An evaluation of classroom-based cognitive behaviour therapy teaching: change in the knowledge, skills and confidence of first-year clinical psychology trainees.

This study evaluated CBT teaching on a clinical psychology programme by exploring changes in trainees' knowledge and self-rated competency. Improvements in CBT knowledge and perceived skills occurred across the first year of training, which trainees attributed to classroom-based teaching.

The British Psychological Society (BPS) requires that, by the end of training, clinical psychologists have an 'ability to integrate and implement therapeutic interventions based on knowledge and practice in at least two evidence-based models of formal psychological therapy. This must include cognitive-behaviour therapy.' (BPS, 2014, p 23). These clinical skills will be learnt on placement, under the supervision of experienced practitioners, but are also the focus of considerable teaching time. Whilst programmes need to demonstrate that these interventions are covered by the curriculum, the BPS does not instruct courses how to teach clinical skills.

The teaching of interventions such as cognitive-behaviour therapy (CBT) on clinical psychology programmes has not been extensively evaluated. Classroom-based teaching is designed to develop trainees' clinical skills and is informed by education theory and practice (e.g. Race, 2014). However, as Baillie et al. (2011) argue "existing training programmes are based on very little empirical evidence" (p92). Whilst we know that trainees perceive interactive methods to be more effective (Scott, Pachana & Sofronoff, 2011), it is not clear which teaching methods are associated with actual skills acquisition.

Some clarity on the efficacy of specific teaching and training practices in CBT training has been provided by Rakovshik and McManus's (2010) review: opportunities to practice (i.e. role-plays) are essential to develop therapists' skills. This is in line with Bennett-Levy, McManus, Westling and Fennell's (2009) survey of clinicians, which indicated that didactic methods are most useful for acquiring knowledge; modelling and role-play are necessary for procedural skills acquisition; and self-experiential and

reflective methods are most useful for developing interpersonal skills. Furthermore, teaching which emphases practicing clinical skills, with an opportunity to reflect on practice, fits with learning theories (e.g. Kolb, 2014) and models of therapist skill development (Bennett-Levy, 2006).

Consistent with this, CBT teaching on the programme at Leeds involves both didactic and experiential elements (described below). Core CBT teaching occurs in the first year of training but further CBT theory and practice will be covered throughout the curriculum where lecturers deem appropriate. Trainee feedback across several cohorts suggests that the core CBT sessions are well-received and that most trainees believe that this teaching helps develop their clinical competency. However, given the lack of an evidence base for teaching specific therapy skills on clinical psychology programmes, this study was designed to explore whether trainees' knowledge and self-rated competency in CBT improved over their first year of training. It also examined whether trainees attributed any improvements in their knowledge and competency to the classroom-based teaching.

Method

Participants

The participants (n=16) were psychologists in their first year of clinical training. Their ages ranged from 25-39 years of age. The majority were female (14) and most were white British (13).

Teaching content and delivery

The CBT curriculum is based on the competency framework devised by Roth and Pilling (2007). Sessions cover skills in assessment, formulation, Socratic technique and behavioural experiments. This teaching is influenced by the conceptualisation of CBT skills outlined in the CTS-R (Blackburn et al., 2001) with particular attention paid to the building of therapeutic alliance. The model-specific competencies outlined by Roth and Pilling (i.e. for treating depression, panic disorder, OCD etc.) are taught, mostly by external lecturers with relevant expertise. The teaching is overseen by a member of the programme team and lecturers are encouraged to follow a session structure with didactic and experiential elements. This includes information-giving (e.g. research evidence supporting the approach); modelling of key skills (e.g. video/live role-play observation); opportunities for practice in role-plays; and time for discussion and reflection. This structure is in line with the evidence reviewed above. Handouts of key learning points and references are provided for each session. The core CBT teaching at the time of the study was delivered over 13 sessions (half days) between October and March.

Procedure and Measures

The questionnaire booklet described below was administered on 3 occasions; in the first session of CBT teaching (October), in the last session (March) and at the end of the academic year (July). Whilst participation was voluntary, all trainees consented and completed the measures at all 3 times. At the final session participants were invited to take part in the semi-structured interview; 10 consented.

Questionnaire booklet

Multiple Choice Questionnaire. We considered using a pre-existing multiple choice questionnaire (MCQ) to measure CBT knowledge, however, it was clearly only useful to include items which were covered by teaching on our course. For this MCQ, relevant items were taken, with retrospective permission, from the MCQs of Myles and Milne (2004) and Maunder, Milne and Cameron (2008), which both have good reliability. The final order and wording of the questions were influenced by feedback from piloting. The MCQ comprised of 15 questions with 1 correct answer from a choice of 4; high scores indicate good knowledge.

Self-rating measures. These were designed for the study and comprised of ratings of general CBT skills, disorder-specific CBT knowledge and confidence in treating these problems. The skills measure was based on items in the CTS-R (Blackburn et al., 2001): agenda setting, eliciting feedback, collaboration, pacing, interpersonal effectiveness, facilitation of emotional expression, guided discovery, conceptualisation, focus on key cognitions, application of cognitive techniques, application of behavioural techniques, and use of homework. Participants rated themselves on each of the 12 skills on a 10cm visual analogue scale (VAS) from incompetent to competent.

"Knowledge of" and "confidence treating" were rated for each of the 10 specific models taught on the course (e.g. CBT for depression) again using a 10cm VAS (very poor to very good).

Given the alignment of the self-report measure to teaching content, face validity was good and there were no changes following piloting. Scores on each VAS were totalled and an average (out of 10) calculated for each participant's skills, knowledge and confidence.

Semi-structured interviews

The semi-structured interviews aimed to elicit participants' views of improvements in their skills, knowledge and confidence (including reflecting on scores from the above measures) and what they thought had contributed to any improvements. The interview also asked participants what they thought made teaching effective. Interviews lasted around an hour. Data was analysed with summative and thematic content analysis as outlined by Gillham (2008).

Results

Changes in knowledge and self-report measures

As a group, scores on the MCQ improved and average self-ratings of skills, knowledge and confidence improved across the year (see Table 1). The MCQ scores and VAS averages were not normally distributed, therefore the Wilcoxon signed-rank test was used to examine whether improvements were significant. Changes on all the measures across the first year were small, but in the predicted direction and statistically significant.

(Table 1 here)

Semi-structured interviews

The 10 participants had differing experience using CBT in supervised practice in their first year: 1 reported having none; 6 reported minimal opportunities; and 3 reported using CBT with at least one client.

The interview data was used to explore:

Whether CBT competence had improved: All participants (n=10) reported improvements in their CBT competence. Specifically, improvement in theoretical understanding was described by 8 participants, with quotes such as *"…good understanding of models using CBT for different problems…"*. The influence on their clinical practice was described by 6 participants, for example *"…starting to identify* whether certain techniq*ues might be useful for clients…"* Confidence using the model was described as improved by 3 participants.

Attributions regarding improvements: Most participants (n=8) articulated that teaching was responsible for improvements made, with quotes such as: *"Teaching was greatly helpful to pull together everything that I need to know about CBT as a model"; "Biggest improvement was my knowledge and that came from teaching"; "Teaching gave me knowledge and a base to begin with…"*

Two participants reported that the teaching had not led to change. However, they both reported that their knowledge and skills had already been good, due to previous training and experience, and as such the teaching did not add anything new.

Improvements in CBT skills were also attributed to placement experiences (3 participants) and supervision (1 participant).

CBT teaching: what helped learning? Experiential exercises were regarded by most participants as being helpful (n=6), in particular the modelling of CBT skills was valued: *"Observations, role-plays, and opportunities to practice skills were very helpful"*. Half the sample (n=5) commented on the value of lecturers' specialist areas: they particularly appreciated the opportunity to ask questions about the application of CBT skills in clinical practice.

Participants (n=4) (one of whom reported this three times) articulated that the use of interactive and experiential style led them to engage well with teaching and retain information. Resources (handouts, reference lists and case studies) were also valued by 4 participants (one of whom reported it four times). This was described as being influential in their learning and providing further reading about the clinical applications of CBT.

Discussion

The findings, on both an objective measure of CBT knowledge and trainees' perceptions of their skills, knowledge and confidence, show that the group demonstrated significant improvement over the first year of training. Whilst trainees' learning will have been influenced by other teaching, preparation for assignments and placement experience, it seems likely that the core CBT teaching had an impact. In

support of this, most of the improvement in scores occurred between the first and last CBT teaching session. In interviews, theoretical understanding was the most frequently reported improvement in CBT competence and improvements were most frequently attributed to teaching. Furthermore, in interviews all participants identified improvements in their CBT knowledge and skills, despite mixed opportunities to practice on placements. Whilst this is a small study with a single cohort, we think the findings represent a first step in evidencing the usefulness of classroom-based therapy skills teaching in the context of clinical psychology training programmes. The CBT training literature suggests that supervised practice or further reflection is necessary to lead to changes in observable clinical skills (Mannix et al., 2006; Bennett-Levy & Padesky, 2014). Our finding that improvements continued beyond the end of the core CBT teaching supports the idea that trainees' ongoing clinical experience has an important impact.

Whilst it seems appropriate that scores of self-rated skills, knowledge and confidence do not reach the maximum possible, we were disappointed that scores on the MCQ were not higher by the end of teaching (given that the questions were aligned to teaching content). In hindsight, it seems likely that the teaching did not prepare trainees well for being tested on their knowledge; for example, there is little emphasis on repetition or rehearsal and the trainees did not revise prior to completing the measures.

In terms of best practice for teaching clinical skills, the interview findings emphasise the value of experiential learning (particularly modelling and practice of clinical skills),

so courses should continue to use and develop these training practices (see Bennett-Levy et al., 2009, for discussion). Interactive teaching style was also described as important and the trainees particularly valued the opportunity to ask lecturers about real-life practice.

Limitations to the study include that the sample came from a single cohort, and that the interviews were conducted with a self-selected group of trainees. It may be that this group of trainees found it difficult to offer critical feedback to the course at this stage in their training. The evaluation is further limited by the use of pragmatic self-report measures. Self-ratings have been found to be overly optimistic compared with clinical skills rated by independent assessors (Brosan, Reynolds & Moore, 2008; Sholomskas et al., 2005). Whilst direct observation of clinical skills with a simulated patient (see Melluish, Crossley & Tweed, 2007) would be desirable, it has considerable resource implications. A potentially robust approach to evaluating the impact of classroom-based teaching is to track changes in trainees' knowledge and self-evaluation alongside routinely collected measures of patient outcomes (Latchford, 2010). The trainees on the programme at Leeds are being encouraged to record clinical outcome measures on each placement; this should provide data for future evaluations of the impact of clinical skills teaching. In this way we may start to evidence the direct impact that clinical psychology training programmes have on the clients that we aim to help.

References

Baillie, A. J., Proudfoot, H., Knight, R., Peters, L., Sweller, J., Schwartz, S., & Pachana, N. A. (2011). Teaching methods to complement competencies in reducing the "junkyard" curriculum in Clinical Psychology. Australian Psychologist, 46(2), 90-100.

Bennett-Levy, J. (2006). Therapist skills: A cognitive model of their acquisition and refinement. Behavioural and Cognitive Psychotherapy, 34(01), 57-78.

Bennett-Levy, J., McManus, F., Westling, B. E., & Fennell, M. (2009). Acquiring and refining CBT skills and competencies: which training methods are perceived to be most effective? Behavioural and Cognitive Psychotherapy, 37(5),571-583

Blackburn, I. M., James, I. A., Milne, D. L., Baker, C., Standart, S., Garland, A., & Reichelt, F. K. (2001). The revised cognitive therapy scale (CTS-R): psychometric properties. Behavioural and Cognitive Psychotherapy, 29(04), 431-446.

British Psychological Society (2014). Accreditation through partnership handbook. Guidance for clinical psychology programmes. Accessed at: www.bps.org.uk/partnership

Brosan, L., Reynolds, S., & Moore, R. G. (2008). Self-evaluation of cognitive therapy performance: Do therapists know how competent they are?. Behavioural and Cognitive Psychotherapy, 36(05), 581-587.

Gillham, B. (2008). Developing a questionnaire. London: A&C Black.

Kolb, D. A. (2014). Experiential learning: Experience as the source of learning and development. FT press.

Latchford, G. (2010). Assessing Trainee Clinical Psychologists' Clinical Competence: A Commentary. Psychology Learning & Teaching, 9(2), 61-62.

Maunder, L., Milne, D., & Cameron, L. (2008). Pilot evaluation of brief training in CBT for primary care practitioners. Behavioural and Cognitive Psychotherapy, 36(3), 341-351.

Melluish, S., Crossley, J., & Tweed, A. (2007). An evaluation of the use of simulated patient role-plays in the teaching and assessment of clinical consultation skills in clinical psychologists' training. Psychology Learning & Teaching, 6(2), 104-113.

Myles, P.J., and Milne, D.L. (2004). Process and outcome evaluation of a brief shared learning programme in cognitive behaviour therapy. Behavioural and Cognitive Psychotherapy, 32, 177-188.

Race, P. (2014). Making learning happen: A guide for post-compulsory education. Sage.

Rakovshik., S.G. and McManus, F. (2010). Establishing evidence based training in cognitive behavioural therapy: A review of current empirical findings and theoretical guidance. Clinical Psychology Review, 30, 496-516

Roth, A. D., and Pilling, S. (2007). The competences required to deliver effective cognitive and behavioural therapy for people with depression and with anxiety disorder. Department of Health. Accessed at: www.ucl.ac.uk/clinical-psychology/CORE/.../CBT_Competence_List.pdf

Scott, T. L., Pachana, N. A., & Sofronoff, K. (2011). Survey of current curriculum practices within Australian postgraduate clinical training programmes: Students' and programme directors' perspectives. Australian Psychologist, 46(2), 77-89.

Sholomskas, D. E., Syracuse-Siewart, G., Rounsaville, B. J., Ball, S. A., Nuro, K. F., and Caroll, K. M. (2005). We don't train in vain: a dissemination trial of three strategies of training clinicians in cognitive behavioural therapy. Journal of Consulting and Clinical Psychology, 73, 106-115

. **Table 1.** Trainees' average scores across the first year of training

	1st CBT teaching session	Last CBT teaching session	End of academic year 1	1st session - end year W-values
	Group mean (SD)	Group mean (SD)	Group mean (SD)	
MCQ (0-15)	10.8 (1.9)	11.9 (2.0)	12.6 (1.3)	12*
Self-rated skills (0-10)	4.9 (1.4)	6.7 (1.2)	7.2 (1.1)	0*
Self-rated knowledge (0-10)	4.5 (1.8)	6.4 (1.2)	6.8 (1.2)	3*
Self-rated confidence (0-10)	4.3 (1.9)	6.1 (1.4)	6.6 (1.2)	2*

* significant at $p < .05$

Dr Ciara Masterson (corresponding author)

Lecturer in Clinical Psychology

LIHS, University of Leeds

1095 Worsley Building, Clarendon Way, LS2 9NL

c.masterson@leeds.ac.uk

Author details:

Dr Sheena Parmar

Clinical Psychologist

Integrated Sexual Health Service

King's Mill Hospital

Mansfield, NG17 4JL

Sheena.parmar@nottshc.nhs.uk

Total word count including summary, references and table: 2542