in information about other lifestyle risks simply to avoid arousing the patients' resistance or stigmatising them. More importantly, rather than a negative impact, "patients who received the tailored, computerized intervention had a greater reduction in weekly alcohol intake than controls at both six- and twelve-month follow-up".

Opening more doors to change for more people

A particular role for alcohol self-help web sites may be to offer an easy, quick and accessible way for drinkers to actualise their desires to tackle their problems, especially when motivation is allied with the resources to implement and sustain improvements without face-to-face or comprehensive assistance. After conducting the Project MATCH trial, some of the world's leading alcohol treatment researchers argued that "access to treatment may be as important as the type of treatment available". The implication is that in cultures which accept 'treatment' as a route to resolving unhealthy and/or undesirable drinking, having convincing-looking and accessible 'treatment doors' to go through may be more important than what lies behind those doors, as long as this fulfils the expectations of the client or patient. As web services penetrate more aspects of life including social and health-related, they too may take their place among culturally accepted routes to overcoming unhealthy substance use. Self-help alcohol therapy web sites particularly attract people who retain a stake in mainstream society in the form of relationships, jobs, families, and a reputation to lose. These populations have more of the 'recovery capital' resources needed to themselves do most of the work in curbing their drinking.

British alcohol self-help sites

The best researched British alcohol self-help web site is the Down Your Drink site run by a team based at University College London, an initiative originally funded by Alcohol Research UK and then by the Medical Research Council's National Prevention Research Initiative. In 2007 this was revised to offer set programmes from a one-hour brief intervention to several weeks, but also to generally give the user greater control over the use they made of the site. The approach remained based on principles and techniques derived from motivational interviewing and cognitive-behavioural therapies.

The previous version had been structured as six consecutive modules to be accessed weekly. An analysis of data provided by the first 10,000 people who registered at the site after piloting ended in September 2003 revealed that most were in their 30s and 40s, half were women, nearly two-thirds were married or living with a partner, just 4% were unemployed, and most reported occupations from higher socioeconomic strata. As an earlier study commented, site users were predominantly middle class, middle aged, white and European. Six in 10 either did not start the programme, or completed just the first week. About 17% completed the six weeks. Of these, 57% returned an outcome

questionnaire. Compared to their pre-programme status, on average they were now at substantially lower risk, and functioning better and living much improved lives. The sample had been recruited over about 27 months, a registration rate of about 4500 a year. By way of comparison, in England during 2008/09, around 100,000 adults were treated for their alcohol problems at conventional services. User profile and site usage had been similar during the earlier pilot phase. Results from surveys sent to pilot programme completers indicated that three quarters had never previously sought help for their drinking.

Also available is an NHS site on which users can monitor their alcohol intake, check whether it is placing them at risk, and get tips on how to cut down.

Without the benefit of the featured review, in 2012 NHS Scotland looked at computer-based alcohol interventions as possible ways to extend the reach of treatment and of Scotland's national brief intervention programme to people drinking at hazardous or harmful levels, in particular those unlikely to attend traditional health care services but who might turn to the internet for advice and information, such as women and young adults. The report found evidence that computer-based alcohol interventions are more effective than no treatment or assessment only and just as effective as conventional approaches including brief interventions. But it also found this evidence insufficient to sustain a definite conclusion on the impact among non-student samples and in the British context, and whether such interventions truly are cost-effective. Worth trying but unproven and need evaluating was the core message. The findings of the featured analysis, focused as it was on non-student samples, might in this respect at least have helped firm up the review's conclusions.

Thanks for their comments on this entry in draft to Heleen Riper of the Leuphana University in Germany and the Vrije Universiteit in the Netherlands. Commentators bear no responsibility for the text including the interpretations and any remaining errors.

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