Title page

Title: Brief Psychological Intervention for Distress Tolerance in a Secondary Care Adult Community Mental Health Service: An Evaluation

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Running head: Evaluation of Distress Tolerance BPI *(to be included as separate file to article when submitting to journal)*

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Conflict of interest

Isobel Wright, Emma Travers-Hill[1], Jordan Troup[1], Fergus Gracey[2], Stephanie Casey[1], Katherine Parkin and Youngsuk Kim[1]have no conflict of interest with respect to this publication.

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Ethical statement

Authors have abided by the Ethical Principles of Psychologists and Code of Conduct as set out by the APA. The Trust Quality Improvement Team confirmed that ethical approval was not required as the evaluation involved routinely collected clinical data and gave authorisation for the evaluation as a Quality Improvement Project.

Abstract

Distress intolerance has been suggested to be a maintaining factor in several mental health conditions. Distress tolerance skills training has been found to be beneficial in Emotionally Unstable Personality Disorder (EUPD) and Post-Traumatic Stress Disorder (PTSD). Short-term targeted interventions are increasingly being implemented in response to demand. This study investigates the efficacy of a Distress Tolerance Brief Psychological Intervention (DT BPI) delivered by non-psychologists within an adult secondary care mental health service. Questionnaire data (pre and post) are reported from 43 participants who completed the intervention. Results suggest that the intervention was associated with significant improvements in distress tolerance, mood, anxiety and wellbeing. This indicates that a DT BPI can be effective when delivered by non-psychologists to real-world adult secondary care clients. The findings offer promising evidence that DT BPI could be a beneficial, cost-effective intervention and warrants further large-scale investigation.

Key words: Adults, emotion, evidence-based practice, psychological therapies, service evaluation.

Key Learning Aims

- To enhance practitioners' awareness of distress intolerance as a potential maintaining factor and therefore treatment target.
- To outline a transdiagnostic distress tolerance brief psychological intervention.
- To illustrate the potential of this distress tolerance brief psychological intervention to produce positive reliable change with real-world clients when delivered by non-psychologists.

Introduction

Emotional distress is an inherent part of most mental health conditions, for some people this is the most difficult part of their experience. Distress intolerance is a perceived inability to experience negative emotions and a desperate need or urge to escape these. Distress intolerance can lead to ineffective attempts to regulate emotional arousal which may create new problems (Linehan, 1993; Saulsman & Nathan, 2012) and this includes self-destructive coping strategies such as self-harm and suicidal behaviour (Anestis *et al*. 2012). Distress intolerance is often present in those with mood disorders, and personality disorders such as Emotionally Unstable Personality Disorder (EUPD). A study investigating Cognitive Behaviour Therapy (CBT) for depression found that patients with lower initial distress tolerance scores had higher symptomatology at baseline and post-treatment (Williams *et al.* 2013). Higher emotional reactivity and lower distress tolerance have been found in depression compared to healthy controls (Ellis *et al.* 2013). This highlights the importance of targeting distress tolerance directly where this is an issue alongside low mood, as low distress tolerance may maintain symptomatology.

Similarly, inability to tolerate distress may be a maintaining factor in Post-Traumatic Stress Disorder (PTSD), as distress intolerance has been found to be associated with global PTSD symptom severity (Vujanovic *et al.* 2013). In a study of veterans receiving concurrent treatment for PTSD and substance use disorder in a residential day programme pre-treatment distress tolerance was predictive of post-treatment PTSD severity, while controlling for pre-treatment PTSD (Levy, Wanklyn, Voluse & Connolly, 2018). Distress intolerance has been described as a transdiagnostic factor explaining the comorbidity of depression, PTSD and alcohol misuse in young adult veterans (Holliday *et al.* 2016) and poor distress tolerance may

confer risk for worry, anxiety and depression (Allan *et al.* 2014). There is preliminary evidence that distress tolerance may be associated with maladaptive use of cigarettes and behaviours related to body image concerns (Burr *et al.* 2020; Cunningham *et al.* 2020).

Distress tolerance skills training was initially developed as a key part of treatment for EUPD (e.g. Linehan, 1993). Increased skills use has been statistically shown to be a mechanism for change in suicidal behaviour, depression and anger control (Neacsiu *et al.* 2010). Skills training alone has been shown to be superior to psychodynamic group therapy (lower drop out, greater improvement in mood and emotion; Soler et al., 2009). As distress intolerance is not unique to EUPD, aspects of this skills training have been adapted to other mental health conditions. A brief mental health crisis intervention package demonstrated effectiveness at increasing distress tolerance and self-management skills (Yardley, McCall, Savage & Newton, 2019). Distress tolerance interventions have also been developed aimed at improving self-management of chronic physical health conditions, but it has been reported that further research into the efficacy of these is needed (Russell, Lincoln & Starkweather, 2018). Some psychological interventions delivered by non-psychologists have been evaluated, in the field of physical health (Bostick, 2017; Hill, McKernan, Wang & Coronado, 2017).

Treatment for PTSD usually involves exposure work, but this can initially increase distress and sometimes preparatory work is needed to enable clients to cope with this. A model has been offered for integrating DBT skills with trauma exposure work to increase acceptability of treatment (Becker & Zayfert, 2001). A two-phase process, where DBT skills were taught

prior to narrative exposure work showed significant reductions in mood, PTSD and interpersonal symptoms (Bradley & Follingstad, 2003).

In response to increasing demands on mental health services and lengthening waiting lists for psychological input in the United Kingdom's National Health Service (NHS), shorter interventions are being investigated. Brief psychological interventions (BPIs) have been developed using some components of longer term therapies (such as distress tolerance) and designed for delivery by non-psychologists. Effective short-term CBT based interventions have been developed for panic (Lessard *et al.* 2012), depression (Mihalopoulous *et al.* 2011) and psychosis (Waller *et al.* 2013) among others.

In summary, it has been found that distress intolerance is problematic in several mental health conditions and that specifically increasing distress tolerance can be helpful. Although several studies have identified DBT skills training as useful for EUPD and PTSD (e.g. Harley, Baity, Blais & Jacobo, 2007; Bradley & Follingstad, 2003), this has not been manualised and delivered as a trans-diagnostic BPI in previous studies within a real-world secondary care mental health setting. Although distress tolerance has been linked to depression, to the authors' knowledge distress tolerance has not been explicitly targeted in depression treatment. Furthermore, the inclusion criteria of previous studies have not reflected the breadth and complexity of presentations and comorbidity apparent in the majority of adult secondary care mental health services.

The secondary care community mental health teams reported here have developed manualised BPIs, which are delivered by non-psychologists, under supervision of clinical

psychologists. The BPIs are specific, targeted interventions to be delivered either in isolation or whilst the client is awaiting intervention from a psychologist. Distress Tolerance is one of these BPIs offered to clients who have difficulties managing distressing emotions. Distress Tolerance is provided to clients with a range of diagnoses and presenting problems, including those with traits of EUPD, PTSD (if distress tolerance is problematic), depression (if a main issue is intolerance of distress) or those using self-harm to escape unpleasant emotion.

The aim of the present study is to examine whether a manualised Distress Tolerance BPI delivered by non-psychologists within an adult community mental health team can be effective.

Methodology

Design

A within-subject, repeated measures design was used to compare scores on measures completed before and after the course of DT sessions to assess the effectiveness of the intervention. Pre-intervention scores and demographic data of clients who completed the intervention and those who did not were also compared to assess for differences in which clients found the intervention acceptable.

Participants

Participants were 82 consecutive clients allocated to receive DT BPI from March 2017 to March 2018 within two secondary care multidisciplinary community mental health teams. Referrals for BPI were made internally by team members (e.g. occupational therapists,

psychiatrists, psychiatric nurses). Participants' clinical presentation was assessed through routine intake assessment and review of notes. Team clinical psychologists met weekly to decide whether BPI referrals were appropriate. Psychologists discussed cases with referrers to enable initial formulation and inform choice of BPI.

The current study focusses on Distress Tolerance. Efficacy of the other BPIs (Anxiety Management and Behavioural Activation) has been reported separately (Roberts *et* al. 2018). Exclusion criteria included significant and current substance use problems, need for further assessment, ongoing psychological intervention, and current personal/social difficulties better suited to another service (e.g. drug and alcohol service). Substance use services were deemed better placed to provide initial intervention when these difficulties were present due to their expertise in this area and as Distress Tolerance BPI was not developed for these issues. When clients reached 3 months of no substance use they were reviewed and BPI offered if appropriate, as by this point they would be more able to attend, retain information provided and better placed to try out using psychological skills rather than substances to manage distressing emotions. Due to limited resources, previous poor engagement with mental health services was an additional exclusion criterion. **Measures**

All measures were self-report questionnaires routinely used in the service.

Primary Measures

Two primary outcome measures were used to assess DT. The Distress Tolerance Scale (DTS) has 15 items, each rated from 1 (strongly agree) to 5 (strongly disagree), higher scores indicating greater ability to tolerate distress. Four subscales have been identified; tolerance, absorption, appraisal and regulation. Subscale scores are derived by taking the mean of relevant items. The higher-order DTS score is the mean of all subscales. The authors of the measure found support for convergent, discriminant and criterion validity, also test-retest

reliability (Simons & Gaher, 2005). The Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) has 36 items, higher scores indicate more problems with emotion regulation. The authors found high internal consistency, good test-retest reliability and adequate construct and predictive validity. Excellent internal consistency and good construct validity have also been found (Fowler *et al.* 2014).

Secondary Measures

Four secondary outcome measures were used. The Generalised Anxiety Disorder Assessment (GAD-7) is a commonly used 7 item measure, higher scores indicating higher levels of anxiety. It has evidence of validity and good internal consistency (Lowe et al 2008). The Patient Health Questionnaire (PHQ-9) is a widely used 9-item measure of depression, higher scores indicating greater levels of depression symptoms. It has diagnostic validity for Major Depressive Disorder and appears to be reliable and valid (Kroenke *et al.* 2001). It is sensitive to change over time (Lowe *et al.* 2004). The Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS) is a 7-item measure of mental wellbeing and functioning. Higher scores indicate greater wellbeing. SWEMWBS has interval level measurement, unidimensionality and measurement invariance (Bartram *et al.* 2013). The Work and Social Adjustment Scale (WSAS) is a 5-item measure of impaired functioning, higher scores indicating more impairment. It has been found to be a simple, reliable and valid measure of impaired functioning that is sensitive to change (Mundt *et al.* 2002).

Treatment manual

The DT BPI manual (see Supplementary Materials and Table 1 for a summary) was developed by two senior clinical psychologists working within adult mental health services. This manual draws on self-help modules developed by Saulsman and Nathan (2012) and

DBT ideas (e.g. Linehan, 1993). The manual is divided into two main sections; 1) DT for developing constructive coping strategies to manage distressing, extreme emotions and 2) emotion regulation for managing day-to-day fluctuating emotions. The aims of the manual are to 1) increase distress tolerance skills and 2) increase effective management of emotions arising from day-to-day situations. It was designed to be delivered over six to eight 1-hour sessions. Contents include introduction to distress intolerance, psychoeducation to emotions, strategies and action plans to cope with distress, introduction to the principles of emotion regulation, emotion regulation strategies and action plans.

Table 1. DT BPI manual topics and descriptions to be positioned here

Procedure

BPIs were delivered individually by non-psychologists within the team, usually support workers (who do not have mental health professional qualifications), on few occasions, occupational therapists and community psychiatric nurses. All clinicians who delivered BPIs had attended specific training (one day for each BPI), developed and delivered by clinical psychologists within the teams. Bimonthly BPI group supervision was provided by clinical psychologists within the teams, this involved discussion, formulation and problem solving of ongoing cases. Compliance with the manuals was encouraged and informally monitored through group supervision. All of the above was in line with usual practice within the teams.

Ethical considerations

The Trust Quality Improvement Team confirmed that ethical approval was not required as the evaluation involved routinely collected clinical data and gave authorisation for the evaluation as a Quality Improvement Project. Authors abided by the Ethical Principles of Psychologists and Code of Conduct as set out by the BABCP and BPS.

Results

The flow of participants is described in Figure 1.

Figure 1. Participant flow diagram to be positioned here

Electronic client mental health records were used to determine whether clients had completed DT BPI.

Non-starters vs Completers vs Non-completers of DT BPI

The reasons documented for participants not starting the BPI were that they had disengaged (81.8%) or were accessing another service (18.2%). Of the non-starters 27.3% of clients received alternative input from the team; 63.3% were discharged to their General Practitioner (GP, family doctor) and 9.1% were referred on to Improving Access to Psychological Therapies (IAPT), a primary mental health care service.

Table 2. Age and gender characteristics to be positioned here

There was no significant difference in the age of participants who did not start, did not complete or completed DT BPI (detailed in Table 2). There was a significant between-group difference in gender.

Across all participants, the most common presentation was depression. The second most common was depression and anxiety, followed by others (including single descriptions/combinations of anxiety, EUPD traits, PTSD, bipolar disorder, adjustment disorder and depression). There was no difference in presentation between those who did not

start the BPI, did not complete and completed the intervention (p=0.819, two-tailed Fisher's Exact Test).

Completers vs Non-completers of BPI

The reasons documented for participants not completing the DT BPI were opting out/disengaging (57.1%); clinician judgement that the BPI was no longer suitable (32.1%); client moving away (7.1%) and client being admitted to hospital (3.6%). 28.6% of participants who did not complete DT BPI received other input from the teams (e.g. psychology, another BPI, support with substance misuse, care-coordination); 14.3% were referred to other services (e.g. recovery coaches, personality disorder service) and 57.1% were discharged to their GP.

The mean number of sessions was significantly higher (t_{68} = 7.768, p <.001) for clients who did complete the intervention (mean 6.95, SD 2.09, range 4-14) compared to those who did not (mean 3.26, SD 1.66, range 1-7). The duration of DT BPI was significantly longer (t_{68} = 3.833, p <.001) for those who completed the intervention (mean 77.33 days, SD 41.84, range 14-199) compared to those who did not (mean 41.22 days, SD 31.93, range 1-113).

The proportions of different types of treating clinician did not differ significantly (p=0.687, two-tailed Fisher's Exact Test) between those who completed treatment (STR worker 90.7%; Peer Support Worker 2.3%; Other 7.0%) and those who did not (STR Worker 89.3%; Peer Support Worker 7.1%; Other 3.6%).

Table 3. Pre-intervention scores to be positioned here

There were no significant differences between participants who did and did not complete the DT BPI on any of the measures apart from DTS (shown in Table 3). Participants who

completed the DT BPI scored higher than those who started and did not complete. This indicates that participants who completed the DT BPI had a greater ability to tolerate distress pre-intervention than those who started and did not complete.

Table 4. Pre and post intervention measures for participants who completed the intervention to be positioned here

Paired sample t-tests were used to examine the differences between pre and post intervention scores (Table 4). Missing data were accounted for where possible by using the last observation carried forward. There were significant differences between the pre and post intervention scores on all measures in the direction of improvement and reduced symptoms (a higher score indicates greater wellbeing on the SWEMWBS and greater ability to tolerate distress on the DTS). Effect sizes were medium for the primary measures (DTS and DERS) and mixed for the secondary measures (small for WSAS, medium for PHQ-9 and large for GAD-7 and SWEMWBS).

Reliable change scores were calculated for each of the measures, using the standard deviation of matched samples and reliability coefficients of the measures (see Table 5). Where changes in pre-post score exceeded these values, it was concluded that a reliable change had taken place (Jacobson & Truax, 1991). It was also calculated whether changes in pre-post scores were clinically significant; whether scores had shifted from the clinical to non-clinical range on the measure. This also involved methodology from Jacobson and Truax (1991); utilising clinical and non-clinical means and standard deviations for each measure to calculate the clinically significant change value. Where changes in pre-post score exceeded these values, it was concluded that a clinically significant change had taken place.

Table 5. Reliable and clinical change to be positioned here

Reliable and clinical change scores for the DTS were calculated using healthy norms data (Gawrysiak *et al.* 2015) and clinical data from a community sample (Williams, 2012). Healthy norms for the DERS were taken from a prospective study of emotional dysregulation (Bjureberg *et al.* 2016); clinical norms were taken from an outpatient sample (Hallion *et al.* 2018). Reliable change scores calculated in a large-scale study looking at recovery rates in IAPT (Gyani *et al.* 2013) were used. In line with previous studies (e.g. Gyani *et al.* 2013), cut-off scores were used to assess for clinical change on the GAD-7 and PHQ-9. Healthy norms for the SWEMWBS were taken from a large-scale survey (Bartram *et al*. 2013) and clinical norms were taken from an outpatient sample (Vaingankar *et al.* 2017). Healthy norms for the WSAS were taken from a control group in a study looking at complicated grief (Dell'Usso *et al*. 2011) and clinical norms were taken from a study that recruited from a secondary care mental health service (Garner *et al.* 2016).

The overall pattern of change in scores across measures was examined for each of the 43 participants who completed the intervention (see Figure 2). It was determined whether they had improved overall (reliable improvement on at least one measure, with no reliable deterioration) or deteriorated overall (reliable deterioration on at least one measure, with no reliable improvement). It was found that 60.5% had improved overall, 7.0% had deteriorated overall and the remaining 32.5% had no reliable change or mixed improvement and deterioration across measures.

Figure 2. Overall reliable change to be positioned here

Discussion

Distress intolerance has been suggested as a potential maintaining factor in several mental health conditions (e.g. EUPD, PTSD, depression) as well as across diagnoses. There is a growing body of evidence that targeting these skills directly may be beneficial for specific diagnoses (e.g. Harley, Baity, Blais & Jacobo, 2007; Bradley & Follingstad, 2003). The present study evaluated a trans-diagnostic DT BPI delivered by non-psychologists within two secondary care community mental health teams.

Data showed significant differences pre-post intervention on all measures, indicating improvements in distress tolerance, anxiety, mood, wellbeing and functioning. Effect sizes were generally medium to large. The overall pattern of change across measures was considered for each participant, more than half had shown reliable improvement on at least one measure. Although these results seem promising they must be considered in context; they are the patterns from participants who completed the intervention only, and 39% of participants who started the intervention did not complete it. Average dropout rates reported by meta-analyses have decreased over time, from 47% (Wierzbicki & Pekarik, 1993) to 19.7% (Swift & Greenberg, 2012). It would be interesting for future work to compare these rates with general clinical practice of psychologists, non-psychologists and during brief interventions, when more evidence is available.

This study was conducted within clinical practice and participants were current clients with the levels of complexity, comorbidities and diagnoses typically seen by the service. Therefore, the findings can be considered an ecologically valid representation of of DT BPI delivered by non-psychologists, supervised by psychologists. It is not possible to comment directly on effectiveness overall, due to the high level of non-completion and lack of long-term follow-up.

There are limitations to the current study which should be considered. Firstly, the majority of participants were female; particularly those who completed DT BPI which limits the generalisability of findings. The reasons for this are unclear, possible contributory factors from previous research include negative attitudes related to psychological openness and less favourable intentions to seek help from mental health professionals in men than women (Mackenzie, Gekoski & Knox, 2006) and gender differences in coping strategies and preferences for psychological treatment (Liddon, Kingerlee & Barry, 2018). Secondly, the pre-intervention scores on the DTS were significantly higher for participants who completed the DT BPI than those who did not. This may suggest that participants who did not complete the intervention had a significantly lower initial ability to tolerate distress. However, the same pattern was not seen in the DERS scores, the reason for this discrepancy is unclear. It should be noted that the clinical and non-clinical samples used to assess clinically significant change on the DTS were not ideal (the 'non-clinical' sample included people who had self-referred to a stress management programme, although they did not meet a 'clinical level of psychopathology' (Gawrysiak *et al.* 2015) and the clinical sample were 'compulsive shoppers' who had scored above clinical cut off (Williams, 2012). It is unclear how the nature of these samples may have affected the proportion of participants rated as achieving clinically significant change on the DTS. It would be beneficial for future work if more representative clinical and non-clinical normative data could be obtained for this measure.

Thirdly, engagement was varied. DT BPI had a non-completion rate of 39.4% and although there were sometimes identifiable causes (e.g. relocation) for others the reasons were unknown. A common reason provided by staff for participants not completing the intervention was disengagement. The average number of sessions attended by non-completers was 3. At this point DT BPI focusses on developing strategies to allow and cope with distress (rather than avoidance of emotion). This may have been too soon for participants with the

lowest levels of distress tolerance. Closer monitoring of clients with particularly high initial symptoms, discussion in supervision and consideration about whether more preparatory work is necessary may be beneficial. It would be useful to obtain feedback from participants who do not complete the intervention to explore reasons for this. It would also be interesting to expand the inclusion criteria to participants who have had previous poor engagement with mental health services. Future work in this area could explore the use of supervision for clinicians delivering BPIs. A formal system for monitoring compliance with the manuals would be beneficial, the lack of this is a limitation of the current study.

Lastly, the lack of a control group is a key limitation to this study. It seems that the intervention contributed to decreasing symptomatology, increasing DT skills and wellbeing but it is not possible to say whether this is due to the content of the intervention. Future work could include an active control group, to allow comparison between DT BPI and an equivalent amount of supportive but non-directive individual intervention. There was also a high rate of missing data in the current study (as described in earlier sections, with explanation of how this was dealt with). Future work could also include follow-up assessment to explore the longer term outcomes of intervention, including data on whether participants (or those who decline or drop-out of brief intervention) access further support from the service subsequently.

Despite limitations, the clinical implications indicated by these results are that DT BPI can be effective and was associated with reliable change in a group of real-world clients of secondary care mental health teams. Although cost-effectiveness was not calculated, it is promising that such changes were seen following an intervention delivered mainly by support workers supervised by clinical psychologists. This approach was more economical and accessed more quickly compared to clients waiting to see a psychologist for individual therapy. The potential for services to offer quicker access to a cost effective and efficacious

evidence-based intervention warrants further research into DT BPI within secondary care mental health teams.

Key Practice Points

- Distress intolerance can be a maintaining factor in several mental health conditions.
- Targeting distress tolerance skills directly in a brief intervention can be helpful.
- Although preliminary, these findings offer promising evidence that a DT BPI delivered by non-psychologists in secondary care mental health services could be a beneficial, cost-effective treatment option, and warrants further large-scale investigations.

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Figure 1

Participant flow diagram

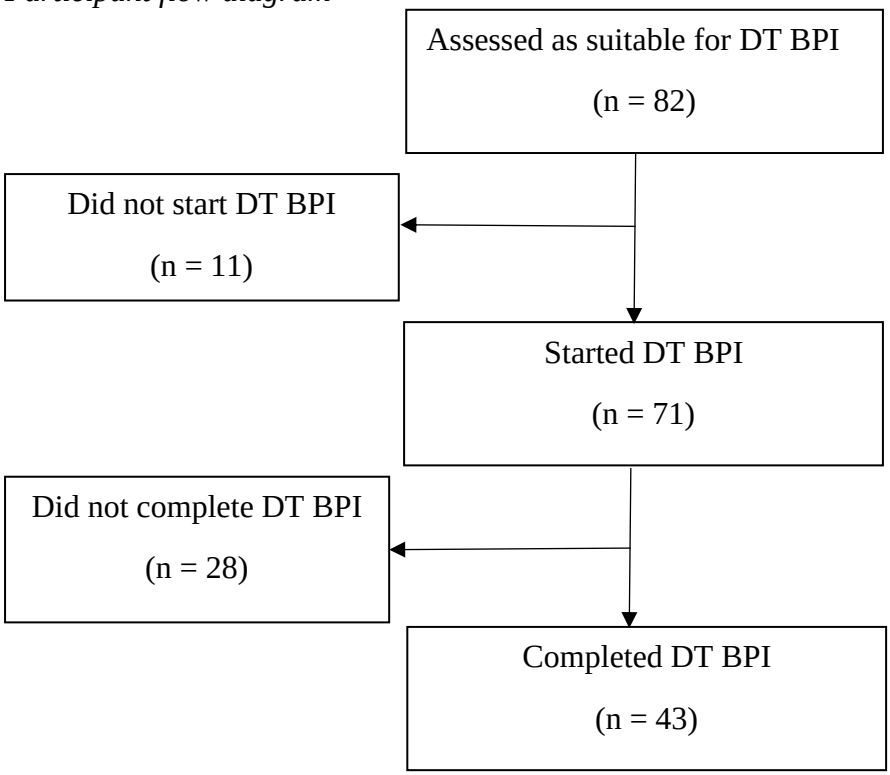

Figure 2

Overall reliable change

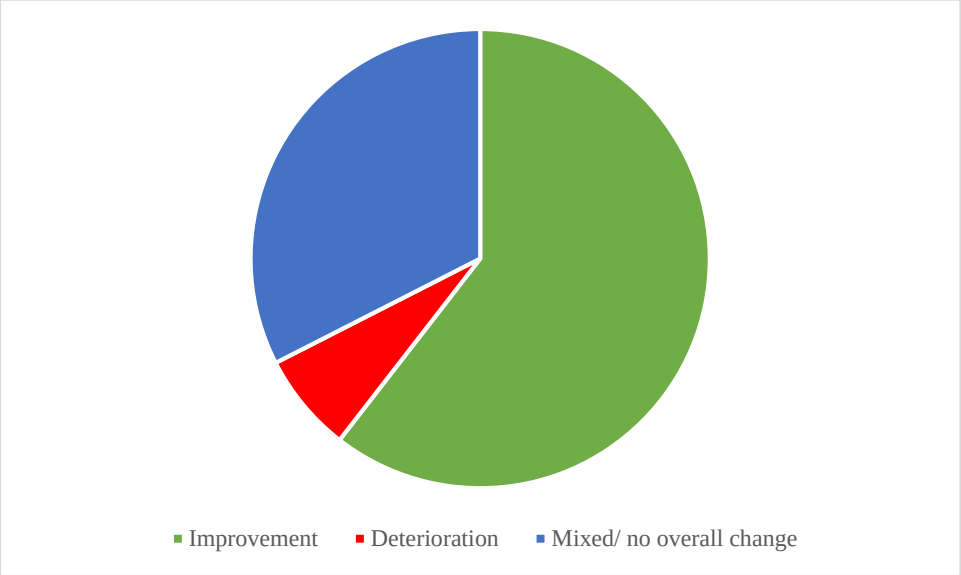

Table 1

DT BPI manual topics and descriptions

Manual topic	Description
Introduction to distress tolerance	Psychoeducation about struggling with feelings and problems with avoiding feelings, promotion of acceptance of feelings
Strategies to help cope with distress	Psychoeducation, discussion and personalisation of several strategies: Distraction Alternatives to self-destructive behaviour Concentrating on someone else Opposite action Problem solving
'Don't dismiss distress tolerance'	Anticipation of stumbling blocks Reminder of previous negative cycles, encouragement to try new ways of coping
Distress tolerance plan	Personalised structured formulation and action plan: Situations that make me distressed What I normally do to cope How I feel afterwards What I am going to try to do differently How I feel afterwards Next steps
Introduction to emotion regulation	Psychoeducation about day to day emotion regulation
Strategies to help regulate emotions	Psychoeducation, discussion and personalisation of several strategies: Recognising and labelling emotions Becoming mindful of emotion Trying pleasurable activities Self-soothing and relaxation
Emotion regulation plan	Personalised structured formulation and action plan: Situations that make me very emotional What I normally do to cope How I feel afterwards What I am going to try to do differently How I feel afterwards Next steps

Table 2

Age and gender characteristics

	Total sample	Did not start	Did not complete	Completed	Group effect
Age (M (SD))	29.93 (11.64)	22.73 (5.44)	31.61 (12.30)	30.67 (11.88)	F=2.58, p = .082
Female (Freq (%))	69 (84.15)	8 (72.73)	21 (75.00)	40 (93.02)	p = 0.049, two-tailed Fisher's Exact Test

Table 3

Pre-intervention scores

	Total sample	Did not complete DT BPI Mean (SD)	Completed DT BPI Mean (SD)	Group effect
Primary Measures				
DTS	1.86 (0.62) (n=38)	1.45 (0.39) (n=12)	2.05 (0.63) (n=26)	U = 64.000 p = .006
DERS	124.12 (25.67) (n=34)	131.83 (24.87) (n=12)	119.91 (25.67) (n=22)	$t(32)$ = -1.31 p = .200
Secondary Measures				
GAD-7	15.09 (3.84) (n=55)	15.61 (3.97) (n=18)	14.84 (3.93) (n=37)	U = 293.00 p = .470
PHQ-9	18.95 (4.76) (n=55)	20.56 (4.55) (n=18)	18.16 (4.71) (n=37)	$t(53)$= -1.79 p = .080
SWEMWBS	15.11 (3.86) (n=53)	15.33 (4.10) (n=18)	15.00 (3.78) (n=35)	$t(51)$=-0.30, p = .769
WSAS	26.18 (9.04) (n=39)	28.00 (9.87) (n=13)	25.27 (8.65) (n=26)	$t(37)$ = -0.89 p = .381

Table 4

Pre and post intervention measures for participants who completed the intervention

	Pre Mean (SD)	Post Mean (SD)	Paired difference Mean (SD)	Cohen's d estimate of effect size
Primary Measures				
DTS (n=27)	2.03 (0.62)	2.62 (1.00)	t_{26} = -2.934, p = .007	d = -0.56 (medium)
DERS (n=23)	120.48 (25.23)	105.83 (32.10)	t_{22} = 3.448, p = .002	d = 0.72 (medium)
Secondary Measures				
GAD-7 (n=39)	15.05 (3.97)	10.92 (5.34)	t_{38} = 4.956, p <.001	d = 0.79 (large)
PHQ-9 (n=39)	18.44 (4.77)	14.31 (6.38)	t_{38} = 4.150, p <.001	d = 0.66 (medium)
SWEMWBS (n=34)	14.85 (3.73)	20.85 (4.69)	t_{33} = -7.262, p <.001	d = -1.25 (large)
WSAS (n=27)	25.59 (8.64)	22.33 (9.31)	t_{26} = 2.078, p = .048	d = 0.40 (small)

Table 5

Reliable and clinical change

Measure	Reliable deterioration	No reliable change	Reliable improvement	Clinically significant change (improvement)
Primary Measures				
DTS (n=26)	15.4%	38.5%	46.2%	38.5%
DERS (n=22)	4.5%	59.1%	36.4%	22.7%
Secondary Measures				
GAD-7 (n=37)	2.7%	46.0%	51.4%	27.0%
PHQ-9 (n=37)	5.4%	48.6%	46.0%	18.9%
SWEMEBS (n=35)	0.0%	34.3%	65.7%	31.4%
WSAS (n=26)	15.4%	50.0%	34.6%	11.5%