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## Guided, internet-based interventions for post-traumatic stress disorder

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The STOP-PTSD study<sup>1</sup> strengthens existing evidence that guided, internet-based, cognitive behavioural therapy with a trauma focus (CBT-TF) is an effective treatment for post-traumatic stress disorder (PTSD)<sup>2,3,4</sup>. The finding that iCT-PTSD was superior to a similarly delivered non-TF intervention complements the RAPID study's finding that Spring, another guided, internet-based CBT-TF, was non-inferior to face-to-face CBT-TF for the treatment of PTSD<sup>4</sup>. The results of RAPID and STOP-PTSD have resulted in the United Kingdom's National Institute for Health and Care Excellence (NICE) Early Value Assessment Guidance recommending Spring and iCT-PTSD as digitally-enabled treatments for PTSD. They join seven other digitally-enabled interventions recommended by NICE for the treatment of common mental conditions in May 2023<sup>5,6</sup>.

The emergence of effective guided, internet-based interventions for PTSD is a major step forward and provides a more cost-efficient way to treat many people. If embraced by people with PTSD, clinicians, service providers and commissioners as part of the clinical pathway, iCT-PTSD and Spring will increase choice and improve the health and wellbeing of more people affected by PTSD than is currently possible. They will help address common barriers to effective treatment, including the limited number of suitably trained therapists and the restricted flexibility of current first line treatments that are typically delivered weekly, over several months, making it difficult to access appropriate treatment for some recipients (e.g., because of stigma, work commitments, travel, and the need for childcare).

The STOP-PTSD study raises several issues concerning delivery and implementation of internet-based interventions for PTSD. STOP-PTSD participants allocated to iCT-PTSD and iStress-PTSD experienced impressive reductions in PTSD and other symptoms, suggesting that both approaches can be effective treatments for people with PTSD. Although the self-reported PTSD symptom reductions for participants who received iCT-PTSD were statistically significantly greater than for those receiving i-Stress (PCL-5 mean difference -4.9 (-8.92, -0.92)), the mean difference was just below the five points noted by the authors to likely represent a clinically meaningful change. The difference for clinician-assessed PTSD symptoms (CAPS-5 mean difference -3.43 (-6.85, -0.01)) was less pronounced. This finding of mild superiority of TF over non-TF approaches, that is unlikely to be clinically meaningful for everyone, is similar for face-to-face treatments for PTSD and has resulted in the former being recommended as first line and the latter as second line interventions by most treatment guidelines<sup>7,8</sup>.

Concerns have been raised that guided, internet-based interventions may not be suitable for people with more severe and more complex presentations of PTSD. The STOP-PTSD

study, like the RAPID study, challenges this to a degree. The mean baseline CAPS-5 score of just over 40 in the STOP-PTSD study is in the severe range, participants had experienced a mean of five traumatic events, self-reported symptoms of complex PTSD were common and reduced with treatment, as did symptoms of general anxiety and depression. These findings are important, not least as PTSD is a condition where co-morbidity is the norm<sup>9</sup>. Another important finding of STOP-PTSD, again consistent with the RAPID study, was that iCT-PTSD appeared to be well tolerated. The absence of serious adverse events, the low number of dropouts and the maintenance of benefits over time point to guided, internet-based CBT-TF being effective and acceptable. Although guided, internet-based interventions are unlikely to suit everyone with PTSD, their potential clinical utility appears to extend well beyond those with the simplest presentations.

Systematic reviews have shown that therapist input increases the effectiveness of internet-based interventions for PTSD<sup>2,3</sup> and other common mental disorders<sup>10</sup> but who should deliver guidance and the optimal amount of guidance are important considerations. To maximise the population and service impact of guided, internet-based treatments for PTSD, guidance would likely best be delivered by lower intensity therapists in primary care and require significantly less therapist input than face-to-face therapy. All therapists in the STOP-PTSD trial were clinical psychologists experienced in delivering CBT-TF. The therapists in the RAPID study were from various professions and also included high intensity psychological therapists. It is encouraging that early dissemination work in the UK's National Health Service for both iCT-PTSD and Spring suggest they can be delivered by lower intensity therapists but this requires further investigation.

A key difference between the STOP-PTSD and RAPID trials was the amount of therapist input provided to guide the internet-based interventions. The mean time spent by therapists per participant for iCT-PTSD was 6.7 hours, almost twice the 3.5 hours spent per participant for Spring. Work is now required to determine the level of training and experience required to provide effective guidance and how much therapist guidance time is required in real world settings. Given the prevalence of PTSD, availability of therapists and service pressures, a key aim of future research should be to innovatively reduce the amount of therapist guidance time required without reducing effectiveness. Subject to ethical and acceptability considerations, the development of accurate algorithms to facilitate effective artificial intelligence support within digital programmes may be a way forward in this regard.

It is to be hoped that the improvements experienced by recipients of guided, internet-based CBT-TF interventions in high quality randomised controlled trials can be replicated in real world settings. The focus should now be on carefully planning, implementing and evaluating a strategic approach to facilitate sustainable dissemination at scale.

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