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BLOG 1

Can Digital Cognitive Behaviour therapy can improve mental health? The effectiveness of a digital cognitive behavioural therapy (CBT) intervention on anxiety and depression in young adults in England.



Introduction

Mental health is a condition that impacts an individual's **thinking, feeling, and actions**, such as **anxiety** and **depression**. In England, due to the pressure of study, financial difficulties and social circumstances, these conditions are more common amongst young adults. But conventional Cognitive Behavioural Therapy (CBT) may be difficult to gain access to due to waiting times or other access barriers. This blog aims to uncover if Digital Cognitive Behavioural Therapy (dCBT) – delivered via online platforms, mobile apps, and via computer – can help to improve mental health by reducing anxiety and depression symptoms.



Figure 1: A Man is surrounded by smiley faces and the words all the feels are above him, (Intoaction, 2021)

Public health Problem

Anxiety and depression are significant public-health concerns in England. Common mental health conditions in adults aged 16 to 64 were reported to affect **22.6% of adults** in **2023/24**, up from 18.9% in 2014, in the Adult Psychiatric Morbidity Survey. It was even more prevalent among young adults aged 16-24 (**NHS England, 2025**); 25.8%. Anxiety and depression have a detrimental impact on education, work, interpersonal relationships, physical wellbeing and quality of life, and present significant personal and social burden.

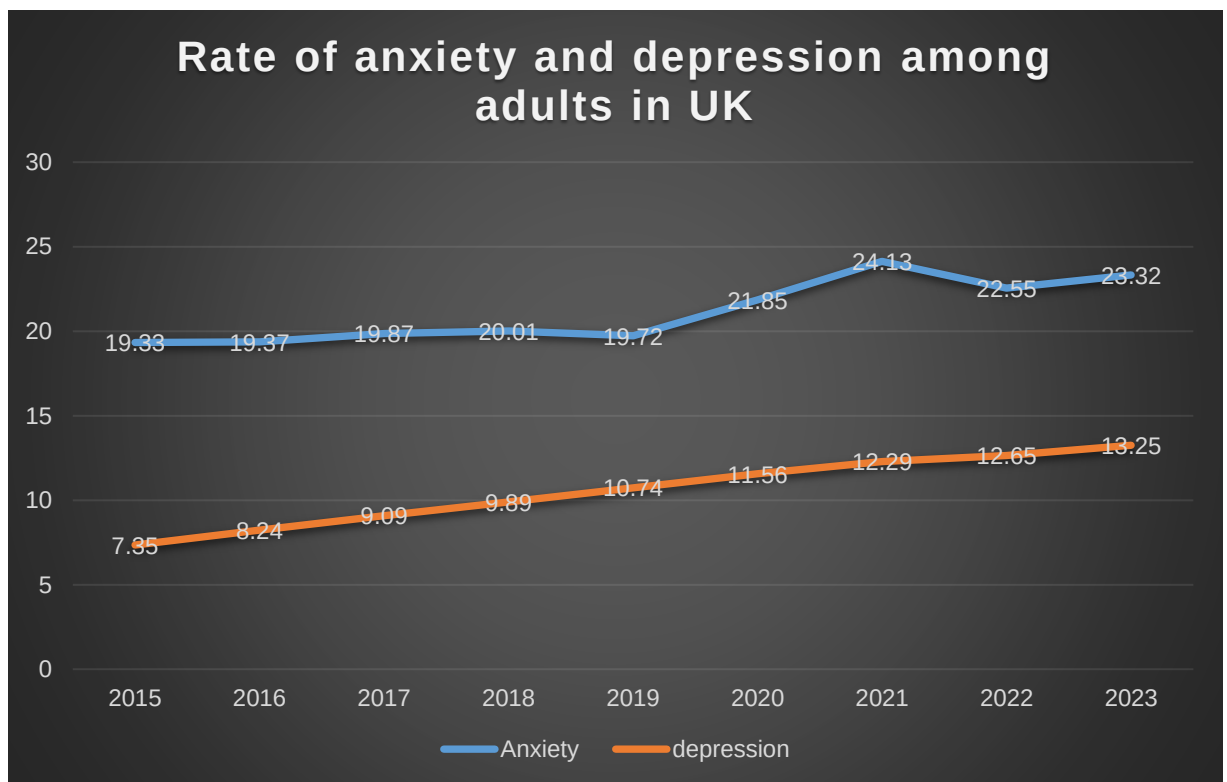


Figure 2: Showing the anxiety among adults in UK (Charlotte Refsum, Rithika Muralidharan and Kayla Crowley, 2025) (ONS, 2023) (NHS England, 2022)

The chart shows that UK adults' levels of anxiety and depression rose from 2015 to 2023. For anxiety, there was a high level of fluctuations with a peak in 2021 followed by a decline, whereas depression had a steady increase over the years, indicating that there was likely an increase in depressive symptoms over time.

Overview of Digital Cognitive Behaviour Therapy:-

Digital CBT is an existing intervention being supported through NHS Talking Therapies, which can be delivered using technology. This can include video consultations, secure messaging and online CBT programs with practitioner or therapist support. This can include activities like

- ✓ Identifying Unhelpful Thoughts,
- ✓ Behavioural Activation,
- ✓ Problem Solving,
- ✓ Cognitive Restructuring And
- ✓ Mood Monitoring (NHS England, 2025a).

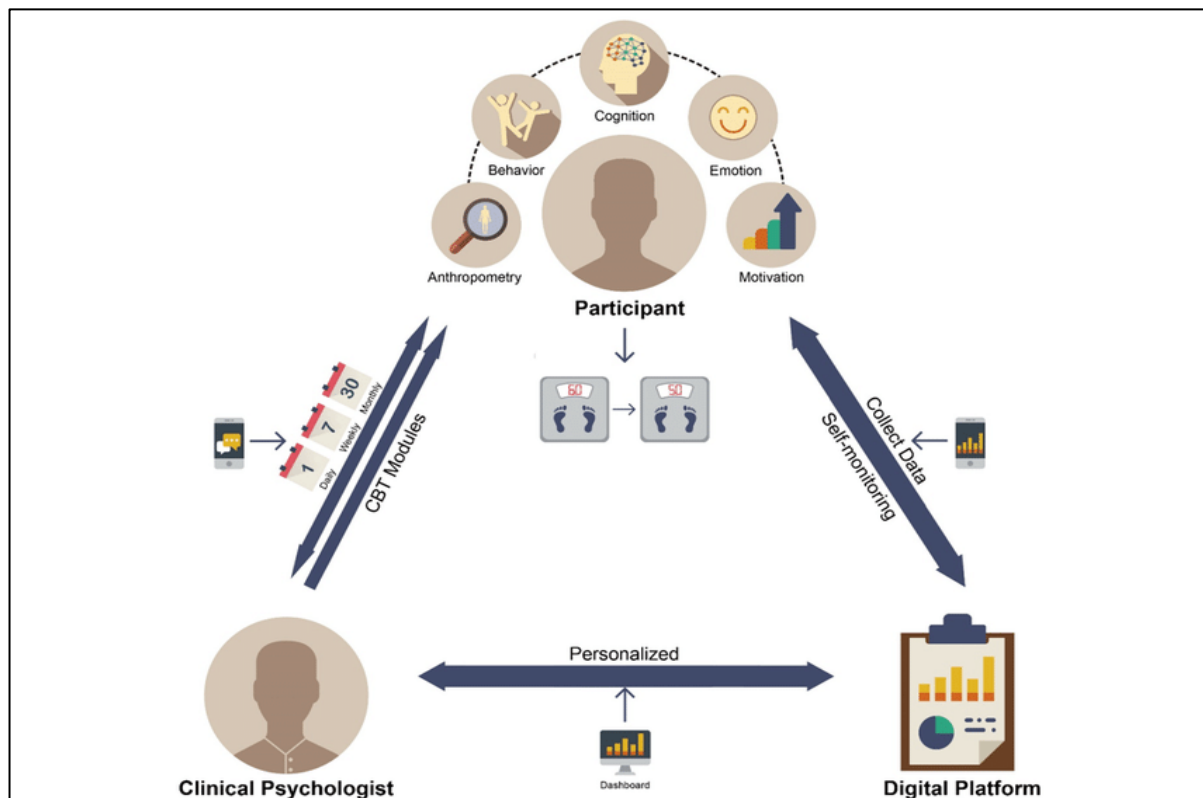


Figure 4:- Diagram of the digital cognitive behavioral therapy (CBT) process Meelim Kim,2019).

Effectiveness of Digital CBT

The technology responds to the public health need through increased flexibility and decreased geographic and practical barriers to psychological support. There was significant use of NHS Talking Therapies with 163,100 referrals in March 2026. Of those who finished treatment, **48.4% achieved reliable recovery** and **68.7%** had

reliable improvement (**NHS England, 2026**). These statistics should not be seen as a measure of the effectiveness of digital CBT alone, however, because they are for the wider NHS Talking Therapies service.

Critical impact: benefit with important shortfalls

Digital CBT can be **scalable** and **easy to access**, and can be less stigmatizing than face to face services. However, it is not enough for people to be able to access, they need to be engaged and recovered.

Although Digital CBT improves access and reduces waiting times, evidence suggests that higher accessibility does not always translate into improved engagement or recovery. Those with depression can have a lack of motivation and concentration, which can increase the risk of disengagement. Furthermore, health inequalities can be exacerbated by digital exclusion, such as access to the internet, lack of digital confidence or security at home.

How can these shortfalls be addressed?

Digital CBT should be "digitally enabled" rather than "digitally substituted". Online CBT combined with a human support, clear escalation pathways, robust data governance and non-digital alternatives may have a positive impact on safety and equity.

Suggested media: A short video on digital talking therapies

<https://www.youtube.com/watch?v=bUOaHsxe8OQ>



Conclusion

Digital CBT can help to increase access to mental-health promotion, but this doesn't mean availability alone is a sufficient measure of digital CBT's impact. The critical issue is if people can access, interact with, and safely use the technology.

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Blog 2:

How effective is Artificial Intelligence (AI) enabled Personalised Digital Cognitive Behavioural Therapy for improving mental health outcomes among young adults in England with anxiety and depression?



Introduction

Young adults are at high risk of experiencing anxiety and depression in England (Auerbach et al., 2016). This has a more impact on quality of life, educational attainment, employment opportunities and social relationships and drives up NHS mental health demand (Auerbach et al., 2016; Mental Health Foundation, 2023). The trend of increasing demand and delays in accessing psychological therapies underscores the need for creative solutions to enhancing access to mental health services.



Figure 1. Digital technology can deliver accessible mental health support to youth with anxiety and depression.

Artificial Intelligence (AI)-assisted Digital Cognitive Behavioural Therapy (CBT) is a personalised and accessible approach to delivering psychological support.

Public Health Problem

Anxiety and depression are important public health issues in young adults (18-25 years) in England. Around one in four adults have a mental health problem every year and anxiety and depression are common problems that need psychological support. Referrals to NHS Talking Therapies are rising highlighting the need for effective interventions and access (Carlbring et al., 2018; Firth et al., 2017). They can impact

schoolwork, work, social involvement, physical health and wellbeing. Early identification and intervention is key to minimise the long-term impact of mental health issues and help to build healthier communities (National Institute for Health and Care Excellence [NICE], 2023).

Digital Technology Design

The technology proposed is the **MindPath AI personalised Digital CBT mobile application**, a technology that uses Artificial Intelligence to assist young adults who are struggling with anxiety and depression. The app offers evidence-based CBT support along with supporting health and care professionals.

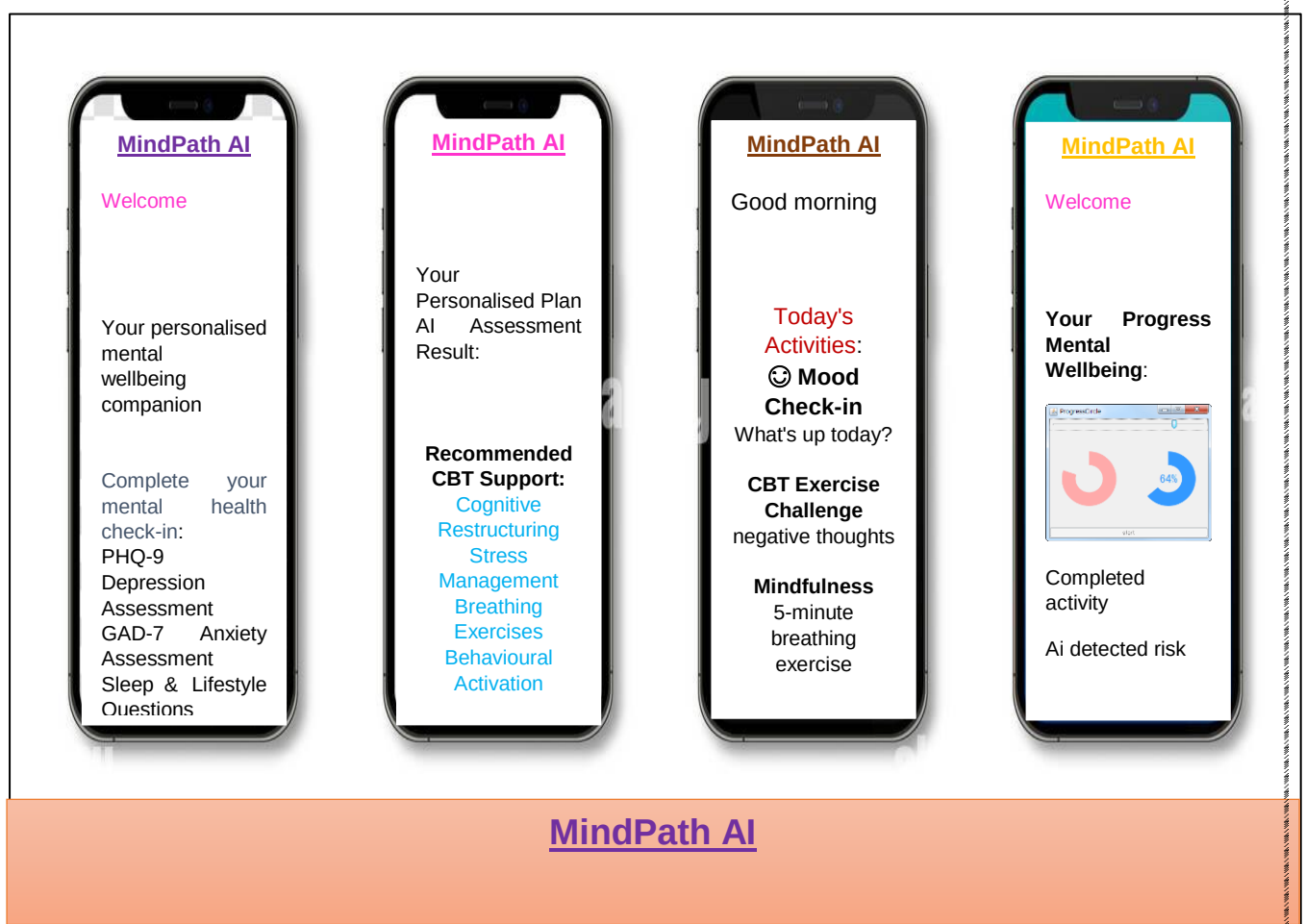


Figure 2: MindPath AI personalised Digital CBT mobile application

Flowchart diagram of how MindPath AI Works

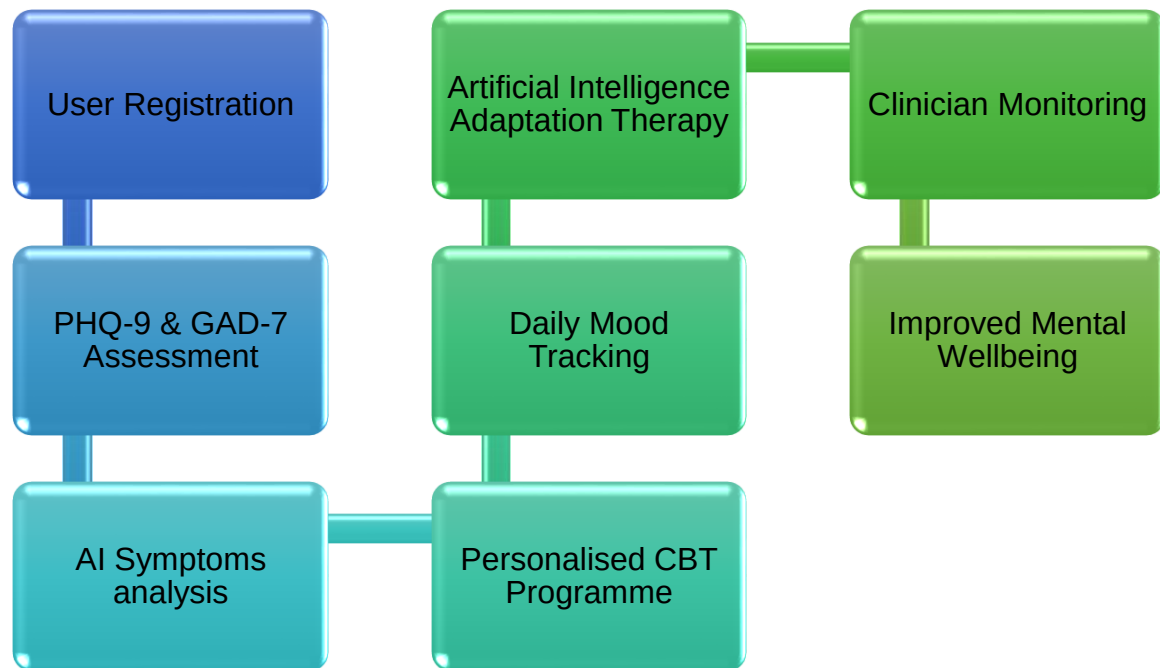


Figure 2 : Flowchart diagram of how MindPath AI Works

Users sign up via mental health questionnaires (PHQ-9 and GAD-7) and questions regarding lifestyle, sleep and personal goals. AI analyses the results to create a personalised CBT programme. The app gives you daily mood tracking, CBT exercises, mindfulness activities and also offers you 24/7 AI chatbot support. It continuously tracks progress, adjusts recommendations based on users' symptoms and engagement, and enables them to see progress via secure dashboard and offer support where necessary.

How is the Technology used to promote Health?

MindPath AI contributes to health in 3 ways: primary, secondary, and tertiary prevention. It enhances mental health literacy, resilience, coping skills at the **primary level** via personalised CBT and stress management. **Secondary level** uses regular mood tracking and symptom assessments to identify anxiety and depression at an early stage, which helps to ensure timely referral to NHS Talking Therapies if required. The app facilitates recovery at the **tertiary level** with continuous CBT exercises, tracking progress and relapse prevention. MindPath AI's ability to provide around-the-clock, flexible access enhances access to ongoing mental health support.

Impact of the Technology in Health Promotion

Advantages

- ✓ Enables 24/7 access to personalised CBT, enhancing access to mental health care.
- ✓ AI-driven mood monitoring and symptom tracking; Promotes early detection.
- ✓ Fosters the ability to manage his/her own emotions and actions (self-management) by helping to develop healthy coping mechanisms and resilience.

Disadvantages

- ✓ Raises concerns about privacy and data security.
- ✓ May exacerbate digital inequalities of users of lower access or digital skills.
- ✓ Is not a substitute for clinical judgement and empathy of mental health and health care practitioners.
- ✓ Algorithm bias
- ✓ Explainability of AI decisions.
- ✓ Over-reliance on AI
- ✓ Clinician oversight
- ✓ Ethical concerns

Conclusion

Personalised Digital CBT (pDCBT) is an innovative way of tackling anxiety and depression in young adults in England, using AI to tailor the treatment to their individual needs. MindPath AI's ability to deliver on accessible, personalised and ongoing psychological support can help reinforce health promotion and early intervention. The use of artificial intelligence in health care has the potential to enhance mental health care and help improve the overall health and well-being of young adults.

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