



**Karolinska
Institutet**

Institutionen för klinisk neurovetenskap

Reaching out

Internet-based self-assessment of problematic substance use with personalized feedback

AKADEMISK AVHANDLING

som för avläggande av medicine doktorsexamen vid Karolinska Institutet offentligen försvaras i salen Gustaf Retzius (Cesar), Berzelius väg 3, Karolinska Institutet, Campus Solna.

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ABSTRACT

Background: Effective treatment methods for reducing problematic substance use exist for delivery by professional treatment providers. However, they are highly underutilized since the vast majority of the substance users never seek professional help for their problematic use. In recent years, Internet-based interventions have been recognized as potentially effective tools for reaching individuals with problematic substance use and reducing such use. The aim of this thesis is to describe the development of eScreen.se, a Swedish Internet-based screening and brief intervention service for problematic alcohol and drug use, and to explore whether eScreen.se is an effective way of reaching problematic alcohol and drug users as well as an effective service for reducing their problematic substance use.

Method: In a naturalistic study, eScreen.se users were studied with regard to their individual characteristics and utilization patterns during the first 20 months of public availability for eScreen.se (Study I). Using the same electronic screening instruments that are part of eScreen.se, the prevalence of problematic alcohol and illicit drug use was explored among 1861 individuals in a random sample from the Swedish general population (Study II). The effects of eScreen.se on reducing problematic substance use were explored in two randomized controlled trials, one with 634 problematic alcohol users (Study III) and the second with 202 illicit drug users (Study IV). In both trials, the interventions were compared to Internet-based assessment only. In the alcohol trial, eScreen.se was also compared to an online self-help intervention based on the principles of Cognitive-Behavioral Therapy (CBT) and Motivational Interviewing (MI), Alkoholhjalpen.se. Participants in both trials were followed up for 6 months (drugs) and 12 months (alcohol) after recruitment to the study.

Results: Of the 2361 individuals that created an account at eScreen.se during the first 20 months of public availability, 51 percent were women, with a mean age of 23 years (SD=10) in the total sample. In total, 67 percent reported problematic alcohol use while 46 percent reported problematic use of illicit drugs. The highest prevalence of problematic use was found among 18-24 year olds (76 percent for problematic alcohol use and 64 percent for illicit drug use), with small gender differences. Corresponding prevalence figures for the sample from the Swedish general population were 21 percent for problematic alcohol use and 3 percent for illicit drug use. The psychometric properties of the electronic tests used in eScreen.se were very good, with Cronbach's α values well above 0.80. The two randomized controlled trials showed that eScreen.se was associated with a decrease in substance use occurring in the first three months and maintained for up to 12 months. However, among individuals with problematic alcohol use, eScreen.se was equally effective to Internet-based assessment only and partial indications were found showing that the use of the more intensive service Alkoholhjalpen.se was more effective in reducing problematic alcohol use than the use of eScreen.se or assessment only. Partial indications also showed that the use of eScreen.se among illicit drug users was more effective in reducing drug-related problems than Internet-based assessment only, up to three months after recruitment to the study, with effects maintained up to six months. Use of eScreen.se was also associated with decreasing alcohol consumption and alcohol-related problems among drug users, up to six months after recruitment to the study.

Conclusions: Through eScreen.se, an Internet-based screening and brief intervention service, professional instruments for identifying individuals with problematic substance use have been made available on a broad population basis. eScreen.se has been shown to be an important platform for reaching groups that are underrepresented in traditional treatment settings and the use of the service is associated with decreases in substance use including alcohol and illicit drugs.