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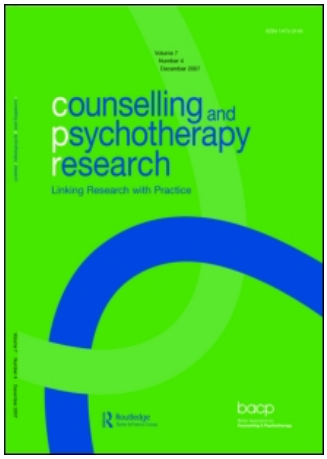

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The role of computer-aided psychotherapy within an NHS CBT specialist service

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RESEARCH ARTICLE

The role of computer-aided psychotherapy within an NHS CBT specialist service

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Abstract

To date, the feasibility of computer-aided psychotherapy as an intervention has only been recognised in primary care practice. The present study sought to evaluate the impact of 'Beating the Blues' (BtB), an established computerised cognitive behaviour therapy (CCBT) self-help programme for the management of anxiety and depression, within an NHS CBT specialist healthcare centre. Of the 555 service users who used BtB as part of routine care, with follow-up assessment at six to eight weeks, 71% completed all eight sessions. Statistically significant differences on the Beck Depression Inventory-II (BDI-II) and Beck Anxiety Inventory (BAI) were found in completer and intention-to-treat analyses; 50% of completers achieved reliable change on the BDI-II and approximately 25% of completers achieved reliable and clinically significant change on both measures. Outcomes were benchmarked against outcomes in studies of routine face-to-face CBT. These findings provide evidence that BtB may be of value to service users in secondary mental healthcare centres, alleviating current burdens on public health and therapeutic resources. Future research directions should include examining which factors influence individuals' decisions to try computer-aided psychotherapy, which individuals are best suited to using these interventions, and why some users drop out prior to programme completion.

Keywords: *CBT, computer-aided psychotherapy, NHS secondary care, self-help*

Introduction

Almost one in six of the UK adult population suffers from depression, anxiety, or both (Singleton, Bumpstead, O'Brien, Lee, & Meltzer, 2000), yet a shortage of trained therapists means that most waiting list times for therapy exceed nine months and in some areas there are simply no therapists available at all (London School of Economics, 2006; Shapiro, Cavanagh, & Lomas, 2003). Accordingly, authorities and advisory bodies are focusing on achieving a reduction in waiting times and improvements in waiting list management (Department of Health, 2004; Healthcare Commission, 2005).

Over the last few years, a range of initiatives have been introduced in an attempt to meet these aims. However, although a recent five-year review of the National Service Framework for Mental Health (NSF) acknowledged that the availability of psychological services has increased (Department of Health, 2004), long waiting lists still remain in some services. The review recommended that the National Institute for Mental Health in England investigate increasing the availability of 'talking treatments', including exploring 'self-help technologies' (p. 72).

'Beating the Blues' (BtB) is an interactive multimedia system enabling service users to self-administer cognitive behaviour therapy (CBT) with minimal therapeutic support. The clinical- and cost-effectiveness of BtB has been established in randomised controlled and naturalistic research studies (Cavanagh et al., 2006; McCrone et al., 2004; Proudfoot et al, 2004). Consequently, it has been recommended by the National Institute of Health and Clinical Excellence (NICE, 2006) as a treatment of choice for mild to moderate depression in primary care.

However, the shortage of trained therapists extends beyond primary care, and waiting lists can be of an equally unacceptable length in secondary mental healthcare services, where service users are often more severely depressed or anxious.

In 2001, in order to meet the demands of long waiting lists in the context of limited service capacity, the Chelmsford and Essex Centre's specialist CBT unit implemented BtB as part of an innovative model of care. Their aim was to develop an alternate CBT delivery model which could reduce waiting lists and meet the demands for increased service capacity in specialist CBT centres. This study examines user data collected during the first 60 months of service, in

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What does this study explore?

- What is the uptake rate of service users referred to the computerised CBT (CCBT) programme?
- What is the rate of dropout of the *Beating the Blues* programme in a NHS secondary care service?
- Who is more likely to dropout of the programme?
- What rate of service users completing *BtB* need immediate referral for further interventions?
- What are treatment outcomes for this population of service users?
- What is the effectiveness of *BtB* in a specialist CBT Centre?

order to establish the use and effectiveness of BtB in a secondary healthcare service.

Methodology

This study was granted ethical approval by the West Essex Local Research Committee.

Participants

From May 2001 until the end of April 2006, the Chelmsford and Essex Centre's specialist CBT unit offered selected service users referred with anxiety and/or depression, who were on the waiting list for face-to-face CBT, a place on the BtB programme. During this 60-month period, 829 people referred to the CBT service were offered BtB, of whom 555 (67%) took up the offer of computer-aided psychotherapy.

The inclusion criteria for participants were:

- age 18 years or above
- referred with mental health issues to cognitive behavioural therapist for assessment
- assessed by a CBT therapist using clinical guidelines and expert opinion as likely to benefit from BtB

The exclusion criteria were:

- age below 18 years
- active suicidal ideation
- currently receiving psychotherapy for anxiety or depression from a psychiatrist, psychologist, therapist, or counsellor
- drug or alcohol dependence
- insufficient command of English to follow BtB
- primary diagnosis of OCD
- severe learning disability or organic mental illness

Table I illustrates the demographic data collected from participants.

The mean pre-BtB Beck Depression Inventory-II score was 23.7 ($n = 304$, $SD = 11.2$), and the mean pre-BtB Beck Anxiety Inventory score was 20.5 ($n = 307$, $SD = 11.3$). Service users reported problem duration ranging from six months to 55 years ($n = 291$, mean = 10.5, $SD = 9.6$).

Table I. Demographic data.

Characteristic	Number in group	Overall percentage of group
Age in years: mean (*SD*) (*n*)	40 (12) (555)	
Age range (*n*)	18–70 (555)	
Gender (*n*)	555	100%
Female	340	61.3%
Male	215	38.7%
Ethnic group (*n*)	448	80.7%
British	436	78.6%
Irish	1	0.2%
Northern European	4	0.7%
British Asian	1	0.2%
Eastern European	1	0.2%
Chinese	1	0.2%
Any other ethnic background	3	0.5%
BDI rated group (*n*)	304	54.8%
Severe	107	19.3%
Moderate to severe	85	15.3%
Mild to moderate	52	9.4%
Normal	60	10.8%
BAI rated group (*n*)	307	55.3%
Severe	71	12.8%
Moderate to severe	85	15.3%
Mild to moderate	98	17.7%
Normal	53	9.5%

The CBT specialist service

The service receives referrals from both primary and secondary care. The catchment population is both urban- and rural-based, with the majority being white British middle and working class. A full-time equivalent of four CBT therapists work at the centre. In the year 2000, prior to the implementation of BtB, the service received 500 referrals from both primary and secondary care services. The waiting time from referral to treatment for face-to-face CBT was 12–18 months. The average waiting time from referral to assessment was about four months.

During the study the waiting time following assessment for BtB was approximately two to three months. Any service users referred with anxiety and depression, and placed on the waiting list for face-to-face CBT, were assessed for suitability for computer-aided psychotherapy by a CBT therapist. If appropriate, they were offered the choice of enrolling on the BtB programme, and given an opportunity to watch the 17-minute introductory BtB video in order to inform their choice.

Sessions were offered in a private room (in a mental health setting) with a trained administrator on hand to manage any concerns. This administrator was not clinically trained, so she was only responsible for dealing with technical and structural issues, such as rescheduling appointments, reprinting handouts, or managing printer problems. She

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also carried out the important functions of meeting and greeting service users, checking their progress reports, and alerting a trained therapist if face-to-face clinical intervention was urgently required. During the session users worked alone on the programme. Once they had completed their session, they notified the trained administrator (or a member of the therapeutic staff), and their progress report was checked for suicidal risk indicators before they left the centre.

Following completion of the BtB intervention, service users were offered a follow-up appointment with a CBT therapist at the centre. This appointment, six to eight weeks following completion of BtB, was used to discuss their progress and any further help required.

Design

This was a naturalistic study of an eight-session computerised CBT programme, BtB, which was offered alongside a place on the waiting list for face-to-face CBT in the Chelmsford and Essex CBT Specialist Centre. Service user baseline clinical data were established via clinical assessment, and compared with outcome data collected at the service users' follow-up assessment sessions, six to eight weeks following completion of BtB.

The computerised CBT programme

BtB uses multimedia techniques and comprises eight one-hour interactive therapy sessions. Each session integrates both cognitive and behavioural techniques, and homework tasks are set by the programme for the client to complete during the week.

Measures used

Demographic information was routinely collected for all service users before commencement of the programme, as was clinical information. Clinical data were collected via the Beck Depression Inventory-II (BDI-II) and the Beck Anxiety Inventory (BAI).

The BDI-II (Beck, Steer, & Brown, 1996) is a 21-item questionnaire. The score achieved on the questionnaire indicates depression levels: 0–13 indicates minimal depression, 14–19 mild depression, 20–28 moderate depression, and 29–63 severe depression. The cut-off point employed by Westbrook and Kirk (2005) was used to determine clinical or non-clinical outcome: a score of 11 or above was used to indicate clinical caseness, facilitating comparison with recently published benchmarking data.

The BAI (Beck, Epstein, Brown, & Steer, 1988) contains 21 items describing symptoms associated with anxiety. Scores range from 0 to 63, with lower scores reflecting lower anxiety: 0–9 indicates a normal level of anxiety, 10–18 mild to moderate anxiety, 19–29 moderate to severe anxiety, and 30–63 severe anxiety. Again, a cut-off score was used to determine non-clinical vs. clinical outcome categories: a score of 11 or above indicated clinical caseness (Westbrook & Kirk, 2005).

The BAI and BDI-II measures were administered before the service user's first session of BtB, and at their post-BtB follow-up assessment session.

Analyses

The differences in service users' BAI and BDI-II scores between pre- and post-intervention were analysed using paired two-tailed *t* tests. Frequencies and mean scores were obtained in order to describe changes in clinical categories and attendance rates, and chi-squared tests and analysis of variance were used to explore any differences between groups. Uncontrolled pre–post effect sizes were calculated to establish the magnitude and direction of the treatment's effect. All pre–post effect sizes were calculated using the formula: $\text{mean}_{\text{start}}–\text{mean}_{\text{end}}/SD_{\text{start}}$ (Shapiro et al., 1994).

The percentage of users meeting both reliable and clinically significant change criteria is also reported. Westbrook and Kirk (2005) suggested that, using Jacobson's clinical significance analysis, score changes on the BDI and BAI of between 9 and 11 points were needed in order to indicate reliable and clinical change. Service users whose score had changed by 10 or more points from pre-BtB to post-BtB were seen to have reliably improved or deteriorated. Those who had reliably improved and whose score had gone from 11 or more pre-BtB down to 10 or below post-BtB were considered 'recovered'. Clinical significance analyses were carried out only on those patients whose pre-BtB scores on the BDI or BAI were above the normal cut-off of 10 (otherwise it would have been very difficult to show clinical 'recovery').

Results

Adherence rates

Of those who started the programme, 394 (71%) completed all eight sessions, as 161 (29%) dropped out before completing. The average number of sessions per user (including completers) was 6.7 ($n = 550$). The average number of sessions for non-completers was 3.5 ($n = 157$).

Referrals on from BtB

After completing all eight sessions of BtB, 72 (19%) users ($n = 379$) were referred on for face-to-face CBT, six (1.6%) were referred on for group therapy, and seven (1.8%) were referred on to another service within the community mental health team. In contrast, of those not completing BtB ($n = 161$), 153 (95%) received follow-up treatment; 144 (90%) users received individual face-to-face CBT, six (3.7%) attended group therapy, and three (1.8%) were referred on to another service. Those who were not

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Table II. Research completers' means, and 95% confidence interval pre-BtB and at therapy outcome, for the BDI-II and BAI.

Outcome measure	Pre-BtB mean (*SD*)	Post-BtB mean (*SD*)	Mean difference	95% confidence interval of the difference	*t* (*p*)
BDI ($n=244$)	24.2 (11.1)	15.8 (11.0)	8.4	7.2–9.7	13.3 ($< .001$)
BAI ($n=252$)	20.8 (11.3)	14.9 (11.0)	5.9	4.6–7.2	8.8 ($< .001$)

referred on to another treatment were discharged from the service.

The average number of individual face-to-face sessions required after using BtB was 3.5 (both completers and non-completers; $n=110$; the completers actually only made up three of the cases reported in this analysis), with a range of one to seven. This represents a significant reduction in the average number of face-to-face sessions, currently 15, for service users not accessing BtB at this centre.

Who drops out of the programme?

No statistically significant differences were found between the completers and non-completers in terms of age, duration of problem, anxiety severity, depression severity, or gender.

Treatment outcomes

Statistical significance and effect size of change. Table II presents the means and 95% confidence intervals for the completers on the BDI-II and the BAI. A statistically significant difference was found between pre- and post-BDI scores ($t[243]=13.3$, $p<.001$, $SD=9.9$; pre–post effect size = .85; 95% CI .71–1.00) and between pre- and post-BAI scores ($t[251]=8.8$, $p<.001$, $SD=10.7$; pre–post effect size = .55; 95% CI .42–.69).

Table III presents the intention-to-treat analysis, utilising the last-observation-carried-forward (LOCF) approach. This method serves to reduce the potential bias introduced by excluding non-completers, who may represent individuals who have found that the package or service does not meet their needs. As would be expected, differences in the mean scores were less pronounced in this analysis, with a reduction of 6.9 BDI points ($SD=9.5$) over the approximately 16 weeks (effect size = .72; 95% CI .60–.85), and a reduction of 4.9 BAI points ($SD=10.0$; effect size = .50; 95% CI .38–.62).

Reliable and clinically significant change. Table IV presents uncontrolled pre–post effect sizes and the number of completer and intention-to-treat participants showing reliable and clinically significant change on the BDI-II and BAI outcome measures.

Who benefits from BtB?

Co-morbidity of anxiety and depression was common within this user group. Table V illustrates the number of service users in each clinical category. Using these categories, chi-squared analyses revealed that reliable change on the BDI and BAI and clinical change on the BDI did not appear to be related to service users' initial clinical categories. The analysis for clinical change on the BAI was not viable, as three of the cells had counts of less than five. No statistically significant differences were found in age, duration of problem, or gender in terms of relevant reliable change and clinical outcome categories.

Discussion

These results demonstrate that computer-aided psychotherapy, administered with minimal supervision in a CBT specialist unit, can be associated with positive clinical outcomes for service users suffering from chronic anxiety and depression. These outcomes appear to be independent of age, gender, clinical severity, or problem duration. Medium pre–post effect sizes (Cohen, 1988) were obtained on the BAI outcome measure, and medium to large pre–post effect sizes were found for both completers and non-completers on the BDI-II. Approximately one-quarter of the completers achieved both clinical and significant change on each outcome measure, with roughly one-fifth attaining these changes in the intention-to-treat analyses.

Westbrook and Kirk's (2005) benchmarking data paper examining the outcomes of face-to-face CBT offered in routine care indicated a pre–post effect size of .67 on the BDI and of .52 on the BAI. These are very similar to the pre–post effect sizes revealed in this study. In Westbrook and Kirk's study, 34% of the participant sample 'recovered' (made a reliable and clinically significant change) on the BDI measure, and

Table III. LOCF intention-to-treat means, and 95% confidence interval pre-BtB and at therapy outcome, for the BDI-II and BAI.

Outcome measure	Pre-BtB mean (*SD*)	Post-BtB mean (*SD*)	Mean difference	95% confidence interval of the difference	*t* (*p*)
BDI–ITT analysis ($n=298$)	24.3 (11.4)	17.4 (11.8)	6.9	5.8–8.0	12.5 ($< .001$)
BAI–ITT analysis ($n=301$)	20.6 (11.4)	15.6 (11.2)	4.9	3.8–6.0	8.6 ($< .001$)

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Table IV. BDI-II and BAI pre–post effect sizes, and frequency and percentage of participants showing reliable and clinical change, for both completer and intention-to-treat analyses.

Sample	Pre–post effect size	Reliable and clinically significant improvement *n* (%)	Reliable improvement only *n* (%)	No reliable change *n* (%)	Reliable deterioration *n* (%)
Completers of post BDI-II measure ($n=210$)[1]	0.85	55 (26%)	52 (25%)	96 (46%)	7 (3%)
Completers of post BAI measure ($n=195$)[2]	0.55	44 (23%)	28 (14%)	116 (59%)	7 (4%)
Intention-to-treat post BDI-II measure ($n=267$)	0.72	55 (21%)	52 (19%)	153 (57%)	7 (3%
Intention-to-treat post BAI measure ($n=238$)	0.50	46 (19%)	26 (11%)	158 (66%)	8 (3%)

Note: [1]Number of completers recording clinical caseness on pre-BDI-II measure; ITT figures will also only include service users who exhibited pre-BDI-II clinical caseness; [2]Number of completers recording clinical caseness on pre-BAI measure; ITT figures will also only include service users with recorded pre-BAI clinical caseness.

31.5% 'recovered' on the BAI measure. These figures compare favourably with the current findings. The percentage figures here for reliable change among completers (51%) and intention-to-treat service users (40%) on the BDI-II correspond closely to Westbrook and Kirk's (2005) reliable change percentage of 47.9% for all patients on the BDI. As would be expected, this study's reliable change and 'recovery' percentages were lower than those for face-to-face therapeutic interventions; however, they still represent a desirable change in outcomes that is worth noting.

Reliable deterioration percentages of 3% and 4% on the BDI-II and BAI respectively for intention-to-treat and completers were only slightly higher than those reported for face-to-face CBT therapy by Westbrook and Kirk (2005; 2.1% and 3.1% respectively). It is important that there is awareness among practitioners that deterioration is a reality. Efforts need to be made to identify whether there are any particular characteristics that separate individuals that deteriorate from those that improve using computer-aided psychotherapy. This knowledge would help to progress referrals to different therapeutic interventions.

The uptake rate of BtB as a treatment choice was high (67%), as were completion rates (71%). Another UK-based study of computer-aided psychotherapy (Proudfoot et al., 2004) found a 67% take-up from GPs' referrals for computer-aided psychotherapy, while in a more recent study 60% of 606 referrals to a primary mental health team in Warrington elected to opt in to a self-help service (Fletcher, Lovell, Bower, Campbell, & Dickens, 2005). In contrast, a further study discovered that only 22 out of 78 (28%) referrals to a clinical psychology service expressed interest in the self-help clinic by attending the initial screening interviews (Whitfield, Hinshelwood, Pashely, Campsie, & Williams, 2006). It is the authors' contention that positive attitudes in service providers influence uptake immensely. As such, further research into the determinants of the uptake of computer-aided psychotherapies is warranted.

Table V. Number of users in each category for anxiety and depression pre-BtB (using 11 or above as clinical cut-off score on the Beck scales).

Clinical category	*n* (%)
Purely depression	47 (15.7)
Purely anxiety	17 (5.7)
Anxiety and depression	222 (74.2)
Neither	13 (4.3)

Adherence rates were also high, with 71% of service users completing all eight sessions. Overall, service users attended an average of 6.7 sessions. As a point of comparison, in the primary care sample of the CORE-OM national database (Evans, Connell, Barkham, Marshall, & Mellor-Clark, 2003), 61% managed planned treatment endings. Randomised control trials of computer-based treatments indicate that between 57% (Marks, Kenwright, McDonough, Whittaker, & Mataix-Cols, 2004) and 70% (Proudfoot et al., 2004) of users complete the intervention. In a recent open trial Cavanagh et al. (2006) found that 62% of users completed all eight of the BtB sessions.

The authors' experience of attitudes in primary care is that there is a belief that service users with more severe anxiety and/or depression (of the kind typically referred on to specialist services, such as the Chelmsford and Essex Centre) will not be motivated enough to complete BtB. Consequently, they are frequently not referred to the programme even if medication is the only other viable option. The results of this study suggest that, contrary to these expectations, dissemination of computer-aided psychotherapy may be appropriate as part of the first step in routine care in secondary mental healthcare centres.

Use of BtB also appeared to reduce markedly the number of face-to-face sessions required. Only 21.3% of those users who completed BtB were referred on for further treatments. Of all those requiring face-to-face CBT after using BtB, only 3.5 sessions on average were needed instead of the usual 15. As such, BtB presents as a feasible solution to the current shortage of CBT therapists at all levels of care for depression and anxiety. It is important to note, however, that service users not using BtB were possibly experiencing more severe or complex mental health needs than those offered and doing the programme. Systematic research into these resource use issues is needed.

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What does this study tell us?

- *Beating the Blues*, administered with minimal supervision in a CBT specialist unit, can be associated with positive clinical outcomes for service users suffering from anxiety and depression.
- Uptake and completion rates were fairly high and similar to those of face-to-face therapy.
- Adherence to the programme appears to be independent of age, gender, duration or severity of anxiety and/or depression.
- Only about 1/5 of completers need referral on for further face-to-face CBT: an average of 3.5 sessions.
- The service capacity of the CBT specialist centre was increased by approximately 50% over the 5 years that *BtB* was used as part of the treatment options within the centre.

Although the waiting list times in this service have remained much the same over the last six years (although closer to 12 than 18 months now), the service has seen an almost 50% increase in referrals (753 in 2006). By using BtB as an integral part of the specialist service treatment pathway, the service has managed to control waiting list times while, as stipulated by the Department of Health (2004), increasing capacity for effective treatment for service users. Gournay, Denford, Parr, and Newell (2000) estimated that each CBT nurse completes 70 patient treatments a year. If this is the case then an alternative proxy estimate of the impact of BtB is that the service added to its capacity 80 completed service user treatments per year, which is roughly equivalent to 1.1 CBT nurses' caseload. Arguably, there are differences between computer-aided CBT and face-to-face work with a CBT nurse therapist; however, the ability of BtB to increase service capacity markedly cannot be ignored.

Study limitations

Despite the magnitude of the effect sizes observed here, without a non-treatment group it would be premature to conclude that the improvements observed were absolutely attributable to the intervention itself. The current findings need to be backed by a randomised controlled trial. The generalisability of this study's outcomes is of course dependent on the representativeness of the consenting service users in the mental health setting described. Further information regarding chronicity, co-morbid physical conditions, medication, and previous treatments may strengthen the generalisability of the results.

The present study employed the LOCF method of dealing with missing data to enable an intention-to-treat analysis. Although this method can guide practitioners as to the probable clinical impact for BtB service users, it does have a number of shortcomings (Streiner & Geddes, 2001). By assuming no improvement for service users who do not complete the post-intervention outcome measures, the method may underestimate both the true extent of the change and the variation in outcomes associated with the intervention. Acknowledging this limitation, the presented intention-to-treat outcomes for the BDI and BAI should be interpreted with caution.

Longer-tem follow-up data are therefore essential for providing further information regarding the extent and sustainability of the clinical improvements shown to be achievable through the use of BtB in this particular service.

Research implications

Further research should explore which users opt in to using the BtB programme, and the reasons why users drop out of the programme before completion. Other variables, which have not been measured here, such as motivation levels and attitudes towards treatment, could play a significant role in the decision to try computer-aided psychotherapy. Qualitative approaches could assist in exploring these issues by providing richer reflections of service users' perspectives. Medication, level of employment, and co-morbid clinical presentations may also affect clinical outcomes. Efforts also need to go into identifying the characteristics that separate those that deteriorate from those that improve using computer-aided psychotherapy. Being able to recognise and manage these issues successfully could potentially increase adherence rates, improve clinical outcomes, and decrease demands on therapists.

Another pertinent area for research regards the outcomes of users discharged without any further intervention after using BtB. Do they return needing further interventions? Do they return just to 'top up' on the BtB intervention by repeating some of the sessions? Longer-term follow-up data will be vital in providing further information regarding the strength of the clinical improvements shown to be achievable through the use of BtB.

Conclusions

As Jacobs et al. (2001) expressed in their paper examining computer-based versus traditional individual psychotherapy, there is a concern among therapeutic practitioners that computers are being seen as a replacement for traditional therapy, despite the clinical, legal, ethical, and practical concerns they raise. These issues have been discussed by numerous authors (e.g., Cavanagh, Shapiro, & Zachs, 2003; Marks, Cavanagh, & Gega, 2007; NICE, 2006; Proudfoot, 2004). All reach the same conclusion: professionally evaluated computer-aided psychotherapy programmes, if correctly implemented and managed by trained staff, can be very effective as a first step in mental healthcare. The BtB programme should never replace the mental health practitioner, but in the case

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of common mental health problems it can offer rapid access and clinically significant benefit as a supported self-help intervention.

NICE (2006) has stated that all primary care trusts must be able to offer computer-based CBT as a treatment choice for anxiety and depression by 31 March 2007. However, these interventions do not necessarily need to be limited to primary care. They also have the potential to be used effectively to increase service capacity in special CBT services. As long as mental healthcare practitioners refer, assess, monitor, and manage service users appropriately, always bearing in mind that BtB is in fact an influential therapeutic tool, many of those who had only a long wait and amplified symptom severity to look forward to will have a strengthened chance of recovery.

Biographical notes

Despina Learmonth is a chartered health psychologist who recently completed her professional doctorate in health psychology at City University in London.

Jo Trosh is a trained CBT therapist with 25 years of experience of working with patients. She is currently the head therapist in the CBT Department of the Chelmsford and Essex Centre.

Sadik Rai was awarded his MSc in health psychology two years ago, and now works as an independent researcher and part-time psychology teacher.

Janet Sewell has worked as a trained specialist administrator with the 'Beating the Blues' programme ever since it was launched as a service in 2001.

Kate Cavanagh is a chartered psychologist in the Northumberland, Tyne and Wear NHS Trust.

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