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Acceptance and commitment therapy (ACT) for people with dementia experiencing psychological distress: A hermeneutic single-case efficacy design (HSCED) series

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Abstract

Introduction: People with dementia have a high prevalence of psychological distress but are underserved with evidence-based psychological interventions. To promote choice and improve clinical outcomes, there is a necessity to test different psychological intervention options for this population.

Purpose: This study aimed to investigate the effectiveness and acceptability of acceptance and commitment therapy (ACT) for people with dementia, considering carer-supported, remote delivery and necessary therapy adaptations.

Methods: A hermeneutic single-case efficacy design series was used to analyse the therapy process and change for three clients with dementia and psychological distress. A matrix of quantitative and qualitative data was collated ("rich case records") and subject to critical analyses by three independent psychotherapy experts ("judges") who identified change processes and determined the outcome for each client.

Results: Adjudication concluded that one client made positive changes, specifically reliable reductions in psychological distress, which were largely attributable to ACT. Two clients remained unchanged.

Discussion/Conclusion: Where change was achieved, the ACT-specific processes of values, committed action and acceptance, in combination with non-specific therapy factors, including a strong client–carer relationship, existing client interests and individualised therapy adaptations, were facilitative. Hence, ACT may be a feasible and effective vehicle for therapeutic change by helping carers to better meet the needs of their loved ones. Future research to optimise ACT delivery in this population may be beneficial. Furthermore, the assessment of carer factors (e.g., their psychological flexibility and the client–carer relationship) may strengthen the evidence base for systemic ACT use.

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KEYWORDS
acceptability, ACT, dementia, HSCED, psychological distress, psychological therapy

1 | INTRODUCTION

Dementia is a chronic, progressive syndrome that causes cognitive decline beyond normal ageing and can affect memory, learning, language, comprehension, judgement and problem-solving abilities. In older adults worldwide, dementia is one of the leading causes of disability and dependency (World Health Organization [WHO], 2019). By 2050, it is expected that global prevalence rates will increase to 152 million (WHO).

According to the National Institute for Health and Care Excellence (NICE, 2018), interventions for people with mild to moderate dementia, with the aim of promoting cognition, independence and well-being, include participation in activities tailored to personal preference, group reminiscence therapy, cognitive stimulation therapy and pharmacological management. However, the needs of older people with mental health difficulties remain under-recognised and inadequately met (Laidlaw, 2013).

Psychological distress, defined as "emotional suffering characterised by clinical levels of depression and anxiety" (Drapeau et al., 2012, p. 105), is common in people with dementia (Badrakalimuthu & Tarbuck, 2012; Muliyala & Varghese, 2010). Furthermore, there is a significant correlation between psychological distress and a greater risk of dementia-related mortality compared with people without psychological distress (Rosness et al., 2016). Hence, helping people with early dementia manage comorbid anxiety and depression is an important clinical objective (Cheston, 1998; Moniz-Cook & Manthorpe, 2009). Yet, although psychological approaches have been proposed (NICE, 2018) with the potential to enhance well-being (Orgeta et al., 2014), older people (Laidlaw, 2013) and those with dementia likely have reduced opportunities for psychological treatments.

Cognitive behavioural therapy (CBT) is a leading psychological treatment for depression and anxiety in adults (WHO, 2007). Its effectiveness is measured via symptom reduction, acceptability and attrition. However, adherence to CBT in dementia can be poor (Spector et al., 2012) and efficacy reduced in older adults in comparison with working-age adults, particularly in treating generalised anxiety disorder (Kishita & Laidlaw, 2017). Therefore, psychological treatments for people with dementia merit further research (Orgeta et al., 2014).

Acceptance and commitment therapy (ACT) offers a "third wave," alternative approach to traditional CBT. Whilst CBT may offer help in exploring appraisals people make about their health prognosis in dementia (e.g., considering the evidence for and against thoughts), ACT arguably offers a more nuanced position with less emphasis on cognitive change or mediation of psychological distress and greater emphasis upon how helpful these appraisals are in influencing the way people choose to focus their energies and lead their lives. ACT proposes that distress results from an individual's unhelpful relationship with their cognitive, emotional and behavioural processes. ACT aims at fostering acceptance of thoughts and separation from distress by changing how experiences are related to. Though distress may reduce secondarily, effectiveness is measured by the extent of re-engagement with a life of valued activities and functional improvement in the presence of symptoms, thoughts and feelings typical of the condition (Gillanders & Laidlaw, 2014). ACT also aims at promoting psychological flexibility (PF), an overarching process consisting of six interrelated processes: being present, cognitive defusion, acceptance, self-as-context, values and committed action (Hayes et al., 2006). PF has been shown to facilitate good psychological health, with higher levels of PF related to lower distress (Hayes

Implications for Practice

- When using acceptance and commitment therapy (ACT) systemically with people with dementia, it may be important to support a strong client–carer working alliance, facilitate exposure to and acceptance of avoided or suppressed emotions, and plan value-driven behaviour (committed action).
- The use of weekly process measures and/or posttherapy change interviews may help to further monitor and understand change processes in clinical practice. However, due to uncertainties about the reliability of self-report measures in the context of memory difficulties, measure selection needs critical consideration. A combination of both quantitative and qualitative measures may be most beneficial.
- Future studies should optimise ACT delivery in dementia via a new case series. The carer-supported aspect highlighted in the current study is under-researched, which may be critical to working therapeutically with this population.

Implications for Policy

- To improve acceptability, the service pathway in older adult services, such as Memory Assessment Services, could offer increased flexibility and choice of therapy delivery (in person or remote).

et al., 2013). However, there is limited understanding of the role PF may have in dementia.

An increasing number of studies have evidenced ACT for psychological distress in adults (Öst, 2014), older adults (Gould et al., 2021; O'Keeffe et al., 2021), illness-related distress (McCracken & Gutiérrez-Martínez, 2011) and dementia caregivers (Fowler et al., 2021). Valued action in ACT may aid living well with dementia and thus provide a suitable intervention, but no studies have investigated ACT effectiveness specifically for dementia, despite a conceptual case for its suitability with parallel populations. Furthermore, no dementia therapeutic intervention studies have used a case series approach to examine change processes, integral for understanding and refining therapy. Hence, this study will use a hermeneutic single-case efficacy design (HSCED) series to analyse the therapy process and outcome data, with the prospect of producing findings that contribute to the seemingly limited evidence base for effective psychological intervention for people with dementia.

1.1 | Research objective and guiding questions

In summary, people with dementia have a high prevalence of psychological distress but are underserved with evidence-based psychological interventions. To promote choice and clinical efficacy, there is a necessity to test multiple intervention options for this population. The aim of this study was to investigate the effectiveness of ACT for supporting people with dementia experiencing psychological distress. A secondary aim was to investigate the acceptability of ACT with people with dementia, in which carer-supported, remote delivery and necessary therapy adaptations are considered.

2 | METHODS

2.1 | Design

The adjudicated HSCED is guided by three fundamental questions: (1) Did the client change over the course of therapy? (2) Is the therapy responsible for the observed changes? (3) What events or processes facilitated observed changes? A detailed matrix of quantitative and qualitative clinical data was collated ("rich case records") and affirmative and sceptic briefs developed. These were subject to critical analyses by three independent psychotherapy experts ("judges") who identified change processes and determined and attributed outcomes for each client.

2.2 | Ethics

Ethical procedures were approved by the NHS Local Research Ethics Committee and locally within Nottinghamshire Healthcare NHS Foundation Trust's Research and Development Department.

2.3 | Participants

The study involved a case series of three client participants, who, for confidentiality purposes, chose the pseudonyms "Minnie," "Agatha" and "Phyllis" and their respective carers (daughters) "Mo," "Jane" and "Julie." Minnie and Agatha were recruited from a National Health Service (NHS) Memory Assessment Service (MAS) in Nottinghamshire and screened using the Generalised Anxiety Disorder Questionnaire (GAD-7; Spitzer et al., 2006) and Patient Health Questionnaire (PHQ-9; Spitzer et al., 1999) by a MAS nurse ("gatekeeper"). The gatekeeper used an informal crib sheet to provide consistent study information to clients who expressed interest. Clients and carers were then provided with Participant and Carer Information and Demographic Sheets by the first author. Phyllis was recruited from the Dementia Research UK website and screened by the first author. All clients met inclusion criteria: (a) a diagnosis of dementia (any type) and (b) a clinically significant level of psychological distress (scores of ≥8 on the GAD-7 and/or ≥10 on the PHQ-9). Clients would have been excluded if they (a) were already receiving psychotherapy, (b) had insufficient English or language abilities to engage in therapy or (c) were unable to consent to and/or engage in therapy. Consent was provided via written consent forms. Client–carer dyads completed all aspects of the study, except Agatha and Jane, who withdrew from therapy after 6 weeks, but consented to participate in a change interview and complete follow-up measures.

2.4 | Therapist and intervention integrity

The study utilised a practitioner–researcher model, meaning the first author was the simultaneous researcher and therapist (Elliott, 2002; McLeod, 2010). The first author was a trainee clinical psychologist who had undertaken advanced ACT training and received clinical supervision throughout intervention delivery. ACT fidelity was assessed via audio recording sessions by the third author using the ACT fidelity measure (ACT-FM; O'Neill et al., 2019). Scores from a sample of three sessions indicated that ACT-congruent behaviours were enacted (Total Consistency Score = 31/36), with extremely rare occasions of ACT-inconsistent behaviours (Total Inconsistency Score = 0.3/36).

2.5 | Procedure and intervention content

The first author delivered the ACT intervention following some pre-adaptational work for use with people with dementia. The intervention was delivered on an individual basis, accompanied by carers, via Microsoft Teams (MST), for up to 90-min across 12 weekly sessions, which were reviewed at Session 6. An ACT protocol, "Better Living with Illness" (Brassington et al., 2016), was used flexibly to guide the intervention. Sessions included a review of between-session tasks and an introduction to new ACT concepts through experiential exercises and metaphors to encourage discussion about the workability of current coping strategies and to promote PF. To ensure internal

consistency, for example, the "beach ball" metaphor was used with all clients with the aim of increasing acceptance by illustrating the counterproductivity of cognitive and emotional avoidance. This metaphor encouraged clients to recognise the futility of holding an imaginary beach ball (representing unwanted negative thoughts and feelings) underwater, since the ball would inevitably float to the surface. Instead, they may choose to let the ball go, implying that acceptance of all experiences could enable better engagement in meaningful and valued action. Additional definitions of ACT processes and techniques are provided in Appendix 1: Table A1.

The first author took an active, responsive role in targeting inflexible processes "in flight." According to process-led ideographic adaptations, less relevant or lengthy exercises were shortened or removed, whilst maintaining ACT fidelity.

Clients completed self-report measures at the beginning and end of sessions. Reported changes were also captured with informal "check-ins," with clients sharing therapy reflections or changes between sessions with the first author.

2.6 | Materials

Self-report measures were used to track change in variables of interest: psychological distress (GAD-7; Spitzer et al., 2006, PHQ-9; Spitzer et al., 1999), PF (Comprehensive assessment of Acceptance & Commitment Therapy—Short Form; Morris, 2019), well-being (Short Warwick-Edinburgh Mental Wellbeing Scale; Tennant et al., 2007), client problems (Personal Questionnaire; Elliott et al., 1999) and therapeutic alliance (Session Rating Scale; Duncan et al., 2003), as shown in Table 1.

2.7 | Change interview

A semistructured change interview (CI; Elliott et al., 1999) was used to obtain client and carer views about their therapy experience and change processes, including attributions of change and possible facilitators or hindrances. Interviews were conducted by an independent researcher 1-week posttherapy.

2.8 | Analysis team

The second and third authors, who were clinical psychologists with varied theoretical orientations and experienced in psychotherapy research, supervised the study and approved the case records and affirmative and sceptic briefs.

2.9 | Judges

Three independent clinical psychologists were invited to act as judges according to their interest in assessing psychotherapy effectiveness, varied theoretical orientations and clinical research prominence, which included specialist ACT research and psychotherapy in academia and in older adult and physical healthcare contexts. Judges were given information sheets and provided written consent to participate.

2.10 | HSCED analysis

2.10.1 | Stage 1. Rich case records

A comprehensive dataset was developed for each client, which involved:

1. Collating contextual client and therapist information.
2. Analysing quantitative process and outcome data.
3. Collating client's qualitative therapy descriptions into Elliott's (2002) categories of change.
4. Gathering evidence for and against change in client goals using quantitative data, session recordings, therapist notes, CI transcripts and change rating sheets.
5. Gathering evidence for and against shifts in PF processes using quantitative data, session recordings, therapist notes, CI transcripts and change rating sheets.

In the case records, the affirmative case aimed at persuading the judges that clients changed substantially due to therapy (Elliott, 2002). The sceptic argument drew upon alternative explanations, suggesting clients did not change substantially or that any changes were caused by extra-therapeutic factors (Elliott, 2002).

2.10.2 | Stage 2. Adjudication

The first author emailed the case records to judges, including affirmative and sceptic briefs, CI transcripts and change rating sheets. Judges were asked to critically examine the case records and answer semistructured adjudication questions about their views on the extent and type of client change and the evidence that most mattered in reaching their conclusions.

3 | RESULTS

3.1 | Abridged results for Minnie

3.1.1 | Context and focal problems

Minnie was a 71-year-old woman who was diagnosed with Alzheimer's disease in September 2020. She was a retired farmer's wife and widowed 2 years ago. Minnie had three adult children. One of her daughters, Mo, was in her fifties, married and a full-time carer for Minnie. Minnie was bereaved of her husband, sister and

TABLE 1 Summary of measures.

Measure and author	Aim	Item scaling and directionality	Reliability and validity	Frequency of administration
Generalised Anxiety Disorder Questionnaire (GAD-7); Spitzer et al. (2006)	Anxiety symptoms	7 items; 4-point Likert scale (range: 0–3); higher scores indicate higher levels of anxiety: 5–10 = mild 11–15 = moderate 16–21 = severe	IC; α = 0.92 High sensitivity and specificity (Spitzer et al., 2006)	Screening Sessions 1, 6 and 12 1- and 3-month follow-up
Patient Health Questionnaire (PHQ-9); Spitzer et al. (1999)	Depressive symptoms	9 items; 4-point Likert scale (range: 0–3); higher scores indicate higher levels of depression: 5–9 = mild 10–14 = moderate 15–19 = moderately severe 20–27 = severe depression	IC; α = 0.89 Good validity (Kroenke et al., 2001)	Screening Sessions 1, 6 and 12 1- and 3-month follow-up
Comprehensive assessment of Acceptance & Commitment Therapy—Short Form (CompACT-SF); Morris (2019)	Psychological flexibility	8 items; 7-point Likert scale; (range: 1–7): higher scores indicate greater PF	IC; α = 0.91 CompACT has good internal consistency (Francis et al., 2016)	Beginning of each session 1- and 3-month follow-up
Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS); Tennant et al. (2007)	Well-being	7 items; 5-point Likert scale (range: 1–5): higher scores indicate higher positive mental well-being	IC; α = 0.83 Adequate internal consistency and reliability (Haver et al., 2015)	Sessions 1, 6 and 12 1- and 3-month follow-up
Personal Questionnaire (PQ); Elliott et al. (1999)	Client problems	Up to 10 client-generated problem statements, rated on a 7-point Likert scale (range: 1–7): higher scores indicate a greater problem	IC; α = 0.80 Strong correlations with standardised outcome measures (Elliott et al., 2016)	Session 1, Sessions 6 and 12 1- and 3-month follow-up
Session Rating Scale (SRS); Duncan et al. (2003)	Therapeutic alliance (therapist respect and understanding, relevance of topics, client-practitioner fit)	4-item visual analogue calculated (range: 0–40): higher scores indicate a more effective relationship	IC; α = 0.93 Good concurrent validity (Campbell & Hemsley, 2009; Duncan et al., 2003)	End of each session
Change Interview; Elliott et al. (1999), Llewelyn et al. (1988)	To gather qualitative information about (extra) therapeutic factors			End of therapy

mother-in-law in close succession in 2019 and experienced feelings of guilt, with beliefs about neglecting her sister who had dementia. As a result of her dementia, Minnie could struggle to reflect upon previous weeks, become tangential in speech and show reduced insight into some of her difficulties.

Minnie was prescribed sertraline for depression and galantamine for dementia. She had not previously had psychological therapy. A family informant, separate from the research, suggested Minnie may have had an undiagnosed mental health condition such as bipolar disorder, since her mood had "always been very up and down."

3.1.2 | Major ACT protocol adaptations

Key aspects of the formulation were experiential avoidance of sadness and a fusion to controlling emotions. Whilst Minnie knew what was important to her (values), control-based coping strategies (e.g., distraction and avoiding unpleasant emotions) had become increasingly restrictive of valued action. For example, Minnie had previously enjoyed teaching archaeology. But, following her dementia diagnosis, she had suppressed feelings of sadness and thoughts about being a burden to others by avoiding contact with her colleagues. This ultimately resulted in her disengaging from an activity that was otherwise extremely important to her. Therefore, the focus areas were acceptance and present-moment awareness. Therapy adaptations included recapping the previous session, offering regular breaks, using visual prompts (Robinson & Moghaddam, 2022), providing concrete examples and reducing session time from 90 to 60 min following the therapy review.

3.1.3 | Quantitative results (Table 2)

3.1.4 | Abridged affirmative and sceptic briefs

The affirmative brief proposed Minnie made significant, reliable improvements in distress, problems and PF as indicated by quantitative data, which were maintained at follow-up. In the CI, Minnie reported feeling more relaxed and able to recognise and live in line with her goals, which she attributed to therapy ("I think the therapist certainly reminded me of ways forward and what I needed to do"). This was corroborated by Mo who stated that ACT techniques had been useful and individually adapted to help Minnie plan committed action ("…the therapy has made my mum realise that she's still got things she wants to do in life").

The sceptic case argued that Minnie's difficulties were unstable since her screening and pretherapy scores were dissimilar, creating challenges in establishing whether her distress would have naturally improved without therapy. Some measures did not improve, suggesting ACT processes were less transferrable to Minnie. Furthermore, the stability of Minnie's answers was possibly state-dependent due to difficulties in recalling previous weeks, raising questions about the usefulness of self-report measures in the context of memory impairment. PQ scores and CI quotes provided evidence that positive changes were due to extra-therapeutic factors, such as Minnie's re-engagement with established coping, rather than any new learning.

3.1.5 | Adjudication (Table 3)

All judges concluded with confidence (with 60%–80% certainty) that Minnie's psychological distress and functional well-being improved over the intervention; however, the extent varied between slightly and substantially. All judges largely attributed improvements to therapy over nontherapy factors. Two judges were confident that ACT-specific processes were responsible for more than half of the therapy-related change, and all judges determined that committed action significantly contributed to positive change. Two judges also identified the client–carer relationship as a generic contributor.

The evidence that mattered most to the judges was as follows:

- Reliable and significant change in quantitative measures.
- Engagement in values-based behaviours.
- Minnie and Mo's account (changes noted in the CI and change rating sheets, with attribution to specific techniques).

TABLE 2 Minnie's psychological distress and PF ratings.

Outcome measure	Clinical cut-off	RC min	Baseline	Pre	Post	1-month Follow-up	3-month Follow-up
GAD-7	≥8	4 (↓)	0	3 (=)	1 (=)	3 (=)	0 (=)
PHQ-9	≥10	6 (↓)	**14**	9 (=)	6 (+)	7 (+)	0 (+)
SWEMWBS	≤17	4.35 (↑)	–	23	29 (+)	28 (+)	35 (+)
CompACT-SF	≤30	4.33 (↑)	–	**27**	43 (+)	38 (+)	46 (+)

Note: RC—reliable change (i.e., minimum change score required to demonstrate statistically reliable change at 95% confidence); clinical cut-off; caseness threshold for determining clinically significant symptoms; values in bold fall within the clinical range; – signifies missing data; arrows (↑/↓) indicate the direction of desired change (improvement) for each measure; (+) denotes reliable improvement in relation to first available score; (=) denotes no change; and (–) denotes reliable deterioration.

3.2 | Abridged results for Agatha

3.2.1 | Context and focal problems

Agatha was an 85-year-old woman who was diagnosed with mixed-type Alzheimer's–vascular dementia in March 2021. She was a retired clerical worker and lived with her husband. She had three adult children, one of whom, Jane, was in her fifties and a married business owner, which she balanced with carer responsibilities for her parents. Agatha reported that her dementia had caused her to become very forgetful and confused, which had increased her anxiety.

Prior to her dementia, Agatha reported she had "always been a worrier," with thoughts "all waking hours" about harm coming to her family. Agatha was prescribed Donepezil for dementia. She had not previously had psychological therapy. She was hard of hearing and wore hearing aids.

3.2.2 | Major ACT protocol adaptations

The main features of Agatha's formulation were a fusion to thoughts about dementia-related difficulties and narratives about the person she "should be." Agatha seemed to have identity difficulties due to changes in her abilities (self-as-content), often stating, "When I was normal, …" Whilst Agatha knew what was important to her (values), getting caught up in thoughts (an "internal monologue") was acting as a barrier to committed action. Thus, there was a focus on present-moment awareness, acceptance and thought defusion. Other adaptations included summarising the previous session, offering regular breaks, using visual prompts (Robinson & Moghaddam, 2022), providing more directive communication (Robie, 1999), using shorter dialogue and repetition and reducing session time from 90 to 60 min.

3.2.3 | Quantitative results (Table 4)

3.2.4 | Abridged affirmative and sceptic briefs

The affirmative brief stated there was evidence of some change in PF according to the CompACT-SF (Morris, 2019) and in anxiety and frustration as indicated on the GAD-7 (Spitzer et al., 2006) and PQ (Elliott et al., 1999), assuming the intervention was responsible for changes in chronic difficulties, such as longstanding anxiety.

TABLE 3 Judicial results for Minnie.

	Judge 1	Judge 2	Judge 3
Client change			
Categorisation of outcome (certainty of decision as a %)	Improved (60%)	Improved (80%)	Recovered (80%)
Extent of client change (certainty of decision as a %)	Slightly (80%)	Moderately (80%)	Substantially (80%)
Attribution			
Due to therapy (certainty of decision as a %)	Moderately (80%)	Considerably (80%)	Substantially (80%)
Mediating Factors	• Behavioural activation • Behavioural awareness • Therapeutic relationship • Re-establishing a strong working client–carer relationship	• Mindfulness exercises • Acceptance • Values • Committed action • Therapy adaptations	• Mindfulness exercises • Present-moment awareness • Therapeutic relationship • Therapy adaptations
Moderating factors	• History of values-based behaviour • Past experiences provided a basis for psychological mindedness	• Resourcefulness with established hobbies and coping strategies • Familiarity with mindfulness • Carer support	• Pre-existing interests and hobbies • Pre-existing experience of therapeutic activities • Carer support
Certainty (as a %) that ACT processes contributed to change	60%	60%	80%
ACT-specific processes that contributed to therapy-related change	• Behavioural awareness • Committed action	• Acceptance • Values • Committed action	• Acceptance • Committed action • Cognitive defusion • Present-moment awareness
Generic therapy processes that contributed to therapy-related change	• Improved client–carer bond • Exposure to and discussion of feelings	• Carer support within and outside therapy • Season change	• Therapeutic alliance • Therapy structure • Therapy adaptations
Overall attribution of change to therapy (ACT vs. other factors)	60/40	80/20	40/60

However, Agatha could find the wording in the measures confusing, which may explain why significant change was absent in some measures.

The sceptic argument claimed that any changes were minor and not maintained posttherapy. In the CI, neither Agatha nor Jane reported changes or acknowledged ACT processes. Due to Agatha's recent dementia diagnosis, the sceptic case also questioned the timeliness of the intervention and Agatha's level of impairment and suggested that hearing difficulties likely hindered any positive outcomes, resulting in her early withdrawal from therapy.

3.2.5 | Adjudication (Table 5)

Judges unanimously concluded with a high level of certainty (80%–100%) that Agatha remained unchanged (hence, verdicts on attribution of change were not applicable, nor tabulated). Whilst quantitative measures implied some improvement in the following months, it was doubtful this could be attributed to therapy.

3.3 | Abridged results for Phyllis

3.3.1 | Context and focal problems

Phyllis was a 90-year-old woman who was diagnosed with vascular dementia in July 2020. Phyllis was a retired civil servant and widowed 11 years ago. She had two adult children. Her daughter, Julie, was a married teacher in her fifties. Julie lived elsewhere in the United Kingdom and visited Phyllis as often as possible. Phyllis was also supported by a next-door neighbour on an almost daily basis. Phyllis said she had been "a procrastinator a long time" and found it helpful to think things over from different angles to enable her to do something in an easier or time-efficient way. Due to her dementia, Phyllis could present as quite distractible and had difficulties with timekeeping.

Phyllis took statins and a daily aspirin. She was not prescribed dementia medication, nor previously had psychological therapy. She was hard of hearing and wore hearing aids.

3.3.2 | Major ACT protocol adaptations

Important aspects of Phyllis' formulation were experiential avoidance of sadness and embarrassment about her physical health difficulties and a fusion to thoughts about how she should be spending her time doing household chores. Whilst Phyllis knew what was important to her (connectedness with others), "procrastination," distractibility and avoidance of difficult thoughts and feelings had become increasingly restrictive of valued action (such as attending community events and socialising). Hence, the intervention focussed on present-moment awareness, thought defusion and the workability of some of Phyllis' behaviours to promote committed action. Other adaptations included flexibility with session start time, recapping the previous session, offering regular breaks, using visual prompts (Robinson & Moghaddam, 2022), concrete examples, directive communication (Robie, 1999) and repetition (Grant & Casey, 1995).

3.3.3 | Quantitative results (Table 6)

3.3.4 | Abridged affirmative and sceptic briefs

The affirmative case emphasised statistically reliable, significant improvements in anxiety and depression on quantitative measures. Evidence from the CI suggested Phyllis became more skilled at mindfulness and in noticing thoughts without getting caught up in them. Phyllis' ability to discuss her feelings openly was also markedly improved ("… I'm not used to people asking sort of personal questions … but I got used to it as time went on"). Julie reported Phyllis seemed able to defuse from the thought that "people will see me hobbling" to enable her to ask her neighbour for help, according to the PQ (Elliott et al., 1999), and re-engage in things she enjoyed ("I think that helped my mum a lot more…I think she'd been focusing…about her mobility and what people would think").

The sceptic brief proposed that Phyllis' problems were unstable since her screening scores improved considerably by the first session, indicating that her distress could have changed without

TABLE 4 Agatha's psychological distress and PF ratings.

Outcome measure	Clinical cut-off	RC min	Baseline	Pre	Post	1month follow-up	3-month follow-up
GAD-7	≥8	4 (↓)	**18**	**17** (=)	**18** (=)	**21** (=)	**12** (+)
PHQ-9	≥10	6 (↓)	9	9 (=)	**10** (=)	8 (=)	5 (=)
SWEMWBS	≤17	4.35 (↑)	–	19	20 (=)	22 (=)	23 (=)
CompACT-SF	≤30	4.33 (↑)	–	**21**	**24** (=)	**28** (+)	**25** (=)

Note: RC—reliable change (i.e., minimum change score required to demonstrate statistically reliable change at 95% confidence); clinical cut-off; caseness threshold for determining clinically significant symptoms; values in bold fall within the clinical range; – signifies missing data; arrows (↑/↓) indicate the direction of desired change (improvement) for each measure; (+) denotes reliable improvement in relation to first available score; (=) denotes no change; and (–) denotes reliable deterioration.

therapy. Moreover, Phyllis' working alliance with Julie was helpful in sharing the management of Phyllis' distress, similar to real-life clinical practice and the context in which Phyllis was living. There were evidently between-session processes with facilitative conversations about therapy and support from Julie with between-session tasks. Thus, relational factors may have resulted in improvements.

3.3.5 | Adjudication (Table 7)

Two judges concluded with 60% certainty that Phyllis remained unchanged, whilst one judge felt she had improved to a slight degree. The extent of change attributed to therapy varied from slightly to moderately. There was mixed opinion regarding mediating factors; however, judges agreed that the client–carer relationship was helpful, as were the ACT processes of values and committed action. Judges' certainty that ACT had led to change varied from 20% to 40%.

3.4 | Cross-case synthesis

Across the three cases, the following patterns were identified:

- ACT processes thought to partially mediate outcomes were values identification, committed action and acceptance.
- The working alliance between client and carer was also a likely mediator of therapeutic change. Whilst not formally measured, indicators of a strong alliance included carers who shared clients' distress through facilitative conversations about therapy and supported with between-session tasks.
- Moderating processes included client willingness, engagement, resilience, perseverance, pre-existing therapeutic experience and established coping and hobbies. Conversely, clients with progressed dementia or with less facilitative carers were met with extra challenges.
- One judge highlighted that some processes were not necessarily ACT-specific but evident in other therapeutic approaches (e.g., "committed action" in ACT and "behavioural activation" in CBT).

4 | DISCUSSION

This study aimed to investigate the effectiveness and acceptability of ACT for people with dementia experiencing psychological distress. The study evaluated ACT for this population using a case series approach to examine change processes and address questions of causality, mediation and moderation. Rich case records from three client participants were examined by an expert panel of clinical psychologists to conclude upon the efficacy of the intervention.

Findings showed one client (Minnie) improved at least slightly, and at most, recovered substantially in key problem areas, whilst two (Agatha and Phyllis) remained unchanged. Though one judge indicated that Phyllis had improved slightly, it was hard to attribute this to therapy due to unclear evidence that ACT processes were key over and above relational and structural therapy aspects.

4.1 | Clinical and theoretical implications

4.1.1 | Effectiveness

Despite mixed conclusions between and within cases, two of the three clients demonstrated reliable improvement in anxiety and depression at the 1- and 3-month follow-up. Judicial outcomes suggested both ACT-specific processes (values, committed action and acceptance) and generic therapy factors (particularly the

TABLE 5 Judicial results for Agatha.

	Judge 1	Judge 2	Judge 3
Client change			
Categorisation of outcome (certainty of decision as a %)	Unchanged (80%)	Unchanged (100%)	Unchanged (80%)
Extent of client change (certainty of decision as a %)	No change (80%)	No change (100%)	No change (60%)

TABLE 6 Phyllis' psychological distress and PF ratings.

Outcome measure	Clinical cut-off	RC min	Baseline	Pre	Post	1-month follow-up	3-month follow-up
GAD-7	≥8	4 (↓)	**9**	4 (+)	4 (+)	2 (+)	3 (+)
PHQ-9	≥10	6 (↓)	**12**	3 (+)	5 (+)	5 (+)	6 (+)
SWEMWBS	≤17	4.35 (↑)	–	27	24 (=)	25 (=)	23 (=)
CompACT-SF	≤30	4.33 (↑)	–	**21**	**20** (=)	**24** (=)	**22** (=)

Note: RC—reliable change (i.e., minimum change score required to demonstrate statistically reliable change at 95% confidence); clinical cut-off; caseness threshold for determining clinically significant symptoms; values in bold fall within the clinical range; – signifies missing data; arrows (↑/↓) indicate the direction of desired change (improvement) for each measure; (+) denotes reliable improvement in relation to first available score; (=) denotes no change; and (–) denotes reliable deterioration.

TABLE 7 Judicial results for Phyllis.

	Judge 1	Judge 2	Judge 3
Client change			
Categorisation of outcome (certainty of decision as a %)	Unchanged (60%)	Improved (60%)	Unchanged (60%)
Extent of client change (certainty of decision as a %)	Slightly (40%)	Slightly (60%)	Moderately (60%)
Attribution			
Due to therapy (certainty of decision as a %)	Slightly (40%)	Moderately (80%)	Moderately (60%)
Mediating factors	• Identifying values • Committed action • Increased emotional openness	• Mindfulness exercises • Remote therapy delivery	• Committed action
Moderating Factors	• Positive client–carer relationship • Embedded in a community • Willingness to engage with others and technology • Resilience and perseverance	• Carer support • Facilitative conversations with carer	• Carer support • Willingness to engage in therapy • Availability of online groups and community events • Supportive neighbour
Certainty (as a %) that ACT processes contributed to change	40%	20%	20%
ACT-specific processes that contributed to therapy-related change	• Values • Committed action	• Values • Committed action • Acceptance • Cognitive defusion	• Committed action
Generic therapy processes that contributed to therapy-related change	• Therapist empathy (alliance) • Client–carer alliance • Goal consensus	• Therapeutic alliance • Timing of therapy • Remote therapy delivery	• Therapeutic alliance • Therapy adaptations
Overall attribution of change to therapy (ACT vs Other Factors)	20/80	60/40	20/80

client–carer relationship) facilitated change for one client. This may suggest that psychological distress was sensitive to increases in PF, as well as differences in the client–carer relationship and clients' ability to adopt an ACT-consistent understanding of their internal world. Targeting psychological inflexibility via ACT techniques, such as the "beach ball" metaphor to increase acceptance, seemed to contribute to change in this client. Two clients could commit to value-congruent behaviours during therapy (e.g., socialising); however, this may have been as a result of continued carer support. Hence, carers' ability to facilitate values-based action seemed important towards therapeutic change. A combination of remote therapy, technical issues, hearing difficulties, level of impairment and variable carer support likely acted as extra-therapeutic moderators, resulting in the judicial conclusions of no change for two clients. Yet, distress reduction occurred for one client without therapeutic aims to change their distressing thoughts. This has important theoretical implications for understanding the use of acceptance-based approaches that genuinely validate people with dementia and support re-engagement with valued activities despite symptoms, thoughts and feelings that may be typical of the condition (Gillanders & Laidlaw, 2014).

4.1.2 | Acceptability

In most cases, using ACT systemically in the triad between client, carer and therapist appeared to facilitate a strong client–carer working alliance, akin to the child and adolescent literature in which parents act as co-therapists (Barmish & Kendall, 2005; Manassis et al., 2014). The client–carer relationship, in combination with existing client interests and hobbies (values-driven behaviour) and therapy adaptations, appeared to provide the setting for an effective ACT intervention. However, results suggested that common factors alone did not account for the full extent of therapy-related change, with ACT processes playing a varying role for two of the three clients. Still, it is challenging to assess the role of model-specific versus generic, nontherapy processes due to their degree of interdependence (Laska & Wampold, 2014).

Though all clients met inclusion criteria, they were heterogenous in a variety of ways. For example, differences in individual traits, skills and experiences, cognitive ability, time since diagnosis and carer relationships possibly limited cross-case comparisons. Judging when and how to introduce concepts was individualised, but there were commonalities in which ACT metaphors did not achieve the intended outcome versus those that were better understood and engaged with, namely those shorter, more immediate and less abstract exercises (e.g., the "beach ball" metaphor and "pushing away paper" exercise). Therefore, whilst an ACT intervention may be acceptable for people with a milder level of cognitive impairment, receipt of a dementia diagnosis should not be a barrier to accessing therapy.

Whilst remaining aware not to stereotype people with dementia with what they are able to comprehend (Gillanders & Laidlaw, 2014; Harris, 2013), there were similar adaptations required to aid engagement, not only to the intervention but also for remote and carer-assisted

TABLE 8 Examples of therapy techniques used to target psychological inflexibility processes.

Psychological flexibility term	Process of psychological inflexibility	Examples of techniques used in therapy to target processes of psychological inflexibility
Cognitive defusion	Cognitive fusion	Leaves on a stream Labelling thoughts
Acceptance	Experiential avoidance	Pushing away paper Passengers on a bus Beach ball
Noticing self (self-as-context)	Overattachment to self-content (self-as-content)	General discussion about important roles (e.g., wife and mother)
Contact with the present moment	Past- or future-dominated attention	Three-minute present-moment awareness exercise Mindfulness of breath
Values clarity	Remoteness from values	80th birthday party Values circle
Value committed action	Unworkable action	Goal setting Assertiveness

delivery. These included offering regular breaks, using visual prompts (e.g., screen sharing; Robinson & Moghaddam, 2022) and providing directive communication (Robie, 1999), repetition (Grant & Casey, 1995) and tangible examples (Table 8) to support ACT concepts and negotiate time for clients and carers to share their perspectives.

The current study used an ACT-consistent intervention and benefitted from a high level of ecological validity in the presentations encountered. Thus, results can support clinical decisions for the treatment of people with dementia experiencing distress, particularly those referred to MAS. But, due to the small sample size and inconsistent outcomes, such considerations are tentative.

4.2 | Limitations

Whilst the dual role of the first author enabled generation of knowledge in context and captured complexity in the therapy process (McLeod, 2010), a major criticism is of the associated researcher bias. Although potential bias was reduced with the involvement of independent judges to cross-examine the case records, judges likely had their own biases according to theoretical orientation and clinical experience. It seemed judges drew upon different evidence to form their conclusions, and one judge appeared more optimistic about change in Phyllis' case, possibly indicating greater reflection of achievable change in a real-life setting (Elliott, 2002; Elliott et al., 2021). Hence, the study may have benefitted from joint adjudication, with judges acting as a jury to provide one conclusion per client (Bohart et al., 2021).

A further limitation was the study's reliance on self-report measures owing to clients' reduced reflective capabilities, recollection of previous weeks and understanding of the wording in some measures, which risked negotiation of scores with their carers. The inclusion of behavioural measures could have helped with process–outcome mapping over the course of therapy (Newsome et al., 2019).

Finally, all clients and carers were White British, mother–daughter dyads. Whilst this may illustrate how carer responsibilities typically fall to female family members (Alzheimer's Research UK, 2015), this may reduce result applicability to more diverse populations.

4.3 | Recommendations

- Therapy components important to consider when using ACT systemically with people with dementia include supporting a strong client–carer working alliance, facilitating exposure to and acceptance of avoided, suppressed emotions, and planning value-driven behaviour, with less reliance on memory by using shorter, immediate and less abstract ACT metaphors.
- Weekly behavioural and process measures and/or posttherapy CIs may help to monitor and understand change processes in real-life clinical practice if this does not increase client burden.
- Therapist process notes, including reflections upon alliance, formalised therapist ratings and monitoring completion of between-session tasks could be beneficial in examining other non-specific therapy factors.
- Whilst ACT may be acceptable to those with a milder level of cognitive impairment, receipt of a dementia diagnosis should not be a barrier to accessing therapy.
- To improve acceptability, older adult service pathways, such as MAS, could offer increased flexibility and choice of therapy delivery (in-person or remote).
- Future studies should optimise ACT delivery in dementia via a new case series. Though ACT is mainly delivered individually or in groups, the carer-supported aspect is currently understudied and may be critical to working therapeutically with this population. Hence, the inclusion of a companion may be important for clinical practice.

5 | CONCLUSION

This study applied a therapeutic intervention to an under-researched dementia population using a methodology that enabled

the exploration of complex therapy processes and contributes to the limited psychotherapy evidence base for people with dementia.

The client–carer relationship in this study was revealed to be a mediator of therapeutic outcomes, which offers a novel contribution to the literature. ACT can be used systemically to support values-based behaviours and favourable outcomes for some, and thus, may be a feasible and effective vehicle for therapeutic change by helping carers to better meet the needs of their loved ones. This may offer a finding generalisable to populations supported by carers, such as those with other long-term conditions or cognitive impairments.

There was one case of positive change and two cases of no change. The critical differentiators were deemed to be extra-therapeutic. Considering the intervention, inclusion criteria and measurements used, future research may benefit from further optimising ACT delivery in this population via a new case series. Furthermore, to explore whether change processes occur by proxy (with the carer as a co-client) or co-facilitation (with the carer as co-therapist), assessing the carers' PF and client–carer relationship may enhance the evidence base for systemic ACT use.

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CONFLICT OF INTEREST STATEMENT

None.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ETHICS STATEMENT

Ethics approval for this project was obtained on 2 December 2020 from Wales Research Ethics Service 6 (REC reference: 20/WA/0317).

PATIENT CONSENT STATEMENT

All participants provided written informed consent prior to enrolment in the study and for the publication of this project.

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APPENDIX 1

Definitions of act processes and techniques

TABLE A1 Six ACT processes and the inverse processes and definitions adapted from Francis et al. (2016) and Hayes et al. (2012).

Psychological flexibility term	Process of psychological inflexibility	Definition of psychological inflexibility	Examples of techniques used in therapy to target processes of psychological inflexibility
Cognitive defusion	Cognitive fusion	Accepting and fixating on cognitions as "truths"	Leaves on a stream Labelling thoughts
Acceptance	Experiential avoidance	Attempting to reduce the form or frequency of unwanted internal or external experiences	Pushing away paper Passengers on a bus Beach ball
Noticing self (self-as-context)	Overattachment to self-content (self-as-content)	Fixed view of "who" oneself is/ overattachment to the self-narrative	General discussion about important roles (e.g., wife and mother)
Contact with the present moment	Past- or future-dominated attention	Rigid focus on past or future events	Three-minute present-moment awareness exercise Mindfulness of breath
Values clarity	Remoteness from values	Unclear or vague idea of what aspects of life are personally important	80th birthday party Values circle
Value committed action	Unworkable action	Action/inaction that is incongruent with one's values	Goal setting Assertiveness

Cognitive defusion

Cognitive defusion aims to create separation or distance from the content of one's unpleasant thoughts, images or memories, by learning to step back or detach from them, rather than getting caught up in them. The aim is for the person to notice their thoughts as such, in order to reduce their power upon their mood or well-being. Techniques include:

- Leaves on a stream mindfulness script to imagine sitting by a stream, placing thoughts on leaves and watching them float away.
- Labelling thoughts, such as "That's an emotion/judgement/urge."
- Phrases such as "I'm having the thought that …" or repeating thoughts aloud, which has been found to reduce believability and subjective distress experienced from negative self-relevant phrases (Masuda et al., 2004).

Acceptance

ACT aims to foster acceptance, which can be described as a willingness to make room for painful feelings, sensations and urges instead of trying to resist, control or eliminate them (Harris, 2006). Acceptance does not necessarily mean wanting to experience aversive private events, but involves actively embracing them, in the pursuit of engaging in a life of valued activity. Techniques include:

- Pushing away paper script to imagine holding a piece of paper (representing unwanted thoughts and feelings) outstretched and noticing how tiring and distracting this can be, instead of resting the paper on one's lap.
- Passengers on a bus metaphor, representing the client as the driver (of their own life) and aggressive or critical passengers representing difficult thoughts and feelings. This illustrates that the client can choose to drive the "bus" towards what is important to them, in spite of the "passengers."
- Beach ball metaphor to recognise the futility of trying to ignore or suppress unwanted negative thoughts and feelings (akin to effortfully holding a beach ball underwater).

Self-as-context

Self-as-context is used as a way to help people to view their inner experiences as separate from themselves, in other words, that they are greater than their experiences. The aim is to seek separation from the person's attachment to their conceptualised self or "self-as-content." It proposes an observer stance; the observing self never changes; you have been the same "you" all your life, irrespective of dementia.

Present-moment awareness

Present-moment awareness requires a connection with private experiences nonjudgementally (Harris, 2006). Mindfulness exercises can be used to orient to the present moment, and experiential practice can be used to help accept and make room for both negative and positive experiences (Hayes et al., 1999).

Techniques include:

- Three-minute present-moment awareness exercise to focus on the breath and tune into thoughts and feelings.
- Mindfulness of breath exercise to bring awareness and curiosity to one's breathing.

Values

Values can be described as personally chosen, desired life directions. Values are thought to guide behaviour, rather than being an achievable goal. Often, people can become disconnected from their values and recognise discrepancies between their current lifestyle and how they wish to live their life. Identifying what really matters in life can provide a salient purpose to the way in which we choose to behave. Techniques include:

- 80th birthday party script to consider the client's "ideal life" and imagine what party guests may say about them, what was important to the client, the role they played and what they embodied in their life.
- Values circle (pie chart) to consider the extent to which the client is currently living in line with their chosen values (to identify areas that they would like to live in more congruence with).

Committed action

Once values have been identified, specific, meaningful and time-specific goals can be set and achieved to help one act in congruence with their values, with a view to living a more fulfilling, meaningful life. Techniques include:

- Goal setting (short-term, medium-term and long-term) and problem-solving any barriers to achieving these.
- Identifying different communication styles and practising assertiveness skills via role-play to support committed action.

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