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The effectiveness of compassion focused therapy with clinical populations: A systematic review and meta-analysis



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ARTICLE INFO ABSTRACT Keywords: Background: Over the last 20 years, compassion focused therapy (CFT) has gained popularity as an emerging Compassionate 'third wave' intervention. Although previous reviews indicated its potential benefits, a systematic review and Compassionate mind meta-analysis of CFT in those with mental health difficulties has yet to be conducted. Self-compassion Methods: A systematic search of five databases was undertaken, focusing on randomised controlled trials and RCT randomised pilot/feasibility studies of CFT only. No language restrictions were implemented. A narrative syn-Psychological therapy thesis was conducted. Random effects meta-analyses were measured on levels of self-compassion, self-criticism/ self-reassurance, fears of compassion and clinical symptomology. Results: Fifteen studies from 2013 to 2022 were included. Findings suggested that CFT was effective in improving compassion-based outcomes and clinical symptomology from baseline to post-intervention and compared to waitlist control. A range of small to large effect sizes were reported for improvements in self-compassion (0.19-0.90), self-criticism (0.15-0.72), self-reassurance (0.43-0.81), fear of self-compassion (0.18), depression (0.24-0.25) and eating disorders (0.18-0.79). Meta-analyses favoured CFT in improving levels of self-compassion and self-reassurance than control groups. Limitations: The methodological quality of many of the included studies (7/15) was rated as 'unclear' due to a lack of information. There was a distinct gender gap, with 74.88% identifying as female participants. Conclusions: This review was the first to examine the effectiveness of CFT in clinical populations. The results indicate that CFT has promising clinical implications, suggesting that the intervention increases compassionbased outcomes and reduces clinical symptomology in those with mental health difficulties. However, future research is required into the long-term effects of CFT.

1. Introduction

Drawing on various approaches from neuroscience, evolutionary, developmental and social psychology and Buddhist traditions, Compassion Focused Therapy (CFT) is considered part of the 'third-wave' of cognitive and behavioural therapies, which apply emphasis on mindfulness, acceptance, meta-cognition, emotions, values and goals (Carvalho et al., 2017). Developed in the year 2000 by clinical psychologist Paul Gilbert, its objective is to bring compassion to human suffering through its transdiagnostic approach (Craig et al., 2020; Gilbert, 2000, 2014; Kirby, 2017). Compassion is defined as "a sensitivity to suffering in self and others, with a commitment to try to

alleviate and prevent it" (Gilbert, 2014, p. 19). There are three 'flows' of compassion: compassion towards ourselves (self-compassion), compassion towards others and compassion that we receive from others to ourselves (Gilbert, 2014). The approach emphasises compassion due to its relation to the "motives, emotions, and abilities/competencies to be supportive, understanding, kind, and helpful to others" (Gilbert, 2014, p.19). According to Gilbert (2009a,b), CFT is based on the idea that feelings of contentment, security, reassurance and wellbeing are underpinned by three emotional regulatory systems: the threat system (threat-focused and safety seeking), the drive system (incentive/resource-focused) and the soothing system (affiliative-focused, soothing/safeness).

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The primary components of Gilbert's (2009a,b, 2014) CFT include psychoeducation on the concept of compassion, understanding the human mind from an evolutionary perspective and why humans can struggle, the roles of shame and self-criticism and learning to develop a balance between the three emotion regulatory systems. Alongside experiential compassion-focused exercises, such as compassionate imagery, compassion letter writing, and chair-work, these components aim to ultimately build a compassionate mind (Gilbert, 2009a,b, 2014).

The central focus of CFT is developing compassion for the self, which includes both self-compassion or from others (Kirby et al., 2017). However, the emotional regulatory systems are often inaccessible to those with high levels of self-criticism and shame because their threat system is overactive and suppresses the drive and soothing systems (Gilbert, 2009a). Thus, CFT aims to facilitate the development of the soothing system (Gilbert, 2009a,b) through compassionate mind training (CMT). This training entails acquiring six compassionate skills (i.e., imagery, attention, feeling, behaviour, reasoning, and sensory skills) so that they can apply the six key attributes of compassion towards oneself and to and from others, namely sensitivity, care for wellbeing, non-judgement, sympathy, sensitivity, and distress tolerance. The soothing system can be stimulated through mindfulness and CMT techniques such as compassionate letter writing, compassionate attention, compassionate thinking, and compassionate imagery. Addressing shame and self-criticism exhibits the importance of CFT to clinical populations. It is argued that shame and self-criticism underpin a range of mental health difficulties such as depression, anxiety, eating disorders and psychosis (Gilbert and Irons, 2004).

Another primary focus of CFT is addressing fears of compassion (Gilbert, 2014). Findings suggest that shame and self-criticism can evoke a fear of compassion towards oneself and from others, which can hinder a person's ability to engage with compassion-based exercises (Gilbert, 2011). For instance, developing self-compassion elicited feelings of shame, doubt, and resistance among a group with long-term mental health difficulties (Gilbert and Procter, 2006). In addition, Lennard et al. (2021) found that a fear of compassion moderated intervention effectiveness of a brief CFT intervention for postpartum mothers.

CFT diverges from other compassion-based interventions through its psychoeducation that is underlined by different theoretical approaches (i.e., Buddhist psychology, neuroscience, social psychology) and their relation to physiological and neurophysiological processes such as the parasympathetic nervous system (Kirby, 2017). These systems aim to be directly stimulated through compassion-based exercises (Kirby, 2017). Moreover, CFT is considered a type of psychotherapy, which differs from other evidence-based compassionate and mindfulness therapies, such as Mindful Self-Compassion (Neff and Germer, 2013) and Compassion Cultivation Training (Jazaieri et al., 2013) which are considered manualised interventions (Kirby, 2017). CFT can be tailored to each individual service-user and to their case formulations, whereas other compassion-based interventions are restricted to their manualised content (Kirby, 2017).

1.1. Current evidence-base

The first systematic review to synthesise the evidence base for CFT was undertaken by Leaviss and Uttley (2015), who examined 14 studies published between 2004 and 2014. All studies used quantitative analysis and included non-clinical samples as well as those with a clinical diagnosis or self-reported symptoms of a mental health difficulty. Assessing outcomes on self-report measures, Leaviss and Uttley (2015) reported that CFT was primarily favourable across the included studies, particularly for those with high levels of self-criticism. Findings also suggested that CFT was more acceptable among clinical samples in comparison to

general populations. However, only three randomised controlled trials (RCTs) were eligible for inclusion.

Subsequently, Kirby et al. (2017) broadened the intervention criteria to include other compassion-based interventions for a systematic review and meta-analysis of 21 RCTs published between 2005 and 2017. Kirby et al. (2017) examined the outcomes of these interventions on seven variables: compassion, self-compassion, mindfulness, depression, anxiety, psychological distress and well-being. Compared to waitlist control groups, their analysis revealed significant between-group differences in change scores on these seven outcomes. These significant differences remained when including comparisons with active control groups. Despite the review's strong methodological rigour through the application of a meta-analysis, its clinical implications are limited as only five of the 21 studies had in a clinical sample. Given the differences of CFT to other compassion-based interventions, as mentioned above, it is difficult to determine the effectiveness of CFT due to the variability of interventions included within the meta-analysis. Nevertheless, a follow-up paper by Kirby in the same year indicated that as CFT was at that point the most evaluated compassion-based intervention, it was the most pertinent for clinical populations (Kirby, 2017).

The most recent review of CFT was published by Craig et al. (2020), who investigated its acceptability and effectiveness in clinical populations. Twenty-nine studies of CFT, published between 2004 and 2019, were identified: nine RCTs, three non-randomised trials and 17 observational studies. Across these diverse studies, CFT was revealed to have positive outcomes on mental health across a range of clinical samples. These samples included substance misuse disorders, brain injuries and parents of children diagnosed with a neurodevelopmental disorder. In addition, group therapy was the most common form of therapy deliverance.

The previous reviews highlighted that CFT has led to generally positive outcomes, but authors have been broad in their inclusion criteria with diverse sample characteristics. Only Kirby et al. (2017) conducted a meta-analysis, which focused on the wider literature of compassion-based interventions rather than solely CFT. With metaanalysis of RCTs being increasingly viewed as the 'gold standard' approach when measuring the effectiveness of interventions (Evans, 2003), the limited number of RCTs weakens the methodological rigour of reviews. According to Evans (2003), RCTs have a lower risk of bias or error which subsequently produces more valid evidence-base for a healthcare intervention compared to alternative study designs, such as observational studies. Although demonstrating insightful findings of CFT's current evidence base, Craig et al.'s (2020) broad definition of clinical samples and the inclusion of various research designs mean that these findings may need to be viewed with some caution. For instance, some of the study samples do not necessarily have diagnosed mental health conditions (Navab et al., 2019; Rose et al., 2018).

It is evident from the previous reviews that a systematic review and meta-analysis examining the effectiveness of CFT in those experiencing mental health difficulties has yet to be conducted. This review aims to evaluate CFT specifically and only within clinical populations, offering relative homogeneity combined with a rigorous approach by:

- comparing measures of compassion-based outcomes (i.e., selfcompassion, self-criticism, fears of compassion) and clinical symptomology between baseline, post-intervention and follow-up;
- comparing measures of compassion-based outcomes and clinical symptomology with a comparator, such as alternative psychological treatment, waitlist control or treatment-as-usual;
- 3) conducting meta-analyses of CFT on compassion-based outcomes and clinical symptomology.

2. Method

2.1. Protocol

The review was conducted in line with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Page et al., 2021). The protocol was registered with the International Prospective Register of Systematic Reviews (PROSPERO) in February 2022 (reference: CRD42022308615).

2.2. Search strategy

The search strategy was developed using the PICOS (Population, Intervention, Comparator, Outcome, Study Design) framework (Methley et al., 2014). A preliminary search was then conducted in January 2022 across nine databases, including Web of Science, CINAHL Plus, PubMed and Ovid (which included Embase, Medline, PsychInfo, PsychArticles and Maternity and Infant Care) to pilot this strategy. The ProQuest Dissertation and Theses database was also reviewed to seek any unpublished works relevant to CFT. Any wider grey literature was excluded. There were no restrictions in terms of language.

This pilot search determined that only the search terms associated with the intervention were required. Thus, the final search terms were adapted from Craig et al. (2020) and Leaviss and Uttley (2015), as both only focused on Gilbert's model of CFT. The terms and Boolean operators were as follows: "compassion" OR "compassionate" OR "compassionate mind" OR "compassion-focused" AND "treatment" OR "therapy" OR "therap*" OR "training" OR "intervention". The search strategy was adapted based on the requirements of each database (see Appendix A for full search strategy).

The search fields were refined to include only titles and abstracts from the year 2000 (the year of CFT's conception) to January 2022. The search was updated in July 2022. The included papers that were synthesised in the previous reviews on CFT were also screened. Following this, a search of "*compassion focused therapy*" on Google Scholar and backward and forward searches of the included studies were conducted.

To verify the inter-rater reliability of the search strategy, another experienced reviewer independently screened 5 % of the titles and abstracts. Complete agreement was reached (100 %; kappa = 1).

2.3. Inclusion and exclusion criteria

The PICOS framework (Methley et al., 2014) was used to operationalise the inclusion and exclusion criteria, which is outlined in Table 1. Based on the small number of RCTs on CFT using clinical samples eligible for the previous reviews, randomised pilot and feasibility studies were also included, as they test an intervention in preparation for a future definitive RCT (Eldridge et al., 2016). Randomised feasibility studies are an umbrella term that includes randomisation within otherwise pragmatic but less controlled conditions in the preparation of a future definitive RCT (Eldridge et al., 2016). Pilot studies are considered a subset of a feasibility study that examine a particular aspect of the prospective main trial (e.g., a design component) on a smaller scale (Eldridge et al., 2016).

2.4. Data extraction and analysis

The information extracted from the studies that met the inclusion criteria included author, the year of publication, study location, study design, sample size, retention rate, type of clinical sample, sample characteristics (i.e., mean age, ethnicity, gender), the name of the intervention used and the reference(s) that the intervention was based upon, whether the intervention implemented an individual or group delivery format, type of comparator and/or control group used, outcome measures and the studies' primary outcomes. Additional information on the individual interventions offered within each study was also Journal of Affective Disorders 326 (2023) 168-192

Table 1

nclusion and exclusion criteria within the PICOS framewor	k
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PICOS	Inclusion	Exclusion
Population	 Pre-existing mental health condition and/or meeting the criteria of a mental health condition in accordance with a diagnostic tool (e.g., DSM-5, ICD-10) Recruited from a clinical mental health setting (e.g., community mental health team, counselling service) Scoring above a cut-off point on a relevant screening measure (e.g., DASS-21, GAD-7) 	 Non-clinical populations. This includes: Substance misuse disorders. This is due to these conditions being treated within separate specialist NHS services compared to other mental health difficulties Studies measuring the mental health of Parents/ carers of children diagnosed with a clinical physical/mental health condition
Intervention	 Compassion Focused Therapy covering the primary components, which derive from the work of Paul Gilbert (Gilbert, 2009a, 2009b, 2014). These primary components include: Psychoeducation such as on the concept of compassion, the three regulatory affect systems, 'tricky brain', fears of compassion, the role of shame and self-criticism Exercises such as compassionate letter writing, compassionate attention, soothing rhythm breathing 	 Measuring other compassion-based in- terventions (e.g., compas- sion cultivation training, Mindful Self-Compassion) Mindfulness-based interventions, whereby the focus is primarily on mindfulness rather than the core compassion therapy components as identified in the inclusion criteria.
Comparison	• An alternative psychological intervention, a control group (e. g., waitlist control) or treatment-as-usual.	No comparator
Outcome	Pre- and post-intervention compassion-based outcomes such as: • Self-compassion • Self-criticism/self-reassurance • Mental health symptomology (e.g., anxiety, depression)	 Studies that do not measure CFT-based outcomes Physiological measures such as heart rate variability and skin conductance levels
Study design	 Randomised controlled trials, Randomised feasibility studies Randomised pilot studies 	 Cohort studies Non-randomised designs Case studies and case series designs Studies using only qualitative methodologies Grey literature including conference abstracts, reports, government documents

extracted, which were number of sessions and their duration, whether a treatment protocol was available, an overview of the session topics, and information on the facilitator of the intervention and any specialised training that they had received prior to the treatment.

A narrative synthesis was utilised (Popay et al., 2006). The synthesis was grouped by compassion-based outcomes (i.e., self-compassion, self-criticism/self-reassurance) and clinical symptomology.

Data that were either extracted or analysed heterogeneously in comparison to other studies could not be included in the meta-analyses. Examples include not reporting mean scores and standard deviations, accumulating a total score by combining only selected items from different subscales and analysing individual subscales only. When sufficient data were available, outcomes were used for random effects meta-analyses. The model assumes a variation in the observed estimates of treatment effect, with the variation being caused by heterogeneity in the variables such as sample characteristics or type of intervention (Borenstein et al., 2009). Separate analyses were conducted for each relevant outcome between the CFT intervention and waitlist control. The meta-analyses were performed using Review Manager 5.4 (*Review Manager (RevMan) [Computer program]. Version 5.4*, 2020), whereby standardised mean differences and confidence intervals were calculated to account for the heterogeneity across the studies using Hedges *g*. This approach also accounted for small sample sizes. The I^2 statistic was utilised to measure heterogeneity. The Cochrane Statistical Methods Group (2022) suggest that 0 %–40 % heterogeneity may indicate low levels of heterogeneity, 30 %–60 % may suggest moderate levels, 50 %–90 % may indicate substantial levels, and 75 %–100 % may indicate considerable levels. However, this is dependent on several factors, such as *P*-value or confidence intervals (Cochrane Statistical Methods Group, 2022).

In accordance with Sterne et al. (2011), tests for publication bias were not conducted for these meta-analyses. It is recommended that funnel plot asymmetry should not be administered when there are fewer than ten studies within one meta-analysis as it is assumed that the test power is too low to establish potential publication bias (Sterne et al., 2011).

2.5. Quality appraisal

The assessment of quality and risk of bias was conducted using the Cochrane risk of bias tool (Version 5.2, Higgins et al., 2017), chosen due to its suitability for randomised trials (Boland et al., 2014). The Cochrane risk of bias tool was also implemented in two of the previous CFT reviews (Kirby et al., 2017; Leaviss and Uttley, 2015). This domainbased assessment tool allows for an evaluation of risk ('low', 'high' or 'unclear') for each of the following seven domains: random sequence generation, allocation concealment, blinding of participants and personnel, blinding of outcome assessments, incomplete data outcome, selective reporting, and other sources of bias. These domains measure bias of selection, performance, detection, attrition, and reporting. The quality assessments of each study were conducted by the first author and independently by a postdoctoral research associate. Agreement ratings for the final overall assessment of studies were strong (92.86 %, kappa = 0.63). Disagreements were resolved through further discussion. The current Revised Cochrane risk-of-bias tool for randomised trials (RoB2, Higgins et al., 2022) was not implemented due to time constraints.

3. Results

3.1. Study characteristics

Following the review of 17,038 records, 15 studies were identified (see Fig. 1), with one study being an unpublished doctoral thesis (Rycroft, 2016). Appendix B provides an overview of the reviewed studies. Studies were conducted across nine countries, including Iran (n = 5), UK (n = 2), Canada (n = 2), Australia (n = 1), Denmark (n = 1), Germany (n = 1), Portugal (n = 1), Spain (n = 1) and USA (n = 1) between the years of 2013 and 2022. One paper (Fatollahzadeh et al., 2017) was written in Persian/Farsi and translated into English through Google Translate (https://translate.google.co.uk). Sample sizes ranged from ten (Rycroft, 2016) to 119 (Stevenson et al., 2019). Of the 625 participants included across the studies, 74.88 % identified as women (n = 468).

Seven different adult clinical groups were included; the most prevalent studies focused on eating disorders (n = 4), followed by depression (n = 3), PTSD/trauma-related (n = 2), social anxiety (n = 2), schizophrenia/psychosis-related (n = 2), borderline personality disorder (n = 1) and prolonged grief disorder (n = 1). Eight studies reported the ethnic groupings of their sample, with approximately 74.4 % of these participants identifying as White (see Appendix B).



Fig. 1. PRISMA flow diagram of the search strategy.

Six RCTs were included in the review (Fatollahzadeh et al., 2017; Gharraee et al., 2018; Johannsen et al., 2022; Noorbala et al., 2013; Pirjavid et al., 2021; Stevenson et al., 2019), seven randomised pilot studies (Ascone et al., 2017; Duarte et al., 2017; Feliu-Soler et al., 2017; Kelly and Carter, 2015; Kelly et al., 2017; Rycroft, 2016; Savari et al., 2021) and two randomised feasibility trials (Braehler et al., 2013a; Kelly and Waring, 2018). Two studies compared the intervention with an active control and a control group (Kelly and Carter, 2015; Pirjavid et al., 2021), whereas the remaining studies compared the intervention with either an active control only (n = 3), wait-list control (n = 7), or TAU/no treatment (n = 3).

Less than half of the included studies implemented further follow-up assessments post-intervention (n = 6). Follow-up periods were one month (Duarte et al., 2017; Stevenson et al., 2019), two months (Gharraee et al., 2018; Noorbala et al., 2013; Pirjavid et al., 2021), and six months (Johannsen et al., 2022).

Thirteen of the studies reported retention rates. The average level of retention was 84.6 %. Four studies attained 100 % retention, which included two clinical samples of depression, social anxiety, psychosis-related disorder and trauma-related disorder. Of the clinical groups, CFT appeared to be the most acceptable among those with depression with the lowest level of retention being 86.4 %. Prolonged grief disorder was associated with the lowest level of acceptability with a retention rate of 52.4 %.

3.2. Intervention characteristics

A range of CFT interventions were delivered across the 15 studies (see Table 2). Each study followed Gilbert's compassion focused model in some form (Gilbert, 2005, 2010a, 2010b, 2019; Gilbert and Choden, 2013). Seven studies offered group-based CFT (Braehler et al., 2013a; Fatollahzadeh et al., 2017; Johannsen et al., 2022; Kelly et al., 2017; Noorbala et al., 2013; Pirjavid et al., 2021; Savari et al., 2021). Alternatively, some studies have focused on a specific aspect of the CFT model, such as a brief self-practice exercise (Rycroft, 2016), compassionate letter writing (Kelly and Waring, 2018), compassion-focused imagery (Ascone et al., 2017) or a self-compassion intervention (Stevenson et al., 2019). CFT has also been adapted to particular clinical populations, such as a self-help intervention for binge eating disorder (Kelly and Carter, 2015), Duarte et al.'s (2017) Compassionate Attention and Regulation of Eating Behaviour (CARE) intervention, CFT for prolonged grief disorder (Johannsen et al., 2022), and individual CFT for social anxiety disorder (Gharraee et al., 2018). Feliu-Soler et al. (2017) facilitated Loving-Kindness and Compassion Meditation (LKM/CM). This intervention based its psychoeducation on Gilbert's CFT and Neff and Germer (2013) self-compassion model (Feliu-Soler et al., 2017). For ease, all interventions will be referred to as CFT throughout the review.

A group format was the most common type of therapy deliverance (n = 8). Of these studies, the mean number of sessions delivered was 8.63 sessions (range = 3–16) with sessions ranging from one to two hours (see Table 2). The remaining studies implemented either a self-help format (n = 4), a standalone psychoeducation group session followed by fourweeks of self-help exercises (n = 1), or an individual format (n = 2). The self-help interventions consisted of daily exercises that averaged 15.8 days (range = 14–21).

Seven of the included trials reported some form of facilitator training, with Braehler et al. (2013a), Feliu-Soler et al. (2017) and Kelly et al. (2017) listing their intervention facilitators as having extensive CFT experience and training.

3.3. Methodological quality and risk of bias appraisal

3.3.1. Risk of bias within studies

The findings of the quality appraisal of each of the studies are displayed in Fig. 2. Three of the 15 included studies were deemed to have a relatively low risk of bias in comparison to other included studies (Ascone et al., 2017; Braehler et al., 2013a; Johannsen et al., 2022). Fig. 2 indicated that seven of the studies (Duarte et al., 2017; Fatollahzadeh et al., 2017; Feliu-Soler et al., 2017; Gharraee et al., 2018; Kelly and Waring, 2018; Noorbala et al., 2013; Pirjavid et al., 2021) had a predominantly unclear risk of bias. No study was rated as being primarily at a high risk of bias.

3.3.2. Risk of bias across studies

Across the 15 studies, random sequence generation and incomplete outcome data domains were generally rated as a low risk of bias (see Fig. 3). Three of the domains (allocation concealment, blinding of outcome assessment, selective reporting) were primarily rated as unclear. Blinding of participants and personnel was scored as high risk of bias across studies (n = 9). In all cases, this is due to participants and facilitators being aware of the intervention being delivered (see Fig. 3). Five of the studies did not mention the issue of blinding and were rated as unclear.

3.4. Compassion-based outcome measures

Although the studies used many of the same outcome measures, they differed in their analyses. Eleven out of 15 studies listed self-criticism as an outcome measure. Seven studies utilised Gilbert et al.'s *Forms of Self-Criticism/Attacking and Self-Reassuring Scale (FSCRS)* (Gilbert et al., 2004). The scale has three subscales: the hated self and inadequate self for self-criticism and the reassured self for self-reassurance. These eight studies either analysed the accumulated total score of the *FSCRS* subscales (Ascone et al., 2017; Pirjavid et al., 2021; Rycroft, 2016), analysed the self-criticism subscales only (Stevenson et al., 2019), or examined each subscale separately (Duarte et al., 2017; Feliu-Soler et al., 2017; Johannsen et al., 2022; Rycroft, 2016; Savari et al., 2021).

Self-compassion was an outcome measure in ten studies, which either used the *Self-Compassion Scale* (*SCS*) or the *SCS*-Short Form (Neff, 2003; Raes et al., 2011). Most studies analysed the accumulated total score (Ascone et al., 2017; Duarte et al., 2017; Gharraee et al., 2018; Kelly and Carter, 2015; Kelly and Waring, 2018; Kelly et al., 2017; Rycroft, 2016; Savari et al., 2021), three studies categorised the items into either positive or negative aspects of *SCS* (Kelly et al., 2017; Savari et al., 2012; Stevenson et al., 2019), whereas one study analysed the subscales individually (Feliu-Soler et al., 2017).

Fears of compassion were measured by Gilbert et al.'s (2011) *Fears of Compassion Scale* (*FCS*) in seven of the 15 studies. The *FCS* comprises three subscales: Fear of self-compassion, fear of compassion for others and fear of compassion from others. Four studies implemented the fear of self-compassion subscale only (Kelly and Carter, 2015; Kelly and Waring, 2018; Rycroft, 2016; Stevenson et al., 2019). One study focused on two subscales, fear of self-compassion and fear of receiving compassion (Kelly et al., 2017), while two studies measured each of the three subscales separately (Johannsen et al., 2022; Savari et al., 2021).

3.5. Self-criticism

3.5.1. Baseline to post-intervention evaluations

CFT led to significant reductions in self-criticism from baseline to post-intervention across eight studies (Ascone et al., 2017; Duarte et al., 2017; Fatollahzadeh et al., 2017; Feliu-Soler et al., 2017; Gharraee et al., 2018; Pirjavid et al., 2021; Savari et al., 2021; Stevenson et al., 2019). Effect sizes ranged from small to high (0.22–0.72). However, Noorbala et al. (2013) did not identify any significant change. An additional two studies measured self-criticism and self-reassurance; however, no data could be extracted from Rycroft (2016) and Johannsen et al. (2022) reported group-by-time interactions only.

Studies that analysed the *FSCRS's* reassured self subscale reported that CFT elicited significant improvements from baseline to postintervention (Ascone et al., 2017; Duarte et al., 2017; Savari et al., 2021; Stevenson et al., 2019). Feliu-Soler et al. (2017) did not report any

Table 2

Intervention outlines of included studies.

Author	Intervention name and reference	Session number and duration	Treatment protocol available?	Session topics	Facilitator(s)	Facilitator Training
Johannsen et al. (2022)	Group compassion focused therapy for prolonged grief disorder (Schlander, second author)	Eight sessions of 2 h 15 min (including 15 min break)	None	 Psychoeducation on CFT topics such as 'tricky brain', definition of compassion, the three affect regulatory systems, understanding grief as a response to the threat system, fear of self-compassion, understanding self-criticism Exercises included soothing rhythm breathing, visualising a safe place, mindfulness, compassion-based problem solving, compassion towards self 	First, second and corresponding author of the study	All facilitators were psychologists who received formal CFT training and supervision during the study's data collection.
Pirjavid et al. (2021)	CFT Gilbert (2019)	Eight sessions that ranged from 1.5 to 2 h	None	 Psycho-education on the underlying mechanisms of compassion, compassion towards others and compassion towards oneself. Developed skills such as compassionate attention, compassionate letter writing, 	Not recorded	Not recorded
Savari et al. (2021)	Compassionate Mind Training (Gilbert et al., 2010; Gilbert and Choden, 2013)	Four-week intervention. Eight sessions of 90- min CMT, twice a week	None currently available. First author had access to a pre-publication manual (Gilbert, personal communication)	 The following session topics were: Introducing compassion The three emotion regulation systems Mindfulness and attention Safeness vs safety and the first flow of compassion Compassionate self and the second flow of compassion (for others) Self-criticism The third flow of compassion: Compassion for our multiple selves Cultivating self- compassion and wrap-up 	MSc student under the supervision of three professors and one clinical psychology professor	Currently in training
Stevenson et al. (2019)	Self-compassion intervention (Gilbert, 2010c; Shapira and Mongrain, 2010; http s://compassionatem ind.co.uk)	14 consecutive days of self-compassion exercise. Exercise ranged from approximately 5–15 min.	A script of the exercise is provided in the supplementary materials.	 Participants were asked to think of a recent social situation that gave them social anxiety and wrote a compassionate letter to themselves. They also completed an online 5–15 min daily task. As part of the exercise, participants were provided with a rationale for self- compassion. This included psycho-education on the three affect regulatory sys- tems and the role of the threat system in the context of social anxiety. 	To determine eligibility, the lead researcher conducted a phone interview.	Not recorded.
Gharraee et al. (2018)	CFT (Boersma et al., 2015)	12 weekly one-hour individual sessions	Step-by-step protocol was provided by the designer at the request of the author	 Based on step-by-step protocol of Boersma et al. (2015): Psychoeducation on shyness, evolution of the brain and sensitivity to threat, the three emotion regulatory systems (threat. 	PhD student in clinical psychology (first author)	Not recorded

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drive and soothing),

Table 2 (continued)

Author	Intervention name	Session number and	Treatment protocol	Session topics	Facilitator(s)	Facilitator Training
	and reference	duration	available?	×		
Kelly and	Self-compassionate	Engage with letter	A comprehensive	 shame, self-criticism, and barriers to compassion Homework included "Safe Place" imagery exercise, "Receiving compassion from others" exercise, generating compassionate thoughts, soothing breathing, compassionate letter writing Before engaging with the 	Trained clinical	Research coordinator
Waring (2018)	letter writing intervention (Gilbert, 2005; Neff, 2003)	writing task daily for two-weeks for approximately 15–20 min.	description of the intervention procedure is provided in the supplementary materials	intervention, participants received psycho-education on the concept of self- compassion and letter writing task. Included the potential benefits of the intervention and the com- monality of fears of self- compassion.	research coordinator	was under the supervision of a psychologist (first author)
Ascone et al. (2017)	Compassion-focused (CF) Imagery (Gilbert, 2010a; www.comp assionatemind.co.uk)	One brief exercise on CF imagery	(Gilbert, 2010b; www. compassionatemind.co. uk)	 Negative emotion induction CF: Guided exercise that asked the participants to create an image that elicited warmth and compassion to themselves 	First and third author	The facilitators practised the exercise script until they were able to deliver it in a calm and warm tone
Duarte et al. (2017)	Compassionate Attention and Regulation of Eating Behaviour (CARE)	2.5 hour group session followed by four weeks of self- help	None. But practises were adapted from Kabat-Zinn (1990) programme and the BEfree intervention manual (Pinto-Gouveia	 Initial 2.5 hour group session on psychoeducation of eating regulation, the concepts of mindfulness and 	Group presentation facilitated by researchers	Not recorded
	(Gilbert, 2000, 2010a; Gilbert and Choden, 2013; Goss, 2011; Kabat-Zinn (1990); Pinto- Gouveia et al., 2016)		et al., 2016)	 compassion and exercises on mindfulness meditation and compassionate imagery Week 1 consisted of practising mindfulness. Exercises included soothing rhythm breathing (Gilbert, 2000, 2010c; Gilbert and Choden, 2013), body scan, mindful eating and mindfulness of the breath Weeks 2–4 entailed participants practising compassionate imagery (Gilbert and Choden, 2013) 		
Fatollahzadeh et al. (2017)	CFT	Eight sessions of 90- min group sessions	(Gilbert, 2009a)	 General principles of compassion Self-compassion training Compassion towards oneself and others Compassionate letter writing 	Unknown	Unknown
Feliu-Soler et al. (2017)	Loving-Kindness Meditation and Compassion Meditation (LKM/ CM) adapted for Borderline Personality Disorder	Three sessions in total, delivered weekly	Soler et al. (2015)	 Psychoeducation based on Dr. Paul Gilbert's theoretical model of compassion and on Neff and Germer's self- compassion model (Germer & Neff, 2013; Neff, 2011) 	Groups facilitated by two clinical psychologists	Extensive clinical experience of mindfulness-based interventions and dialectical behaviour therapy (DBT).
Kelly et al. (2017)	(Gilbert, 2010); (Gilbert, 2010b; Kelly & Leybman, 2012a; 2012b)	12-weeks of 90-min group sessions	Unpublished manual (Kelly & Leybman, 2012a; 2012b)	 Psycho-education of how the brain has evolved, affect regulation, importance of compassion and self- compassion How compassion can alleviate shame and self- criticism Barriers to compassion 	Group led by a psychologist with compassion- focused therapy training and a Master's-level therapist.	The two facilitators had regular supervision from the first author who has had extensive training of CFT by attending workshops and receiving supervision from the founder of the (continued on next page)

Table 2 (continued)

Author	Intervention name and reference	Session number and duration	Treatment protocol available?	Session topics	Facilitator(s)	Facilitator Training
				 Implementing compassionate exercises such as imagery (visualising a compassionate other and 'Compassionate other and 'Compassionate letter writing and self- compassion thought records. 		intervention, Dr. Paul Gilbert. Formal fidelity checks were not conducted.
Rycroft (2016)	Brief CFT intervention	A daily five-minute self-practice for three weeks.	CFT script provided	 Participants were provided with an amended CFT script, which included a definition of compassion, the benefits of it, and guides for compassionate exercises, which included soothing rhythm breathing and compassion imagery 	Self-help intervention; not applicable	Not applicable
Kelly and Carter (2015)	Self-compassion intervention for Binge Eating Disorder (Fairburn, 1995; Goss, 2011; Goss & Allan, 2011, 2014)	Assigned to three- weeks of food- planning plus self- compassion exercises or food planning plus behavioural strategies	No. Self-compassion intervention adapted from Fairburn (1995); Goss (2011); Goss and Allan (2011, 2014)	 and compassion imagery CBT-based self-help book aimed to reduce binge eating (Fairburn, 1995) PowerPoint on psycho- education of self- compassion and binge eating (Goss, 2011). Included two guided self- compassion imagery exercises. When experiencing urge to binge, participants were asked to engage in self- compassion exercises through imagery, self-talk and compassionate letter writing. Every evening participants were asked to engage with a compassionate imagery visualisation and a self- 	Participants attended two laboratory sessions with a researcher	Not recorded
Brachler et al. (2013a)	Compassion Focused Therapy (Compassion Focused Group Therapy for Recovery after Psychosis, (Braehler et al., 2013b)	16 group sessions (2 h duration each week) Completed within 4- 5 months	Yes https://www.research gate.net/profile/Christ ine-Braehler/publicat ion/264192899_compass ion-Focused_Group_ Therapy_for_Recovery_a fter_Psychosis/links/ 53d109310cf2f7e 53cfbc0bd/Compassion- Focused-Group-Therapy- for-Recovery-after-Ps ychosis.pdf	 Formation Phase Psychoeducation on the role of the threat system and its impact on psychosis, the interaction of the affect regulatory system, compassionate motivation Middle phase Fears of compassion, developing shared meaning of compassion, developing compassion, within self (compassionate imagery, mindful appreciation) Compassionate skills (Attention, behaviour, thinking) Ending Phase Compassionate narrativas 	Each group was led by two psychologists Five trial therapists (two consultant psychologists and three specialist psychologists)	All had experience of facilitating psychological therapy for psychosis Four of five received training at the 3-day workshop on CFT led by Paul Gilbert (founder of CFT). Fortnightly peer group supervision and frequent consultations with Paul Gilbert
Noorbala et al. (2013)	Compassionate Mind Training (CMT) (Gilbert, 2005)	Six weeks of 12 two- hour sessions of CMT twice per week	No protocol provided. The structure of the sessions based on the manual of Gilbert (2005)	 Compassionate narratives Facilitating transition Psychoeducation of the rationale of CMT and the concepts of self-criticism, compassion and self- compassion. Exercises such as compassionate imagery, soothing rhythm breathing, mindfulness and 	Not recorded	Not recorded

Table 2 (continued)

	,					
Author	Intervention name and reference	Session number and duration	Treatment protocol available?	Session topics	Facilitator(s)	Facilitator Training
				compassionate letter writing, • Challenging the fears of self-compassion		

significant effects.

From the six studies that reported follow-up data, one study showed a small reduction in self-criticism from post-intervention to two-month follow-up (Pirjavid et al., 2021). Two studies noted that self-criticism had increased from the post-intervention stage; however, these scores were still an improvement from baseline scores (Gharraee et al., 2018; Stevenson et al., 2019). In contrast, Duarte et al.'s (2017) follow-up stage showed that CFT did not maintain levels of self-criticism and had returned to baseline levels. However, the reassured self subscale had significantly improved when comparing post-intervention and follow-up scores. Johannsen et al. (2022) and Noorbala et al. (2013) findings showed non-significant findings at post-intervention, which also remained at follow-up.

3.5.2. Active control group comparisons

Four studies compared the effectiveness of CFT in reducing selfcriticism to an active control. Pirjavid et al. (2021) revealed a significant group-by-time interaction at post-intervention. Significantly lower scores were reported across both CFT and QoL; however, mean scores indicated that CFT was more effective in reducing self-criticism compared to the active control (Pirjavid et al., 2021). Due to the remaining three studies not presenting any significant group-by-time interactions, the findings were unable to determine whether CFT was more effective in comparison to an alternative intervention (Ascone et al., 2017; Feliu-Soler et al., 2017; Stevenson et al., 2019).

Two studies compared the *FSCRS'* reassured self subscale versus an active control. While Ascone et al. (2017) noted that CFT led to a greater increase in self-reassurance compared to the active control with a large effect size of 0.80, Feliu-Soler et al. (2017) did not report a significant difference between their two groups.

3.5.3. Waitlist control group comparisons

In comparison to waitlist control, Gharraee et al. (2018) and Pirjavid et al. (2021) demonstrated that CFT significantly reduced self-criticism. Analysis of the *FSCRS'* inadequate self or hated self subscales only also significantly favoured CFT in lowering self-criticism than waitlist control with small and moderate effect sizes of 0.15 and 0.60 (Duarte et al., 2017; Savari et al., 2021). Johannsen et al. (2022) did not report any significant effects of CFT on self-criticism compared to waitlist control.

Of the three studies that compared the effects of the *FSCRS*' reassured self subscale between CFT and waitlist control, a significant greater increase was observed in the CFT group with a moderate to high effect size of 0.43 and 0.81 (Johannsen et al., 2022; Savari et al., 2021). Duarte et al. (2017) demonstrated no significant differences.

3.5.4. Meta-analysis

While self-criticism and self-reassurance were widely measured across the studies, only four studies using these measures were included in the meta-analyses due to heterogeneity in data extraction and data analysis (Duarte et al., 2017; Feliu-Soler et al., 2017; Johannsen et al., 2022; Savari et al., 2021).

The meta-analysis of the *FSCRS'* hated self subscale (g = -0.34, 95 % CI = -0.78-0.10, z = 1.50, p = 0.13) and the inadequate self subscales (g = -0.28, 95 % CI = -0.66-0.09, z = 1.47, p = 0.14) did not reveal a statistically significant differences between CFT and control at post-intervention. Levels of heterogeneity were moderate (Q = 5.39, df = $3, p = 0.15, 1^2 = 44$ %) and low (Q = 4.00, df = $3, p = 0.26, 1^2 = 25$ %),

respectively (see Figs. 4 and 5).

As Fig. 6 shows, the reassured self subscale indicated that CFT was significantly more effective in increasing self-reassurance than control (g = 0.51, 95 % CI = 0.19–0.83, z = 3.10, p = 0.002) with no heterogeneity (Q = 0.74, df = 3, p = 0.86, I² = 0 %).

3.6. Self-compassion

3.6.1. Baseline to post-intervention evaluations

Main effects of time were observed by four studies, which indicated that CFT significantly improved SCS total score at post-intervention with a small to moderate effect sizes of 0.19–0.36 (Duarte et al., 2017; Gharraee et al., 2018; Savari et al., 2021), and elicited a significant increase in two of the three SCS subscales with high effect sizes of 0.74 and 0.90 (Feliu-Soler et al., 2017). From baseline to post-intervention, Kelly and Waring (2018) revealed no significant effects on levels of self-compassion, with three studies not reporting the main effects of time (Ascone et al., 2017; Kelly and Carter, 2015; Kelly et al., 2017). Data could not be extracted from Rycroft (2016).

Three of the trials collected follow-up data. From these, selfcompassion scores had decreased at follow-up but remained higher than the scores at baseline (Duarte et al., 2017; Gharraee et al., 2018). Stevenson et al.'s (2019) data showed significant increases over time, with an improvement in scores from post-intervention to follow-up.

3.6.2. Active control group comparisons

Greater improvement of self-compassion among those in a CFT intervention than an active control (Kelly and Carter, 2015), whereas three studies could not establish whether CFT was more effective than an alternative intervention in increasing self-compassion after reporting non-significant interaction effects (Ascone et al., 2017; Feliu-Soler et al., 2017, Stevenson et al., 2018).

3.6.3. Waitlist control group comparisons

In comparison to waitlist control, three studies showed a significant increase in self-compassion (Gharraee et al., 2018; Kelly and Waring, 2018; Savari et al., 2021). However, Duarte et al. (2017) revealed no significant differences.

3.6.4. Meta-analysis

Six studies were included in a meta-analysis of self-compassion, measured using the SCS total score (Duarte et al., 2017; Gharraee et al., 2018; Kelly and Carter, 2015; Kelly and Waring, 2018; Kelly et al., 2017; Savari et al., 2021). Three studies were not included in this analysis due to either unavailable data (Rycroft, 2016) or not analysing the SCS total score (Feliu-Soler et al., 2017; Stevenson et al., 2018). There was a significant difference between groups (g = 1.12, 95 % CI = 0.61–1.63, z = 4.30, p < 0.001), indicating that CFT is more effective in increasing levels of self-compassion (see Fig. 7). However, the analysis revealed significantly high levels of heterogeneity (Q = 12.52, df = 5, p = 0.03, $I^2 = 60$ %).

3.7. Fear of self-compassion

3.7.1. Baseline to post-intervention evaluations

Two studies reported a main effect of time, but only Savari et al. (2021) reached statistical significance with a small effect size of 0.18,



Fig. 2. Risk of bias within studies using the Cochrane risk of bias.

indicating that CFT significant reduced fear of self-compassion at postintervention. However, Kelly and Waring's (2018) findings revealed that CFT did not elicit any significant improvements in this outcome. Data from Rycroft (2016) could not be extracted.

3.7.2. Active control group comparisons

One study evaluated a comparison between CFT and an active control group on fear of self-compassion. No statistical significant difference was identified between the two intervention groups (Stevenson et al., 2019).

3.7.3. Waitlist/TAU group comparisons

The effectiveness of CFT reducing fear of self-compassion in comparison to waitlist control or TAU was analysed by three studies. Only Kelly et al. (2017) reported a significant group-by-time interaction, with mean scores favouring CFT in lowering fear of self-compassion. Three studies did not find a significant differences between CFT and waitlist control/TAU in reducing fear of self-compassion (Kelly and Waring, 2018; Johannsen et al., 2022; Savari et al., 2021).

3.7.4. Meta-analysis

Five studies that implemented the *FCS*, focusing on the fear of selfcompassion subscale, were analysed (Kelly and Waring, 2018; Kelly et al., 2017; Johannsen et al., 2022; Savari et al., 2021; Stevenson et al., 2019). Two studies could not be included in the analysis due to insufficient data (Rycroft, 2016) or baseline data only (Kelly and Carter, 2015). As Fig. 8 demonstrates, the meta-analysis revealed no statistically significant difference between CFT and control (g = -0.24, 95 % CI = -0.55-0.07, z = 1.51, p = 0.13), with a low level of heterogeneity which was not significant (Q = 5.89, df = 4, p = 0.21, I² = 32 %).

3.8. Fear of compassion from others

The second subscale of the *FCS*, fear of compassion from others, was included in three studies. A significant main effect of time (Savari et al., 2021) and main effect of group-by-time interaction was observed (Kelly et al., 2017), with small-moderate effect sizes of 0.13 and 0.29, respectively. No significant differences were reported by Johannsen et al. (2022).

The meta-analysis was statistically significant (g = -0.67, 95 % CI = -1.29- 0.05, z = 2.11, p = 0.04), favouring CFT over waitlist control (Fig. 9). Heterogeneity was moderate but did not reach statistical significance (Q = 4.56, df = 2, p = 0.10, I² = 56 %).

3.9. Clinical symptomology

3.9.1. Outcomes for depression and anxiety

Overall, eleven studies implemented a measure for either depression and/or anxiety. A meta-analysis could not be performed due to heterogeneity across the outcome measures.

Seven studies analysed depressive symptoms only across three measures: *Centre for Epidemiological Studies for Depression* (CES-D; Radloff, 1977), the *Beck Depression Inventory-II* (BDI-II, Beck et al., 1996) and the *Depression, Anxiety and Stress* depression subscale (DASS-21; Lovibond and Lovibond, 1995). Three of these studies were samples with depression (Noorbala et al., 2013; Pirjavid et al., 2021; Savari et al., 2021). Four studies demonstrated that CFT led to significant reductions from baseline to post-intervention (Braehler et al., 2013; Duarte et al., 2017; Rycroft, 2016; Savari et al., 2021). However, no significant reductions were revealed by Noorbala et al. (2013).

Of the five studies that reported group-by-time interactions, Duarte et al. (2017) and Savari et al. (2021) observed significantly greater reductions in depressive symptoms in comparison to the control group with small effect sizes of 0.24 and 0.25. However, no significant differences between groups were reported across the remaining three studies (Johannsen et al., 2022; Kelly and Carter, 2015; Rycroft, 2016).



Fig. 3. Risk of bias across studies using the Cochrane risk of bias tool.



Fig. 4. Forest plot for levels of FSCRS' hated self subscale: CFT versus control.

		CFT		Contr	ol Gro	up		Std. Mean Difference		Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% Cl	Year	IV, Random, 95% Cl
Duarte	1.61	0.87	17	2.12	0.94	15	21.9%	-0.55 [-1.26, 0.16]	2017	
Feliu-Soler	23.25	9.77	16	22.12	7.02	16	22.7%	0.13 [-0.56, 0.82]	2017	
Savari	8.7	3.7	15	11.5	3.4	15	20.2%	-0.77 [-1.51, -0.02]	2021	
Johannsen	12.07	6.57	27	12.91	9.16	33	35.2%	-0.10 [-0.61, 0.41]	2022	
Total (95% CI)			75			79	100.0%	-0.28 [-0.66, 0.09]		•
Heterogeneity: Tau ² =	0.04; C	hi² = 4	.00, df=	= 3 (P =	0.26);	r = 259	6			-4 -2 0 2 4
Test for overall effect:	Z=1.47	(P=0	J.14)							CFT Control

Fig. 5. Forest plot for levels of FSCRS' inadequate self subscale: CFT versus control.

		CFT		Cont	ol Gro	up	:	Std. Mean Difference		Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% Cl	Year	IV, Random, 95% Cl
Duarte	2.64	0.88	17	2.07	0.59	15	20.1%	0.73 [0.01, 1.45]	2017	
Feliu-Soler	15.87	5.48	16	14.12	6.08	16	21.4%	0.29 [-0.40, 0.99]	2017	
Savari	15.2	4.3	15	13.1	3.3	15	19.5%	0.53 [-0.20, 1.26]	2021	+
Johannsen	17.09	5.69	27	13.81	6.94	33	39.0%	0.51 [-0.01, 1.02]	2022	⊢ ∎-
Total (95% Cl)			75			79	100.0%	0.51 [0.19, 0.83]		◆
Heterogeneity: Tau ² =	0.00; C	hi² = 0	.74, df=	= 3 (P =	0.86);	I² = 0%				
Test for overall effect:	Z = 3.10) (P = (0.002)							-4 -2 0 2 4 Control CET

Fig. 6. Forest plot for levels of FSCRS' reassured self subscale: CFT versus control.

Two studies measured the levels of depression, anxiety and stress using the *DASS-21* total score with conflicting findings. Pirjavid et al. (2021) demonstrated that CFT evoked significant reductions in DASS-21 total score from baseline to post-intervention, which were also significantly greater compared to waitlist control. However, Rycroft's (2016) did not reach statistical significance and could not determine whether CFT was more effective than waitlist control.

Four studies analysed the effects of CFT on levels of anxiety only by implementing either the *Generalised Anxiety Disorder* questionnaire (GAD-7, Spitzer et al., 2006), the *DASS-21* anxiety subscale (Lovibond and Lovibond, 1995) and the *Anxiety Scale* (Costello and Comrey, 1967). None of the studies that measured levels of anxiety only reported any

		CFT		Cont	rol Gro	սթ	:	Std. Mean Difference		Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% Cl	Year	IV, Random, 95% Cl
Kelly & Carter	3.58	0.7	15	2.79	0.65	13	16.5%	1.13 [0.32, 1.94]	2015	
Duarte	3.38	0.72	17	2.94	0.45	16	18.3%	0.71 [0.00, 1.42]	2017	
Kelly	2.96	0.36	11	2.12	0.4	11	12.4%	2.12 [1.04, 3.21]	2017	
Gharraee	82.71	8.79	17	62.13	11.48	15	15.5%	1.98 [1.11, 2.85]	2018	_ _
Kelly & Waring	2.85	0.67	20	2.48	0.72	20	19.7%	0.52 [-0.11, 1.15]	2018	+
Savari	39.3	7.6	15	34.1	6.4	15	17.6%	0.72 [-0.02, 1.46]	2021	
Total (95% CI) Heterogeneity: Tau ^z = Test for overall effect:	0.24; Cl Z = 4.30	hi² = 1 I (P < (95 2.52, di).0001)	f= 5 (P :	= 0.03);	90 I ² = 609	100.0 % %	1.12 [0.61, 1.63]		-4 -2 0 2 4 Control CFT











significant differences between baseline and post-intervention or groupby-time interactions (Duarte et al., 2017; Johannsen et al., 2022; Noorbala et al., 2013; Rycroft, 2016).

Follow-up data revealed mixed findings on depression and anxiety. Although Noorbala et al. (2013) found no significant reductions in depression and anxiety symptomology at post-intervention; there was a significant reduction at two-month follow-up (Noorbala et al., 2013). Levels of depression and anxiety remained similar from postintervention to two-month follow-up in one study (Pirjavid et al., 2021), whereas no significant improvements were revealed at both postintervention and six-month follow-up by Johannsen et al. (2022).

Gharraee et al. (2018) and Stevenson et al. (2019) measured the effects of CFT on social anxiety who implemented a two-month and fiveweek follow-up, respectively. Levels of social anxiety had significantly reduced at post-intervention level with those in the CFT group reporting greater reductions than the control groups (Gharraee et al., 2018; Stevenson et al., 2019). Both studies showed promising findings at two-month follow-up, with effects of CFT being maintained in Gharraee et al. (2018) and Stevenson et al. (2019) reporting that social anxiety had further significantly decreased over time.

3.9.2. Outcomes for eating disorders

The most common clinical sample included across the studies were those with eating disorders, which included anorexia nervosa (Kelly and Waring, 2018) and binge eating disorder (Duarte et al., 2017; Kelly and Carter, 2015), with Kelly et al. (2017) including different eating disorder subtypes. One study examined main effects of time, which was significant with a high effect size of 0.79 (Duarte et al., 2017). The findings indicated that CFT significantly reduced eating disorder symptomology from baseline to post-intervention. At the one-month follow-up, eating disorder symptomology had increased but remained lower than scores at baseline (Duarte et al., 2017).

Three of these studies demonstrated significant group-by-time interactions, with CFT intervention having greater reductions in Fairburn and Beglin's (1994, 2008) Eating Disorder Examination Questionnaire (EDE-Q) scores (Duarte et al., 2017; Kelly and Carter, 2015; Kelly et al., 2017). Effect sizes ranged from 0.18 (Kelly and Carter, 2015) to 0.78 (Duarte et al., 2017). Kelly and Waring (2018) did not identify a significant effect in CFT decreasing eating disorder symptomology.

A meta-analysis revealed a trend slightly favouring CFT in reducing the EDE-Q total score in comparison to waitlist control (see Fig. 10). Although, this did not reach statistical significance. (g = -1.13, 95 % CI = -2.30-0.03, z = 1.90, p = 0.06). The level of heterogeneity was significantly high (Q = 13.86, df = 2, p < 0.001, $I^2 = 86$ %).

3.9.3. Outcomes for other clinical samples

The remaining clinical samples that were measured across the studies were disorders related to psychosis, borderline personality disorder, PTSD/trauma and prolonged grief disorder.

Through correlation analysis, improvements in compassion were

		CFT		C	ontrol			Std. Mean Difference		:	Std. Mean D	ifference		
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% Cl	Year		IV, Randon	n, 95% Cl		
Kelly & Carter	2.08	0.43	20	2.51	0.43	20	34.8%	-0.98 [-1.64, -0.32]	2015		-			
Duarte	1.46	0.81	17	3.17	0.57	16	31.5%	-2.37 [-3.28, -1.45]	2017					
Kelly & Waring	3.05	1.12	15	3.2	1.12	13	33.7%	-0.13 [-0.87, 0.61]	2018		-	-		
Total (95% CI)			52			49	100.0%	-1.13 [-2.30, 0.03]			•			
Heterogeneity: Tau ² = Test for overall effect:	0.90; CI Z = 1.90	hi ² = 1 I (P = 0	3.86, d1).06)	f=2(P=	= 0.00	10); I²=	86%			-10 -5	CFT	Control	5	10

Fig. 10. Forest plot of eating disorder symptomology: CFT versus control.

significantly associated with reductions in psychosis-related outcome measures such as shame, social marginalisation, fear of relapse and intrusiveness from baseline to post-intervention (Braehler et al., 2013a). In contrast, CFT had no significant effects on levels of paranoia in Ascone et al. (2017).

Within-subject analysis showed that CFT significantly reduced symptom severity of borderline personality disorder (Feliu-Soler et al., 2017). Symptom severity similarly deceased in the active control group. However, statistical analysis could not determine which intervention was most effective (Feliu-Soler et al., 2017).

Rycroft (2016) found no intervention effects on a post-traumatic change questionnaire. Similarly, CFT had no significant effect on symptoms of prolonged grief disorder (Johannsen et al., 2022).

4. Discussion

The aim of this current systematic review and meta-analysis was to determine the effectiveness of CFT within clinical populations on compassion-based and clinical symptomology outcomes. Firstly, the review analysed its effectiveness between baseline, post-intervention, and follow-up stages, with studies generally showing CFT led to positive outcomes at post-intervention. The effectiveness of CFT at follow-up was inconclusive. Although the review aimed to compare CFT to active controls and waitlist control groups, we could not determine whether CFT was favourable over other psychological interventions. This inconclusive finding was due to mixed results, whereby a number of studies reported time-by-group interactions that were not statistically significant. However, CFT was favourable over waitlist control conditions. The final objective was to perform meta-analyses on relevant outcomes, and we demonstrated that CFT led to greater improvements in self-compassion and reductions in depression symptomology versus waitlist control.

The strength of the main findings of our review should be viewed with some degree of caution, since the results of our quality assessment rated the included studies as having an unclear risk of bias. Judgements of an unclear risk of bias indicate that studies did not include sufficient information to assess limitations and potential methodological problems.

In general, the 15 reviewed studies indicated that CFT interventions significantly improved the main outcomes of self-compassion and self-reassurance and significantly reduced self-criticism, fear of self-compassion and clinical symptomology from baseline to post-intervention.

Comparisons between CFT and active control groups elicited mixed findings. Three studies had significant group-by-time interactions, with CFT showing greater improvement in self-compassion and global eating disorder symptomology (Kelly and Carter, 2015), self-criticism (Pirjavid et al., 2021) and self-reassurance (Ascone et al., 2017) and with mean scores inferring that CFT was more effective. Albeit other studies did not identify such effects (Feliu-Soler et al., 2017; Stevenson et al., 2019). It must be noted that only five studies delivered an active control group, which also differed in duration and format. For instance, two delivered group therapy as part of the control condition (Feliu-Soler et al., 2017; Pirjavid et al., 2021), two offered self-help exercises (Kelly and Carter, 2015; Stevenson et al., 2019) and one delivered a brief standalone exercise (Ascone et al., 2017). Therefore, with the current evidence-base, it is difficult to determine whether CFT is superior in improving compassion-based and clinical symptomology outcomes in comparison to other psychological interventions, and whether differences in control conditions affected findings. There were insufficient data for meta-analyses to confirm whether CFT is superior to active comparators. Future research will require more credible control conditions.

Supported by meta-analyses which showed CFT was superior in improving self-compassion and reducing levels of depression, findings suggested that CFT was more effective in improving outcomes in comparison to waitlist control. Although not statistically significant, forest plots indicated a trend of CFT reducing fears of compassion and global eating disorder symptomology. These meta-analyses strengthen the conclusions of Craig et al.'s (2020) review, who reported that CFT increased self-compassion and reduced clinical symptomology across a range of mental health difficulties. Seven studies that Craig et al. (2020) synthesised were included in this review.

4.1. Strengths and limitations

The designs of the included studies vary, with most comparing CFT with either a waitlist control, TAU/no-treatment or an active control only. Only two studies compared CFT with both an active control and a no-treatment control group (Kelly and Carter, 2015; Pirjavid et al., 2021). To establish stronger conclusions on the effectiveness of CFT, further comparisons of the intervention versus an alternative psychological intervention are required.

A level of uncertainty was common across the included studies in terms of their methodologies due to a lack of information provided. Consequently, the quality assessment revealed unclear levels of bias, particularly in terms of allocation concealment and blinding of outcome assessments. Levels of reporting bias were also unclear, as protocols for these studies were not found or did not exist. However, the absence of study protocols may be due to most studies being randomised pilot/feasibility trials, whereby studies are conducted on a smaller scale compared to a definitive RCT (Eldridge et al., 2016).

Two studies that were predominantly unclear in their risk of bias were Fatollahzadeh et al. (2017) and Pirjavid et al. (2021) Both studies reported CFT being significantly effective in reducing symptoms and levels of shame and self-criticism. In contrast, Johannsen et al. (2022) had the lowest risk of bias across the studies which reported that CFT had no significant effects on levels of self-criticism. However, other studies that were relatively low in their risk of bias did report some significant effects in favour of CFT (Ascone et al., 2017). Nevertheless, it is important to acknowledge when drawing upon conclusions on the effectiveness of CFT that the quality assessments indicated that the methodological rigour of these studies is predominantly unclear. Future RCTs require more transparency on their methodologies, which will strengthen the evidence-base of CFT.

Furthermore, this review has highlighted the heterogeneity across the studies, particularly in the use of outcome measures and their analyses. As noted previously, ten studies administered the FSCRS to examine levels of self-criticism and self-reassurance. However, there was considerable differences between how the studies analysed the scale, such as using the total score or examining the individual subscales. In consequence, this variation prevented this outcome being computed into a meta-analysis. The heterogeneity between the studies is further highlighted in the meta-analyses, ranging from 48 % to 68 % on the four outcomes that were measured. Differences in findings could be attributed to the disparity between each intervention and delivery content. The current review has also been affected by small sample sizes, such as Rycroft (2016) who had only ten participants and did not report any significant effects on the main outcomes.

A decrease in heterogeneity across the CFT-evidence base will allow for further analyses to be conducted in future research. For instance, it was hoped that this review could have explored possible changes in clinical significance between levels of mental health severity as well as examining possible differences between variables, such as therapy deliverance, session length, and duration.

As well as methodological rigour, the review cannot establish whether the effects of CFT can be maintained post-follow-up because of mixed findings. Findings demonstrated that improvements were maintained at follow-up compared to baseline (Duarte et al., 2017; Fatollahzadeh et al., 2017; Gharraee et al., 2018; Pirjavid et al., 2021; Stevenson et al., 2019). However, post-intervention to follow-up analysis only reached statistical significance in a number of cases such as in self-criticism and anxiety (Duarte et al., 2017). Further analyses are required to establish whether the effects of CFT can be maintained, particularly as studies have not extended data collection beyond a twomonth follow-up period with the exception of Johannsen et al. (2022).

In terms of study location, the vast majority of studies, with the exception of the five Iranian studies, was conducted with western samples and mainly on women of unreported ethnic or specific cultural background. The findings of CFT are restricted in its application across different ethnicities and cultural backgrounds. In most cases, the ethnicity of participants was not recorded. When data on ethnicity were available, these participants were primarily white. As CFT is influenced by Buddhist traditions, it may be more compatible with particular ethnic and cultural heritages. Furthermore, the levels of shame and self-criticism may also vary across cultural backgrounds, such as how the role of shame contributing to social control among Eastern cultures. Therefore, further studies are needed that measure the effectiveness of CFT among those from various cultural backgrounds.

Furthermore, there is a distinct gender gap, with 76.1 % of participants identifying as female. Seven studies had no male participants, which includes all of the four studies with eating disorder samples. Only three studies had more male participants, which were studies on psychosis and trauma-related disorders. All the samples that were included in the meta-analyses were predominantly women. Thus, more diverse sample populations are required to enhance the generalisability of CFT.

One strength of this review lied in the search strategy process. No restrictions were placed on language, which resulted in the inclusion of one paper written in Farsi/Persian (Fatollahzadeh et al., 2017), which contributed to the narrative synthesis. Nevertheless, the search strategy also had its limitations. The wider grey literature was excluded from analysis, enabling the review to be susceptible to non-significant studies being excluded or studies with weak effects or biases being overrepresented. Moreover, some studies may have been overlooked due to the search terms and inclusion criteria being based on Gilbert's CFT model. Search terms such as "mindfulness" or "self-compassion" were not included because they are more relevant with other compassion-based interventions such as Mindful Self-Compassion (Neff and Germer, 2013). This omission may have excluded some relevant studies from being identified and screened, eliciting a potential bias. However, these studies may have deviated too far from the model and further accentuated the heterogeneity across the interventions within the included studies. As Fig. 1 highlights, the sensitivity of the search strategy was still relatively high with 17,038 records being identified across the nine included databases.

The current review differs from the previous reviews of CFT, because there was enough sufficient data to perform a meta-analysis. However, the heterogeneity between the studies restricted the number of outcomes that could be entered into meta-analyses.

4.2. Clinical implications

The clinical implications of CFT are promising. This review demonstrates that CFT is generally effective in improving compassion-based outcomes and symptomology across a range of clinical samples from baseline to post-intervention, supporting the view that CFT is a transdiagnostic intervention. Adaptations of CFT for specific mental health difficulties were also shown to be beneficial. Thus, CFT can be an effective psychotherapy to a wide range of service-users accessing mental health services, which highlights CFT's strong clinical implications.

However, the clinical implications of this review are primarily associated with CFT offered within a group format. Only two of the included studies implemented individual therapy (Ascone et al., 2017; Gharraee et al., 2018). This finding mirrors conclusions by Craig et al. (2020), who stated that studies on the effectiveness of individual CFT are warranted. From this current review, the clinical implications of CFT as a 1-to-1 therapy remain unclear.

As well as group therapy deliverance, self-help was a primary focus among five studies. As noted previously, eight studies offered group therapy with an average of 8.63 session delivered primarily on a weekly or bi-weekly basis. This is a stark contrast to the average number of sessions in the self-help interventions (15.8 days). The review by Craig et al. (2020) suggested that at least 12 sessions of CFT were needed to significantly reduce clinical symptomology. Only three studies met this criterion (Braehler et al., 2013a; Kelly et al., 2017; Noorbala et al., 2013). Differences in therapy format may have led to differences in outcomes. For instance, the non-significant meta-analysis of fear of selfcompassion between CFT and waitlist control reflects the conclusions of Kelly and Carter (2015), who suggested that fear of self-compassion moderates the effects of CFT. The techniques associated with CFT may be incongruous to those who fear self-compassion, whereby they may elicit overwhelming emotional reactions or avoidance (Kelly and Carter, 2015). Therefore, these findings indicate that the briefer interventions of CFT may not be sufficient, and a more intense adaptation is required for this subgroup (Lennard et al., 2021).

Retention rates within the CFT interventions ranged from 52.4 % to 100.0 %, with an average of 84.6 %. These retention levels would indicate that CFT is highly acceptable among those experiencing mental health difficulties. Therefore, the retention rates of these studies suggest that CFT would be acceptable within clinical settings.

4.3. Conclusion

This review highlights the potential in CFT for improving compassion-based outcomes and clinical symptomology in those experiencing mental health difficulties, particularly those with eating disorders. Meta-analyses significantly favoured CFT in improving levels of self-reassurance and reducing fear of self-compassion. However, the long-term effects of CFT are yet to be established. Findings indicated that CFT was more effective than waitlist control but could not determine its effectiveness against alternative psychological interventions. However, these conclusions must be viewed with caution due to the unclear risk of bias shown across many of the included studies. Future research should implement longitudinal designs and aim to reduce the heterogeneity in the analysis of outcome measures to strengthen the evidence base of CFT research.

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CRediT authorship contribution statement

The original idea for the review was developed and refined by Leah Millard, Anja Wittkowski, Ming Wai Wan and Debbie Smith. With supervision from Ming Wai Wan, Debbie Smith and Anja Wittkowski, Leah Millard wrote the PROSPERO protocol and first draft of the manuscript. Input from all supervisors was provided throughout the process of completing the final version. All authors contributed to and have approved the final manuscript.

Conflict of interest

The authors declare that they do not have any conflict of interest. This review was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Appendix A. Search strategy

Database search	Search term	Items found
Web of Science (year 2000-Jan 2022)	
#1	"compassion" OR "compassionate" OR "compassion-focused" OR "compassionate mind"	18,656
#2	"intervention" OR "training" OR "therapy" OR "therap*" OR "treatment"	7,348,512
#3	\$1 AND \$2	7138
CINAHL (year 20)00–2022)	
#1	"compassion" OR "compassionate" OR "compassion-focused" OR "compassionate mind"	4340
#2	"intervention" OR "training" OR "therapy" OR "therap\$" OR "treatment"	1,036,459
#3	S1 AND S2	2012
ProQuest Dissert	ations & Theses Global (year 2000–2022)	
#1	"compassion" OR "compassionate" OR "compassion-focused" OR "compassionate mind"	205,273
#2	"intervention" OR "training" OR "therapy" OR "therap\$" OR "treatment"	1,581,261
#3	S1 AND S2	198,175
#4	noft"compassion" OR noft"compassionate" OR noft"compassion-focused" OR noft"compassionate mind"	5217
#5	noft"intervention" OR noft"training" OR noft"therapy" OR noft"therap\$" OR noft"treatment"	464,553
#6	S4 AND S5	1832
Ovid		
#1	"compassion" OR "compassionate" OR "compassion-focused" OR "compassionate mind".ti.ab.	34,190
#2	Limit 1 to yr="2000 - Current"	31,715
#3	S1 AND S2	31,715
#4	"intervention" OR "training" OR "therapy" OR "therap\$" OR "treatment"	12.370.930
#5	Limit 4 to yr="2000 - Current"	10,439,970
#6	S4 AND S5	10.439.970
#7	S3 AND \$6	14.574
#8	"compassion" OR "compassionate" OR "compassion-focused" OR "compassionate mind".ti.	10,707
#9	Limit #8 to vr="2000 - Current"	10.103
#10	S8 AND 9	10.103
#11	"intervention" OR "training" OR "therapy" OR "therap\$" OR "treatment", ti.	33,479,089
#12	Limit 11 to vr="2000 – Current"	26,340,066
#13	\$11 AND \$12	26,340,066
#14	\$10 AND \$13	1311
PubMed		
#1	"compassion"[Title/Abstract] OR "compassionate"[Title/Abstract] OR "compassionate mind"[Title/Abstract] OR "compassion focused"[Title/	12,561
# 0	Abstract	7 9(1 100
#2	"treatment [11tle/Abstract] OK "intervention"[11tle/Abstract] OK "therapy"[11tle/Abstract] OK "therap"[11tle/Abstract] OK "training"[11tle/Abstract] Abstract]	7,361,190
#3	#1 AND #2	4865
#4	((((compassion[Title/Abstract]) OR (compassionate[Title/Abstract])) OR (compassionate mind[Title/Abstract])) OR (compassion focused[Title/Abstract])) AND (((((therapy[Title/Abstract]) OR (therap*[Title/Abstract])) OR (intervention[Title/Abstract])) OR (treatment[Title/Abstract])) OR (treatment[Title/Abstract]) OR (treatment[Title/Abstract])) OR (treatment[Title/Abstract]) OR (treatment[Title/Abstract])) OR (treatment[Title/Abstract]) OR (treatment[Title/Abstract])) OR (treatment[Title/Abstract])) OR (treatment[Title/Abstract])) OR (trea	4732
Total records: 17	,025	

Appendix B. Studies analysed within the systematic review

Author(s)	Design	Clinical group	Sample size		Sample characteristics	Intervention (Reference)	Comparator/control group	Individual or group	Outcome meas (Measuring too	ures ls)	Funded?	Main outcome(s)
Location		(Diagnostic tool)	Included sample	Retention rate	-			delivery	Compassion- based measures	Other measures	-	
RCTs with interventi 1 Pirjavid et al. (2021) Iran	on group, activ RCT	e control, and waith Sample with major depressive disorder (MDD) Diagnostic tool: BDI-II Recruited from psychological clinics	ist control only n = 45 CFT: n = 15 Quality of Life Therapy (QOL): n = 15 Waitlist control: $n = 15$	100 %	Age: $M =$ 33.2 years Gender: Women = 60.0 %, $n =$ 27; Men: 40.0 Ethnicity: Not recorded	CFT (Gilbert, 2019)	Active control: QOL (Frisch, 2013) Inactive control group: Waitlist	Group	Self-criticism (FSCRS; Gilbert et al., 2004)	Depression, anxiety and stress (DASS-21; Lovibond and Lovibond, 1995) Depression (BDI-II; Beck et al., 1996	None stated	Both CFT and QOL were significantly effective in reducing levels of self-criticism and depression, anxiety and stress. The effect was significantly higher in the CFT group.
RCT with interventio 2 Stevenson et al. (2019) Australia	n group and ca RCT	ontrol group only Social anxiety Diagnostic tool: SPIN Recruited from various online sources	n = 119 Self- compassion (SC): $n = 60$ Cognitive restructuring (CR): n = 59	Overall sample: 82.4 % at all stages of follow-up Post treatment assessment: SC = 73.3 %; CR = 91.5 %	Age: M = 29.04 (SD = 11.65; range = 18-71 years) Gender: Women = 76.5 %, n = 91; Men = 23.5 %, n = 28 Ethnicity: 69.7 % White 21.8 % Asian 8.5 % of other ethnicities	SC (Gilbert, 2010c; Shapira and Mongrain, 2010; https://compassionatemind. co.uk)	Active control group: CR (Clark and Wells, 1995; Greenberger and Padesky, 2015; https://www.cci. health.wa.gov.au/)	Self-help	Self-criticism (Inadequate Self and Hated Self subscales of the FSCRS; Gilbert et al., 2004) Fears of self- compassion (FOSC; subscale of FCS, Gilbert et al., 2011) Affect (Safe Positive Affect subscale of the TPAS; Gilbert et al., 2008) Self- compassion (SCS; Neff, 2003; SSCS; Flett, 2017) Social self- compassion (SSCS; Flett, 2017)	Social anxiety (SPIN; Connor et al., 2000) Clinical diagnosis (MINI; Sheehan et al., 1998) Social phobia (SPS; Mattick and Clarke, 1998) Treatment credibility (CEQ; Devilly and Borkovec, 2000) Treatment adherence & engagement (Self-report Likert scale) Event probability and cost (EPCQ; Rapee et al., 2009) Anticipatory processing (APS; Clark and Wells, 1995) Perceived inferiority (Social Comparison Scale; Allan and Cilbert 1995)	None S	Both intervention groups showed reductions in social anxiety scores. No reported differences between the two interventions for social anxiety outcomes

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	Author(s)	Design Clinical group		Sample size		Sample characteristics	Intervention (Reference)	Comparator/control group	Individual or group	Outcome measures (Measuring tools)		Funded?	Main outcome(s)
	Location		(Diagnostic tool)	Included sample	Retention rate				delivery	Compassion- based measures	Other measures		
R 3	CTs with interventi Johannsen et al. (2022) Denmark	ion group and we	uitlist control only Sample with prolonged grief disorder (PGS)	n = 82 CFT: n = 42 Waitlist: n = 40	52.38 % at final session	Age: M = 60.49 (<i>SD</i> = 13.64) Gender: Women, 67.1 %, <i>n</i> = 55; Men = 32.9 %, <i>n</i> = 23 Ethnicity: Not recorded	CFT for PGS (Schlander, second author)	Inactive control group: Waitlist	Group	Fear of compassion (FCS; Gilbert et al., 2011) Self-criticism (FSCRS, Gilbert et al., 2004)	Prolonged grief (PG-13; Prigerson et al., 2009) Depression (CES-D 10; Radloff, 1977) PTSD (PCL-5; Ashbaugh et al., 2016; Weathers et al., 2013) Anxiety (GAD-7; Spitzer et al., 2003) Well-being (Bech et al., 2001; Bonsignore et al., 2001) Experiential avoidance (BEAQ; Gamez et al., 2014) Rumination (RRQ; Trapnell and Campbell, 1999)	University grant	No statistical significance on primary outcome of PGS at post- intervention or 6- month follow-up. Significant effects reported on posttraumatic stress symptoms and levels of reassurance. No other statistical significant effects reported.
4	Gharraee et al (2018) Iran	. RCT	Sample with social anxiety disorder (SAD) Diagnostic tool: SCID-I, primary diagnosis of SAD as approved by two clinicians Recruited from various clinical settings	n = 34 CFT: n = 17 Waitlist: n = 15	100 %	Age: $M =$ 22.7 years Gender: Women = 47 %, $n = 16$; Men = 53 %, n = 18 Ethnicity: Not recorded	CFT (Boeserma et al., 2015)	Inactive control group: Waitlist	Individual	Self- compassion (SCS; Neff, 2003) Self-Criticism (LOSC; Thompson and Zuroff, 2004)	Social anxiety (LSAS; Khoshouei, 2007) Quality of Life (WHOQOL-BREF; WHO, 1996) Acceptance and action (AAQ-II; Bond et al., 2007) Mindfulness (MAAS; Brown and Ryan, 2003)	University- funded	CFT significantly reduced psychological inflexibility, self- criticism, and social anxiety symptoms compared to waitlist control at post-intervention and two-month follow-up. CFT significantly increased levels of quality of life, self-compassion, and mindfulness.
5	Fatollahzadeh et al. (2017) Iran	RCT	Sample of women who have experienced emotional abuse	n = 40 CFT: n = 20; Control: n = 20	Unknown	Age: M = 32.82 years Gender: Women = 100 %	Compassion Focused Therapy (CFT) (Gilbert, 2009a)	Inactive control group: No treatment	Group	Self-criticism (LOSC; Thompson and Zuroff, 2004) Shame	None	None stated	Significant reductions in internalised shame and both internal and

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Author(s) Location	Design	Clinical group	Sample size		Sample characteristics	Intervention (Reference)	Comparator/control group	Individual or group	Outcome meas (Measuring too	ures bls)	Funded?	Main outcome(s)
Location		(Diagnostic tool)	Included sample	Retention rate	_			delivery	Compassion- based measures	Other measures		
		Diagnostic tool: Emotional harassment Scale			Ethnicity: Not recorded				(Internalised Shame Scale, Cook, 1993)			comparative self- criticism.
		Recruited across three counselling services in Tehran										
6 Noorbala et al. (2013) Iran	RCT	Sample with depression Diagnostic tool: Beck Inventory Score ≥ 20 Recruited from a psychiatric clinic	n = 22 Compassionate Mind Therapy (CMT): $n = 9$ Waitlist: $n = 10$	86.4 % (n = 19) (CMT = 2 dropouts; waitlist = 1 dropout)	Age: M = 28.15, range: 20–40 years Gender: Women = 100 % Ethnicity: Not recorded	CMT (Gilbert, 2005)	Inactive control group: Waitlist	Group	Self-criticism (LOSC; Thompson and Zuroff, 2004)	Depression (BDI-II; Beck et al. 1996) Anxiety (AS; Costello and Comrey, 1967)	None stated	No significant reductions post- intervention. Significant reductions in level- of depression and anxiety at follow- up. Moderate effect size.
Randomised feasibili 7 Savari et al. (2021) Iran	ity or pilot studie RCT	es only Students with major depressive disorder Diagnostic tool: SCID-II Recruited from university counselling centre	n = 30 Compassionate Mind Training (CMT): n = 15 Waitlist: n = 15	100 %	Age: Range = 21-29 years Gender: Women = 100 % Ethnicity: Not recorded	Compassionate Mind Training (CMT) (Gilbert et al., 2010; Gilbert and Choden, 2013)	Inactive control group: Waitlist (plus General Practitioner support)	Group	Self- criticism/ Self- reassurance (FSCRS; Gilbert et al., 2004) Self- Compassion (SCS-SF; Raes et al., 2011) Fears of Compassion (FCS; Gilbert et al., 2011)	Depressive symptomatology (BDI-II; Beck et al., 1996) Anger Rumination (ARS; Sukhodolsky et al., 2001)	None stated	Significant reduction in depressive symptoms and fears of compassion for others than control group. Increase in self- compassion and self-reassurance.
8 Kelly and Waring (2018) Canada	Randomised Feasibility Trial	Anorexia Nervosa (Non- treatment seeking) Diagnostic tool: Met DSM-5 criteria for AN through semi- structured interview	n = 40 Self compassion letter writing: $n = 20$ Waitlist: $n = 20$	95 % remained active participants in study	Age: M = 21.6 (SD = 3.97; range = 18-39 years) Gender: Women = 100 % Ethnicity: 48.4 % Asian, 44.1 % White,	Self-compassion letter writing (Gilbert, 2005)	Inactive control group: Waitlist	Self-help	Self- Compassion (SCS; Neff, 2003) Fears of compassion (FCS; Gilbert et al., 2011)	Height and weight ED Symptomatology (EDE-Q; Fairburn and Beglin, 2008) Shame (OAS; Goss et al., 1994; ESS; Andrews et al., 2002) Treatment Motivation and	None stated	Greater improvements in self-compassion and decreases in shame and fears of self-comparison compared to waitlist controls. Trends showed tha intervention may improve

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Author(s)	s) Design Clinical gro		Sample size		Sample characteristics	Intervention (Reference)	Comparator/control group	Individual or group	Outcome meas (Measuring too	sures pls)	Funded?	Main outcome(s)
Location		(Diagnostic tool)	Included sample	Retention rate	_			delivery	Compassion- based measures	Other measures	-	
		Recruited from online sources and University of Waterloo			7.5 % other ethnicities					readiness (ACMTQ; Zuroff et al., 2007; RR; Miller and Rollnick, 2002) Acceptability and feasibility (CEQ; Devilly and Borkovec, 2000)		motivation for treatment. Readiness significantly decreased in waitlist group, but no changes in intervention group.
9 Ascone et al. (2017) Germany	Randomised pilot study	Psychotic patients with paranoid ideation	n = 51 CFT: $n = 26$ Control Imagery: $n = 25$	100 %	Age: $M =$ 38.2 years Gender: Women ($n =$ 15): Men (n	Brief compassion-focused imagery derived from Compassion Focused Therapy (Gilbert, 2010a)	Active control group Control Imagery: Baseline assessment and three-minute Psychophysiological calm-breathing	Individual	Self- criticism/self reassurance (FSCRS; Gilbert et al., 2004)	Negative and - positive affect (Self-report scale) Skin conductance levels	None stated	CF-imagery revealed to have significant effects on self- reassurance and hanniness.
		Recruited from inpatient services and research unit			= 36) Ethnicity: Not recorded	(01000, 20100)	baseline exercise.		Self- compassion (SCS; Neff, 2003)	(Q sensor 2.0) Paranoia (18-item Paranoia checklist)		Showed good acceptability among participants.
10 Duarte et al. (2017)	Randomised Pilot Trial	Sample of individuals with binge eating	<i>n</i> = 20 CARE: <i>n</i> = 11	Overall sample: post- treatment:	Age: M = 36.8 years	Compassionate Attention and Regulation of Eating Behaviour (CARE) intervention	Inactive control group: Waitlist	Group and self-help materials	Compassion engagement and action	Body image shame, acceptance, and	Yes	Significant reductions in binge eating, eating
Portugal		disorder Diagnostic tool: Met DSM-5 criteria using the EDE tool	Waitlist: $n = 9$ Waitlist: $n = 9$ CARE: Post-treatment	Gender: Women = 100 % Ethnicity: 100 % White	(Pinto-Gouveia et al., 2016; Gilbert, 2000; Kabat-Zinn, 1990)			(CEAS; Gilbert et al., 2017) Self- compassion (SCS; Neff, 2003) Self-criticism	action (BISS; Duarte et al., 2015 BIAAQ Sandoz et al., 2013) Depression, anxiety, and stress (DASS)	Q; ss	psychopathology and self-criticism. Increases in self- compassion. Suggests CARE may improve eating behaviour.	
		advertising at the University of Coimbra and national newspapers		64.7 %, <i>n</i> = 11; Follow up: 47.1 %, <i>r</i> = 8	1				reassurance (FSCRS; Castilho et al., 2015; Gilbert et al., 2004)	Body mass index (BMI) ED examination (EDE; Fairburn et al., 2008) Binge eating symptomatology (BES; Gormally et al., 1982) Food craving desires (CFQ-food craving; Duarte et al., 2016) Mindfulness (FFMQ; Baer et al.,		93.8 % said they were acting more compassionate, 62.5 % reported positive changes on their life following CARE.

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Author(s)	Design	Clinical group	Sample size		Sample Intervention characteristics (Reference)		Comparator/control group	Individual or group	Outcome measures (Measuring tools)		Funded?	Main outcome(s)
Location		(Diagnostic tool)	Included sample	Retention rate				delivery	Compassion- based measures	Other measures		
11 Feliu-Soler et al. (2017) Spain	Randomised Pilot Trial	Service-users with borderline personality disorder (BPD) Diagnostic tool: DSM-IV criteria through structured interview Recruited from an outpatient psychiatric service	n = 32 Loving-kindness and compassion meditation (LKM/CM): $n = 16$ Mindfulness Continuation Training (MCT): n = 16	Not recorded	Range: 18–45 years Gender: Women = 93.8 %, <i>n</i> = 30; Men = 6.2 %; <i>n</i> = 2. Ethnicity: 100 % White	LKM/CM (Germer, 2009; Germer and Neff, 2013; Gilbert, 2010b, 2010c; Neff, 2011; Soler et al., 2015)	Active control group: MCT	Group	Self- compassion (SCS; Neff, 2003) Self-criticism and self- reassurance (FSCRS; Gilbert et al., 2004)	Feedback data (report on practising frequency, perceived utility and importance and general feedback on exercises and overall programme) BPD diagnosis & symptom severity (DIB-R; Barrachina et al., 2004; Bohus et al., 2009; Soler et al., 2009; Soler et al., 2013; Zanarini et al., 1989) Mindfulness (PHLMS; Cardaciotto et al., 2008)	Yes	Significant improvements in severity of BPD symptoms, self- criticism, mindfulness, and self-kindness in intervention group.
12 Kelly et al. (2017) Canada	Randomised Pilot Trial	Outpatients diagnosed with an eating disorder Diagnostic tool: Semi-structured interview with specialist psychiatric nurse and consultation with clinical psychologist Recruited from an eating disorder treatment centre	n = 22 CFT + TAU: n = 11 TAU: n = 11	Baseline: 100 % Week 4: 68.2 %; <i>n</i> = 15 Week 8: 59.0 %; <i>n</i> = 13 Week 12: 73.0 %; <i>n</i> = 16	Age: M = 36.73 (<i>SD</i> = 12.58) Gender: Women = 100 % Ethnicity: 100 % White	CFT + TAU (Gilbert, 2010b; Kelly and Leybman, 2012a; 2012b)	Inactive control group: TAU	Group	Self- compassion (SCS; Neff, 2003) Fears of compassion (FCS; Gilbert et al., 2011)	Diagnosis and history (EDE; Fairburn et al., 1999) ED symptomatology (EDE-Q; Fairburn and Beglin, 1994) Shame (ESS; Andrews et al., 2002) Feasibility and acceptability (CEQ; Devilly and Borkovec, 2000)	None stated	80 % retention rate for CFT. Viewed positively by participants CFT + TAU had significant improvements in self-compassion and decreases in fears of compassion, shame, and ED pathology. Not significant in TAU group
											(co	ntinued on next page)

(00/11/11/11/04)												
Author(s)	s) Design Clinical (n (Diagnos tool)	Clinical group	Sample size	Sample characteristics		Intervention (Reference)	Comparator/control group	Individual or group	Outcome measu (Measuring too	ıres ls)	Funded?	Main outcome(s)
Location		(Diagnostic tool)	Included sample	Retention rate	ıtion			delivery	Compassion- based measures	Other measures	-	
13 Rycroft (2016) UK	Randomised Pilot Trial	Participants with trauma- related distress Diagnostic tool: Clinicians Recruited from a specialist trauma service waitlist	<i>n</i> = 10 CFT: <i>n</i> = 5 Waitlist: <i>n</i> = 5	100 %	Age: $M =$ 47.10 (<i>SD</i> = 12.57; range = 28-65 years) Gender: Women = 40 %, <i>n</i> = 4; Men = 60 %, <i>n</i> = 6 Ethnicity: 100 % White British	CFT (<i>n</i> = 5)	Inactive control group: Waitlist (n = 5)	Self-help	Self- criticism/self- reassurance (FSCRS; Gilbert et al., 2004) Fears of compassion (FCS; Gilbert et al., 2011) Self- compassion (SCS-SF; Neff and Van Gucht, 2011; Raes et al., 2011)	Depression, anxiety, and stress (DASS-21; Lovibond and Lovibond, 1995) Avoidance, intrusion, and hyperarousal (IES-R; Weiss and Marmar, 1997) Psychological well-being (PWB-PTCQ; Regel and Joseph, 2010) Social safeness (SSPS; Gilbert	University- funded	Those in the CFT group displayed lower PTSD symptoms compared to the waitlist control group. No significant interaction effects were found between group- by-time, indicating that CFT did not significantly reduce trauma symptoms.
14 Kelly and Carter (2015) USA	r Pilot RCT	Sample with binge eating disorder (BED)	n = 41 Self-compassion (SC): n = 15 Active control: $n = 13$ Waitlist control: $n = 13$	Overall sample: Week 1: 85.4 %; <i>n</i> = 35; Week 2: 83.0 %; <i>n</i> = 34; Week 3: 83.0 %; <i>n</i> = 34 SC: Week 1: 73.3 %, <i>n</i> = 11; Week 2: 73.3 %; Week 3: 73.3 %	Age: M = 45 years (<i>SD</i> = 15) Gender: Women = 100 % Ethnicity: 75.6 % White	Self-compassion exercises based on Compassion Focused Therapy (Fairburn, 1995; Goss, 2011; Goss and Allan, 2011, 2014)	Active control group: Food planning plus behavioural strategies (CBT-based) (Fairburn, 1995) Inactive control group: Waitlist	Self-help	Self- compassion (SCS; Neff, 2003) Fears of compassion (At baseline only) (FCS; Gilbert et al., 2011)	et al., 2009) Body mass index (BMI) Eating disorder pathology (EDE-Q; Fairburn and Beglin, 1994) Binge eating frequency (Weekly self- report on objective binges) Depression (CES-D; Radloff, 1977) Credibility and expectations of treatment (CEQ; Devilly and Borkovec, 2000) Homework rating/ compliance (HRS; Kazantzis et al., 2004)	None stated	Self-compassion intervention reduced global ED pathology. Findings offer preliminary support for usefulness of CFT- based interventions for BED.
											(co	ntinued on next page)

Author(s)	Design	Clinical group	Sample size	Sample characteristics		Intervention (Reference)	Comparator/control group	Individual or group	Outcome measures (Measuring tools)		Funded?	Main outcome(s)
Location		(Diagnostic tool)	Included sample	Retention rate				delivery	Compassion- based measures	Other measures		
15 Braehler et al. (2013a) UK	Randomised Feasibility Trial	Sample with Schizophrenia- spectrum disorder Diagnostic tool: Based on case note review (Primary diagnosis of schizophrenia or bipolar disorder with psychotic features) Recruited from an NHS community mental health team and local clinical psychology services	<i>n</i> = 40 CFT: <i>n</i> = 22 TAU: <i>n</i> = 18	CFT: 82.0 %	Age: M = 42.0 years Gender: Women = 45.0 %, 18; Men = <i>n</i> = 22; 55.0 % Ethnicity: 100 % White British/ Scottish	CFT (Brachler et al., 2013a)	Inactive control group: TAU	Group	None	Coding of Change Processes (Semi-structured interview, Narrative Recovery Style Scale) Observer-rated outcomes (CGI-I; Guy, 1976) Correlates of change processes (BDI-II; Beck et al., 1996; PANAS; Watson et al., 1988; FORSE; Gumley and Schwannauer, 2006; PBIQ-R; Birchwood et al., 1993)	NHS- funded	Low attrition rates (18 %) and high levels of acceptability. Significant increases of compassion and observed clinical improvement in comparison to TAU.

Note: Studies in bold text signifies new studies that are not included in previous CFT reviews.

AAQ-II, Acceptance and Action Questionnaire-Second Version (Bond et al., 2011); ACMTQ, Autonomous and Controlled Motivation for Treatment Questionnaire (Zuroff et al., 2007); AI, Costello and Comrey Anxiety Scale (Costello and Comrey, 1967); APS, Anticipatory Processing Scale (Clark and Wells, 1995); ARS, Anger Rumination Scale (Sukhodolsky et al., 2001); BAI – Persian version, Persian version of Beck Anxiety Inventory (Kaviani and Mousavi, 2008); BEAO, Brief Experiential Avoidance Questionnaire (Gamez et al., 2014); G BES, Binge Eating Scale (Gormally et al., 1982); BIAAO, Body Image Acceptance and Action Questionnaire (Sandoz et al., 2013); BISS, Body Image Shame Scale (Duarte et al., 2015); BSL, Borderline Symptom List-23 (Bohus et al., 2009) BDI, Beck Depression Inventory-II (Beck et al., 1996); CEAS, Compassionate Engagement and Action Scales (Gilbert et al., 2017); CEQ, Credibility/Expectancy Questionnaire (Devilly and Borkovec, 2000); CES-D, Center for Epidemiological Studies for Depression (Radloff, 1977); CFQ, Cognitive Fusion Questionnaire (Duarte et al., 2016); CGI-I, Clinical Global Impression-Improvement Scale (Guy, 1976); DASS-21, Depression, Anxiety and Stress Scale (Lovibond and Lovibond, 1995); DIB-R, Diagnostic Interview for Borderlines Revised (Barrachina et al., 2004; Zanarini et al., 1989); EDE, Eating Disorder Examination (Fairburn et al., 1999, 2008); EDE-O, Eating Disorder Examination Questionnaire (Fairburn and Beglin, 1994; Fairburn and Beglin, 2008); EPCQ, Event Probability and Cost Questionnaire (Rapee et al., 2009); ESS, Experiences of Shame Scale (Andrews et al., 2002); FFMO, Five-Facet Mindfulness Questionnaire (Baer et al., 2006); FOC, Fears of Compassion Scale (Gilbert et al., 2011); FOSC, Fears of Self-Compassion Scale (Gilbert et al., 2011); FSCRS, Forms of Self-Criticising/Attacking & Self-Reassuring Scale (Castilho et al., 2015; Gilbert et al., 2004); FORSE, Fears of Recurrence Scale (Gumley and Schwannauer, 2006); GAD-7, Generalised Anxiety Disorder questionnaire (Spitzer et al., 2006); HRS, Homework Rating Scale (Kazantzis et al., 2004); IES-R, Impact of Events Scale – Revised (Weiss and Marmar, 1997); Internalised Shame Scale (Cook, 1993); LSAS, Liebowitz Social Anxiety Scale (Khoshouei, 2007); LSCS/LOSC, Levels of Self-Criticism (Thompson and Zuroff, 2004); MAAS, Mindful Attention Awareness Scale (Brown and Ryan, 2003); MINI, MINI International Neuropsychiatric Interview - English Version 7.0.2 for DSM-5 (Sheehan et al., 1998); OAS, Other as Shamer Scale (Goss et al., 1994); OCDUS, Obsessive-Compulsive Drug Use Scale; PANAS, Positive and Negative Affect Scale (Watson et al., 1988); PBIQ-R, PCL-5, Posttraumatic stress disorder Checklist for Diagnostic and Statistical Manual of Mental Disorders-Fifth Edition (Ashbaugh et al., 2016; Weathers et al., 2013) Personal Beliefs about Illness Questionnaire-Revised (Birchwood et al., 1993);; PG-13, Prolonged Grief-13 (Prigerson et al., 2009); PHLMS, Philadelphia Mindfulness Scale (Cardaciotto et al., 2008; Tejedor et al., 2014); PWB-PTCO, Psychological Well-being – Post-Traumatic Change Questionnaire (Regel and Joseph, 2010); RR, Readiness Ruler (Miller and Rollnick, 2002); RRO, Rumination Reflection Questionnaire (Trapnell and Campbell, 1999); SCS, Self-Compassion Scale (Neff, 2003); SCS-SF, Self-Compassion Scale Short Form (Raes et al., 2011); Social Comparison Scale (Allan and Gilbert, 1995); SIAS, Social Interaction Anxiety Scale (Mattick and Clarke, 1998); SPIN, Social Phobia Inventory (Connor et al., 2000); SPS, Social Phobia Scale (Mattick and Clarke, 1998); SSCS, Social Self-Compassion Scale (Flett, 2017); SSPS, Social Safeness and Pleasure Scale (Gilbert et al., 2009); TPAS, Types of Positive Affect Scale (Gilbert et al., 2008); WHOQOL-BREF, World Health Organisation Questionnaire of the Quality of Life (WHO, 1996); WHO Well-Being Index (Bech et al., 2001; Bonsignore et al., 2001).

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