Development and Evaluation of Acceptance and Commitment Therapy delivered by Psychologists and Non-Psychologists in an NHS Community Adult Mental Health Service: A Preliminary Analysis.

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Abstract

Background: Previous studies have demonstrated Acceptance and Commitment Therapy (ACT) is effective for depression and may be useful for complex transdiagnostic clients.

Aims: To conduct a preliminary evaluation whether ACT is feasible and effective when delivered by psychologists and non-psychologists for complex clients in a National Health Service (NHS) community mental health service for adults.

Method: Staff were trained in ACT and conducted one-to-one therapy with clients. Measures on general mental health, depression, fusion and values were given pre-therapy post-therapy and at three month follow-up.

Results: Standardised measures showed significant improvements post-therapy for global mental health, depression, cognitive fusion and values post-treatment. These were partially maintained at follow-up and remained after an intent-to-treat analysis. There were no differences in outcomes between psychologists and non-psychologists,

Conclusions: ACT may be delivered effectively with limited training for complex cases in secondary care, though further research is needed.

Development and Evaluation of Acceptance and Commitment Therapy delivered by Psychologists and Non-Psychologists in an NHS Community Adult Mental Health Service: A Preliminary Analysis.

Introduction

Acceptance and Commitment Therapy (ACT) is a 'third wave therapy' which tries to change how individuals relate to their thoughts and emotions rather than change the thoughts and emotions themselves. It is a therapeutic approach that uses acceptance and mindfulness processes, and commitment and behaviour change processes, to produce greater psychological flexibility (Hayes, Strosahl, and Wilson, 1999). Psychological flexibility can be defined as *"the ability to contact the present moment more fully as a conscious human being, and to change or persist in behavior when doing so serves valued ends."* (Hayes, Luoma, Bond, Masuda, and Lillis, 2006, p.7.). ACT is a model of psychological intervention that is philosophically rooted in Functional Contextualism (Hayes, 1993; Hayes, Hayes, and Reese, 1988) and theoretically rooted in Relational Frame Theory (Hayes, Barnes-Holmes, and Roche, 2001). Öst (2008) carried out a qualitative and quantitative review of the empirical evidence for ACT and found moderate effect sizes. Powers, Zum Vörde Sive Vörding, and Emmelkamp (2009) conducted another meta-analytic review of ACT and concluded that ACT is better than wait-list and placebo controls. Levin and Hayes (2009) have re-analyzed the database reported by Powers et al. (2009), concluding that ACT was better than established treatments ($g= .27$; $p= .03$). Ruiz (2010) concludes ACT is better than control and TAU conditions, but is has been suggested that more evidence is needed in order to determine if ACT is better than established treatments (Levin and Hayes, 2009; Powers et al., 2009).

Meta-analyses have also suggested that ACT may be effective for a range of problems including anxiety disorders, psychosis, OCD, anxiety, drug abuse, trichotillomania and skin picking and tinnitus (Montgomery, Kim, and Franklin, 2011; Öst, 2008). A particular

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strength of ACT is its transdiagnostic approach with research showing it can be effective for complex, transdiagnostic and treatment-resistant clients. For example Clarke, Kingston, Wilson, Bolderston, and Remington (2012) showed improvements in functioning and symptoms for ten complex treatment resistant clients post ACT. Clarke, Kingston, James, Bolderston, and Remington (2014) further conducted a Randomised Controlled Trial with 45 participants and demonstrated that outcomes for this heterogeneous population were better at 6 months following ACT, compared to a Cognitive Behavioural Therapy (CBT) style treatment-as-usual intervention. Pinto et al. (2015) conducted a pre and post evaluation for 55 participants attending a transdiagnostic ACT group finding improvements on variables such as well-being and anxiety.

Other third-wave therapies have embraced using staff who are not qualified psychologists or therapists, most notably Dialectical Behaviour Therapy (DBT) which has been researched within the NHS delivered by nurses alongside psychologists (Feigenbaum et al., 2012). Low intensity CBT for psychosis has also been successfully delivered by training staff including nurses, occupational therapists and social workers (Waller et al., 2013). However most of the previous research on the efficacy of ACT has used trained psychologists to deliver treatment (Clarke et al., 2012; Pinto et al., 2015). Some studies have found ACT to be effective with trainee psychologists or therapists with little prior experience of ACT (Forman, Herbert, Moitra, Yeomans, and Geller, 2007; Lappalainen et al., 2007). Despite promising ACT outcomes, including for complex, heterogeneous client groups, there is a lack of trained therapists and psychologists to deliver ACT. Therefore, ACT being conducted by other professions may increase the availability of ACT. Pinto et al. (2015) delivered ACT groups which were co-run by a psychologist and a psychiatric nurse trained in ACT. However no research to date has compared the effectiveness of ACT when delivered by health professionals without a background in psychology or psychotherapy. This paper

therefore describes outcomes from individual therapy for a complex and often transdiagnostic population, and compares outcomes between psychologists and non-psychologists.

Method

Design

As an initial test of ACT delivered in the NHS by health professionals following brief ACT training, the most appropriate design was considered to be a small-scale, pre–post open trial.[1]

The Service

The service is a National Health Service (NHS) community mental health service for adults with severe and enduring mental health problems. Previously, all psychological therapies other than DBT were only delivered by qualified therapists. However, like many secondary care mental health services, the service had protracted waiting times which varied but were persistently around 12 months. Psychological therapists integrated into multidisciplinary services in 2013 and managers and some staff were eager for Multidisciplinary Team (MDT) colleagues to be trained to deliver psychological therapies and learn therapeutic skills that could also enrich their generic casework. DBT became an embedded treatment pathway delivered by MDT staff as well as qualified therapists and it was decided to add to this, two additional pathways which psychiatric nurses, occupational therapists and social work colleagues could provide alongside psychological therapists. These were ACT (for selected cases) and low-intensity CBT for psychosis.

ACT was selected because of its increasing evidence base and consistency with the recovery model being used in the service. ACT was placed as part of a depression pathway along with CBT, due to its strong evidence base with depression. It was also placed on a transdiagnostic pathway due to its evidence with such populations, along with Cognitive

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[1] Earlier analyses of this data was previously presented at two conference.

Analytic Therapy (CAT) which included people with multiple Axis 1 disorders and frequently co-morbid personality disorders. Clients were referred for ACT over repeated CBT if they had tried CBT for depression unsuccessfully before.

More complex cases such as those with multiple comorbidities, significant physical health problems, higher suicide risk or requiring structured exposure work within their therapy were allocated to psychological therapists. For the period of training, patients received 12 sessions and thereafter this was lengthened to 16 as this was thought more appropriate for the complexity of cases. For some cases this was extended above this after discussion with the team, for example if the client was engaging well but very complicated and the allocated number of sessions was felt to be insufficient. On the other hand, some clients had as little as six sessions as they felt they had benefited from brief input and did not require additional therapy.

The therapy and questionnaires completed were all part of routine NHS clinical practice, so full NHS ethics approval was not needed. The Solent NHS Trust research service approved this research as a service evaluation.

Staff and Training

The training was delivered by authors HB and SC, who are both experienced practitioners and researchers in ACT. Between October 2013 and February 2014, over 5 days they trained 8 psychological therapists (1 counselling psychologist, 1 senior psychotherapist and 6 clinical psychologists) including two from a separate Eating Disorders Team, and 12 non-psychologist staff (6 psychiatric nurses, 5 social workers and 1 occupational therapist). The training focussed on the six ACT processes (the Hexaflex) and all trainees undertook to read the book 'ACT made simple' (Harris, 2009) as part of their training. All trainees took one case at a time initially (therefore more than one case per clinician is included in the data

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here), and fortnightly supervision provided via Skype by the trainers for an initial six months. After this group supervision was led by two clinical psychologists in the team (LB and TR).

Of the 8 psychological therapists, 3 left due to maternity or adoption leave shortly after training. Of the 12 non-psychologist staff initially trained, 4 remained 6 months after training. Two left due to maternity leave, two changed job and four decided other job demands were too great to continue.

Measures

The following were used to measure outcomes from therapy in terms of mental health and ACT processes. The Cronbach's alpha (α) is given for all participants in the current sample pre therapy.

Clinical Outcomes Routine Evaluation (CORE-OM) (Evans, 2000): This is a 34 item measure of general mental health over the past week, designed to measure the effectiveness of psychotherapy interventions. Example questions include "*I have felt overwhelmed by my problems*" and "*I have thought of hurting myself*". α=.87.

Patient Health Questionnaire (PHQ-9) (Kroenke, Spitzer, and Williams, 2001): This is a 9 item measure of depression which has been shown to be a sensitive measure of depression treatment outcomes (Lowe et al., 2004). It asks people how often in the past two weeks they have experienced symptoms such as "*Little interest or pleasure in doing things*" and "*Feeling down, depressed, or hopeless*". α=.80

The following measures were used to measure ACT specific outcomes. These were used as the clinicians felt it was useful for therapy process to tap directly into these two specific ACT outcomes. **Cognitive Fusion Questionnaire (CFQ)** (Gillanders et al., 2014): this is a 7 item measure of cognitive fusion, an important process in ACT. Questions ask how true statements such as "*I struggle with my thoughts*" and "*My thoughts cause me distress or emotional pain*" are to an individual. α=.87.

Valued Living Questionnaire (VLQ) (Wilson, Sandoz, Kitchens, and Roberts, 2011): this asks people to rate how important values such as employment and recreation are to individuals, and also asks them to rate how much action has been made in line with those values in the past week. These are a rated on a scale from 1 to 10 with higher scores representing greater importance or more action. For this study a total for action (α=.71) and importance (α=.81) score were used separately.

These measures were given pre therapy (1st session) and post therapy (final session), thus the exact time period between pre and post varied depending on number of sessions. They were also posted out to be completed at three months after therapy was completed, with a follow-up phone call to those who did not return the questionnaires.

Participant Characteristics

A total of 29 clients received ACT and completed pre measures. Figure 1 displays a recruitment flow chart. The sample was 72.4% (*n*=21) female and 27.6% (*n*=8) male. Ages ranged from 21 to 67 with a mean age of 42 years (*SD*=11.1). The sample was 96.6% (*n*=28) White British Ethnicity. 72.4% (*n*=21) had had previous psychological therapy according to medical records including counselling (*n*=8), Cognitive Behavioural Therapy (CBT) through primary care (*n*=2), CBT through secondary care (*n*=5), Cognitive Analytical Therapy (*n*=1), Eye Movement Desensitization Reprocessing (*n*=1), Dialectical Behaviour Therapy (*n*=3), and group-based psychoeducation for Bipolar Disorder (*n*=1).

In terms of psychiatric diagnoses according to medical records, 58.6% (*n*=17) had one diagnosis, 27.6% (*n*=18) had two diagnoses and 13.8% (*n*=4) had three diagnoses. Primary diagnoses were 37.9% (*n*=11) depression including major depressive disorder and recurrent depressive disorder. 17.2% (*n*=5) had mixed anxiety and depression, 13.8% (*n*=5) bipolar disorder, 6.9% (*n*=2) Emotionally Unstable Personality Disorder (EUPD), 6.9% (*n*=2) bulimia nervosa, 3.4% (*n*=1) each for panic disorder, anorexia, persistent mood disorder,

adjustment disorder and transient psychotic disorder. Secondary diagnoses included 6.9% (*n*=2) Post-Traumatic Stress Disorder, 13.8% (*n*=4) personal disorder traits, and 3.4% (n=1) each for brain injury, EUPD, drug and alcohol dependence, mixed anxiety and depression, chronic pain, depression, dysthymia and Obsessive-Compulsive Disorder. Multiple diagnoses were present in 26.7% (*n*=4) of non-psychologists' participants and 57.1% (*n*=8) of psychological therapists participants.

Statistical Analysis

For individual missing items on standardized measures, mean substitution was used. For three month follow-up data, Last Observation Carried-Forward was used so post data was used as three month data. A 2 (psychologist vs non-psychologist) by 2 (pre vs post/three-month) Multiple Analysis of Variance was used to analyze changes over time for post treatment and three month separately. This was initially carried out with intervention completers only and then re-run with an Intent to Treat (ITT) analysis with pre data being used as post and three month data for drop-outs.

<div align="center">

Results

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Drop-out

Overall 20.7% (*n*=6) of the 29 participants dropped out of therapy prematurely. A Multiple Analysis of Variance was used to see whether scores on the measures pre-therapy differed between those who dropped out and those who completed therapy. This showed that those who dropped out had significantly *lower* CFQ (Fusion) scores pre-therapy: M=42.7 for completers vs. M=35.7 for drop-outs, $F = 8.4$, $p< .01$. There was also a non-significant trend for *lower* PHQ (Depression) scores in those who dropped out: M=18.9 for completers vs. M=14.7 for drop-outs, vs. $F = 3.2$, $p= .09$. The drop out was higher for clients of non-psychologists (33.7%, *n*=5) compared to psychologists (7.7%, *n*=1), however there was insufficient sample size for a chi square analysis of this difference.

For completers, total number of sessions ranged from 6 to 24 with a mean of 13.9 sessions (*SD*=4.0). An independent samples t-test showed that there was no significant difference in number of sessions for completers between psychologists (Range=10-20, *M*=14.6, *SD*=2.8) and non-psychologists (Range=6-24, *M*=13.1, *SD*=4.9): $t(18)$=-.83, p>.05, two-tailed.

Outcomes Post Treatment

A mixed factorial ANOVA analysed post-treatment outcomes by therapist. The first analysis was for completers only. There was a significant overall effect for time: Wilks Lambda = .26, $F(5,16)$= 8.99, p<.001, *Partial* η^2 =.74, but no significant overall interaction for clinician X time: Wilks Lambda = .08, $F(5,16)$= .27, p>.05, *Partial* η^2 =.08. Univariate analyses showed significant improvements for all measures: CORE Total: F=34.83, p<.001, *Partial* η^2 =.64; PHQ: F=19.57, p<.001, *Partial* η^2 =.49; CFQ: F=33.43, p<.001, *Partial* η^2 =.63; VLQ Importance F=5.85, p<.05, *Partial* η^2 =.23; and VLQ Action: F=9.96, p<.01 *Partial* η^2 =.33. There were no significant interactions between clinician and time for any of the scales individually.

The above analysis was repeated as an Intent to Treat Analysis (ITT), so pre-data for those who dropped was included as post data. This had little impact on the findings: there remained a significant overall effect for time: Wilks Lambda = .39, $F(5,22)$= 6.65, p<.001, *Partial* η^2 =.60 and no significant overall interaction for clinician X time: Wilks Lambda = .88, $F(5,22)$= .56, p>.05, *Partial* η^2 =.112. Univariate analyses showed that there remained significant changes on all measures, post therapy: CORE Total: F=27.35, p<.001, *Partial* η^2 =.51; PHQ: F=17.71, p<.001, *Partial* η^2 =.41; CFQ: F=27.89, p<.001, *Partial* η^2 =.52; VLQ Importance F=5.32, p<.05, *Partial* η^2 =.17 and VLQ Action: F=8.45, p<.01, *Partial* η^2 =.25.

Outcomes at Three Months

A mixed factorial ANOVA analysed outcomes by therapist at three-month follow-up. The first analysis was for completers only with last observation carried forwards. There was a significant overall effect for time: Wilks Lambda = .22, $F(5,16)= 11.35$, $p<.001$, *Partial* η^2 =.78; but no significant overall interaction for clinician X time: Wilks Lambda = .88, $F(5,16)= .44$, $p>.05$ *Partial* η^2 =.12. Univariate analyses showed significant improvements for CORE Total: $F=26.46$, $p<.001$, *Partial* η^2 =.57; PHQ: $F=27.65$, $p<.001$, *Partial* η^2 =.58; CFQ: $F=32.74$, $p<.001$, *Partial* η^2 =.62. There was no significant change for VLQ Importance $F=.40$, $p>.05$, *Partial* η^2 =.02 or Action: $F=2.61$, $p>.05$, *Partial* η^2 =.12. There were no significant interactions between clinician and time for any of the scales individually.

Table 1 displays the mean scores at each time point for the overall sample of completers.

Insert Table 1 here

ITT analysis had little impact on the data: there remained a significant overall effect for time: Wilks Lambda = .35, $F(5,22)= 8.11$, $p<.001$, *Partial* η^2 =.65; and no significant overall interaction for clinician X time: Wilks Lambda = .82, $F(5,22)= 1.0$, $p>.05$, *Partial* η^2 =.19. Univariate analyses remained the same with significant improvements for CORE Total: $F=20.85$, $p<.001$, *Partial* η^2 =.45; PHQ: $F=23.73$, $p<.001$, *Partial* η^2 =.48; and CFQ: $F=25.94$, $p<.001$, *Partial* η^2 =.50. There was no significant change for VLQ Importance $F=.59$, $p>.05$, *Partial* η^2 =.02, and the VLQ Action: $F=1.94$, $p>.05$, *Partial* η^2 =.07.

Discussion

This paper aimed to evaluate the effectiveness of ACT delivered by psychologists and non-psychologists for a complex population in a community mental health team for adults. The results overall tentatively suggest that ACT may be effective for clients with complex needs and co-morbidities, with reduced depression and improved global mental health post treatment and three months after therapy. There was also reduced cognitive fusion at post

treatment and three months. Values action and importance increased at post-treatment but not at three months follow-up. It may be that that top-up sessions are needed to maintain outcomes. This needs further investigation with larger numbers in the analysis, although the current effect sizes are large in the current sample being suggestive of positive outcomes.

The high levels of drop out of staff after training highlights the need for carefully recruiting staff to be trained and also including in this strategy repeated training to take account of therapist attrition. More information about specific reasons for drop out by staff would have been helpful. Clinical outcomes were no different between psychologists with years of training in therapy, and non-psychologists with minimal therapy-specific training and supervision. These results were largely maintained at followed up, and remained after an intent to treat analysis, indicating that outcomes are robust for the population. These results provide preliminary evidence that non-psychologists may be able to deliver ACT to those with severe and enduring mental health problems, and that this approach may be a way to extend access to ACT. This adds to the existing evidence base on the effectiveness of ACT (Montgomery et al., 2011; Öst, 2008; Powers et al., 2009; Ruiz, 2012). In particular the complexity of the current cases with multiple diagnoses and most having had previous psychological therapy adds to the literature on ACT being beneficial for transdiagnostic and treatment-resistant populations (Clarke et al., 2014; Clarke et al., 2012; Pinto et al., 2015). This paper further cautiously suggests that ACT may be useful for such populations when delivered by mental health practitioners who are not qualified therapists or psychologists.

However it should be noted that psychologists in the service took on more complex cases such as those with multiple comorbidities or high levels of risk. Such complexity would not necessarily have been represented in the scores on the standardised measures used here. Whilst clients allocated to both psychologists and non-psychologists showed significant improvements, the non-psychologists worked with clients with less complex presentations.

There was also a possibly higher drop-out rate for clients of non-psychologists. This therefore supports the use of 'two tiered' service depending on complexity.

The current data suggests that those with lower fusion and a trend for lower depression are more likely to drop out. This is consistent with evidence in eating disorders field suggesting that those with less severe symptoms are more likely to drop-out from therapy (Björck, Björk, Clinton, Sohlberg, and Norring, 2008). However other research have shown greater anxiety increases drop out for exercise therapy (Herman et al., 2002). Other work suggests depression symptom severity has no impact on drop out risk in interventions for depression and PTSD (Arnow et al., 2007; van Minnen, Arntz, and Keijsers, 2002).

This study is limited by a small sample size, and thus the multivariate statistics may be limited in statistical power, though the large effect sizes indicate significant changes. There was also a considerable range in total number of sessions which may have affected outcomes, though number of sessions did not differ between psychologists and non-psychologists. A number of factors such as previous training differing between different professions were also not measured. There was high reliability for the measures used, but additional measures such as the Acceptance and Action Questionnaire second version (Bond et al., 2011), which is frequently used in trials, could be considered. There were also clinical differences between the clients of the psychologist and non-psychologists in this study, thus future research may be better controlled by randomly assign clients to different clinicians so that clinical populations are matched. A larger sample size is also needed to see whether the difference in dropout rates between different professionals is statistically significant. A final limitation is that due to poor response rate there is a small sample size at 3 months.

However, overall the current results provide preliminary evidence that ACT may be an effective therapy for a complex and often transdiagnostic secondary care population, with improvements in global mental health, depression, cognitive fusion and values post-treatment

which were partially maintained at follow-up. Non-psychologists with limited training appeared to have similar outcomes to psychologists, tentatively suggesting that ACT may be beneficial when delivered by those with limited therapy experience. Future research will need to compare outcomes with a larger sample size and ideally randomize cases to different therapist groups.

Ethical standards: The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008.

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