Electronic Screening and Brief Intervention (e-SBI) Effective for Reducing Excessive Alcohol Consumption by Adults

By Robb Hicks, MD

The rapid development and accessibility of technology have made it possible for individuals to actively participate in their health care and treatment plans. More American adults (61%) than ever before are going online to find and share health-related information and advice, according to findings by the Pew Research Center (2009). Mobile access to the Internet allows individuals and clinicians to connect at any time or in any place.

Alcohol addiction specialists in particular are capitalizing on this technological acceptance by supplementing traditional medical practices with automated behavioral therapies. More formally known as electronic screening and brief intervention (e-SBI), these computerized tools (also known as computer-assisted treatments or therapies) are administered to patients who have tested positive for excessive alcohol consumption patterns on prior screening. The questions asked are supported by empirically-validated instruments like the AUDIT (Alcohol Use Disorders Identification Test) and the Rutger's Alcohol Problem Index. They are delivered via the Internet, telephone or mobile phone. Upon completion, a patient receives personalized feedback to determine their level of risk. The intervention portion of the tool includes suggestions for additional resources for reducing problem drinking (Carroll, 2014).

As with the introduction of any pioneering therapy, there are advantages and disadvantages to consider before implementing the tool into a patient's care plan.

Computer-Assisted Treatments Serve as an Extension of Clinicians

Excessive alcohol use is one of the leading contributors to preventable deaths in the United States. It significantly increases the likelihood of an individual experiencing morbidity, violence, and even death. Yet, only 1 in 6 adults who misuse alcohol say they talk with a healthcare professional about their drinking patterns (Bouchery, Harwood, Sacks, Simon & Brewer, 2011 & Centers for Disease Control and Prevention, 2014). This unwillingness to seek help may be prompted by myriad reasons, including but not limited to: difficulties accessing treatment; the time required to complete a traditional screening and brief intervention (SBI); dislike of how and/or where the treatment is administered; or the failure of clinicians to identify their problem. A shortage of staff, time, money, and other resources may pose an additional barrier for many in underserved populations (The Guide to Community Preventive Services, 2014).

The widespread use of computers and smartphones has inspired the development of e-SBIs to address some of the aforementioned obstacles preventing face-to-face SBIs. These computerized treatments can serve as an economical alternative that achieves the same outcome — help people stop their problem drinking. E-SBIs can be anonymously disseminated in various settings to more patients in less time, which in turn free up clinicians for other functions. Additionally, tailored feedback and the use of multi-media effects, games, and virtual simulations make e-SBIs more appealing and engaging to many patients (Donoghue, Patton, Phillips, Deluca, & Drummond, 2014).

Computer-Assisted Treatments Reflect Current Theory of Change

Due to e-SBIs' self-paced and self-directed nature, they can be accessed when individuals are most motivated to change their unhealthy behaviors. This demonstrates a vital step towards ending the cycle of problem drinking and other alcohol-related harms, as it relates to the 'Stages of Change' (SCM) model (Prochaska, 2014). Recognizing these five sequentially progressive stages of change — precontemplation, contemplation, preparation, action, and maintenance — allows us to better appreciate the potential effectiveness of e-SBIs for treating excessive alcohol consumption.

For example, the screening portion of the tool could impact patients in either the precontemplation or contemplation stage. Precontemplators have been blaming their drinking and the damage it has caused on anything other than themselves, such as genetic predisposition, family of origin, karma, societal mores, religion, or the police. As correctly noted in *Motivational Interviewing: Preparing People To Change Addictive Behavior,* "We cannot make precontemplators change, but we can help

motivate them to move to contemplation" (Miller & Rollnick, 1991). The objective facts provided by the validated e-SBI screening questions could break through the extant denial, and may therefore be the only such motivator available in the middle of the night.

Persons with an alcohol use disorder in the contemplation stage may similarly benefit. Contemplators acknowledge they have a problem, but they are spending enormous time and energy trying to figure out the cause, rather than trying to solve it. Heralding their movement into the preparation stage is the ability to look forward and want a solution, rather than staying hopelessly focused on the past. Again, e-SBIs may be the unique tool that brings a desperate contemplator hope in the middle of the night as it provides suggestions to solve the problem.

Heavy drinkers in the preparation stage are the third group who can most benefit from e-SBIs. They have already acknowledged they have a problem, and they are thinking of ways to solve it. Again, one can easily imagine how the screening portion of the tool could help overcome their residual ambivalence, followed by the brief intervention that could propel them into action. Thus, we can see that an environment conducive to accurate reporting of personal behaviors can be established within the progressive movement from stage to stage within the SCM.

Critics of the implementation of computer-assisted treatments argue that they do not provide any of the potential benefits of in-person interactions, such as rapport, empathy or non-verbal communication (Donoghue, Patton, Phillips, Deluca, & Drummond, 2014).We would never attempt or want to replace the counsel of trained substance use disorder professionals. However, it is vital we continue making effective treatment options available to patients when and where they are most likely to access them.

Research Shows Adults Receiving Web-based Treatments Drink Less Alcohol

In a systematic review of 31 studies conducted from 1997 to 2011, the United States Department of Health and Human Services' Community Preventive Services Task Force recently concluded that e-SBIs are indeed effective in decreasing self-reported excessive alcohol consumption and problems. They found e-SBIs yielded favorable outcomes for all indicators of alcohol misuse, e.g., risky drinking behaviors, overall consumption, and binge drinking, throughout post-intervention periods lasting up to one year. These favorable outcomes were defined by decreases in the number of drinks consumed per occasion, the overall number of alcoholic drinks consumed per month, and the frequency of binge drinking occurrences.

It should be noted that the web-based interventions were found effective across a wide-range of age and gender populations and settings. Nevertheless, additional research will likely be needed to determine the efficacy of e-SBIs among individuals from different sociodemographic groups (The Community Guide, 2014).

Donoghue and colleagues (2014) also conducted a systematic review and meta-analysis of 40 studies and found nearly identical evidence of the efficacy of Internet-based interventions. Many of the adult participants drank at least two standard-sized drinks less per week in the follow-up post intervention periods lasting up to one year. Given that e-SBIs have been demonstrated to be safe and effective for use, it remains imperative for clinicians to receive the training, monitoring, and feedback needed to properly administer them. Computer-assisted therapies should be carefully distributed using the same methodological standards required for evaluating clinician-delivered therapies.

The Future of Technology Provides Accountability and Support for Problem Drinkers

The advancement of e-SBIs will pave the way for more uses of technology in alcohol use disorder treatments, specifically mobile phone text messaging-based interventions (Haug, Kowatsch, Castro, Filler & Schaub, 2014). This cutting-edge resource could help us to educate a greater number of adolescents about the risk of over-consuming alcohol. We would be able to send customizable, supportive advice directly to their smartphones, especially when they are most likely to drink.

As the Internet continues to progress, the range of help-seeking options will increase. We'll see even more acceptance of downloadable applications (apps), podcasts, videos and more to manage individuals' health. Clinicians, too, will have more opportunities to take treatment to problem drinkers rather than bringing the problem drinkers to treatment. Technology significantly lessens restrictions to information based on traditional organizational practices.

Lastly but not least, computer-assisted treatments allow family members and outside mentors a way to provide constructive accountability as part of their loved one's treatment plan. The road to developing better drinking habits is only a click away!

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