Technoleg Iechyd Cymru
Health Technology Wales

Topic Exploration Report

Topic explorations are designed to provide a high-level briefing on new topics submitted for consideration by Health Technology Wales. The main objectives of this report are to:

1. Determine the quantity and quality of evidence available for a technology of interest.
2. Identify any gaps in the evidence/ongoing evidence collection.
3. Inform decisions on topics that warrant fuller assessment by Health Technology Wales.

Topic:	**Tomo for common/low-severity mental health problems related to anxiety, depression and stress**
Topic exploration report number:	TER125

Introduction and aims

Health Technology Wales researchers searched for evidence on the Tomo app for people with common/low-severity mental health problems related to anxiety, depression and stress. The app aims to facilitate self-management of low-severity mental health conditions through teaching and reinforcing learning of behavioural activation techniques. In the NICE guideline on Depression in adults: recognition and management (CG90), behavioural activation is defined as:

"A discrete, time-limited, structured psychological intervention, derived from the behavioural model of affective disorders and where the therapist and patient: ● work collaboratively to identify the effects of behaviours on current symptoms, feelings states and/or problem areas ● seek to reduce symptoms and problematic behaviours through behavioural tasks related to: reducing avoidance, graded exposure, activity scheduling, and initiating positively reinforced behaviours."

The Tomo app suggests and facilitates scheduling of healthy activities. In addition, users of Tomo form part of an anonymous community where inspirational photos can be shared by way of encouragement. Tomo includes built in psychometric tests (including PHQ-8) which may help users identify if their mental state is deteriorating. Tomo also offer an email course which teaches more detailed behaviour change techniques, comprising theory and practical exercise. Information from the technology developer suggests that Tomo may be used at different stages of the care pathway.

In the current care pathway, people with symptoms of common/low-severity mental health problems related to anxiety, depression and stress either present to their GP and as appropriate are referred to Improving Access to Psychological Therapies (IAPT) services, or self-refer to IAPT. The technology developer states that Tomo may be used at this stage, while awaiting initial assessment by IAPT services. Patients may be directed to Tomo by their GP or find it through their own research.

Following assessment in IAPT services, people are assessed and considered for treatment as appropriate. The manufacturer further suggests that Tomo may be used at this stage while awaiting treatment and continued while treatment commences.

Following completion of any course of treatment with IAPT Service, the manufacturer suggests that Tomo may be used to facilitate the transition out of formal treatment to self-management. At present, there is variation in current practice with regards to follow-up in IAPT services.

The Evidence Standards Framework for Digital Health Technologies indicate the level of evidence which may be required to demonstrate the value of Tomo. Based on its functional classification, Tomo fits into Tier 3b. Tomo provides treatment for a diagnosed condition. In addition it includes psychometric tests which may help users to identify if their mental health is deteriorating. Tomo was also determined to be 'high risk' because the intended users may be a potentially vulnerable group. This high risk status increases the standard of evidence required within the framework ('best practice' evidence standards must be met rather than the minimum standards).

Evidence

Guidelines

NICE CG90 (Depression in adults: recognition and management) recommends that people with persistent subthreshold depressive symptoms or mild to moderate depression who have not benefited from a low-intensity psychological intervention should discuss [a range of options including] behavioural activation (but note that the evidence is less robust than for CBT or IPT).

CG90 also recommends that individual guided self-help programmes based on the principles of CBT (and including behavioural activation and problem-solving techniques) should include the provision of age-appropriate reading materials and be supported by a trained practitioner who facilitates the programme. In addition it recommends that people with depression having behavioural activation should be treated over 16-20 sessions over three to four months. Two sessions per week should be considered for the first three to four weeks for people with moderate or severe depression and follow-up sessions typically consisting of three to four sessions over three to six months should also be considered.

NICE NG134 (Depression in children and young people: identification and management) makes recommendations on digital CBT for mild depression. Digital CBT is defined as:

"A form of CBT delivered using digital technology, such as a computer, tablet or phone. Some digital CBT interventions are supported by contact with a healthcare professional but in other cases there may be no additional support. Common components of digital CBT programmes include: psychoeducation, relaxation, analysis of behaviour, behavioural activation, basic communication and interpersonal skills, emotional recognition, dealing with strong emotions, problem solving, cognitive restructuring (identifying thoughts, challenging unhelpful/negative thoughts), mindfulness and relapse prevention."

NG134 recommends that young people aged 12 to 18 years with mild depression continuing after two weeks of watchful waiting and without significant comorbid problems or active suicidal ideas or plans are offered a choice of psychological therapies for a limited period (approximately 2 to 3 months) which includes digital CBT.

CG90 (Depression in adults: recognition and management) makes no reference to digital CBT.

NICE CG123 (Common mental health problems: identification and pathways to care) makes a recommendation consistent with CG90 that people with persistent subthreshold depressive symptoms or mild to moderate mental health disorders with inadequate response to initial interventions, or moderate to severe common mental health disorders should be offered a psychological intervention [from a range of options including behavioural activation].

SIGN114 (Non-pharmaceutical management of depression in adults) recommends that behavioural activation is recommended as a treatment option for patients with depression. It defines behavioural activation as:

"A structured, goal-focused therapeutic approach which encourages engagement in rewarding activities rather than withdrawal and inactivity. Aims to increase the levels of positive reinforcement experienced by the client."

The recommendation makes no reference to the mode of delivery, setting, frequency, intensity or duration.

Secondary evidence

The single Medline search carried out for this topic exploration report identified nineteen abstracts. These included one potentially relevant systematic review which focused on perinatal mental health interventions. The abstract reported that behavioural activation (among other interventions) demonstrates an overall improvement in mental health when specifically adapted to meet the needs of women in the perinatal period. No details are given on how such an intervention might be specifically adapted.

Primary evidence

The single Medline search carried out for this topic exploration report identified nineteen abstracts. Among these, two potentially relevant primary studies were identified. One Indonesian study is a randomised controlled trial (n=313) which compares internet-based behavioural activation and lay counsellor support with online minimal psychoeducation without support for treatment of depression. The trial found significantly lower PHQ-9 scores in the internet-based behavioural activation and lay counsellor support group than in the control group (mean difference -1.26 [95% confidence interval -2.29 to -0.23]). It also found a 50% higher chance of remission at 10 weeks in the intervention than in the control.

The second potentially relevant study evaluated a six-part peer-led course based on behavioural activation in 65 university students who have been experiencing mild depression for more than one year. However, the mode of delivery of the peer-led course is unclear which may limit the applicability of this evidence to the evaluation of Tomo. The study found a "significant increase in mental wellbeing" in people who returned for more than one session.

Evidence provided by the technology developer includes a report on the first phase of evaluation of Tomo. Two cohorts of 18 participants used Tomo for two months and interviews were conducted at three points across the study. In addition to interviews, in-app data comprising Satisfaction with Life Survey (Lanser Scale) scores and PHQ scores were evaluated. The study found that PHQ scores remained stable over the time period of the study and a statistically marginal (p=0.07) increase in satisfaction with life was found. Thematic analysis found that the app allowed people to form habits, increase focus and mental wellbeing and motivated individuals in the first four weeks of use.

The manufacturer also noted that projections based on currently available IAPT usage data show that if Tomo can reduce the incidence of patients presenting for a second course of treatment by 6% then Tomo will be cost saving.

Areas of uncertainty

Evidence gaps

No published studies were identified which specifically considered the clinical effectiveness of Tomo. No health economic studies were identified during this topic exploration.

Ongoing studies

Ongoing evidence collection on Tomo will evaluate the data of a larger number of participants across H2 2019.

Conclusions

Several national guidelines recommend behavioural activation, and NG134 recommends that young people aged 12 to 18 years with mild depression after two weeks of watchful waiting are offered a range of options including digital CBT, which includes a behavioural activation component. However, no published studies were identified which specifically considered the clinical or cost effectiveness of Tomo. An Indonesian study on internet-based behavioural activation is likely to be the most applicable evidence identified.

Brief literature search results

Resource	Results
HTA organisations	
Healthcare Improvement Scotland:	We did not identify any relevant evidence from this source
Health Technology Assessment Group	We did not identify any relevant evidence from this source
Health Information and Quality Authority	We did not identify any relevant evidence from this source
UK guidelines and guidance	
SIGN	SIGN guidance on behavioural activation. Note that no mode of delivery of the intervention is specified (for example in person or via a website) and there is no specific reference to Tomo. https://www.sign.ac.uk/assets/sign114.pdf https://www.sign.ac.uk/assets/pat114.pdf https://www.sign.ac.uk/assets/qrg114.pdf https://www.sign.ac.uk/assets/sign114_strategy.pdf
NICE	NG134: Depression in children and young people: identification and management https://www.nice.org.uk/guidance/ng134 CG90: Depression in adults: recognition and management https://www.nice.org.uk/guidance/cg90/chapter/1-Guidance CG123: Common mental health problems: identification and pathways to care https://www.nice.org.uk/guidance/cg123/chapter/1-Guidance
Secondary literature and economic evaluations	
ECRI	We did not identify any relevant evidence from this source
Cochrane library	We did not identify any relevant evidence from this source
Medline	An evaluation of perinatal mental health interventions: An integrative literature review. [Review] Lavender TJ; Ebert L; Jones D. Women & Birth: Journal of the Australian College of Midwives. 29(5):399-406, 2016 Oct. [Journal Article. Review] UI: 27118000
Primary studies	
Medline	1. Internet-based behavioural activation with lay counsellor support versus online minimal psychoeducation without support for treatment of depression: a randomised controlled trial in Indonesia. Arjadi R; Nauta MH; Scholte WF; Hollon SD; Chowdhary N; Suryani AO; Uiterwaal CSPM; Bockting CLH. The Lancet. Psychiatry. 5(9):707-716, 2018 09. [Journal Article. Randomized Controlled Trial. Research Support, Non-U.S. Gov't]

	UI: 30006262 2. An evaluation of a peer support intervention for student mental health. Byrom N. Journal of Mental Health. 27(3):240-246, 2018 Jun. [Evaluation Studies. Journal Article] UI: 29451411
Cochrane library	We did not identify any relevant evidence from this source

Date of search:	*October 2019*
Concepts used:	Tomo, Behavioural Activation, Behavioral Activation Medline search: 1. tomo.mo. 2. behavioural activation.mp. 3. behavioral activation.mp 4. behaviour activation.mp. 5. behavior activation.mp. 6. or1-5 7. Mental Health/ 8. 6 or 7 (19 results)