Exploring the Efficacy of Cognitive Analytic Therapy in Reducing Anxiety and Depression in Older Adults

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Abstract: The present study aimed to explore the efficacy of Cognitive Analytic Therapy in supporting people aged 65 years or over, and who experienced depression, anxiety, or a combination of the two. There are presently no studies which explore the effects of CAT in supporting older adults who experience mental ill-health.

The study used a quantitative, within-subjects, cross-sectional design.

The outcome measures data of 28 clients, aged 65 or over, and open to an NHS mental health trust in the North East of England were included in this study. Outcome measure data were collected across two time points: just prior to the commencement of CAT; and once more following therapy completion.

The following outcome measures were used: Inventory of Interpersonal Problems 32; Personality Structure Questionnaire, Clinical Outcome in Routine Evaluation Outcome Measure; Clinical Outcomes in Routine Evaluation 10; and the Hospital Anxiety and Depression Scale.

T-tests showed a significant reduction in scores across all of the measures used post-therapy ($p<0.05$). Effect sizes across all outcome measures used were high ($d=0.59$). Chi-squared analyses were used by way of exploring the efficacy of CAT in affecting a clinically significant change; both anxiety and depression scores significantly fell to below the clinical cut-off using the HADS outcome data ($p<0.001$).

In this sole study focusing on CAT in older adults, the findings demonstrate that CAT is significantly effective in reducing anxiety and depression in this population.

Initially developed in the 1980s by Anthony Ryle, Cognitive Analytic Therapy (CAT) integrated psychoanalytic and cognitive models into a time limited relational therapy. Therapy aims to facilitate a collaborative approach, within which early experiences are drawn upon to help inform descriptive reformulations of current concerns (Ryle and Kerr, 2002). The client and therapist may try to better understand procedural patterns via the use of a psychotherapy file. In using the file, the client is encouraged to identify possible traps, dilemmas or snags that they feel may apply to their current experience. Further to this, the therapist and client will consider possible Reciprocal Role Procedures (RRPs). These are patterns of behaviour – often experienced in relation to caregivers early in life – which the client continues to both experience and enact presently. By engaging in this work at the beginning of therapy, a better understanding of possible patterns of behaviours and thinking can be understood. From this, the client and therapist may attempt to outline this understanding in written and diagrammatic form, via the use of a reformulation letter and a Sequential Diagrammatic Reformulation (Ryle and Kerr, 2002).

The use of CAT for supporting clients experiencing a range of difficulties has grown over the previous thirty years. However, the evidence base supporting the use of CAT remains limited. Calvert and Kellett (2014) undertook a systematic review by way of exploring the efficacy of CAT. Inclusion criteria were set and required that each study meet two research validity checklists. Calvert and Kellett (2014) were left with 25 studies, of which, five were randomised controlled trials (RCT). The majority of these studies were small-scale studies and included participants who were experiencing complex and severe difficulties. The majority of participants (44%) had acquired a diagnosis of personality disorder; this indicates that, for the most part, studies exploring the efficacy of CAT appear to explore CAT and its ability to support people with personality disorder. Calvert and Kellett (2014) argue that although generally, the quality of studies exploring the efficacy of CAT was good, the current evidence base for CAT is limited in terms in terms of ‘breadth and depth’, meaning that more research is required using larger sample sizes, and in participants who experience a range of mental health difficulties (not just personality disorders). In evaluating the evidence base for anxiety and depression, Calvert and Kellett (2014) cited two...
Older Adults and CAT

When discussing their clinical experience of the advantages of using CAT in supporting older adult patients, Hepple and Sutton (2004) draw upon its helpfulness in examining life events to inform complex, relational causes of distress in later life. Specifically, Loates (2004, in Hepple and Sutton, 2004) discussed the systemic and organisational effects of long term psychiatric care provision, noting that very often clients who may have had support for many years prior to accessing psychological therapy, will have acquired the unhelpful label of ‘treatment resistant’ following several courses of medication change and, in some cases, ECT. The unfortunate paradox being that, for many clients accessing older adult services for support, it is highly unlikely that they will have been offered psychological therapy until that point of last resort (Loates, 2004). Consequently, both services and the client may find themselves in a dual position of being ‘stuck’ in terms of progressing further with regards to distress reduction. Such stuck-ness in combination with the tendency of services to view older patients within a purely biological and ageing context devoid of relational, social, and life history can serve to reinforce the ‘stuck’ state for both services and the patient (Loates, 2004). Loates goes further, citing specific examples of ways in which the particular processes of CAT have helped clients to begin to notice and process powerful emotions, thus leading to a position of becoming ‘un-stuck’.

For instance, Loates (2004) describes the case of Mrs A – a woman in her seventies, who experienced significant distress as a consequence of rumination. In unpacking difficult parental relationships, noting down reciprocal roles, the use of the reformulation and working towards an ending, she supported her patient towards a point of understanding and the processing of powerful and painful emotions. Mrs A had not been afforded this opportunity by services previously.

An additional advantage in using CAT with older adults is that of its potential benefits of supporting patients experiencing distant trauma. Robbins and Sutton (2004, in Hepple and Sutton, 2004) argue there is a lack of therapeutic models designed to address complex or very distant trauma, suggesting that current approaches serve to treat sudden or unexpected trauma experienced relatively recently. Robbins and Sutton (2004) argue that CAT, as an integrative approach, offers a clear model which provides scope in which to address distant trauma, thus offering very specific opportunities in supporting older adult patients. Hamill and Gaskell (2014) support such an argument, citing the use of the therapeutic relationship for the purposes of promoting well-being and
the bringing about of change within CAT being particularly pertinent as factors supporting emotional regulation in later life. Hamill and Gaskell (2014) go further, arguing that the ability of CAT to explore early life experiences in the context of trauma and its subsequent effects upon the lived experience of an older adult patient offers a unique understanding of their distress and serves to reduce feeling of self-blame and shame. Hamill and Gaskell (2014) argue that this process consequently can open the door for older adult patients to experience changes in their self-to-self and self-to-other relationships.

The literature presented here highlights the very specific and specialist needs experienced by patients aged over 65. It is argued that CAT offers a unique model which can complement and explicitly support such needs (Hepple and Sutton, 2004). Sutton (personal communication, in Ryle and Kerr, 2002) writes that while she found CBT to be a useful model in working with aspects of anxiety in older adults, she felt it fell short of fully appreciating the effects that life experiences can have upon the clients she supported. CAT, Sutton felt, was a useful model by which to draw upon early and later life experience, and to value the impact that a life lived with many relationships can have upon her client’s current situation. Sutton argues that CAT, more so than other therapeutic types, is able to value and take into consideration a rich life story, and it is for this reason that CAT ought to be especially applicable to older people.

While theoretical literature provides context and depth for the possibilities and usefulness of CAT in specifically supporting people aged over 65, the evidence base for the use CAT in supporting older people remains limited. Indeed, in Calvert and Kellett’s (2014) systematic review, of the 25 studies that did meet the inclusion criteria, none focused solely on the efficacy of CAT in supporting older adults. Hamill and Mahoney (2011) argue that within their NHS service, CAT has shown to be, anecdotally, effective in supporting the psychological needs (which include depression and anxiety) in people aged over 65 years who care for a person with dementia. Hamill and Mahoney (2011) use case examples to demonstrate that CAT lends itself well to the specific needs of older adults, which may include a complex combination of biopsychosocial and cognitive difficulties. While arguing a case for CAT in older adults, the current evidence base may benefit from studies which include larger sample sizes by way of broadening the empirical rigour of CAT in older adults.

Research Question
Can Cognitive Analytic Therapy significantly reduce signs of anxiety and depression in older adults?

Method
Participants
The outcome measures of 28 service users were included and all had received support from a mental health NHS foundation trust based in the north east of England. All service users had completed a contract of CAT with an accredited CAT practitioner clinical psychologist. Early experiences and current relationships are explored by way of drawing on life story and reciprocal roles. Service users were also provided with additional support via their care coordinator. All service users were white, British. Gender was evenly distributed (females, n = 14; males, n = 14).

The age of participants ranged from 65 to 87 years (mean age = 73.2, standard deviation = 6.0). The majority of participants had a diagnosis of depression (n=17), four participants had a diagnosis of anxiety and the remaining six had a combined diagnosis of anxiety and depression. Most participants completed 16 session CAT; three completed 8 session CAT, three participants completed 12 session CAT and the remaining six participants completed 24 session CAT.

Measures
A total of five outcome measures (collected as standard by the service who offer CAT to clients) were used by way of assessing psychological well-being prior to and post CAT. The measures included: Clinical Outcome in Routine Evaluation Outcome Measure (CORE-OM) and Clinical Outcomes in Routine Evaluation 10 (CORE-10); Hospital Anxiety and Depression Scale (HADS); Personality Structure Questionnaire (PSQ); Inventory of Interpersonal Problems (IIP-32).

Outcome measures
Clinical Outcome in Routine Evaluation Outcome Measure (CORE-OM) and Clinical Outcomes in Routine Evaluation 10 (CORE-10)

The CORE-OM includes 34 questions designed to assess mood and
risk. The CORE-10 is a shortened version of the CORE-OM and derives 10 questions from the original measure by way of providing an outcome measure that is quicker – and thereby more convenient— for patient use. Both have demonstrated good reliability and are widely used, validated tools (Evans, Connell, Barkham, Margison, McGrath, Mellor-Clark, & Audin, 2002; Evans, Mellor-Clark, Marginson, Barkham, Audin, Connell & McGrath, 2009).

Hospital Anxiety and Depression Scale (HADS)
The HADS includes 14 questions designed to offer a total score for depression, and a total score for anxiety. The scale is a standardised outcome measure with an acceptable level of reliability, and a clinical cut off score of 11 for both anxiety and depression scores (Crawford, Henry, Crombie & Taylor, 2001).

Personality Structure Questionnaire (PSQ)
The PSQ is an eight item questionnaire designed to assess for identity difficulties within CAT’s multiple self-states model. It has been shown to be a reliable and valid self-report measure (Pollock, Broadbent, Clarke, Dorrian, & Ryle, 2001).

Inventory of Interpersonal Problems (IIP-32)
The IIP, is a shortened, 32-item version of a larger, 172-item version, and was designed to assess interpersonal difficulties experienced by people within their relationships. It has been assessed as a reliable measure for objectively measuring difficulties with interpersonal relationships (Barkham, Hardy & Startup, 1996).

Procedure
Outcome data was collected from the completed paper notes of 28 service users who had previously completed a course of CAT. Data were transferred to an SPSS data file.

Ethical Considerations
Ethical approval had been sought and granted by the appropriate NHS trust’s clinical assurance and registration department and the University’s ethics board prior to commencement of this study. Service user details were anonymised and confidentiality was maintained throughout.

Analysis
T-tests or non-parametric equivalents were used to identify significant differences in aggregate scores of the outcome measures pre and post therapy. By way of exploring for meaningful, clinical, change, Chi-squared analyses were also used for the most complete data – these being the CORE 10 and HADS outcome measure scores – to identify differences between pre identified clinical cut off scores pre and post therapy.

Results
Difference between CORE-OM scores pre and post CAT
The pre and post therapy CORE-OM outcome data of 16 clients was analysed. Tests of normality indicated that data were normally distributed (P>0.05). A significant difference between pre and post CAT therapy scores (t,(15)=6.1, p<0.001) was found, whereby CORE scores prior to therapy (M=52.19, SD=23.66) are significantly higher than CORE post therapy scores (M=27.13, SD=20.6). This indicates a decline in mean CORE scores following CAT. A summary of these findings is shown in table 1.

Difference between CORE-10 scores pre and post CAT
The pre and post therapy CORE-10 outcome data of 28 clients was analysed. A test of normality indicated that data were normally distributed (p>0.05). Therefore, a paired samples t-test was used. A significant difference between pre and post CAT therapy scores (t,(27)=5.08, p<0.001) was found whereby scores prior to therapy (M=16.82, SD=9.39) were significantly higher than post therapy scores (M=10.43, SD=7.4).

The CORE-10 user manual identifies a score of 13 and above as a cut off measure for depression. A dichotomous variable was created with scores of 12 or below categorised within the ‘normal’ range and scores
of 13 and above categorised within the ‘depressed’ range. A chi-squared analysis was used. The analysis did not show a significant effect ($\chi^2(1, N = 28) = 3.5, p > 0.05$).

**Difference between HADS anxiety scores pre and post CAT**

The pre and post therapy HADS outcome data of 25 clients was analysed. A test of normality indicated that data were normally distributed ($P > 0.05$). Therefore, a paired samples T test was used. A significant difference between pre and post CAT therapy scores ($t(24) = 4.21, p < 0.001$) was found, whereby scores prior to therapy ($M = 10.56, SD = 4.43$) are significantly higher than post therapy scores ($M = 7.72, SD = 5.12$). This indicated a decline in mean anxiety scores following CAT.

Crawford, Henry, Crombie and Taylor (2001) advise a HADS cut-off score of 10 to 11; this, they say would incorporate the ‘moderate’ and ‘severe’ clinical scores previously identified by Snaith & Zigmond (1994). Crawford et al. (2001) argue for this threshold as their analysis of normative data found that 33% of participants’ scores exceeded Snaith & Zigmond’s (1994) ‘normal’ range on the anxiety. Therefore, a dichotomous variable was produced; scores of 10 or below were identified as falling within the ‘normal’ range for depression. Scores of 11 or above were identified as falling in the ‘clinical range’. A Chi-square test was used to determine for differences between predefined clinical cut-offs. The analysis did show a significant effect ($\chi^2(1, N = 25) = 9.37, p < 0.01$). Cross-tabulation demonstrates that, by the end of CAT, 20 clients had depression scores within the ‘normal’ range, in comparison to 5 within the ‘clinical’ range.

**Difference between HADS depression scores pre and post CAT**

The pre and post therapy HADS outcome data of 25 clients was analysed. A test of normality indicated that data were not normally distributed ($P < 0.05$). A Wilcoxon signed ranked test indicated a significant difference between pre and post HADS depression scores ($p < 0.001$). Mean depression scores ($M = 10.69, SD = 4.6$) pre-therapy were significantly higher than mean depression scores post-therapy ($M = 6.23, SD = 4.00$). The analysis indicates that HADS depression scores pre therapy were significantly higher than HADS depression scores post therapy.

As described previously, a dichotomous variable was produced; scores of 10 or below were identified as falling within the ‘normal’ range for depression. Scores of 11 or above were identified as falling in the ‘clinical range’. A Chi-square test was used to determine for differences between predefined clinical cut-offs. The analysis did show a significant effect ($\chi^2(1, N = 25) = 9.37, p < 0.01$). Cross-tabulation demonstrates that, by the end of CAT, 20 clients had depression scores within the ‘normal’ range, in comparison to 5 within the ‘clinical’ range.

**Difference between PSQ scores pre and post CAT**

The pre and post therapy PSQ outcome data of 13 clients was analysed. Tests of normality indicated that data were normally distributed ($p > 0.05$). A significant difference between pre and post CAT therapy scores ($t(12) = 2.63, p < 0.05$) was found, whereby PSQ scores prior to therapy ($M = 22.77, SD = 8.33$) are significantly higher than PSQ post therapy scores ($M = 18.0, SD = 5.5$). This indicates a decline in mean PSQ scores following CAT.

**Difference between IIP scores pre and post CAT**

The pre and post therapy IIP outcome data of 14 clients was analysed. Test of normality indicated that data were normally distributed ($P > 0.05$). Therefore, a paired samples T test was used. A significant difference between pre and post CAT therapy scores ($t(13) = 2.68, p < 0.05$), was...
found whereby IIP scores prior to therapy (M=43.86, SD=23.31) were significantly higher than IIP post therapy scores (M=32.21, SD=17.48). This indicates a decline in mean IIP scores following CAT.

Discussion

This is an initial attempt to evaluate the efficacy of CAT in reducing symptoms of depression and anxiety in adults aged 65 years or over. The results indicate that CAT is effective to this end. Given that no study currently exists evaluating the efficacy of CAT in older people the present study makes a valuable contribution to this area of research. The aggregate analysis of significance between pre and post therapy outcome scores indicated that significantly lower scores were obtained across all measures following CAT. This illustrated that CAT is significantly effective in reducing signs of depression, anxiety and interpersonal problems in people over the age of 65 years. Furthermore, the lower PSQ scores in the study suggest a greater sense of integration in the self and the lower IIP scores are indicative of an improvement in relationships with others following CAT. These findings corroborate with similar studies exploring the efficacy of CAT in younger adult populations (e.g. Bennett, 1994).

Such a shift was not observed in the CORE 10, and this does undermine the efficacy of CAT in reducing distress. It is plausible that a single item (Q6) within the CORE 10 may have affected the results in the present study. A factor analysis revealed that question 6 ‘I have made plans to end my life’ affected alpha across both pre and post outcome measures. On examining responses to this question it would appear that the majority of respondents would score ‘0’ for this question both pre and post therapy, thus indicating a possible floor effect. However, when the data was reanalysed following the removal of question 6 no significant effect was found between CORE 10 clinical cut-off scores (p>0.05). While the results of the CORE 10 were not necessarily affected by respondents’ answers to item 6, it is worth noting that the service in question is currently considering the validity of the CORE 10 in terms of its ability to appropriately assess risk.

Unfortunately, due to missing data, it was not possible to assess for clinical cut-offs using the IIP, PSQ or CORE-OM measures. It is worth noting that the time needed to complete a total of five outcome measures at two separate time points is likely to account for the missing data here.

The sample size of 28 remains a limitation of the study. In their evaluation of the current CAT evidence base Ryle, Kellett, Hepple, and Calvert (2014) conclude that the average sample size of CAT studies included within Calvert and Kellett’s (2014) systematic review was 27. While they conclude that, generally, this meant that studies exploring the efficacy of CAT using such sample sizes were underpowered in terms of heterogeneity, the effect sizes when considering the studies as a whole were positive (d+ ≥ 0.5). This indicates that, while the present service evaluation remains underpowered, the findings do hold merit in terms of generalisability and, therefore, go some way to contributing towards the evidence base in this field.

D was calculated across all measures in the present study. Medium effects (d ≥ 0.5) were found for the HADS anxiety, IIP and PSQ measures. Large effects (d ≥ 0.7) were found among the HADS depression, CORE-OM and CORE 10 measures. The strong effect sizes of the present study further serve to support the ecological validity of the present findings.

While the majority of participants completed 16 session CAT (n=15) there was a degree of variability among length of therapy. Despite this, medium to large effects were seen across all outcome measures and a significant reduction in scores indicative of anxiety and low mood was observed. The findings not only indicate the positive effects of CAT for a range of session durations, but also serve to highlight the extent to which CAT practitioners may be relied upon to make effective clinical judgements with regards to deciding upon the length of CAT to offer.

Implications

The present study would have benefited from the exploration of the potential effects of CAT at a three-month follow up. While the service in question did provide three-month follow up support for CAT patients, the collection of outcome measure data was insufficient for the purposes of analysis. Future research would benefit from the exploration of CAT at three-month follow up in addition to pre and post therapy by way of exploring the potential longer term gains of CAT. Future research would also benefit from larger sample sizes, across all outcome measures used, by way of determining for the potential effects of CAT upon reducing symptoms to pre-defined clinical cut-off scores. It would also be interesting to compare outcome CAT measures in older adults with the outcome measures of other psychological therapies.

The lack of current research in CAT highlights the difficulties faced
by busy clinicians. Time pressures, lack of facilities, resources, and access to staff support are all factors which may contribute to the ability of clinical staff to conduct research trials. This means that, while the efficacy of CAT in reducing distress is anecdotally evidenced, the current pressures faced by clinical teams mean that preparing research for publication can be very difficult. The authors recognise these difficulties and argue that more protected time and resources are needed in order to promote a wider evidence base for CAT. Further, clinical teams may benefit from delegating research tasks to junior team members with skills in research, such as Assistant Psychologists, Trainee Psychologists and Student Nurses.

The findings demonstrate the potential benefits of CAT for improving the mental well-being of people aged over 65 years experiencing mental ill health. As a time limited therapy, the present service evaluation serves to highlight the value of CAT as an effective therapy for reducing distress within the ever-increasing constraints of limited NHS resources.

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