# Computerised cognitive behavioural therapy: helping Ireland log on

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**Objectives.** The aim of this article is to review and highlight evidence-based computerised cognitive behavioural therapy (cCBT) programmes that can potentially be used in Ireland for the treatment of mild-to-moderate mental health difficulties.

**Methods.** The authors undertook a literature search using three databases, and consulted a recognised, university-developed web portal. For a programme to be included in this review, it had to (a) have at least one randomised controlled trial demonstrating its efficacy; (b) be available on the internet; and (c) be delivered in English.

Findings. Twenty-five cCBT programmes that met the inclusion criteria were profiled. Taken together, these programmes target various anxiety difficulties (i.e. generalised anxiety, panic/phobia, social anxiety and post-traumatic stress), depression (or low mood), eating problems, stress, insomnia, pain and alcohol misuse.

**Conclusions.** cCBT programmes, preferably administered as part of a stepped-care model, offer effective, low-cost and low-intensity interventions for a wide range of psychological problems. Their use could be beneficial given how underdeveloped primary care mental health services are in Ireland.

Received 15 May 2012; Accepted 22 August 2012

Key words: Computerised CBT, internet-delivered therapy, Ireland, stepped care.

#### Introduction

Despite extensive evidence for its effectiveness, cognitive behavioural therapy (CBT) is difficult to access because of insufficient numbers of trained clinicians, both in primary and secondary care (Hoifort et al. 2011). CBT's inaccessibility may be especially pertinent in Ireland because of our underdeveloped services (Department of Health and Children, 2006). For example, a 2004 survey of 231 South Western Area Health Board General Practitioners (GPs) found that less than a third of GPs had postgraduate training in psychological therapies and that 85% referred less than 5% of their service users with mental health difficulties to mental health specialists (Copty, 2004). Moreover, data extracted from a 2008 Economic and Social Research Institute national survey found that just 20.4% of those who had consulted their GP about mental health problems in the previous year (n = 255)had subsequently attended secondary care (Tedstone Doherty et al. 2008). A recent survey of GP adult attendees in a rural area (n = 273) also found that although one in three attendees registered as having

varying degrees of psychological distress, just 11% were in receipt of mental health services (Hughes *et al.* 2010). It therefore appears that many in Ireland who seek help with their mental health difficulties are not receiving CBT in either primary or secondary care.

To increase access to psychological therapies, particularly CBT, the United Kingdom's National Health Service (NHS) began to roll out the Improving Access to Psychological Therapies (IAPT) initiative in 2008. This entailed creating extra psychological therapist posts using a stepped-care model whereby low-intensity interventions are provided as a first option, before referral to higher intensity interventions (O'Shea & Byrne, in press). This stepped-care model is in line with the United Kingdom's National Institute for Health and Clinical Excellence (NICE) best-practice guidelines and represents optimum usage of limited resources (NICE, 2009, 2011). In Ireland, the Health Service Executive (HSE) has also increased funding for psychological therapy provision recently. Five million euro has been allocated to the National Counselling Service to provide time-limited counselling to adults with medical cards in primary care. However, contrary to the IAPT initiative and NICE's (NICE, 2009, 2011) best-practice guidelines, a stepped-care model of service provision will only be trialled in one pilot site.

In the light of our underdeveloped services and the push to decrease the number of public sector

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employees, other ways to increase access to CBT must be explored, at least in the short term. One such avenue, and examined in this article, is CBT delivered over the internet, or computerised CBT (cCBT). Whether delivered in self-help or in a therapist-assisted format, cCBT has many advantages such as its convenience, lowcost and confidential nature (Andrews et al. 2010). There is substantial evidence for its efficacy for a range of mental health difficulties including anxiety (Spek et al. 2007; Andrews et al. 2010) depression/low mood (Andersson & Cuijpers, 2009; Andrews et al. 2010) and alcoholism (Rooke et al. 2010). Moreover, it has been shown to be effective in primary care (Hoifort et al. 2011), and its growing evidence base means that it has substantial potential to assist primary care staff in delivering effective low-intensity but high-throughput psychological interventions (Wade, 2010). NICE recommends cCBT for the treatment of mild-to-moderate anxiety and depression, delivered as part of a steppedcare model (NICE, 2006).

Owing to the largely unregulated nature of the internet, and the proliferation of internet therapy websites in recent years, the quality of services provided through such websites is likely to vary (Christensen *et al.* 2010). Clinicians therefore need to become familiar with high-quality cCBT programmes so that they can refer service users to these as part of a best-practice steppedcare model. Accordingly, the aim of this review is to highlight evidence-based cCBT programmes that potentially can be availed of by clinicians and service users in Ireland.

#### Methods

The authors conducted computer-based literature searches of the Psych ARTICLES, PsychINFO and Academic Search Premier databases. They used Boolean operators (OR, AND) and various search terms related to cCBT such as: 'online CBT'/'internet therapy'/'computerised CBT'/'internet-delivered treatment'/'self-help'/ 'computer'/'self-guided'/'web'/'cyber'. They added these to search terms for various psychological problems (e.g. 'anxiety'/'depression'/'stress'/'insomnia') and research designs (e.g. 'random/'controlled'/ 'RCT'). In addition, they performed manual searches of various academic journals to locate articles that were included in reference lists of previously identified articles. The authors also consulted the Australian National University-developed web portal Beacon that provides a comprehensive database of cCBT programmes, how to access them, as well as the published evidence behind them (Beacon, homepage on the internet; Christensen et al. 2010).

To ensure that programmes included in this review were understandable, accessible and not prone to experimental bias and/or error (Spring, 2007), the authors used the following inclusion criteria: (a) English-language-only programmes; (b) those that are currently delivered via the internet; and (c) those that had at least one published randomised controlled trial (RCT) demonstrating their efficacy. Furthermore, to enable valid comparison, the authors included only those RCTs with waitlist controls and/or face-to-face treatment groups that were not receiving a computerised intervention (Andersson & Cuijpers, 2009).

#### **Findings**

Twenty-five cCBT programmes met the inclusion criteria (Fig. 1). Taken together, these programmes target a range of psychological difficulties in adolescents and children, and adults: generalised anxiety (GA), panic/phobia, social anxiety (SA), post-traumatic stress disorder (PTSD), depression (or low mood), eating problems, stress, insomnia, pain and alcohol misuse. Notably, and usefully, some of the programmes (e.g. 'Beating the Blues', 'Mood Gym') can treat more than one difficulty at a time.

The next section of this article profiles the identified cCBT programmes, categorised by the mental health difficulty they target. First, those cCBT programmes for GA are examined.

## cCBT programmes for GA

Seven cCBT programmes for GA met this article's inclusion criteria (Table 1). Six of these programmes were developed in Australia and one was developed in the United Kingdom ('Beating the Blues'). Currently, two programmes are freely accessible online by residents of Ireland – 'MoodGym' and 'Online Anxiety Prevention'. However, 'Beating the Blues' is provided via primary care by the United Kingdom's NHS and can be purchased online. Four of the programmes are delivered with therapist assistance but three (i.e. 'MoodGym', 'Beating the Blues' and 'Online Anxiety Prevention') can be completed on a self-help basis. The total number of sessions for the programmes ranges from 5 to 10.

Four of the programmes have two RCTs demonstrating their efficacy, and three have one RCT. The strongest evidence appears to be for the 'eCentre Clinic-Worry Programme' and 'BRAVE-ONLINE' (for children) as shown by large effect sizes and the use of clinically screened samples across two RCTs each. The former programme's RCT participants were self-referred, whereas the latter's RCT participants (i.e. children) were referred from many sources (e.g. parents, teachers and clinicians). 'MoodGym' also has substantial evidence for GA – it has two RCTs that yielded small-to-medium effect sizes. One of these RCTs had a large, school-based



Fig. 1. RCT-Supported cCBT Programmes delivered, in English, on the internet.

and non-clinical sample and the other had a small self-referred clinically screened sample. It has the added advantage of being suitable for both adults and adolescents. The United Kingdom's 'Beating the Blues' has two large-scale RCTs with GP-referred clinically screened samples, demonstrating its efficacy. Effect sizes here were with small to medium. However, the latter RCT only found effectiveness in those with more severe anxiety. The evidence for each of the three programmes with one RCT is not referred to here because of word constraints but is viewable in Table 1.

## cCBT programmes for paniclphobia

Three cCBT programmes for panic/phobia met this article's inclusion criteria (Table 2). Two of these programmes (eCentre Clinic's-Panic & Anxiety Programmes) were developed in Australia and one was developed in the United Kingdom ('FearFighter'). None of the three programmes are freely accessible online by

residents of Ireland. However, 'FearFighter' is provided via primary care by the United Kingdom's NHS. 'FearFighter' can be completed on a self-help basis, whereas the other two programmes are delivered with therapist assistance. The total number of sessions for the programmes ranges from 6 to 9.

All three programmes have one RCT, with clinically screened samples, demonstrating their efficacy. The strongest evidence appears to be for 'FearFighter' – its RCT has the largest sample and effect sizes of the three. Its sample was referred by health professionals and also by self-referral. However, the 'eCentre Clinic-Panic Programme' was shown to be effective across a wider range of measures (three as opposed to two), although with smaller effect sizes, in a self-referred sample. The other programme, 'eCentre Clinic-Anxiety Programme', is advantageous in that it has also been shown to be effective for GA (Table 1), and SA (Table 3). It yielded a medium effect size in a self-referred sample.

| Year                   | Sample                                                              | Referred by                 | Clinical screening                                                                                                                                                                                                                                                                                                                                      | Randomisation                                                                                                                                                                               | GA outcome measure(s)                                                                                                                                                                          | Outcomes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------|---------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        | Clinic – Worry Programme. Co<br>ia research participation in A      | ,                           |                                                                                                                                                                                                                                                                                                                                                         | ww.ecentreclinic.org/. <b>Population</b>                                                                                                                                                    | : Adults. Format: TA with weekly                                                                                                                                                               | phone calls. <b>Schedule:</b> 6 weekly sessions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Titov et al. (2009)    | 48 adults (age range not reported; <i>M</i> = 44 years; 76% female) | Self-applied via<br>website | Not experiencing psychosis or<br>severe depression (defined as a<br>total score <23 or responding<br>>2 to Question 9 (suicidal<br>ideation) on the Patient Health<br>Questionnaire-9 Item (PHQ-9)<br>(Kroenke et al. 2001); meet<br>DSM-IV (American Psychiatric<br>Association, 2000) criteria for<br>GA, criteria confirmed by<br>clinical interview | <ul><li>a. Worry Programme (n = 25)</li><li>b. Waitlist control (n = 23)</li></ul>                                                                                                          | <ul> <li>Generalised Anxiety         Disorder-7 Item Scale         (GAD-7) (Spitzer et al. 2006)</li> <li>Penn State Worry         Questionnaire (PSWQ)         (Meyer et al. 1990)</li> </ul> | <ul> <li>At PI, the Worry Programme significantly reduced GA symptoms</li> <li>as shown by the GAD-7 (d = 1.24) and the PSWQ (d = 0.96), relative to the waitlist control</li> <li>No FU data were recorded</li> </ul>                                                                                                                                                                                                                                                                                                                    |
| Robinson et al. (2010) | 145 adults aged 18–80 years<br>(M = 46.96 years;<br>68.3% female)   | Self-applied via<br>website | Not experiencing psychosis or severe depression (defined as a total score <23 or responding >2 to Question 9 (suicidal ideation) on the Patient Health Questionnaire-9 Item (PHQ-9) (Kroenke et al. 2001) meet DSM-IV (American Psychiatric Association, 2000) criteria for GA, criteria confirmed by clinical interview                                | <ul> <li>a. Worry Programme with technical assistance (WTECH; n = 50)</li> <li>b. Worry Programme with clinical assistance (WCLIN; n = 47)</li> <li>c. Waitlist control (n = 48)</li> </ul> | <ul> <li>GAD-7 (Spitzer et al. 2006</li> <li>PSWQ (Meyer et al. 1990)</li> </ul>                                                                                                               | <ul> <li>At PI, WTECH and WCLIN were similarly effective. Both conditions significantly reduced GA symptoms as shown by the GAD-7 (d = 1.06, d = 1.06) and the PSWQ (d = 1.25, d = 1.05) compared with control</li> <li>At PI (2) also significantly reduced GA symptoms (d = 1.06) compared with control</li> <li>Treatment gains for both conditions were maintained at 3-month FU (with no control group comparison). Both were similarly effective (GAD-7) but the WCLIN group had made extra gains on the PSWQ (d = 0.34)</li> </ul> |

(d = 0.22). Benefits were maintained at FUs

| Year                         | Sample                                                                         | Referred by                                                                                                          | Clinical screening                                                                                                                                                                                                                                                                                     | Randomisation                                                                                                            | GA outcome measure(s)                                                                                                                                                                                                                                                                                                      | Outcomes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                              |                                                                                |                                                                                                                      | . Donovan, S. March & J. Holmes. <b>W</b><br>kly sessions. <b>Availability:</b> Via research                                                                                                                                                                                                           |                                                                                                                          |                                                                                                                                                                                                                                                                                                                            | =meet. <b>Population:</b> Children and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| March <i>et al.</i> (2009)   | 73 children aged 7–12 years<br>( <i>M</i> = 9.45 years; 54.8%<br>female)       | Parents, teachers,<br>guidance officers<br>and clinicians                                                            | Prior diagnosis of an anxiety disorder (other than obsessive-compulsive disorder, panic disorder, or PTSD).  Experiencing at least moderate anxiety (defined as a total score of >4) on the Anxiety Disorder Interview Schedule (ADIS) (Silverman & Albano, 1996) that was administered by a clinician | <ul><li>a. BRAVE-ONLINE (n = 40)</li><li>b. Waitlist control (n = 33)</li></ul>                                          | <ul> <li>Anxiety Disorder         Interview Schedule (ADIS)         (Silverman &amp; Albano, 1996)         Spence Children's Anxiety         Scale – Child version         (SCAS-C) (Spence, 1998)         </li> <li>Spence Children's Anxiety</li> <li>Scale – Parent version</li> <li>(SCAS-P) (Spence, 1999)</li> </ul> | significantly more effective then waitlist control ( <i>d</i> = 0.56). Benefit were maintained at 6-month FU (there was no control group at FU  For anxiety symptoms (on SCAS-C                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Spence <i>et al</i> . (2011) | 115 adolescents aged<br>12–18 years ( <i>M</i> = 13.98<br>years; 59.1% female) | Self-recruited by<br>adverts, parents,<br>teachers, guidance<br>officers and<br>clinicians also<br>referred children | Prior diagnosis of SA, separation anxiety disorder, GA or a specific phobia. Not experiencing 'moderately disturbing' anxiety or greater (defined as a total score of >6) on the Anxiety Disorder Interview Schedule (ADIS) (Silverman & Albano, 1996) that was administered by a clinician            | <ul> <li>a. BRAVE-ONLINE (n = 44)</li> <li>b. Face-to-face CBT (n = 44)</li> <li>c. Waitlist control (n = 27)</li> </ul> | <ul> <li>ADIS (Silverman &amp; Albano, 1996)</li> <li>SCAS-C (Spence, 1998)</li> <li>SCAS-P (Spence, 1999)</li> </ul>                                                                                                                                                                                                      | <ul> <li>For diagnostic severity reduction (ADIS), BRAVE-ONLINE was significantly more effective then waitlist control (d = 1.45) and similarly effective to face-to-face CBT. Both intervention condition maintained benefits at a similar level at 6-month and 12-month If (there was no waitlist control group at FUs)</li> <li>For anxiety symptoms (on SCAS-OBRAVE-ONLINE was not more effective than waitlist control. However, for anxiety symptoms (on SCAS-P), it was more effective than some effective than some effective than some effective than some effective than waitlist control.</li> </ul> |

Table 1. Continued

| Year                        | Sample                                                                                           | Referred by                      | Clinical screening                                                                                                                                                                                                                | Randomisation                                                                                                                                           | GA outcome measure(s)                                                                                             | Outcomes                                                                                                                                                                                                                                                               |
|-----------------------------|--------------------------------------------------------------------------------------------------|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             | ym <sup>b</sup> . <b>Country:</b> Australia. <b>Aut</b>                                          |                                  | K. Griffiths. <b>Web:</b> http://moodgym.ar                                                                                                                                                                                       | nu.edu.au/welcome. Population                                                                                                                           | : Adults and adolescents. Format:                                                                                 | SH. <b>Schedule:</b> 5 sessions, completed a                                                                                                                                                                                                                           |
| Calear <i>et al.</i> (2009) | 1,477 children aged 12–17<br>years ( <i>M</i> = 14.34 years;<br>55.9% female) from<br>32 schools | School as part of the curriculum | None                                                                                                                                                                                                                              | <ul> <li>a. Classroom-delivered<br/>MoodGym (n = 563)</li> <li>b. Control (n = 914) (cluster<br/>randomisation)</li> </ul>                              | <ul> <li>Revised Children's<br/>Manifest Anxiety Scale<br/>(RCMAS) (Reynolds &amp;<br/>Richmond, 1985)</li> </ul> | <ul> <li>MoodGym group had significantly lower levels of anxiety at PI (d = 0.15), and at 6-month FU (d = 0.25) than control group</li> </ul>                                                                                                                          |
| Sethi <i>et al.</i> (2010)  | 34 university students<br>aged 18–23 years<br>( <i>M</i> = 19.47 years;<br>78.1% female)         | Self-recruited by adverts        | Mild-to-moderate depression or<br>anxiety shown by the<br>Depression Anxiety Stress Scale-<br>21 (cut-off scores not reported<br>DASS-21) (Lovibond &<br>Lovibond, 1995). Clinical<br>interview not conducted                     | <ul> <li>a. MoodGym (n = 9)</li> <li>b. Face-to-face CBT (n = 10)</li> <li>c. Face-to-face CBT+Mood-Gym (n = 9)</li> <li>d. Control (n = 10)</li> </ul> | DASS-21 (Lovibond &<br>Lovibond, 1995)                                                                            | ■ For anxiety reduction (DASS-21),<br>Face-to-face CBT+MoodGym was<br>significantly more effective than<br>MoodGym ( <i>d</i> = 0.62) and face-to-<br>face CBT ( <i>d</i> = 0.65). MoodGym<br>was significantly more effective<br>than control ( <i>d</i> = 0.54) only |
| _                           | •                                                                                                |                                  | tp://www.beatingtheblues.co.uk/. Pooline for \$230 (~€166.) RCTs: 2.                                                                                                                                                              | opulation: Adults. Format: SH. S                                                                                                                        | chedule: 8 weekly sessions. Availa                                                                                | bility: Via public health services in UK,                                                                                                                                                                                                                              |
|                             | . 167 primary care service users aged 18–75 years ( <i>M</i> = 44.7 years; 73.7% female)         | GPs and primary care staff       | Prior diagnosis of depressive and/<br>or anxiety disorder; scores of ≥4<br>on the General Health<br>Questionnaire-12 (GHQ-12)<br>(Goldberg, 1972) and ≥12 on the<br>Clinical Interview Schedule-<br>Revised: PROQSY (Lewis, 1994) | therapeutic GP support;<br>n = 89)<br>b. GP Treatment-as-usual<br>(n = 78)                                                                              | (BAI) (Beck & Steer et al.<br>1990)                                                                               | <ul> <li>At PI, Beating the Blues was significantly more effective than treatment-as-usual for anxiety reduction (<i>d</i> = 0.45)</li> <li>At 3-month (<i>d</i> = 0.25) and 6-month (<i>d</i> = 0.29) FU, Beating the</li> </ul>                                      |
|                             |                                                                                                  |                                  | that was administered by a clinician                                                                                                                                                                                              |                                                                                                                                                         |                                                                                                                   | Blues was significantly more effective than treatment-as-usual for anxiety reduction                                                                                                                                                                                   |

Table 1. Continued

| Year                           | Sample                                                                   | Referred by                 | Clinical screening                                                                                                                                                                                                                                                                                                              | Randomisation                                                                           | GA outcome measure(s)                                                                           | Outcomes                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------|--------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                | re Clinic – Anxiety Programme<br>ilability: Via research participa       | •                           | Authors: N. Titov & B. Dear. Web: http:<br>. RCTs: 1.                                                                                                                                                                                                                                                                           | //www.ecentreclinic.org/. Pop                                                           | ulation: Adults. Format: TA with                                                                | weekly phone calls. <b>Schedule:</b> 6 weekl                                                                                                                                                                                                                                                                                                                      |
| Titov <i>et al</i> .<br>(2010) | 78 adults aged 18–74 years<br>( <i>M</i> = 39.53 years; 67.9%<br>female) | Self-applied via<br>website | Not experiencing psychosis or severe depression (defined as a total score <23 or responding >2 to Question 9 (suicidal ideation) on the Patient Health Questionnaire-9 Item (PHQ-9) (Kroenke <i>et al.</i> 2001); meet DSM-IV (American Psychiatric Association, 2000) criteria for GA, SA and/or panic disorder.               | <ul> <li>a. Anxiety Programme (n = 40)</li> <li>b. Waitlist control (n = 38)</li> </ul> | <ul> <li>GAD-7 (Spitzer et al. 2006)</li> <li>PSWQ (Meyer et al. 1990)</li> </ul>               | <ul> <li>At PI, the Anxiety Programme significantly reduced GA symptoms as shown by the GAD (d = 0.81) relative to the waitlist control. Treatment gains were maintained at 3-month FU (with no control group comparison)</li> <li>However, the Anxiety Programm did not significantly reduce GA a shown by the PSWQ, relative to the waitlist control</li> </ul> |
|                                | re Clinic – Well-being Program<br>ilability: Via research participa      | •                           | . Authors: N. Titov & B. Dear. Web: http<br>. RCTs: 1.                                                                                                                                                                                                                                                                          | o://www.ecentreclinic.org/. Po                                                          | pulation: Adults. Format: TA with                                                               | weekly phone calls. <b>Schedule:</b> 8 week                                                                                                                                                                                                                                                                                                                       |
| Titov et al. (2011)            | 77 adults aged 18–79 years ( <i>M</i> = 43.9 years; 73% female)          | Self-applied via<br>website | Not experiencing psychosis or severe depression (defined as a total score <23 or responding >2 to Question 9 (suicidal ideation) on the Patient Health Questionnaire-9 Item (PHQ-9) (Kroenke et al. 2001); meet DSM-IV (American Psychiatric Association, 2000) criteria for depression, GA, SA and/or panic disorder. Criteria | <ul><li>a. Well-Being Programme (n = 37)</li><li>b. Waitlist control (n = 37)</li></ul> | <ul> <li>GAD-7 (Spitzer <i>et al.</i> 2006)</li> <li>PSWQ (Meyer <i>et al.</i> 1990)</li> </ul> | • At PI, the Well-Being Programme significantly reduced GA symptoms as shown by the GAD-7 ( <i>d</i> = 0.52) and the PSWQ ( <i>d</i> = 0.47 relative to the waitlist control. Treatment gains were maintained at 3-month FU (with no control group comparison)                                                                                                    |

confirmed by clinical interview

Table 1. Continued

| Year                                               | Sample                                                                                | Referred by                                                     | Clinical screening                                                                                                                                    | Randomisation                         | GA outcome measure(s)                                                                                                                                       | Outcomes                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                    | Anxiety Prevention. Country: eely accessible. RCTs: 1.                                | Australia. Authors: J. Ker                                      | nardy & V. Rosa. <b>Web:</b> http://www.                                                                                                              | 2.psy.uq.edu.au/~jkweb/. <b>Popul</b> | ation: Adults and adolescents. F                                                                                                                            | ormat: SH. Schedule: 6 weekly sessions                                                                                                                                                                                                                                                                                                |
| Kenardy et al. (2003);<br>Kenardy<br>et al. (2006) | 83 university students aged<br>17–51 years ( <i>M</i> = 20.73<br>years; 61.7% female) | University administered initial surveys to first year students. | Score of ≥24 on the Anxiety Sensitivity Index (ASI) (Peterson & Reiss, 1992) used to represent top third of scores. Clinical interviews not conducted | (n - 43)                              | <ul> <li>ASI (Peterson &amp; Reiss,<br/>1992)</li> <li>Catastrophic Cognitions<br/>Questionnaire-Modified<br/>(CCQ) (Khawaja <i>et al.</i> 1994)</li> </ul> | <ul> <li>At PI (d = 0.24) and 3-month FU (d = 0.31), Online Anxiety         Prevention significantly reduced anxiety-related cognitions (CCQ) relative to the control group</li> <li>At PI and 3-month FU, Online Anxiety Prevention did not significantly reduce anxiety sensitivity (ASI), relative to the control group</li> </ul> |

GA, Generalised anxiety; SA, social anxiety; PTSD, post-traumatic stress disorder; SH, self help; TA, therapist assisted; PI, post-intervention; FU, follow-up; d, Cohen's d (between-group).

<sup>&</sup>lt;sup>a</sup> One other RCT for BRAVE-ONLINE has been published, but the cCBT intervention condition consisted of half of treatment-as-usual sessions delivered via BRAVE-ONLINE. Thus it was not possible to determine whether BRAVE-ONLINE led to additional treatment benefits (Spence *et al.* 2006).

<sup>&</sup>lt;sup>b</sup> Four other RCTs were conducted on MoodGym. One was excluded from the table because the study's outcome measures measured general psychological distress rather than a specific difficulty (e.g., GA) (Hickie *et al.* 2010). Another was excluded because it examined stigmatising attitudes towards depression and had mixed results (Griffiths *et al.* 2004). The other two were excluded because they used MoodGym in conjunction with a computerised psychoeducation intervention (Farrer *et al.* 2011; Lintvedt *et al.* 2013).

| Year                       | Sample                                                                                          | Referred by                                                                                        | Clinical screening                                                                                                                                                                                                                                                                                      | Randomisation                                                                      | Panic outcome measure(s)                                                                                                                      | Outcomes                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            | ighter <sup>a</sup> . <b>Country</b> : UK. <b>Author</b> : I<br>Via public health services in U |                                                                                                    | ww.fearfighter.com/. <b>Population</b> : A nark and Holland. <b>RCTs:</b> 1.                                                                                                                                                                                                                            | dults. Format: SH but access to                                                    | helpline is provided. <b>Schedule:</b> 9                                                                                                      | sessions, completed at own pace.                                                                                                                                                                                                                                                                                                                                            |
| Marks et al.<br>(2004)     | 93 hospital outpatients (age range not reported; $M = 38$ years; 69% female)                    | Health professionals<br>and self (replied to<br>notices in GP<br>practices or self-help<br>groups) | Meet DSM-IV (American Psychiatric Association, 2000) criteria for agoraphobia without panic disorder, panic disorder with agoraphobia, SA, or specific phobia; score of ≥4 on the Global Phobia Scale of the Fear Questionnaire (FQ) (Marks & Mathews, 1979). Criteria confirmed by clinical interview. | therapy $(n = 38)$<br>c. Computer-guided self-relaxation (control; $n = 17$ )      | <ul> <li>Main Problem and Goals instrument (Marks, 1986)</li> <li>Global Phobia Scale of the FQ (Marks &amp; Mathews, 1979)</li> </ul>        | <ul> <li>At PI, FearFighter and face-to-face therapy were similarly effective. FearFighter significantly reduced panic symptoms as shown by the Main Problems and Goals instrument (d = 1.44) and the FQ (d = 0.9) relative to control</li> <li>Gains were maintained at 1-month FU (required descriptive data to calculate between-groups d not provided at FU)</li> </ul> |
|                            | re Clinic – Panic Programme. <b>C</b><br>ul <b>ability:</b> Via research participa              |                                                                                                    |                                                                                                                                                                                                                                                                                                         | /www.ecentreclinic.org/. <b>Popul</b> a                                            | ution: Adults. Format: TA with w                                                                                                              | reekly phone calls. <b>Schedule:</b> 6 weekly                                                                                                                                                                                                                                                                                                                               |
| Wims <i>et al</i> . (2010) | 59 adults aged 20–70 years ( <i>M</i> = 42.1 years; 76% female)                                 | Self-applied via<br>website                                                                        | Not experiencing psychosis or<br>severe depression (defined as a<br>total score <23 or responding<br>>2 to Question 9 (suicidal<br>ideation) on the Patient Health                                                                                                                                      | <ul><li>a. Panic Programme (n = 32)</li><li>b. Waitlist control (n = 27)</li></ul> | <ul> <li>Panic Disorder Severity</li> <li>Scale Self Rating (PDSS-SR)</li> <li>(Houck et al. 2002)</li> <li>Mobility Inventory for</li> </ul> | • At PI ( $d = 0.59$ ) and 1-month FU ( $d = 0.72$ ), the Panic Programme significantly reduced panic symptoms as shown by the PDSS-SR,                                                                                                                                                                                                                                     |

ideation) on the Patient Health Questionnaire-9 Item (PHQ-9) (Kroenke et al. 2001); meet DSM-IV (American Psychiatric Association, 2000) criteria for depression, GA, SA and/or panic disorder. Criteria confirmed by clinical interview

- Agoraphobia (MI) (Chambless et al. 1985)
- Agoraphobic Cognitions Questionnaire (ACQ) (Chambless et al. 1984)
- Body Sensations Questionnaire (BSQ) (Chambless et al. 1984)
- relative to the waitlist control
- At PI (d = 0.59) the Panic Programme significantly reduced panic symptoms as shown by the ACQ (d = 0.51) and the BSQ (d = 0.33), relative to the waitlist control. (Data for these instruments not sufficient to calculate betweengroups d at FU)
- The Panic programme was not significantly more effective than the waitlist control as shown by the MI

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|                          | ne calls. <b>Schedule:</b> 6 weekly                                                                                                                                                                                                                                                    | At PI, the Anxiety Programme significantly reduced panic symptoms as shown by the PDSS-SR ( <i>d</i> = 0.43.) relative to the waitlist control. Treatment gains were maintained at 3-month FU (with no control group comparison)                                                                                                                      |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Outcomes                 | weekly phor                                                                                                                                                                                                                                                                            | ● At PI, the Au significantly symptoms as PDSS-SR ( <i>d</i> = waitlist conture were mainta FU (with no comparison)                                                                                                                                                                                                                                   |
| Panic outcome measure(s) | ulation: Adults. Format: TA with                                                                                                                                                                                                                                                       | <ul> <li>PDSS-SR (Wims et al. 2010)</li> <li>At PI, the Anxiety Programme significantly reduced panic symptoms as shown by the PDSS-SR (d = 0.43.) relative to I waitlist control. Treatment gain were maintained at 3-month FU (with no control group comparison)</li> </ul>                                                                         |
| Randomisation            | o://www.ecentreclinic.org/ Pop                                                                                                                                                                                                                                                         | e a. Anxiety Programme (n = 40) b. Waitlist control (n = 38) 9                                                                                                                                                                                                                                                                                        |
| Clinical screening       | Name: eCentre Clinic – Anxiety Programme. Country: Australia. Author: N. Titov & B. Dear. Web: http://www.ecentreclinic.org/ Population: Adults. Format: TA with weekly phone calls. Schedule: 6 weekly sessions. Availability: Via research participation in Australia only. RCTs: 1. | Not experiencing psychosis or severe depression (defined as a total score <23 or responding >2 to Question 9 (sucidal ideation) on the Patient Health Questionnaine-9 ltem (PHQ-9) (Kroenke $et\ al.$ 2001); meet DSM-IV (American Psychiatric Association, 2000) criteria for GA, SA and/or panic disorder. Criteria confirmed by clinical interview |
| Referred by              | e. <b>Country:</b> Australia.<br>ation in Australia on <u>l</u>                                                                                                                                                                                                                        | s Self-applied via<br>website                                                                                                                                                                                                                                                                                                                         |
| Sample                   | Name: eCentre Clinic – Anxiety Programme. Country: Australia. Assesions. Availability: Via research participation in Australia only.                                                                                                                                                   | 78 adults aged 18–74 years Self-applied via (M = 39.53 years; 67.9% website female)                                                                                                                                                                                                                                                                   |
| Year                     | Name: eCent<br>sessions. Ava                                                                                                                                                                                                                                                           | Titov et al. (2010)                                                                                                                                                                                                                                                                                                                                   |

<sup>a</sup> FearFighter has another RCT demonstrating its efficacy (Schneider et al. 2005). However, as the control used in the study was a computerised control, it did not enable valid comparison (Andersson & GA, Generalised anxiety; SA, social anxiety; PTSD, post-traumatic stress disorder; SH, self help; TA, therapist assisted; PI, post-intervention; FU, follow-up; d, Cohen's d (between-group) Cuijpers, 2009), and was thus excluded

## cCBT programmes for SA

Three cCBT programmes for SA met this article's inclusion criteria (Table 3). Two of these programmes (eCentre Clinic's-Shyness & Anxiety Programmes) were developed in Australia and one was developed in Spain ('Talk to Me'). None of the three programmes are freely accessible online by residents of Ireland. However, 'Talk to Me' is available for an unspecified fee. 'Talk to Me' can be completed on a self-help basis, whereas the other two programmes are delivered with therapist assistance. The total number of sessions for the programmes ranges from 3 to 6.

The strongest evidence here is clearly for the 'eCentre Clinic-Shyness Programme'. It has four RCTs demonstrating its efficacy in clinically screened samples, compared with the other two programmes that have one RCT behind them. Moreover, for the treatment of SA, it yielded large effect sizes. Three of its RCT's participants were self-referred but, notably, the other one had participants who were GP referred (although with a small sample size). As mentioned above, the 'eCentre Clinic-Anxiety Programme' is advantageous in that it has also been shown to be effective for three mental health difficulties - GA (Table 1), panic/phobia (Table 2) and SA (Table 3). For SA, it yielded a moderate effect size in a self-referred, clinically screened sample. The other programme 'Talk to Me' had moderate effect sizes for SA in a selfreferred, clinically screened sample. However, it is geared towards public speaking difficulties to a larger extent than SA.

## cCBT programmes for PTSD

One cCBT programme for PTSD, the 'eCentre Clinic-PTSD Programme', met this article's inclusion criteria (Table 4). This therapist-assisted programme has seven sessions. It was developed in Australia and is not currently accessible online by residents of Ireland. It has one RCT showing its efficacy within a self-referred, clinically screened sample. It yielded a moderate effect size. The RCT is limited by its relatively small sample size.

#### cCBT programmes for depression (or low mood)

Six cCBT programmes for depression met this article's inclusion criteria (Table 5). Three of these programmes were developed in Australia. The other three were developed in the United Kingdom, Germany and the United States, respectively. Currently, two of these programmes, 'MoodGym' and 'MoodHelper', are freely accessible online by residents of Ireland. However, 'Beating the Blues' is provided via primary care by the United Kingdom's NHS and can be purchased online.

**Table 3.** cCBT programmes for SA

| Year                  | Sample                                                                          | Referred by                  | Clinical screening                                                                                                                                                                                                                                                                                                                | Randomisation                                                                                                                        | SA outcome measure(s)                                                                                                                                                | Outcomes                                                                                                                                                                                                                                                                                                                                       |
|-----------------------|---------------------------------------------------------------------------------|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       | e Clinic – Shyness Programme<br>ability: Via research participa                 | •                            | •                                                                                                                                                                                                                                                                                                                                 | //www.ecentreclinic.org/ Pop                                                                                                         | ulation: Adults. Format: TA with                                                                                                                                     | weekly phone calls. <b>Schedule:</b> 6 weekly                                                                                                                                                                                                                                                                                                  |
| Titov et al. (2008)   | 99 adults aged 18–72 years ( <i>M</i> = 38.13 years, 58.6% female)              | Self-recruited by adverts    | Not experiencing psychosis or severe depression (defined as a total score ≤20 or responding >0 to Question 9 (suicidal ideation) on the Patient Health Questionnaire-9 Item (PHQ-9) (Kroenke <i>et al.</i> 2001); meet DSM-IV (American Psychiatric Association, 2000) criteria for SA, Criteria confirmed by clinical interview. | <ul> <li>a. Shyness Programme (n = 50)</li> <li>b. Waitlist control (n = 49)</li> </ul>                                              | <ul> <li>Social Interaction Anxiety<br/>Scale (SIAS) (Mattick &amp;<br/>Clarke, 1998)</li> <li>Social Phobia Scale (SPS)<br/>(Mattick &amp; Clarke, 1998)</li> </ul> | • At PI, significant reductions in social anxiety as shown by the SIAS ( <i>d</i> = 0.86) and the SPS ( <i>d</i> = 1.04) relative to waitlist control                                                                                                                                                                                          |
| Titov et al. (2008)   | 81 adults aged 20–61 years<br>(M = 36.79 years,<br>62.96% female)               | Self-recruited by<br>adverts | Not experiencing psychosis or severe depression (defined as a total score ≤20 or responding >0 to Question 9 (suicidal ideation) on the Patient Health Questionnaire-9 Item (PHQ-9) (Kroenke et al. 2001); meet DSM-IV (American Psychiatric Association, 2000) criteria for SA, Criteria confirmed by clinical interview         | <ul> <li>a. Shyness Programme (n = 41)</li> <li>b. Waitlist control (n = 40)</li> </ul>                                              | <ul> <li>SIAS (Mattick &amp; Clarke,<br/>1998)</li> <li>SPS (Mattick &amp; Clarke,<br/>1998)</li> </ul>                                                              | ● At PI, significant reductions in social anxiety as shown by the SIAS ( <i>d</i> = 1.29) and the SPS ( <i>d</i> = 1.1) relative to waitlist contro                                                                                                                                                                                            |
| Titov et al. (2008)   | 93 adults aged 18–64 years<br>( <i>M</i> = 37.97 years, 61.1% female)           | Self-applied via<br>website  | Not experiencing psychosis or severe depression (defined as a total score ≤20 or responding >0 to Question 9 (suicidal ideation) on the Patient Health Questionnaire-9 Item (PHQ-9) (Kroenke <i>et al.</i> 2001); meet DSM-IV (American Psychiatric Association, 2000) criteria for SA, Criteria confirmed by clinical interview  | <ul> <li>a. TA Shyness Programme (n = 31)</li> <li>b. SH Shyness programme (n = 30)</li> <li>c. Waitlist control (n = 32)</li> </ul> | <ul> <li>SIAS (Mattick &amp; Clarke,<br/>1998)</li> <li>SPS (Mattick &amp; Clarke,<br/>1998)</li> </ul>                                                              | <ul> <li>At PI, TA Shyness group had a significantly superior reductions in social anxiety relative to the SH Shyness group (d = 0.64, d = 0.67) and waitlist control group (d = 1.47, d = 1.17) as shown by the SIAS and the SPS respectively</li> <li>SH Shyness group was not significantly more effective than waitlist control</li> </ul> |
| Andrews et al. (2011) | 37 GP service users (age range not reported; $M = 31.9$ years, $40.5\%$ female) | GPs                          | Prior diagnosis of SA confirmed by<br>clinical interview by<br>psychiatrist                                                                                                                                                                                                                                                       | <ul><li>a. Shyness Programme (n = 23)</li><li>b. Face-to-face CBT (n = 14)</li></ul>                                                 | <ul> <li>SIAS (Mattick &amp; Clarke,<br/>1998)</li> <li>SPS (Mattick &amp; Clarke,<br/>1998)</li> </ul>                                                              | At PI, both forms of treatment were<br>similarly effective, and significantly<br>reduced social anxiety as shown by<br>the SIAS and the SPS                                                                                                                                                                                                    |

Table 3. Continued

| Year                         | Sample                                                                          | Referred by                  | Clinical screening                                                                                                                                                                                                                                                                                                                                  | Randomisation                                                                                                                           | SA outcome measure(s)                                                                                                                                                                          | Outcomes                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------|---------------------------------------------------------------------------------|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                              | re Clinic – Anxiety Programm<br>ilability: Via research particip                | •                            | Authors: N. Titov & B. Dear. Web: http:<br>. RCTs: 1.                                                                                                                                                                                                                                                                                               | //www.ecentreclinic.org/ Popu                                                                                                           | lation: Adults. Format: TA with                                                                                                                                                                | weekly phone calls. Schedule: 6 weekly                                                                                                                                                                                                                                                                                                                                                                                              |
| Titov et al. (2010)          | 78 adults aged 18–74 year ( <i>M</i> = 39.53 years; 67.9% female)               | website                      | Not experiencing psychosis or severe depression (defined as a total score <23 or responding >2 to Question 9 (suicidal ideation) on the Patient Health Questionnaire-9 Item (PHQ-9) (Kroenke et al. 2001); meet DSM-IV (American Psychiatric Association, 2000) criteria for GA, SA and/or panic disorder. Criteria confirmed by clinical interview | <ul> <li>a. Anxiety Programme (n = 40)</li> <li>b. Waitlist control (n = 38)</li> </ul>                                                 | • Social Phobia Screening<br>Questionnaire (SPSQ)<br>(Furmark et al. 1999)                                                                                                                     | • At PI, the Anxiety Programme significantly reduced SA symptoms as shown by the SPSQ ( <i>d</i> = 0.43) relative to the waitlist control. Treatment gains were maintained at 3-month FU (with no control group comparison)                                                                                                                                                                                                         |
|                              | o Me. Country: Spain. Autho<br>Fee-based (unspecified amou                      |                              | ://www.internetmeayuda.com/mhpEn                                                                                                                                                                                                                                                                                                                    | glish/saludo.htm <b>Population:</b> A                                                                                                   | dults. <b>Format:</b> SH <b>Schedule:</b> 3 s                                                                                                                                                  | essions, completed at own pace.                                                                                                                                                                                                                                                                                                                                                                                                     |
| Botella <i>et al.</i> (2010) | 127 university students aged 18–48 years ( <i>M</i> = 24.4 years; 79.2% female) | Self-recruited by<br>adverts | Meet the DSM-IV (American<br>Psychiatric Association, 2000)<br>criteria for SA; not have<br>diagnosis of major depression,<br>substance abuse difficulties<br>psychosis or mental retardation.<br>Criteria confirmed by clinical<br>interview                                                                                                       | <ul> <li>a. SH Talk to Me (n = 62)</li> <li>b. Therapist-delivered Talk to Me (n = 36)</li> <li>c. Waitlist control (n = 29)</li> </ul> | <ul> <li>Brief version of the Fear of<br/>Negative Evaluation Scale<br/>(BFNE) (Leary, 1983)</li> <li>Social Avoidance and<br/>Distress Scale (SAS)<br/>(Watson &amp; Friend, 1969)</li> </ul> | <ul> <li>At PI, both treatment conditions were similarly effective. SH Talk to Me significantly reduced fear of negative evaluation (<i>d</i> = 0.58) relative to the waitlist control. It also significantly reduced SA symptoms as shown by the SAS (<i>d</i> = 0.54), relative to the waitlist control</li> <li>Treatment gains for both treatment conditions were maintained at 12-month FU (no control group at FU)</li> </ul> |

| PTSD       |  |
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| programmes |  |
| prog       |  |
| cCBT       |  |
| 4          |  |
| Table      |  |

| Outcomes                | Name: eCentre Clinic – PTSD Programme. Country: Australia. Authors: N. Titov & B. Dear. Web: http://www.ecentreclinic.org/ Population: Adults. Format: TA with weekly phone calls. Schedule: 7 weekly sessions. Availability: Via research participation in Australia only. RCTs: 1. | <ul> <li>At PI, significant reductions in PTSD symptoms (d = 0.47), relative to waitlist control</li> <li>Benefits maintained at 3-month FU (no control group at FU)</li> </ul>                                                                                                                                                                                                                                                         |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PTSD outcome measure(s) | tion: Adults. Format: TA with                                                                                                                                                                                                                                                        | • PTSD checklist (Weathers et al. 1993)                                                                                                                                                                                                                                                                                                                                                                                                 |
| Randomisation           | //www.ecentreclinic.org/ Popula                                                                                                                                                                                                                                                      | <ul> <li>a. PTSD Programme (n = 23)</li> <li>b. Waitlist control (n = 19)</li> </ul>                                                                                                                                                                                                                                                                                                                                                    |
| Clinical screening      | Authors: N. Titov & B. Dear. Web: http://<br>lly. RCTs: 1.                                                                                                                                                                                                                           | Not experiencing psychosis or severe depression (defined as a total score <23 or responding >2 to Question 9 (suicidal ideation) on the Patient Health Questionnaire-9 Item (PHQ-9) (Kroenke et al. 2001); not experiencing high dissociative Experiencing high dissociative Experiences Scale) (Carlson et al. 1993); meet DSM-IV (American Psychiatric Association, 2000) criteria for PTSD. Criteria confirmed by clinical interview |
| Referred by             | Country: Australia.<br>ation in Australia on                                                                                                                                                                                                                                         | s Self-applied via<br>website and<br>adverts                                                                                                                                                                                                                                                                                                                                                                                            |
| Sample                  | Name: eCentre Clinic – PTSD Programme. Country: Australia. Authors: N. sessions. Availability: Via research participation in Australia only. RCTs: 1.                                                                                                                                | 42 adults aged 21–68 years Self-applied via (M = 42.6 years, 80.9% website and female) adverts                                                                                                                                                                                                                                                                                                                                          |
| Year                    | Name: eCentre sessions. Avail                                                                                                                                                                                                                                                        | Spence <i>et al.</i> (2011)                                                                                                                                                                                                                                                                                                                                                                                                             |

Similarly, 'Deprexis' can be purchased online. Whereas ECentre Clinic's 'Sadness' and 'Well-being' programmes are both delivered with therapist assistance, the other three programmes can be completed on a self-help basis. The total number of sessions for the programmes ranges from 5 to 10, although 'MoodHelper' is a diary-style intervention completed at one's own pace.

One of the programmes, 'MoodGym', has three RCTs showing its efficacy, two programmes have two RCTs, and three programmes have one RCT. Although 'MoodGym' has the most RCTs, one of these had a small, self-referred sample and one had a school-based non-clinical sample. Furthermore, in the latter RCT, 'MoodGym' was found to be effective for males only. However, it was found to be effective in an RCT with a large, self-referred, clinically screened sample. Overall, it seems that the strongest evidence is for 'Beating the Blues' and 'eCentre Clinic-Sadness'. The former has two large-scale RCTs in GP-referred, clinically screened samples that yielded medium effect sizes. The latter has two RCTs in self-referred, clinically screened samples that both yielded large effect sizes. However, one of the RCTs for 'eCentre Clinic-Sadness' had a small sample size and both RCTs are limited by little to no follow-up data. The three programmes with one RCT are not elaborated on here because of word constraints, but the evidence behind each is detailed in Table 5.

## cCBT programmes for eating problems

Three cCBT programmes for eating problems met this article's inclusion criteria (Table 6). These programmes were developed in the United States, United Kingdom and Switzerland, respectively. None of these are freely accessible online by residents in Ireland. However, 'Overcoming Bulimia Online' (UK) can be purchased online for ~€75 and 'Student Bodies' can be purchased via private contract by institutions and individuals. The other programme 'Salut BN' (Switzerland) is a long-term fee-based intervention that requires substantial service integration. Overcoming 'Bulimia Online' and 'Student Bodies' can be completed on a self-help basis, but 'Salut BN' is delivered with therapist assistance and integrated face-to-face sessions. The former two programmes have eight sessions each, but 'Salut BN' has seven multifaceted 'modules' that are completed over 6 months.

One of the programmes, 'Student Bodies', has two RCTs showing its efficacy, and the other two programmes have one RCT each. All four RCTs have screened, self-referred, female-only samples. The two RCTs on 'Student Bodies' have large sample sizes and yielded medium effect sizes. However, screening ensured that the sample was non-clinical in nature.

 Table 5. cCBT programmes for depression

| Year                           | Sample                                                                                                                             | Referred by                   | Clinical screening                                                                                                                                                                                                                                                                                    | Randomisation                                                                                                               | Depression outcome measure(s)                                                   | Outcomes                                                                                                                                                                                                                                                                                                                     |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0                              | •                                                                                                                                  |                               | p://www.beatingtheblues.co.uk/. Pouline for \$230 (~€166.) RCTs: 2.                                                                                                                                                                                                                                   | opulation: Adults. Format: SH. S                                                                                            | chedule: 8 weekly sessions. Availa                                              | bility: Via public health services in UK                                                                                                                                                                                                                                                                                     |
| Proudfoot et al.<br>(2003)     | 167 primary care service users aged 18–75 years ( <i>M</i> = 44.7 years; 73.7% female)                                             | GPs and primary care<br>staff | Prior diagnosis of depressive and/<br>or anxiety disorder; scores of ≥4<br>on the General Health<br>Questionnaire-12 (GHQ-12)<br>(Goldberg, 1972) and ≥12 on the<br>Clinical Interview Schedule-<br>Revised: PROQSY (Lewis, 1994)<br>that was administered by a<br>clinician                          | <ul> <li>a. Beating the Blues (+non-therapeutic GP support; n = 89)</li> <li>b. GP treatment-as-usual (n = 78)</li> </ul>   | Beck Depression Inventory II (BDI) (Beck et al. 1996)                           | <ul> <li>At PI, Beating the Blues was significantly more effective than treatment-as-usual for depression reduction (<i>d</i> = 0.54)</li> <li>At 3-month (<i>d</i> = 0.5) and 6-month (<i>d</i> = 0.55) FUs, Beating the Blues was significantly more effective than treatment-as-usual for depression reduction</li> </ul> |
| Proudfoot et al.<br>(2004)     | 107 primary care service users aged 18–75 years were included to the above study (total $n = 274$ ; $M = 43.37$ years; 74% female) | GPs and primary care staff.   | Prior diagnosis of depressive and/<br>or anxiety disorder; scores of ≥4<br>on the General Health<br>Questionnaire-12 (GHQ-12)<br>(Goldberg, 1972) and ≥12 on the<br>Clinical Interview Schedule-<br>Revised: PROQSY (Lewis, 1994)<br>that was administered by a<br>clinician.                         | <ul> <li>a. Beating the Blues (+non-therapeutic GP support; n = 146)</li> <li>b. GP Treatment-as-usual (n = 128)</li> </ul> |                                                                                 | <ul> <li>At PI, Beating the Blues was significantly more effective than treatment-as-usual for depression reduction (<i>d</i> = 0.62)</li> <li>At 3-month (<i>d</i> = 0.5) and 8-month (<i>d</i> = 0.56) FUs, Beating the Blues was significantly more effective than treatment-as-usual for depression reduction</li> </ul> |
|                                | Clinic – Sadness Programme.<br>bility: Via research participa                                                                      |                               |                                                                                                                                                                                                                                                                                                       | //www.ecentreclinic.org/ Popu                                                                                               | lation: Adults. Format: TA with v                                               | veekly phone calls. <b>Schedule:</b> 8 weekl                                                                                                                                                                                                                                                                                 |
| Perini <i>et al.</i><br>(2009) | 45 adults aged 19–85 years ( <i>M</i> = 49.29 years, 77.85%)                                                                       | Self-applied via<br>website   | Not experiencing psychosis or<br>severe depression (defined as a<br>total score <23 or responding<br>>2 to Question 9 (suicidal<br>ideation) on the Patient Health<br>Questionnaire-9 Item (PHQ-9)<br>(Kroenke et al. 2001); meet DSM-<br>IV (American Psychiatric<br>Association, 2000) criteria for | <ul> <li>a. Sadness Programme (n = 27)</li> <li>b. Waitlist control (n = 18)</li> </ul>                                     | <ul> <li>PHQ-9 (Kroenke et al. 2001)</li> <li>BDI (Beck et al. 1996)</li> </ul> | <ul> <li>At PI, the sadness programme significantly reduced depression a shown by the PHQ-9 (<i>d</i> = 0.89) an the BDI (<i>d</i> = 0.63), relative to the waitlist control</li> <li>No FU data was collected</li> </ul>                                                                                                    |

GA. Criteria confirmed by clinical interview

Table 5. Continued

| Year                | Sample                                                               | Referred by                 | Clinical screening                                                                                                                                                                                                                                                                                                        | Randomisation                                                                                                                                                                                   | Depression outcome measure(s)                                                   | Outcomes                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------|----------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Titov et al. (2010) | 126 adults aged 19–73<br>years ( <i>M</i> = 43 years,<br>74% female) | Self-applied via<br>website | Not experiencing psychosis or severe depression (defined as a total score <23 or responding >2 to Question 9 (suicidal ideation) on the Patient Health Questionnaire-9 Item (PHQ-9) (Kroenke et al. 2001); meet DSM-IV (American Psychiatric Association, 2000) criteria for GA. Criteria confirmed by clinical interview | <ul> <li>a. Sadness Programme with technical assistance (STECH; n = 41)</li> <li>b. Sadness Programme with clinical assistance (SCLIN; n = 45)</li> <li>c. Waitlist control (n = 40)</li> </ul> | <ul> <li>PHQ-9 (Kroenke et al. 2001)</li> <li>BDI (Beck et al. 1996)</li> </ul> | <ul> <li>At PI, the STECH and SCLIN groups were similarly effective. Both significantly reduced depression as shown by the PHQ-9 (d = 1.27., d = 1.39) and the BDI (d = 1.09., d = 1.09), relative to the waitlist control</li> <li>At 4-month FU, treatment benefits were maintained (with no control group comparison) and the STECH group had significantly lower scores on the PHQ-9 than the SCLIN group (d = 0.46)</li> </ul> |

Name: MoodGym<sup>a</sup>. Country: Australia. Authors: H. Christensen & K. Griffiths. Web: http://moodgym.anu.edu.au/welcome. Population: Adults and adolescents. Format: SH. Schedule: 5 sessions, completed at own pace. Availability: Freely accessible. RCTs: 3.

| own pace. Avai                                              | own pace. Availability: Freely accessible. RCTs: 3.                                             |                                    |                                                                                                                          |                                                                                             |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------------------------|--------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Christensen<br>et al. (2004);<br>Mackinnon<br>et al. (2008) | 525 adults aged 18–52<br>years ( <i>M</i> = 36.43 years;<br>71.4% female)                       | Self-recruited by mail             | Score ≥22 on Kessler Psychological<br>Distress Scale (K10) (Kessler<br>et al. 2002). Clinical interview<br>not conducted | a. MoodGym (n = 182)<br>b. Psychoeducation websi<br>(n = 165)<br>c. Control (n = 178)       | Centre for Epidemiologic     Studies – Depression Scale     (CES-D) (Randolf, 1977) | <ul> <li>At PI, both MoodGym (d = 0.33) and psychoeducation website interventions (d = 0.31) groups were similarly effective – both significantly reduced depression symptoms, relative to the control</li> <li>At 6-month FU, MoodGym (d = 0.2) and psychoeducation website intervention (d = 0.25) groups maintained benefits relative to the control group</li> <li>At 12-month FU, MoodGym (d = 0.21) and psychoeducation website intervention (d = 0.36) groups maintained benefits relative to the control group</li> </ul> |
| Calear <i>et al</i> . (2009)                                | 1477 children aged 12–17<br>years ( <i>M</i> = 14.34 years;<br>55.9% female) from 32<br>schools | School – as part of the curriculum | None                                                                                                                     | <ul><li>a. Classroom-delivered<br/>MoodGym (n = 563)</li><li>b. Control (n = 914)</li></ul> | • CES-D Scale (Randolf, 1977)                                                       | <ul> <li>MoodGym group had significantly<br/>lower levels of depression for males<br/>but not females at PI (d = 0.43), and at<br/>6-month FU (d = 0.27) relative to<br/>waitlist control</li> </ul>                                                                                                                                                                                                                                                                                                                              |

Table 5. Continued

| Year                | Sample                                                                                                                                       | Referred by                 | Clinical screening                                                                                                                                                                                                                                                                                                                                              | Randomisation                          | Depression outcome measure(s)                                                                                                              | Outcomes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     | 34 university students aged 18–23 years (M = 19.47 years; 78.1% female)  tre Clinic – Well-being Programn ailability: Via research participa | adverts  adverts            |                                                                                                                                                                                                                                                                                                                                                                 | Gym (n = 9) d. Control (n = 10)        | DASS-21 (Lovibond & Lovibond, 1995)     Automatic Thoughts Questionnaire (ATQ) (Hollon & Kendall, 1980)  pulation: Adults. Format: TA with | <ul> <li>For depression (DASS-21)         MG+F2F was significantly more         effective than MoodGym (d = 0.87)         but not face-to-face CBT (d = 1.28)         MoodGym was not more effective         than control</li> <li>For automatic thoughts         frequency (ATQ), MG+F2F was         significantly more effective than         MoodGym (d = 0.43), and face-         to-face CBT (d = 0.59). MoodGym         was significantly more effective         than control (d = 0.63) only</li> </ul> |
| Titov et al. (2011) | 77 adults aged 18–79 years ( <i>M</i> = 43.9 years; 73% female)                                                                              | Self-applied via<br>website | Not experiencing psychosis or severe depression (defined as a total score <23 or responding >2 to Question 9 (suicidal ideation) on the Patient Health Questionnaire-9 Item (PHQ-9) (Kroenke et al. 2001); meet DSM-IV (American Psychiatric Association, 2000) criteria for depression, GA, SA and/or panic disorder. Criteria confirmed by clinical interview | (n = 37)b. Waitlist control $(n = 37)$ | • PHQ-9 (Kroenke et al. 2001                                                                                                               | <ul> <li>At PI, the Well-Being Programme significantly reduced depression symptoms (d = 0.52) relative to the waitlist control</li> <li>Treatment gains were maintained at 3-month FU (with no control group comparison)</li> </ul>                                                                                                                                                                                                                                                                            |

tained at 18 week and 6-month

scores (as the effect of the delay

was now minimal)

FUs. At 6-months both groups had similarly beneficial treatment

| Table 5. Cont               | Table 5. Continued                                                      |                           |                                                                                                                                     |                                                                                                                                                                         |                                                                                                                |                                                                                                                                                                                                                                                                |
|-----------------------------|-------------------------------------------------------------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Year                        | Sample                                                                  | Referred by               | Clinical screening                                                                                                                  | Randomisation                                                                                                                                                           | Depression outcome measure(s)                                                                                  | Outcomes                                                                                                                                                                                                                                                       |
| Name: Mood! accessible. RC  |                                                                         | : G. Clarke. Web: https:/ | /www.kpchr.org/moodhelper/ Pop                                                                                                      | ulation: Adults and adolescents.                                                                                                                                        | Format: SH. Schedule: Diary o                                                                                  | ompleted at own pace. <b>Availability:</b> Freely                                                                                                                                                                                                              |
| Clarke <i>et al.</i> (2009) | 160 adults aged 18–24<br>years ( <i>M</i> = 22.65 years;<br>80% female) | Self-recruited by mail    | Classed as depressed by a health<br>maintenance organisation's<br>electronic medical record.<br>Clinical interview not<br>conducted | <ul> <li>a. MoodHelper (n = 83)</li> <li>b. Treatment-as-usual<br/>(various) consisting mainly<br/>of psycho-pharmacology<br/>and psychotherapy<br/>(n = 77)</li> </ul> | <ul> <li>Patient Health         Questionnaire-8 item</li> <li>(PHQ-8) (Spitzer et al.         1999)</li> </ul> | <ul> <li>For depression, across 32 weeks, MoodHelper was significantly more effective than treatment-asusual (d = 0.2, net effect size across 32 weeks)</li> <li>For females, there was a larger effect (d = 0.42, net effect size across 32 weeks)</li> </ul> |
| €279 and can                | be purchased via the website.                                           | RCTs: 1.                  | •                                                                                                                                   | & M. Weiss. <b>Population:</b> Adults.                                                                                                                                  | Format: SH. Schedule: 10 week                                                                                  | kly sessions. <b>Availability:</b> Fee-based – costs                                                                                                                                                                                                           |
| Meyer et al. (2009)         | 396 adults aged 18–27<br>years ( <i>M</i> = 34.74 years,<br>76% female) | Self-recruited by adverts | None                                                                                                                                | <ul><li>a. Treatment-as-usual with immediate access to Deprexis (DNOW; n = 320</li><li>b. Treatment as-usual with</li></ul>                                             | • BDI (Beck <i>et al.</i> 1996)                                                                                | <ul> <li>At 9 week PI, DNOW significantly reduced depression (<i>d</i> = 0.64), relative to DLATER</li> <li>Treatment benefits were main-</li> </ul>                                                                                                           |

delayed access (9 week

delay) to Deprexis

(DLATER, n = 76)

GA, Generalised anxiety, SA, social anxiety; SH, self help; TA, therapist assisted; PI, post-intervention; FU, follow-up; d, Cohen's d (between-group).

<sup>&</sup>lt;sup>a</sup> Four other RCTs were conducted on MoodGym (see note in Table 1).

 Table 6. cCBT programmes for eating problems

| Year                         | Sample                                                                         | Referred by               | Clinical screening                                                                                                                                                                                                                                                                                                        | Randomisation                                                                       | Eating problems outcome measure(s)                                                                                                                                                                                           | Outcomes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------|--------------------------------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                              | Bodies <sup>a</sup> . Country: USA. Au<br>Schedule: 8 weekly sessions.         |                           |                                                                                                                                                                                                                                                                                                                           | olackboards.com/StudentBodies                                                       | aspx Population: Adolescents an                                                                                                                                                                                              | nd young adults. Format: SH with online                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Barr Taylor<br>et al. (2006) | 480 female university<br>students aged 17–31<br>years ( <i>M</i> = 20.8 years) | Self-recruited by adverts | Body mass index (BMI) ≥18 and ≤32. Must not meet DSM-IV (American Psychiatric Association, 2000) criteria for an eating disorder. Absence of diagnosis confirmed by clinical interview. Must score ≥50 on the Weight Concerns Scale (WCS) (Killen <i>et al.</i> 1994), indicating moderate to high fear of gaining weight | <ul><li>a. Student Bodies (n = 244)</li><li>b. Waitlist control (n = 236)</li></ul> | <ul> <li>Eating Disorder Inventory<br/>(EDI) (Garner &amp; Olmsted,<br/>1984)</li> <li>Eating Disorder Examination-<br/>Questionnaire (EDE-Q)<br/>(Fairburn &amp; Beglin, 1994)</li> <li>WCS (Killen et al. 1994)</li> </ul> | improved body image as shown by<br>the EDI drive for thinness                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Jacobi <i>et al.</i> (2007)  | 97 female university<br>students aged 18–29<br>years ( <i>M</i> = 22.3 years)  | Self-recruited by adverts | BMI ≥18 and ≤30. Must not meet (unspecified) criteria for an eating disorder during the last year, report frequent binge eating/purging episodes, engage in substance or drug abuse, must not be using psychotropic medication or have had previous suicidal ideation. Criteria confirmed by clinical interview           | <ul><li>a. Student Bodies (n = 47)</li><li>b. Waitlist control (n = 50)</li></ul>   | <ul> <li>EDI (Killen et al. 1994)</li> <li>EDE-Q (Garner &amp; Olmsted<br/>1984)</li> <li>WCS (Fairburn &amp; Beglin,<br/>1994)</li> </ul>                                                                                   | <ul> <li>At PI, Student Bodies significantly improved body image as shown by the EDI drive for thinness subscale (d = 0.42), EDE-Q restraint subscale (d = 0.65), and the WCS (d = 0.18), relative to waitlist control. However, non-significant was found on the measures' other subscales</li> <li>At 3-month FU, treatment gains were maintained as shown by the EDI drive for thinness subscale (d = 0.34) and the EDE-Q restraint subscale (d = 0.54) but not the WCS, relative to the waitlist control</li> </ul> |

Table 6. Continued

| Year                           | Sample                                                                        | Referred by               | Clinical screening                                                                                                                                                                                                                                                                                          | Randomisation              | Eating problems outcome measure(s)    | Outcomes                                                                                                                                                                                                                                          |
|--------------------------------|-------------------------------------------------------------------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                |                                                                               | •                         | C. Williams & U.H. Schmidt. <b>Web:</b> ht<br>hased via the website for £65 (€75 appr                                                                                                                                                                                                                       |                            | nline.com/ <b>Population:</b> For adu | lts. Format: SH with online forum access                                                                                                                                                                                                          |
| Sanchez-Ortiz<br>et al. (2011) | 76 female university students (age range not reported; <i>M</i> = 23.9 years) | Self-recruited by adverts | Meet DSM-IV (American Psychiatric Association, 2000) criteria for bulimia nervosa (BN) or eating disorder not otherwise specified (EDNOS), must not have a diagnosis of binge eating disorder or a major disorder requiring a 'different intervention'; BMI >18.5. Criteria confirmed by clinical interview | treatment group $(n = 38)$ | • EDE-Q (Garner & Olmsted<br>1984)    | <ul> <li>At PI, OBO significantly improved body image as shown by the EDE-Q (d = 1.23), relative to waitlist control</li> <li>At 6-month FU, treatment gains were maintained on the EDE-Q (d = 0.95), relative to the waitlist control</li> </ul> |

Carrad *et al* (2011) 74 females aged 21–60 years (M = 36 years)

Self-recruited adverts Psychiatric Association, 2000) criteria for binge eating disorder, no recent suicide attempt, no past obesity surgery. Criteria confirmed by

clinical interview

- a. Salut BN (n = 37)
  - b. Waitlist control (n = 37)
- EDE-Q (Garner & Olmsted,
   At PI, Salut BN significantly 1984)
- EDI (Killen et al. 1994)
- Three-Factor Eating Questionnaire (TFEQ) (Stunkard & Messick, 1985)
- At PI, Salut BN significantly reduced bulimia nervosa symptoms as shown by the EDE-Q (d = 0.38), the EDI bulimia subscale (d = 0.73) and the TFEQ hunger subscale (d = 0.91), relative to waitlist control
- At 1-year FU, treatment gains were on these three measures respectively (d = 0.3, d = 0.44, d = 0.46), relative to the waitlist control

TA, Therapist assisted; PI, post-intervention; FU, follow-up; *d*, Cohen's *d* (between-group).

<sup>&</sup>lt;sup>a</sup> Student Bodies has another RCT which (partially) shows its efficacy (Celio *et al.* 2000). However, it was excluded because the intervention group completed Student Bodies alongside face-to-face and group therapy sessions. Thus it was not possible to determine whether Student Bodies led to additional treatment benefits.

 Table 7. cCBT programmes for stress

| Year | Sample                                                                               | Referred by | Clinical screening                     | Randomisation                                     | Stress outcome measure(s) | Outcomes                                                                                                                   |
|------|--------------------------------------------------------------------------------------|-------------|----------------------------------------|---------------------------------------------------|---------------------------|----------------------------------------------------------------------------------------------------------------------------|
|      | 309 adults aged 20–69 years (mean age not reported; age range; 70.6% female) working | •           | d, typically organisations purchase it | a. Stress and Mood Management b. Waitlist control | 0                         | At PI, Stress and Mood     Management significantly reduced distress symptoms, relative to waitlist control. However, this |
|      | at a technology firm                                                                 |             |                                        | ( <i>n</i> for each group not stated)             |                           | was at $p < 0.05$ level of significance and the effect size was low $(d = 0.11)$                                           |

SH, Self help; PI, post-intervention; FU, follow-up; *d*, Cohen's *d* (between-group).

 Table 8. cCBT programmes for insomnia

| Year                           | Sample                                                               | Referred by | Clinical screening                                                                                                                       | Randomisation                                                            | Insomnia outcome measure(s)             | Outcomes                                                                                                                                                                                                                            |
|--------------------------------|----------------------------------------------------------------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                | •                                                                    |             | Frederick, C. Morin, F. Thorndike. V ccessible online by research participa                                                              |                                                                          | ı/modules/8?page=13 <b>Populati</b>     | on: Adults. Format: SH with automated                                                                                                                                                                                               |
| Ritterband <i>et al</i> (2009) | . 44 adults aged 18–65 years ( <i>M</i> = 44.86 years; 77.3% female) | ,           | Meet DSM-IV (American<br>Psychiatric Association, 2000)<br>criteria for primary insomnia.<br>Criteria confirmed by clinical<br>interview | <ul><li>a. SHUTi (n = 22)</li><li>b. Waitlist Control (n = 22)</li></ul> | • Insomnia Severity Index (Morin, 1993) | <ul> <li>At PI, Stress and Mood Management significantly reduced insomnia severity, relative to the waitlist control (<i>d</i> = 1.68)</li> <li>Treatment gains were maintained at FU (with no control group comparison)</li> </ul> |

| Year                           | Sample                                                                 | Referred by               | Clinical screening                                                                                                                                                           | Randomisation                                                                              | Pain outcome measure(s)                                                                                                                 | Outcomes                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------|------------------------------------------------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| •                              | •                                                                      |                           | s, C.L. von Baeyer, P.J. McGrath. <b>Web:</b> l<br>rogramme. <b>Availability:</b> Freely accessil                                                                            |                                                                                            |                                                                                                                                         | rm <b>Population:</b> Children aged 9–16 year                                                                                                                                                                                                                                                                                                                                                                                                          |
| Hicks <i>et al</i> .<br>(2006) | 47 children aged 9–16 years ( <i>M</i> = 11.7 years, 63.8% female)     | Self-recruited by adverts | Meet (unspecified) diagnostic<br>criteria of at least three<br>episodes of head or abdominal<br>pain within a 3-month period.<br>Criteria confirmed by clinical<br>interview | <ul> <li>a. Help yourself online (n = 25)</li> <li>b. Waitlist control (n = 22)</li> </ul> | <ul> <li>Daily pain diary (numeric scale)</li> <li>Pediatric Quality of Life Inventory Version 4.0 (PedsQL4.0) (Varni, 1998)</li> </ul> | <ul> <li>At PI, Help yourself online significantly reduced reported p frequency (d = 0.27) and pain intensity (d = 0.56), relative to waitlist control. More pain-free days were also reported (d = 0.5 online maintained treatment gain terms of reported pain intensity (d = 1.14) and pain-free days (d = 0.38), but not pain frequence relative to waitlist control.</li> <li>No significant treatment benefit were found on the PedsQl</li> </ul> |
|                                | CTION. <b>Country:</b> USA. Authout own pace. <b>Availability:</b> Fro |                           | mberg & L. Menefee. <b>Web:</b> http://www<br>1.                                                                                                                             | w.painaction.com/members/M                                                                 | yPage.aspx <b>Population:</b> Adults. F                                                                                                 | (d = 0.38), but n relative to wait!  No significant t were found on                                                                                                                                                                                                                                                                                                                                                                                    |

| Cinauzzi ei ui. | 199 addits aged 10-79      | Sen-recrui |
|-----------------|----------------------------|------------|
| (2010)          | years ( $M = 46.14$ years, | and sta    |
|                 | 67.6% female)              | at a pai   |
|                 |                            |            |
|                 |                            |            |
|                 |                            |            |

ain centre conducted

- b. Psychoeducation control (n = 95)
- (Cleeland & Ryan, 1994)
- Oswestry Disability Questionnaire (ODQ) (Fairbank et al. 1980)
- Chronic Pain Coping Inventory-42 (CPIC) (Jensen et al. 1995)
- Pain Catastrophising Scale (PCS) (Sullivan et al. 1995)
- Pain Self-Efficacy Questionnaire (PSEQ) (Nicholas, 2007)
- reduced pain catastrophizing (PCS; d = 4.94)) and increased use of pain coping strategies (CPIC - coping subscale; d = 1.34), relative to the control. These relative gains were maintained at 6-month FU as shown by the PCS (d = 4.94) and the CPIC-coping subscale (d = 1.74)
- No significant inter-group differences were found on the BPI, ODQ, PSEQ or other subscales of the CPIC

|                    |                         | Format: SH.                                                                                                                                                                                                                                                                                  | rctions in pain y diary limitations vaitlist ined at                                                                                                                                                                                                       |
|--------------------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                    | Outcomes                | Children & Adolescents. ]                                                                                                                                                                                                                                                                    | <ul> <li>At PL, significant reductions in pain intensity (as shown by diary d = 0.57) and activity limitations (d = 0.77) relative to waitlist control</li> <li>Benefits were maintained at 3-month FU (with no control group comparison at FU)</li> </ul> |
|                    | Pain outcome measure(s) | Name: Web-MAP. Country: USA. Authors: T. Palermo, A. Wilson, M. Peters, A. Lewandowski & H. Somhegyi. Web: http://www.webmap2.com/welcome/ Population: Children & Adolescents. Format: SH. Schedule: 8 weekly sessions. Availability: Freely accessible via research participation. RCTs: 1. | <ul> <li>Daily online pain diary<br/>(numeric scale)</li> <li>Child Activity Limitations<br/>Interview (CALI) (Palermo<br/>et al. 2004)</li> </ul>                                                                                                         |
|                    | Randomisation           | omhegyi. <b>Web:</b> http://www.web                                                                                                                                                                                                                                                          | a. Web-MAP $(n = 26)$<br>b. Waitlist control $(n = 22)$                                                                                                                                                                                                    |
|                    | Clinical screening      | . Peters, A. Lewandowski & H. So<br>ch participation. RCTs: 1.                                                                                                                                                                                                                               | Reported presence of recurrent pain. Clinical interview not conducted                                                                                                                                                                                      |
|                    | Referred by             | I. Palermo, A. Wilson, M<br>reely accessible via resear                                                                                                                                                                                                                                      | Physicians from<br>speciality care clinic                                                                                                                                                                                                                  |
| Jed                | Sample                  | Name: Web-MAP. Country: USA. Authors: T. Palermo, A. Wilson, M. Peters, A. Lewandowski Schedule: 8 weekly sessions. Availability: Freely accessible via research participation. RCTs: 1.                                                                                                     | Palermo <i>et al.</i> 48 children and (2009) adolescents aged 11–17 years ( <i>M</i> = 14.8 years; 72.9% female) attending a speciality care clinic                                                                                                        |
| Table 9. Continued | Year                    | Name: Web-MA.<br>Schedule: 8 weel                                                                                                                                                                                                                                                            | Palermo <i>et al.</i> (2009)                                                                                                                                                                                                                               |

SH, Self help; TA, therapist assisted; PI, post-intervention; FU, follow-up; d, Cohen's d (between-group)

The RCTs on 'Overcoming Bulimia Online' and 'Salut BN' yielded medium to large effect sizes within comparatively smaller samples. However, as both had clinically screened samples, there is arguably stronger evidence behind them than 'Student Bodies'.

## $cCBT\ programmes\ for\ stress$

One cCBT programme for stress, 'Stress & Mood Management', met this article's inclusion criteria (Table 7). This self-help programme has four sessions. It was developed in the United States and is currently only available if purchased by organisations on behalf of their employees. It has one RCT showing its efficacy, but the significance level (*p*-value) was relatively weak and the effect size was low. Furthermore, participants were not clinically screened and it was a self-referred (although large) sample.

#### cCBT programmes for insomnia

One cCBT programme for insomnia, 'SHUTi', met this article's inclusion criteria (Table 8). This self-help programme has six sessions. Developed in the United States, it is freely accessible by residents of Ireland through research participation only (via the website). It has one RCT with a clinically screened sample showing its efficacy. The effect size here was large but the study is limited by its small sample in which participants were self-referred.

#### cCBT programmes for pain

Three cCBT programmes for pain met this article's inclusion criteria (Table 9). Two of these programmes were developed in the United States, and the other was developed in Canada. One of the programmes, 'Pain-ACTION' (i.e. for chronic back pain management), is freely accessible online by residents of Ireland. However, the other two programmes are freely available in indirect ways – 'Help Yourself Online' can be accessed by contacting its authors and 'Web-MAP' can be availed of via research participation. 'Help Yourself Online' is delivered with therapist assistance, but the other two programmes can be completed on a self-help basis. 'Help Yourself Online' and 'Web-MAP' have seven and eight sessions, respectively, and 'Pain ACTION' is an unstructured programme.

All three programmes have one RCT demonstrating their efficacy. 'Pain ACTION's' RCT has the largest sample and effect sizes, and its sample was clinically screened. However, significant improvements were not made on several of its measures and its sample had self-referred participants. Although each yielded medium effect sizes, the other two programmes' RCTs are limited by the absence of clinical screening, the use of

| Table 10. cCBT programmes for alcohol misuse |                                                                          |                                         |                                                                                                                                              |                                                                                                                |                                                                                                                                                            |                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------|--------------------------------------------------------------------------|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Year                                         | Sample                                                                   | Referred by                             | Clinical screening                                                                                                                           | Randomisation                                                                                                  | Alcohol outcome measure(s)                                                                                                                                 | Outcomes                                                                                                                                                                                                                                                                                                    |
|                                              | Your Drinking. Country: Nally completed over 3 month                     |                                         |                                                                                                                                              | /www.lookatyourdrinking.com/                                                                                   | Population: Adults. Format: TA                                                                                                                             | with email communication. Schedule: 9                                                                                                                                                                                                                                                                       |
| Postel et al. (2010)                         | 156 adults aged 22–66<br>years (M = 45.3 years,<br>84% female)           | Self-applied via<br>website and adverts | Drink >15+<67units of alcohol per week (for females); drink >22+<99 units of alcohol a week (for males). Clinical interview not conducted    | <ul> <li>a. Look at your drinking (n = 78)</li> <li>b. Waitlist control (n = 78)</li> </ul>                    | <ul> <li>Retrospective (weekly) drinking diary</li> <li>Maudsley Addiction Profile, Health Symptom Scale (MAP-HSS) (Marsden <i>et al.</i> 1998)</li> </ul> | <ul> <li>At PI, Look at Your Drinking was significantly effective for reducing alcohol consumption as shown by the diary (<i>d</i> = 1.21), relative to the waitlist control</li> <li>It also improved health levels as shown by the MAP-HSS (<i>d</i> = 0.96), relative to the waitlist control</li> </ul> |
|                                              | . Country: Netherlands. Aut<br>: Freely accessible. RCTs: 1.             |                                         | eter, G. Schippers. Web: http://www                                                                                                          | v.jellinek.nl/english. <b>Population</b>                                                                       | : Adults. Format: SH. Schedule: 0                                                                                                                          | Online journal completed at own pace.                                                                                                                                                                                                                                                                       |
| Blankers et al. (2011)                       | 205 adults (age range not reported; <i>M</i> = 42.2 years, 50.1% female) | Self-applied via<br>website             | Alcohol Use Disorders Identification Test (AUDIT) (Saunders <i>et al.</i> 1993); drink > 14 standard drinks per week. Clinical interview not | <ul><li>a. SH Jellinek (n = 68)</li><li>b. TA Jellinek (n = 68)</li><li>c. Waitlist control (n = 69)</li></ul> | <ul> <li>Retrospective self-report</li> <li>AUDIT (Saunders <i>et al.</i> 1993)</li> </ul>                                                                 | • At PI, both SH ( $d = 0.36$ ) and TA Jellinek ( $d = 0.59$ ) were similarly and significantly effective for reducing alcohol consumption (as shown by self-report), relative to                                                                                                                           |

- the waitlist control. At 6-month FU, treatment benefits were maintained (with no control group comparison at FU)
- At PI, both SH (d = 0.27) and TA Jellinek (d = 0.59) were similarly and significantly effective for reducing alcohol consumption (as shown by the AUDIT), relative to the waitlist control. At 6-month FU, treatment benefits were maintained (with no control group comparison at FU)

non-standardised measures (e.g. pain diaries), and small sample sizes. The RCT on 'Web-MAP' had a physician-referred sample whereas the RCT on 'Help Yourself Online' had a self-referred sample.

#### cCBT programmes for alcohol misuse

Two cCBT programmes for alcohol misuse met this article's inclusion criteria (Table 10). Both of these programmes were developed in the Netherlands, and are accessible online by residents of Ireland. However, whereas 'Jellinek' is freely accessible, 'Look at Your Drinking' must be purchased for a negotiated fee. Moreover, the former can be completed on a self-help basis, whereas the latter is delivered with therapist assistance. 'Jellinek' is an unstructured, journal-style programme, whereas 'Look at Your Drinking' has nine sessions.

Both programmes have one RCT demonstrating their efficacy, with large, self-referred samples. Participants in each RCT were screened for alcohol use levels. 'Look at Your Drinking' yielded large effect sizes, whereas 'Jellinek' only yielded small-to-medium effect sizes. Both RCTs are limited in that they rely primarily on retrospective self-report for ascertaining alcohol consumption levels.

### Conclusions

This article identified 25 RCT-supported cCBT programmes that are delivered in English, via the internet. The highest number of programmes were for GA (n = 7) and depression (n = 6). Similarly, the highest number of RCTs (across the programmes) were for GA (n = 11) and depression (n = 10). These findings are in line with research that shows that most of the evidence for cCBT's effectiveness is for anxiety and depression (Spek et al. 2007; Andrews et al. 2010). These findings also complement NICE's best-practice guidelines that recommend the use of cCBT for mild-to-moderate anxiety and depression (NICE, 2006). Nevertheless, this article demonstrated that a wide variety of cCBT programmes for a range of mental health difficulties can potentially be availed of in Ireland, although for a set or negotiated fee for most programmes.

Various issues should be taken into account when interpreting the positive findings concerning cCBT. First, just 20% of the 35 indentified RCTs had participants who were referred to cCBT programmes by health professionals (mainly GPs), with the rest self-referred. Some research has indicated that self-referees to cCBT have better outcomes than those referred by mental health professionals, but worse outcomes than those referred by GPs (Mataix-Cols *et al.* 2006). Therefore, it is likely that the referral source influenced

the findings, although in an unclear manner. Second, little or no follow-up data were included in several of the RCTs. If such data are not available for a particular cCBT programme, clinicians should perhaps only refer service users to it as a precursor or adjunct to 'treatment as usual'. Third, 80% of the identified programmes were for adults only, and some presentations (e.g. PTSD, stress and insomnia) had only one programme each. Thus, although it has wide applicability, cCBT may not be suitable for various client groups. Finally, as the authors of the cCBT programmes were also authors on most of the RCTs, as has been reported in studies concerning face-to-face CBT (Cuijpers et al. 2010), it is possible that a publication bias may have led to negative results for particular cCBT programmes not being published.

Irish clinicians and service users may also find it interesting to note that various cCBT programmes have also been developed in Ireland in recent years. For example, the online mental health promotion project, 'Headsup' that is run by the Rehab Group, provides a cCBT skills programme (HeadsUp). The Technology Enhanced Therapy project set up collaboratively by the National Digital Research Centre (Trinity College Dublin) and the charity Parents Plus also provides online programmes (entitled 'SilvercloudHealth') for depression and eating problems for adolescents and young adults (SilverCloud). However, unlike the programmes detailed in this review, these programmes have as yet no published RCTs demonstrating their effectiveness, though two RCTs are reportedly underway.

Looking to the future, the HSE is funding a 2-year collaborative stepped-care and high-throughput service in Roscommon for adults with mild-to-moderate mental health difficulties. A key part of this pilot is the planned development by the psychology services of HSE-owned cCBT programmes for common mental health difficulties. In-house ownership of such programmes will substantially reduce the cost of future provision of such programmes to our service users, and will facilitate adapting these over time to better meet evolving or emerging clinical needs.

To conclude, NICE (2006) recommends that cCBT programmes such as those identified in this article are best administered by clinicians as part of a stepped-care model alongside low-intensity interventions such as bibliotherapy and brief CBT (Twomey & Byrne, 2012). Referring service users to these programmes could be beneficial, especially in the light of our underdeveloped mental health services and the limited availability of one-to-one CBT. Before choosing a particular programme, clinicians and service users are advised to examine its effectiveness, particularly as profiled in this article's tables. It is time for us to log on to cCBT and to 'step up' or expand our mental health services.

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