Computer-Based Cognitive Behavioral Therapy for Anxiety Disorders or Depression

Summary and Conclusions

TECHNOLOGY AND TARGET GROUP Anxiety and depression are two conditions that affect a large percentage of the population. Anxiety refers to an intensive sense of apprehension and distress associated with anticipated danger or harm. The symptoms are distinguished by having both physical and psychological characteristics. Anxiety disorders refer to multiple anxiety symptoms that present concurrently in a specific manner and have a certain duration. Anxiety disorders can be separated into panic disorder, obsessive-compulsive disorder, post-traumatic stress disorder, generalized anxiety disorder, social phobia, specific phobias, and unspecified anxiety disorders. Typically, depression involves a sense of hopelessness, meaninglessness, and depressed mood over an extended period. As with anxiety disorders, patients with depression are often affected by other problems or substance abuse, and some are unable to work for shorter or longer periods.

Cognitive behavioral therapy (CBT) is a form of psychological treatment that focuses on a patient’s thoughts, feelings, and behaviors from a learning perspective, and which has been shown to be relatively effective for anxiety disorders and depression. CBT emphasizes the importance of self-help and developing the ability to learn how to cope with one’s problems. Computer-based CBT involves treatment based on CBT manuals that have been adapted to a computerized format. In most cases, computer-based therapy includes some type of personal contact with a CBT therapist who follows the patient’s progress and is available to answer questions, eg, via e-mail, telephone, or during a few, limited face-to-face meetings. Some computer-based programs involve minimal contact with a CBT therapist, while others are mainly used as a complement to CBT provided by a therapist. Criteria have not been defined for selecting patients with anxiety disorders or depression who may be appropriate for computer-based CBT. Lacking such criteria, the size of the potential target group for this method cannot be estimated.

PRIMARY QUESTION What effects and costs are associated with computer-based CBT in treating adult patients with anxiety disorders or depression?

PATIENT BENEFIT Twelve randomized controlled trials, where computer-based CBT was tested in treating anxiety disorders or depression, were included in this systematic review. All of these studies were found to provide moderately strong scientific evidence and serve as a foundation for the conclusions regarding the state of knowledge. The results were measured primarily by participants responding to validated self-assessment forms, or by clinical assessment of symptoms in a few cases.

Anxiety disorders (7 studies). In the 4 studies that tested CBT for treating panic disorder, computer-based treatment was better than a waiting list control in 2 of the studies and better than a telephone support group in 1 study. Two of the 4 studies found no significant differences in outcome between the group receiving computer-based CBT and the group receiving therapist-lead treatment. One of these studies used computer-based CBT as a complement to therapist-lead treatment. Two studies included people with social phobia where computer-based CBT was compared to waiting lists or participation in an Internet-based discussion group. In both studies, the results were better for participants in the computer-based treatment. In a study of participants with obsessive-compulsive disorder, therapist-lead CBT yielded better results than computer-based CBT, which in turn yielded better results than relaxation exercises.

Depression (4 studies). In 4 studies of people with depression, the group receiving computer-based CBT demonstrated better results than those in control groups that received treatment as usual, participated in telephone interviews, participated in Internet-based discussion groups, or remained on the waiting list. One of these studies used computer-based CBT as a complement to therapist-lead treatment. In addition to comparing computer-based CBT to a waiting list, this study also made a direct comparison with therapist-lead CBT where participants had no access to the computer-based form of treatment. No significant differences were observed in the results between the 2 groups receiving different variations of CBT. In another of the 4 studies, no differences were observed in results between participants receiving computer-based CBT and those with access to an information page on depression on the Internet.

Mixed anxiety/depression (1 study). In a study of people with anxiety and/or depression, the group receiving computer-based CBT demonstrated better results than those in a control group receiving treatment as usual.

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ETHICAL ASPECTS It is important to assess each individual program from an ethical perspective. However, several questions common to all types of programs, and which need to be considered from an ethical standpoint, can be distinguished. These concern how patients should be diagnosed and selected for treatment. Furthermore, it is important for patients to feel acceptance for the computer-based form of treatment, that other treatment options are made available, and that the patient can participate in choosing a form of treatment. Other issues concern who should be responsible for the treatment and how the patient’s response to treatment should be monitored. Yet another aspect having ethical implications concerns the role that computer-based CBT should play in relation to other treatment options offered by the health services.

ECONOMIC ASPECTS A British study assessed the cost effectiveness of computer-based CBT in treating people with anxiety and/or depression. This study found the cost of care to be roughly 550 Swedish kronor (SEK) higher and the cost of lost productivity roughly SEK 5500 lower in the group receiving computer-based CBT compared to the control group receiving treatment as usual. The treatment gains from the intervention were estimated at 0.032 quality-adjusted life-years (QALYs), which would correspond to approximately SEK 17 000 per QALY gained, based on direct costs. When indirect costs were included in the estimate, it showed that computer-based CBT was both better and saved cost compared to treatment as usual. The reliability of the analysis is, however, limited by uncertainty related to the information on morbidity, costs, and some of the assumptions. The study described above serves as the foundation for a model analysis that compares treatment as usual and other treatment options. The study described above serves as the foundation for a model analysis that compares treatment as usual and other treatment options. The study described above serves as the foundation for a model analysis that compares treatment as usual and other treatment options. The study described above serves as the foundation for a model analysis that compares treatment as usual and other treatment options.

SBU’s appraisal of the evidence There is limited scientific evidence (Evidence Grade 3*) indicating that computer-based CBT has favorable, short-term effects on symptoms in the treatment of panic disorder, social phobia, and depression. The scientific evidence is insufficient* to assess the effects of treatment on obsessive-compulsive disorder and mixed anxiety/depression. The scientific evidence is insufficient* to assess the cost effectiveness of the method. It is essential to clarify how patients should be selected for treatment and the role of computer-based CBT in relation to other treatment options. Studies with a more representative selection of participants and with longer followup periods are needed to enable more reliable conclusions on the effects and costs of using the method within the health services.

References

*Criteria for Evidence Grading SBU’s Conclusions
Evidence Grade 1 – Strong Scientific Evidence. The conclusion is corroborated by at least two independent studies with high quality and internal validity, or a good systematic overview.
Evidence Grade 2 – Moderately Strong Scientific Evidence. The conclusion is corroborated by one study with high quality and internal validity, and at least two studies with medium quality and internal validity.
Evidence Grade 3 – Limited Scientific Evidence. The conclusion is corroborated by at least two studies with medium quality and internal validity.
Insufficient Scientific Evidence. No conclusions can be drawn when there are not any studies that meet the criteria for quality and internal validity.
Contradictory Scientific Evidence. No conclusions can be drawn when there are studies with the same quality and internal validity whose findings contradict each other.


