



Learning to⁺⁺ Sleep

FIRST RESULTS RESEARCH STUDY LEARNING TO SLEEP

2022

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Introduction and background

About 24.8% of the population in Europe report sleeping disorders, 12.5% also state problems during the day due to sleep problems, and 10.1% meet the criteria for the diagnosis of insomnia (Baglioni et al., 2020). In primary care there is a prevalence of insomnia of up to 50% has been reported in Norway (Riemann et al., 2017). Furthermore, 80 % of individuals who have previously used sleeping pills, in a study from Norway stated that they preferred a non-pharmacological treatment, but less than 10% had actually been offered something other than drugs (Baglioni et al., 2020; Riemann et al., 2017).

Insomnia tends to be a recurring or chronic condition without treatment. Due to the fact that Insomnia is common both as an individual problem and in others medical and psychiatric conditions, as well as being associated with several negative consequences for both the individual and society (impaired daytime function, discomfort, absence from work), insomnia is usually considered a major societal problem (Jansson-Fröjmark, & Linton, 2008).

The most common treatment for insomnia today is medication and in 2020 870,000 prescriptions for sleeping pills were picked up (Janusinfo, Stockholm Region, 2021) and in 2014 the proportion of the population who obtained a prescription for sleeping pills was 14.8% (Läkemedelsboken.se, Sleep disorders, 2017).). This despite Cognitive Behavioral therapy for insomnia (CBT-I) which has strong scientific support (SBU, 2010) is the treatment that is recommended primarily for insomnia (partly due to the fact that the effects are longer lasting after completion of treatment and with few to no side effects compared to pharmacological treatment).

A major reason why drugs are still the most common treatment is a lack of trained personnel to perform CBT for insomnia in combination with CBT-I which requires more resources and in the short term is estimated to cost more in comparison with pharmacological treatment.

Learning to Sleep's interactive and mobile-based CBT programs have been developed with the aim of being able to get around the problems of lack of therapists with the right competence, as well as the cost of the individual treatment by digitizing CBT for sleeping disorders.

A digitized and partially automated treatment does not require access to the same number of trained staff per treated individual, meaning each treating psychologist can help more patients at any given time. This allows a larger number of patients to be offered treatment as well as waiting times for treatment to be reduced. The fact that the treatment is digital also means that patients have access to the recommended treatment regardless of where they live in the country.

How does Learning to Sleep stand in comparison with other i-CBT programs for insomnia?

In the spring of 2022, Karolinska Institutet will conduct a randomized research study by Learning to Sleep and at the time of this report 20 participants are included with completed post-measurement (11 in the treatment group and 9 on the waiting list). Of the people who underwent the treatment as many as 10 out of 11 (90.9%) reduced their symptoms to the point that they were judged to be clinically improved. This according to the accepted definition where participants are defined as improved when the score on the Insomnia Severity Index (ISI) scale decreased by at least about 40% (or with 8 scale points).

These statistics can be compared with those from a report compiled by Swedish Internet treatment register (SibeR) which contains the proportion of improved participants from the internet-mediated CBT-I programs at the county councils in Stockholm, Uppsala and Gothenburg. In their report, it was found that 30 - 55% of those who underwent with their treatment improved (assessed by the same criteria).



Results of Learning to Sleep at pre- and post-measurement in comparison with waiting list

Of the 9 on the waiting list and the 11 who received Learning to Sleep’s treatment one can clearly see the effect that treatment has on the degree of perceived sleeping problems. As can be seen in the table below, the Learning to Sleep group had a change in average between before and after measurement of 12.5 points on the ISI scale, which stretches from 0 – 28.

	Before treatment	After treatment	Average change
Waiting list	ISI 19.3	ISI 17.1	-2.2 points
Learning to Sleep	ISI 18.8	ISI 6.3	-12.5 points

An ISI value below 8 after treatment has been validated to mean that you probably no longer have insomnia.



Research is important to ensure that the treatment has proven effect and thus clinical evidence

With a third of the planned number of participants included in the study, this suggests that Learning to Sleep's treatment has a very good ability to relieve and cure insomnia. The results are also very good in comparison with their Internet-mediated CBT programs for insomnia.

Preliminary results show that Learning to Sleep performs better than three other internet-delivered CBT programmes for insomnia offered within the Swedish health care system. This according to a report from the Swedish registry for internet-delivered treatment (SibeR). Additionally, because the effect of Learning to Sleep was measured in a randomized controlled trial it has been shown that the reduction in insomnia symptoms was in fact due to Learning to Sleep's treatment and did not occur by chance. In other words, by conducting a randomized controlled trial which is the gold standard experimental design we have data that Learning to Sleep has a good effect on insomnia symptoms and that these results cannot be explained as having occurred by chance. Given that the results of the remaining 42 participants are in line with the results presented here, Learning to Sleep has scientific data supporting the fact that it is an effective treatment for insomnia.



Important to show clinical evidence in relation to the market

Digital Therapeutics (DTx) and CBT- is new and rapidly growing within the health care landscape in Sweden and Internationally, when it comes to treatment of insomnia. Pharmaceutical treatment (ie "sleeping pills") may be helpful in transient insomnia, but for chronic insomnia the risks of side effects are problems with drug tolerance and / or drug dependence high enough for other treatment methods to be preferred. In fact, for chronic insomnia it is a typical recommendation for first-line treatment CBT-I (according to SBU), which has been studied widely and accepted as an effective intervention.

Learning to Sleep's ambition is to offer a world leading digital sleep treatment programme with clinically proven results. The present randomized controlled trial conducted by Karolinska Institute is an important step in realizing this ambition. There is already substantial scientific evidence supporting the fact that CBT is an effective method for treating insomnia and the preliminary results supporting the fact that Learning to Sleep is effective gives support to the idea that we can offer CBT in new and innovative ways while maintaining great results on insomnia symptoms.

A randomized clinical trial ensures the quality of the treatment and its effect on a more reliable level than what one can be achieved do if it is assumed that you achieve good results just by using an evidence-based method.



About Learning to Sleep

Learning to Sleep is a digital sleep clinic that treats people with severe sleep problems including chronic insomnia via a digital platform. The company offers a simple, effective and site-independent CBT treatment where private individuals can quickly access psychologists for assessment and treatment through Learning to Sleep's mobile application. The company's method is world-leading and comparisons with other digital players or traditional treatment methods (including medicines) show that Learning to Sleep has a higher proportion of patients with improved sleep quality.

Digiphysical care

The company's technical platform consists of a mobile application used by the patient and a back-end system where patients are managed. Each patient gets their own psychologist who follows the patient through the five-week treatment and via the back-end system, the psychologist can see the patient's progress, make video calls, book visits and keep a journal. Learning to Sleep is part of the free spring choice.

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