Self-help interventions to reduce self-stigma in people with mental health problems:

A systematic literature review

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Abstract

People with mental health problems often experience self-stigma, whereby they internalise stereotypic or stigmatising views held by others. Self-stigma is known to have negative effects on self-esteem and self-efficacy and a continuing impact on psychological wellbeing. Self-help interventions designed to reduce self-stigma may have an important contribution to make. This review aimed to provide an overview and critical appraisal of the literature on self-help interventions that target self-stigma related to mental health problems. A systematic review of five electronic databases (PsycINFO, MEDLINE, CINAHL Plus, Scopus and EMBASE) was carried out to identify articles published between January 2007 and July 2019. Eight articles that reported on self-help interventions for self-stigma were identified and evaluated using a combination of quality appraisal and narrative synthesis.

Keywords: internalised-stigma

1. Introduction

The term 'stigma' is often used to describe the process of discrimination, or unfair treatment of others and is sometimes termed 'external' or 'enacted' stigma (Gray, 2002). Self-stigma, also referred to as 'felt' or 'internalised' stigma, is used to refer to the internalisation of these discriminating beliefs, and associated feelings of shame. This is often also referred to in the literature as 'personal stigma' (Gerlinger et al., 2013). Self-stigma, has been described as consisting of three linked processes: stereotype agreement, self-concurrence, and self-esteem decrement (Corrigan et al., 2006). Stereotype agreement describes the case in which an individual endorses negative stereotypes they perceive as commonly accepted by the public. Self-concurrence is when the individual believes that these stereotypes apply to themselves. This can then result in self-esteem decrement and other harm resulting from concurrence with negative, internalised beliefs. It can also lead to the loss of previously held (positive) beliefs about the self, and result in diminished self-esteem and self-efficacy (Corrigan & Watson, 2002a, 2002b).

Focusing more on the emotional dimension of self-stigma and the role of shame, Luoma et al. (2012) describe self-stigma as a cluster of shame, negative thoughts and fear experiences by individuals who self-identify with a stigmatised group. The negative effects of self-stigma on self-esteem and self-efficacy, which can endure even after successful treatment of psychological symptoms, continue to diminish wellbeing (Link et al., 1997) and negate one's ability to achieve valued life goals (Luoma et al., 2012).

Research into mental health related self-stigma has been influenced by research into other stigmatised identities. Corrigan and colleagues (2009) explored experiences of gay men and lesbian women and how stigmatisation impacts on the individual's lives, including increased shame and conformation. A study of people with HIV found that internalised HIV stigma significantly affected levels of depression, anxiety and hopelessness (Lee et al., 2002).

The 'Why try' effect, outlined by Corrigan and colleagues (2009), describes self-esteem and self-efficacy as mediators of self-stigma, which impact on goal-related behaviour. People with mental health problems often anticipate and internalise attitudes reflecting devaluation and discrimination, and give up trying to pursue their life goals. The impact on goal attainment is likely also to extend to formal and informal help-seeking and engaging with support as the person may feel they are not worthy or that few things can help. Empowerment is inversely correlated with self-esteem decrement due to self-stigma and social withdrawal, and is linked to recovery from mental health problems (Corrigan et al., 2009). Therefore, increased levels of self-stigma may also reduce an individual's chances of recovery. There is also evidence that self-stigma amongst people with mental health problems is associated with increased current and future suicidal ideation (Oexle et al., 2017).

A narrative synthesis of systematic reviews on interventions targeting public discrimination and mental health-related stigma, published since 2012, was conducted by Gronholm and colleagues (2017). Findings showed that both mass media campaigns and anti-stigma interventions had small effects on stigma-related attitudes and that evidence of efficacy was weakened by the absence of long-term follow-up assessments. However, none of the interventions identified in the review targeted self-stigma. An earlier meta-analysis regarding the effectiveness of interventions targeting stigma was conducted by Griffiths and colleagues (2014). They identified three studies targeting self- or internalised-stigma, all of which compared the effect of a group intervention with a control condition. Two of the trials included participants with a range of mental health problems (Luoma et al., 2012; Yanos et al., 2012), while the third focused on participants meeting criteria for a diagnosis of schizophrenia (Fung et al., 2011). The pooled mean effect size across these studies was not statistically significant (d+ = 0.16; 95% CI [-0.41, 0.73], $p = 0.57$), indicating a need to develop more effective interventions in this area. A review of self-stigma reduction strategies,

conducted by Mittal and colleagues (2012), identified 14 relevant articles, with eight reporting a significant improvement in self-stigma outcomes. Of the interventions reported, eleven were group interventions and three were individual ones. The authors concluded that two prominent approaches emerged for reducing self-stigma: interventions aimed at changing stigmatising beliefs and attitudes, and interventions aimed at enhancing coping skills, through improved self-esteem, empowerment and help-seeking behaviour. A more recent review of interventions specifically targeting self-stigma by Yanos and colleagues (2015) identified six interventions, all of which were group-based, with one combining group sessions with individual sessions. These sessions were either led by a professional or a peer, with five of the interventions focused on psychoeducation as the primary mechanism and one on discussion of the pros and cons of disclosure. All of the interventions had a significant impact on self-stigma. In addition to measuring self-stigma, these studies assessed a range of outcome variables, including self-concept, self-esteem, self-efficacy, symptomatology and quality of life.

While there are a number of interventions available that address self-stigma, the majority are group interventions that rely on peer support and mutual aid, which may not be appealing to or appropriate for everyone, not least as attending a group involves disclosing one's stigmatised identity. Furthermore, there is evidence that disclosure can result in discrimination and that at times concealment can serve a protective function (Ragins et al., 2007). Individualised self-help interventions to address self-stigma may provide an accessible intervention for those unable or disinclined to attend group interventions. There is evidence that peer support can be successful in empowering individuals to pursue their life goals and engage with services (Corrigan et al., 2006). However, disclosing one's mental health problems is presumed when engaging with services (Herman, 1993). In an attempt to avoid self-stigma, many individuals with mental health problems will choose to keep their

experiences secret, including from service providers. Actions resulting from decisions about the potential costs, benefits and implications of disclosing can be broken down into four levels: social avoidance, selective disclosure, indiscriminate disclosure and broadcasting (Herman, 1993).

A review conducted in 2003 concluded that self-help interventions for depression result in effect sizes considered to be roughly equivalent to those achieved by psychotherapy studies (McKendree-Smith et al., 2003). Not surprisingly, the development of more self-help interventions has been recommended (Hollon et al., 2002). A more recent meta-analysis of self-help interventions for anxiety disorders (Lewis et al., 2012) showed a greater reduction in anxiety symptoms for self-help interventions versus waiting-list conditions (Cohen's $d = 0.84$). However, when self-help interventions were compared with therapist-administered interventions, results revealed a significant difference in treatment efficacy in favour of therapist-guided treatment ($d = 0.34$).

Benefits of self-help interventions include economic benefits, which result from enabling a better use of a professional's time and being available at a lower cost. They are also considered more acceptable to many patients due to reduced stigma or embarrassment when compared to attending formal therapy, thereby enabling them to access help that they might otherwise reject (Lewis et al., 2002). Self-help materials enable individuals to take responsibility for self-management, working through the resources at a time and place more convenient for them and fitting it in more easily around work and other commitments. This in turn can empower the individual, by addressing the power imbalance between service users and professionals, and can lead to an increased sense of control over one's difficulties. Research evaluating computer-based self-help treatments of obsessive compulsive disorder and anxiety conditions reported that the most important reasons for valuing self-help over therapist-aided treatment was reduced stigma and increased confidentiality (Shaw et al.,

1999). Benefits of web-based self-help interventions also include 24/7 availability, anonymous access to the materials, their wider distribution (Muñoz, 2010; Napolitano & Marcus, 2002), and their cost-effectiveness (Gerhards et al., 2010; Mihalopoulos et al., 2005).

The purpose of this review is to provide an overview of psychological self-help interventions that have been developed and evaluated for self-stigma related to mental health problems. The review seeks to address the following question: What evidence is there for self-help interventions addressing self-stigma associated with mental health problems?

2. Methods

2.1 Eligibility criteria

Articles were included if they were: related to self-help interventions for self-stigma relating to mental health problems; empirically based, using either quantitative or qualitative methodologies; written in English; and published within the last 12 years. Articles were excluded if they: focused primarily on external stigma rather than self-stigma; involved therapeutic contact with a mental health professional (face-to-face, telephone or email contact); relied on mutual aid (e.g. peer support group); focused on attitudes towards help-seeking (rather than self-stigma); were meta-analyses or systematic reviews; reported the protocol or study design rather than outcomes of an intervention.

2.2 Search strategy

A systematic literature search was conducted for articles published in English using the electronic databases PsycINFO, MEDLINE, CINAHL Plus, Scopus and EMBASE. To ensure the findings were relevant to the state of current research, the search was restricted to articles published in the previous ten years, that is between January 2007 and July 2019. Keyword searches were conducted focusing on three key areas: mental health, self-help interventions, and self-stigma (See Table 1). These terms and their synonyms were combined using the Boolean terms "OR" and "AND". The terms 'self-stigma' and 'internalised stigma'

are the most commonly used terms to describe self-stigma. However, some authors use the term 'personal stigma', of which self-stigma is one component (Gerlinger et al., 2013), and therefore this term was also included. The terms 'schizophrenia', 'depression' and 'anxiety' were included in the mental-health-related search terms as these are commonly found in the mental health disclosure literature.

The database searches identified 90 articles. Title and abstract screening reduced the number of studies to 20, for which full texts were sourced. Initial readings further reduced the number of studies to 12. These articles were reviewed and rated. The article selection process was independently also conducted by a second researcher; in cases of disagreement between the two researchers the article was reviewed against the inclusion criteria by the last author, who acted as an arbiter to help reach a final agreement. Of the twelve articles, only four met the inclusion criteria. Searching the reference lists of excluded meta-analyses and systematic reviews identified four further articles. The keywords and titles of these articles were reviewed to identify search terms that might have been overlooked. No additional common term was identified. One article used the keyword 'depression-related stigma' and so scoping searches were conducted to identify whether this would be a helpful search term to add to this review. However, this identified no further articles. An additional search was conducted on PROSPERO (NIHR) to identify any unpublished systematic reviews that may also contribute to this review, to help address publication bias. One relevant review was identified, and the authors were contacted to request unpublished materials, but unfortunately, they did not respond to this request. A flowchart illustrating the process of article selection is presented in Figure 1. The authors originally intended to conduct a meta-analysis, but due to the small number of studies identified the results are instead presented as a narrative synthesis to identify and assess the implementation and effects of the interventions in the identified articles (Popay et al., 2006).

Table 1

Literature review search terms.

| Mental Health	Self-help Intervention	Self-Stigma
mental health	self-help intervention	self-stigma*
mental illness	self-help treatment	internal* stigma*
mental health problem	guided self-help	self-discrimination
mental disorder	computerised treatment	personal* stigma*
psych* illness	online therapy	
psych* disorder	online treatment	
psych* diagnosis	online CBT	
psych* problem	self-help guide	
distress	self-help manual	
schizophrenia	self-help workbook	
depression		
anxiety		
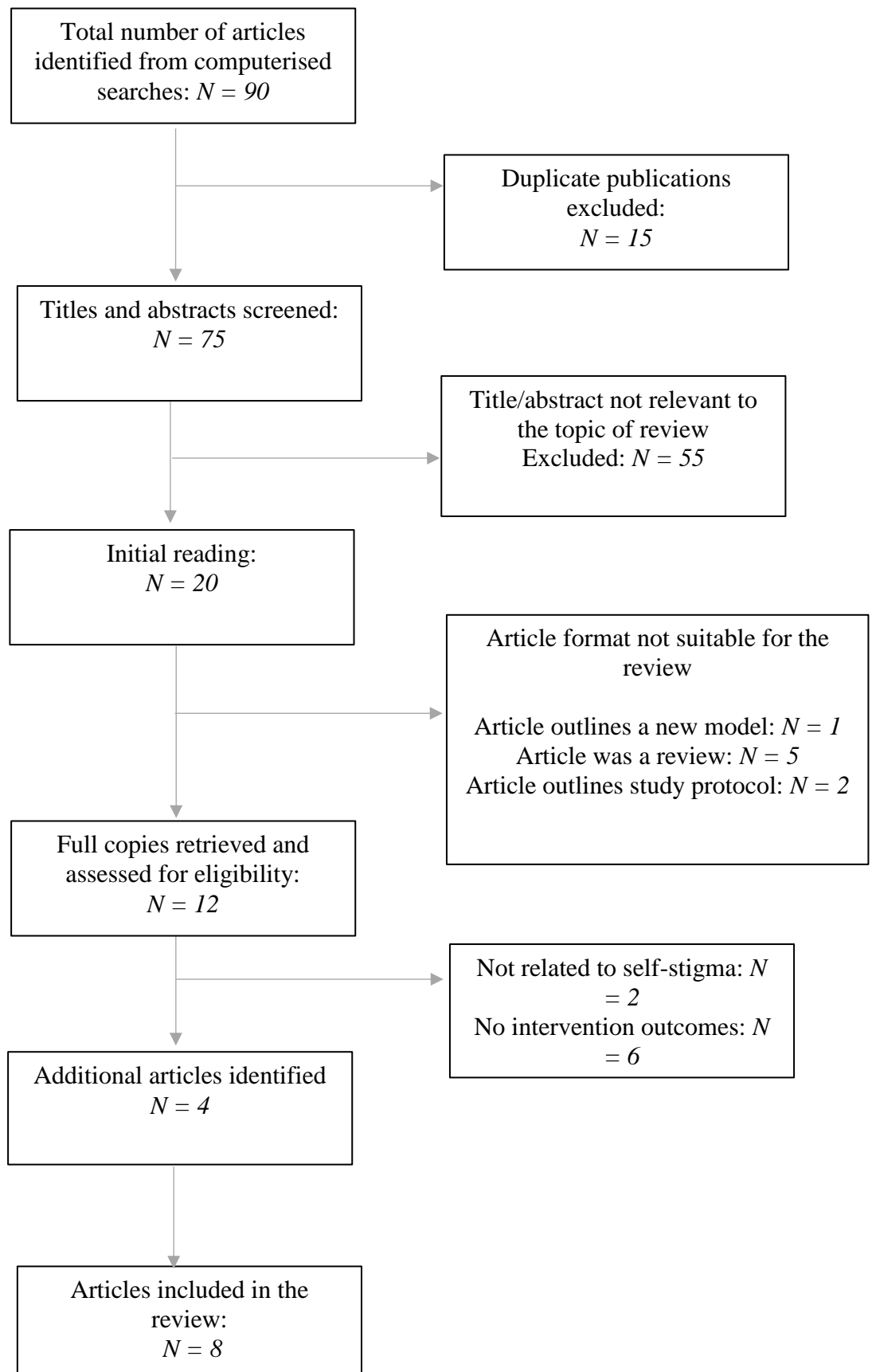
Figure 1
Flow diagram of study selection process.

2.3   *Quality assessment*

Using the critical appraisal tool developed by Hawker and colleagues (2002), the quality of each article was rated independently by the first and second authors across the specified across nine domains, on a scale of 1 (very poor) to 4 (good) of the article. Although the tool was originally designed to critically evaluate qualitative research, the authors' claim that it can be used with both qualitative and quantitative data has been born out by studies using it to appraise studies with mixed methods and quantitative studies (e.g. Grice, Alcock & Scior, 2017; Flemming, 2010; Markoulakis & Kirsh, 2013). The nine domains include reviews of the different sections of the article (introduction, methods, results), the quality of the data analysis, and issues relating to ethics, bias and generalisability. The tool includes clear guidelines on how to score these different aspects. A summed score of 9 (very poor) to 36 (very good) is obtained, with 18 indicating poor and 27 indicating fair quality.

3.   Results

Only one study (Nickerson et al. 2019) was identified that directly answered the research question, indicating a clear gap in the literature. However, seven other articles were identified that investigated a concept that closely overlaps with self-stigma. These included three articles (Jeffcoat & Hayes, 2012; Kelson et al., 2017; Levin et al., 2017) investigating Acceptance and Commitment Therapy (ACT), a psychological intervention designed to decrease avoidance and increase psychological flexibility in the presence of different private experiences, such as self-stigmatising thoughts (Hayes, Strosahl, & Wilson, 1999), in relation to self-acceptance and psychological flexibility. Four articles (Farrer et al., 2012; Gulliver et al., 2012; Kiropoulos et al., 2011; Taylor-Rodgers & Batterham, 2014) related to personal stigma, which is a concept that incorporates perceived stigma, experienced stigma and self-stigma (Gerlinger et al., 2013). All eight publications were quantitative in methodology, with all except one (Kelson et al., 2017) reporting randomised controlled trials (RCTs).

3.1   Heterogeneity of the articles

As outlined above, the articles identified varied in a number of ways: focus of intervention (psychological flexibility vs personal stigma), structure and format of intervention (e.g. duration ranging from 1 hour to 8 weeks), and aspect evaluated (e.g. acceptability, usability, and outcomes). This raises questions as to the validity and utility of using psychological flexibility as an index of self-stigma: Masuda et al. (2009, 2011) found stigmatising beliefs and self-concealment to be negatively associated with psychological flexibility, and psychological flexibility to mediate the relationship between self-concealment and emotional distress. A psychological flexibility model for reducing self-stigma was supported by Masuda et al. (2012) and indicated that ACT interventions based on psychological flexibility can help reduce self-stigma.

The studies varied greatly in terms of study populations. Six of the eight studies took place in Australia (Farrer et al., 2012; Gulliver et al., 2012; Kelson et al., 2017; Kiropoulos et al., 2011; Nickerson et al., 2019; Taylor-Rodgers & Batterham, 2014), and the other two in the USA (Jeffcoat & Hayes, 2012; Levin et al., 2017). This raises the question whether the results translate to other countries. The age of participants varied across studies: three studies recruited young adults (Kelson et al., 2017; Levin et al., 2017; Taylor-Rodgers & Batterham, 2014); four focused on adults (Gulliver et al., 2012; Jeffcoat & Hayes, 2012; Kiropoulos et al., 2011; Nickerson et al., 2019); one study did not report the age of participants (Farrer et al., 2012). Five of the eight studies reported recruiting from specific populations that included elite athletes (Gulliver et al., 2012), callers to Lifeline (Farrer et al., 2012), school personnel (Jeffcoat & Hayes, 2012), male refugees from Arabic, Farsi or Tamil-speaking backgrounds (Nickerson et al., 2019), and Greek-born and Italian-born immigrants (Kiropoulos et al., 2011).

3.1   Quality assessment

Inter-rater reliability between the two raters was high (intraclass correlation = 0.998, $p < 0.01$). Overall, the studies were of good quality. No study scored below 31 of 36 possible points, and no studies were excluded on the basis of methodology (Table 2).

Table 2

Quality appraisal of studies included in review. Scores range from 1 (very poor) to 4 (good).

Author(s) & date	Methodological items (0-4)									Overall score (9-36)
	Abstract & titles	Intro & aims	Method & data	Sampling	Data analysis	Ethics & bias	Findings & results	Transferability/ generalisability	Implications & usefulness	
Farrer et al. (2012)	4	4	4	2	4	3	4	3	3	31
Gulliver et al. (2012)	4	4	4	4	3	4	4	4	4	35
Jeffcoat & Hayes (2012)	4	3	4	3	4	2	4	4	4	32
Kelson et al. (2017)	4	4	4	4	3	3	3	4	4	33
Kiropoulos et al. (2011)	4	3	4	4	4	4	4	4	4	35
Levin et al. (2017)	4	4	4	4	4	3	4	3	4	34
Nickerson et al. (2019)	4	4	4	4	4	2	4	3	4	33
Taylor-Rodgers & Batterham (2014)	4	4	4	4	4	3	4	4	4	35

3.2   *Outcomes of the interventions*

Results of the studies included are described in Table 3. Of the eight studies, all bar one used a rigorous, longitudinal design through conducting an RCT, with the remaining study (Kelson et al., 2017) planning to use the findings to inform a future RCT. Only one of the eight studies directly measured self-stigma (Nickerson et al., 2019). In particular, the study measured self-stigma specific to PTSD using an adapted version of the 16-item Self-Stigma for Depression scale (Barney et al. 2010) and self-stigma related to help-seeking, using the 10-item Self-Stigma of Seeking Help Scale (Vogel et al. 2006). While no significant effects were found for self-stigma for PTSD, they found greater decreases in stigma for help-seeking ($d = .42$), paired with greater help-seeking intentions ($d = .27$), in the intervention group, compared to the waitlist control group.

All three studies investigating ACT interventions measured psychological flexibility using the Acceptance and Action Questionnaire (AAQ-II: Bond et al, 2011). Outcomes for psychological flexibility were mixed. Only one study (Kelson et al., 2017) found a significant effect on the AAQ-II at follow-up ($d = 0.54$). While Jeffcoat and Hayes (2012) found no effect for treatment condition or time, they did find a significant effect for the interaction of condition and time ($d = 0.69$). Levin and colleagues (2017) found no significant time by condition interactions on the AAQ-II.

All four studies investigating personal stigma measured depression stigma using the Depression Stigma Scale (DSS: Griffiths et al., 2004). For two of the studies (Farrer et al., 2012; Kiropoulos et al., 2011), the DSS was the only measure of personal stigma. In addition to the DSS, two studies (Gulliver et al., 2012; Taylor-Rodgers and Batterham, 2014) also included a measure of anxiety-related personal stigma, using the Generalised Anxiety Stigma Scale (GASS) (Griffiths et al., 2011), and the study by Taylor-Rodgers and Batterham (2014) also measured stigma related to attempted suicide using the Stigma of Suicide Scale (SOSS)

(Batterham et al., 2013). All four studies found an improvement in personal stigma for depression. One study (Farrer et al., 2012) found a large effect post-intervention in the web-only condition when compared with the control condition ($d = 0.94$) and when compared with the tracking-only condition ($d = 0.96$). However, no significant effect was found for the web with tracking condition when compared with the control and tracking-only conditions ($d = 0.17$; $d = 0.24$, respectively). A reduction in stigma was also found at 6-month follow-up in both the web-only and web with tracking conditions, compared to the control. One other study (Kiropoulos et al., 2011) also found a large effect for the DSS in the intervention condition ($d = 0.83$) and no effect for the control condition. One study (Taylor-Rodgers & Batterham, 2014) found moderate effect sizes pre- to post-test, with decreased depression stigma for the experimental group ($d = 0.53$). However, they found no significant reductions in either anxiety- or suicide attempt related- personal stigma. In contrast, Gulliver et al. (2012) only found a small significant effect (Hedge's g $= 0.25$) for the mental health literacy and destigmatisation condition versus control at post-intervention. However, this change was not maintained at 3-month follow-up. For anxiety-related personal stigma, they found a significant moderate effect ($g = 0.50$) at 3-month follow-up only. While all four studies identified an improvement in personal stigma for depression in the short term, the findings for longer-term impact of the interventions was more varied across studies. Although three studies indicated that interventions maintained effects at follow-up (Farrer et al., 2012; Gulliver et al., 2012; Kiropoulos et al., 2011), the time at which follow-up data were collected varied across all three studies, ranging from one week to 12 months. Also, in one of these studies (Farrer et al., 2012), at 12-month follow-up there was no longer a significant difference between conditions.

Table 3

Characteristics of studies included in review.

Authors, year, country	Participants (N, mean age, male/ female) & Design	Outcome & Primary Measures	Intervention types	Intervention Content & Duration	Main findings
Farrer et al. (2012) Australia	Callers to Lifeline counselling service (155; NA) RCT, Longitudinal	*Primary Outcomes*: **Stigma**: Depression Stigma Scale (DSS) **Hazardous alcohol use**: 5-item version of Alcohol Use Disorders Identification Test (AUDIT) **Quality of life**: EUROHIS-QOL 8-item index **Depression literacy**: 11 items from scale developed by authors; participants rate statements related to depression as true/false **Cognitive Behaviour Therapy Literacy**: 8 items from scale developed by authors; participants rate statements related to CBT as true/false	1. Web-based CBT + weekly telephone tracking. 2. Web-based CBT only. 3. Weekly telephone tracking only. Control: no tracking or Web interventions.	6 weeks 1. Web-based CBT + weekly telephone tracking: CBT provided by *MoodGYM* (Christensen et al., 2004) + 10-minute weekly telephone call from counsellor. 2. Web-based CBT only: psychoeducation provided by *BluePages* + web-based CBT. 3. Telephone tracking only: participants received a weekly 10-minute telephone call from a telephone counsellor.	*Primary Outcomes*: **Stigma**: Non-significant interaction between Intervention type and Measurement time for stigma ($p = .10$). Significant between-condition contrasts: • At post-intervention web-only intervention participants showed significantly lower stigma levels, compared to control ($p = .047$). • At 6-month follow-up significantly lower stigma in web-only intervention ($p = .02$) & web with tracking intervention ($p = .046$), compared to control. • No significant differences between conditions at 12-month follow-up. • At 12-month follow-up, stigma was positively correlated with depression symptoms ($r = .29$, $p = .03$). **Hazardous alcohol use**: At post-intervention, participants in Web-only and Web with tracking conditions showed greater decline, compared to tracking only ($p = .03$, $p < .01$, respectively) and to control ($p = .02$, $p < .01$, respectively). Significant decline from pre-intervention to 6-month follow-up for web-only and web with tracking conditions, compared with control ($p < .05$, $p = .02$. respectively). No significant group differences at 12-month follow-up. **Quality of life**: At post-intervention, participants in Web-only and Web with tracking conditions showed greater improvements, compared to control ($p = .001$, $p = .009$, respectively). At 6-month follow-up, participants in Web-only and Web with tracking conditions showed greater improvements, compared with control ($p = .002$, $p = .003$. respectively). No significant group differences at 12-month follow-up. **Depression literacy**: Non-significant interaction between Intervention type and Measurement time for stigma ($p = .10$). Significant between-condition contrasts: • At post-intervention, participants in web with tracking intervention showed higher depression literacy, compared to tracking-only ($p = .004$) and control ($p = .045$). • At post-intervention, participants in web-only intervention showed greater depression literacy, compared to tracking-only ($p = .04$). • At 6-months, greater literacy in web with tracking group, compared to control ($p = .02$). No significant group differences at 12-month follow-up. **CBT literacy**:

					Participants in both web-only and web with tracking interventions significantly higher scores at post-intervention, compared to control ($p = .01$, $d = .81$; $p < .001$, $d = .63$, respectively) and tracking-only groups ($p < .001$, $d = .92$; $p < .001$, $d = 1.03$, respectively). At 6-month follow-up, greater literacy in web-only and web with tracking groups compared to control ($p = .008$, $p = .001$, respectively) and compared to tracking-only ($p = .001$, $p < .001$, respectively). At 12-month follow-up, greater literacy in web-only and web with tracking groups, compared to tracking only ($p < .001$, $p = .001$, respectively).
Gulliver et al. (2012) Australia	Elite athletes (59; 18-48 years (mean: 25.42) ; 73% female) RCT, Longitudinal	*Primary Outcomes*: **Help-seeking attitudes**: Attitudes Toward Seeking Professional Psychological Help-Short Form (ATSPPH-SF) **Help-seeking intentions**: Intentions scale of the General Help-Seeking Questionnaire (GHSQ) **Help-seeking Behaviour**: Actual Help-Seeking Questionnaire (AHSQ) *Secondary Outcomes*: **Mental health stigma**: Personal Stigma items of both the Depression Stigma Scale (DSS) and the Generalised Anxiety Stigma Scale (GASS).	1. Mental health literacy/ destigmatisation condition: to increase mental health literacy and decrease stigma, specifically targeting depression and anxiety. 2. Feedback condition: to provide tailored feedback to the participant about his or her level of depression and anxiety. 3. Help-Seeking List condition Control: no intervention	2 weeks (week 1 = depression; week 2 = anxiety) 1. Information on prevalence, risks, symptoms, and treatment of mental illness, myths aiming to reduce stigma; written material delivered on 34 brief linear webpages. 2. Content based on FRAMES framework for effective brief interventions for behavioural change. Six webpages per week and two interactive quizzes providing feedback about depression and anxiety level. 3. Three pages per week, including introduction and help-seeking source page.	*Primary Outcomes*: **Help-seeking attitudes**: No significant interaction between Intervention type and Measurement time ($p = .15$). Attitude improvement from pre- to post-intervention in mental health literacy/destigmatisation condition, compared to feedback condition only ($p =.04$). **Help-seeking behaviour**: No significant interaction between Intervention type and Measurement time. **Help-seeking intentions**: No significant interaction between Intervention type and Measurement time *Secondary Outcomes*: **Depression stigma**: Statistically significant decrease in Mental health literacy/destigmatisation intervention, compared to all other interventions, from pre- to post-intervention ($p < .05$). Significant decrease in Mental health literacy/destigmatisation from pre-intervention to follow-up, compared to help-seeking ($p = .002$). Significant decrease in help-seeking from pre-intervention to follow-up, compared to control ($p = .04$). **Anxiety stigma**: Statistically significant decrease in Mental health literacy/destigmatisation intervention, compared Feedback intervention only, from pre- to post-intervention ($p = .004$). Statistically significant decrease in Mental health literacy/destigmatisation intervention, compared to all other interventions, at 3-month follow-up ($p < .05$).
Jeffcoat & Hayes (2012) USA	K-12 school personnel (236; 30-60 years; 91% female) RCT, Longitudinal	*Process measure:* **Psychological Flexibility**: Acceptance and Action Questionnaire (AAQ-II) **Mindfulness Skills**: Kentucky Inventory of Mindfulness Skills (KIMS)	Self-help version of Acceptance and Commitment Training (ACT): to improve general health, reducing job burnout,	8 weeks *Get Out of Your Mind & Into Your Life* (Hayes & Smith, 2005) workbook. Exercises and quizzes on the content of the	*Process Measures*: **Psychological Flexibility**: Statistically significant improvement in intervention group ($p < .001$, $d = 1.27$). No significant improvement in waitlist control ($p = .46$). Changes in general health (GHQ) from pre- to post-intervention significantly predicted by changes in psychological flexibility ($p = .014$). **Mindfulness Skills**:

Author/Country	Participants	Outcomes	Intervention	Details	Results
		Primary Outcomes: General Health Questionnaire (GHQ-12) *Secondary Outcomes*: Depression, anxiety, and stress subscales of the Depression Anxiety Stress Scales (DASS-21)	coping with stress, depression, anxiety. Control: waitlist; received workbook at follow-up	workbook completed online, with email feedback.	Statistically significant improvement in intervention group ($p < .001$, $d = 2.48$). No significant improvement in waitlist control ($p = .48$). *Primary Outcomes*: Statistically significant improvement from pre- to post-intervention ($p < .001$, $d = .56$) and from pre-intervention to follow-up ($p < .001$, $d = .98$). Improvement from pre-intervention to follow-up significantly greater in the Intervention group, compared to waitlist control ($p < .001$, $d = .73$). *Secondary Outcomes*: **Depression**: <u>Initially depressed participants</u>: Statistically significant amelioration of depression in Intervention group from pre- to post-intervention ($p < .001$, $d = .93$) and from pre-intervention to follow-up ($p < .001$, $d = .87$). Statistically significant difference between groups in changes from pre-intervention to follow-up ($p = .003$, $d = .69$). No significant difference between groups in changes from pre- to post-intervention. <u>Initially non-depressed participants</u>: Non-depressed participants in waitlist control showed significant increase in depression symptoms from pre-intervention to follow-up ($p < .001$, $d = .71$). Non-depressed participants in intervention group showed no significant change from pre-intervention to post-intervention ($p = .19$) or to follow-up ($p = .25$). **Anxiety**: <u>Initially anxious participants</u>: Intervention group showed significant improvement from pre- to post-intervention ($p = .002$, $d = .36$) and from pre-intervention to follow-up ($p = .001$, $d = .68$). Significant worsening of anxiety from pre-intervention to follow-up ($p = .023$, $d = .38$). <u>Initially non-anxious participants</u>: Non-anxious participants in waitlist control worsened from pre- to post-intervention ($p = .008$, $d = .33$) and to follow-up ($p < .001$, $d = 1.03$). Non-anxious participants in intervention group also worsened from pre- to post-intervention ($p < .001$, $d = .45$) and to follow-up ($p < .001$, $d = .33$). Worsening was significantly less from pre-intervention to follow-up, compared to control ($p = .013$, $d = .47$).
Kelson et al. (2017) Australia	Australian residents (40; 18-25 years (mean: 21.62); 52.5% females) Brief, uncontrolled research design	*Primary Outcomes*: **Psychological flexibility and acceptance**: AAQ-II Generalised Anxiety Disorder (GAD-7) Depression, Anxiety, and Stress Scale (DASS-21)	Web-based ACT *"Fearless"* No control group.	2 weeks Anxiety mental health information and ACT-based exercises. 9 modules (Measure, Create, Recruit, Ground, Defuse, Scan, Discover, Move, Share). Maximum completion time of 4.5 hours (5 to 30 minutes per module).	*Primary Outcomes*: **AAQ-II**: Significant improvement by 2-week follow-up ($p < .05$, $d = .54$). Small within-group effect size at follow up ($d = 0.54$). **GAD-7**: Significant improvement ($p < .001$) at post-test ($d = .66$) and follow-up ($d = .60$). **DASS-21**: Significant improvement at follow-up for depression ($d = .49$) and anxiety ($d = .42$), ($p < .05$). No significant improvements for stress.

Study	Sample	Outcome Measures	Intervention	Duration / Content	Results
Kiropoulos et al. (2011) Australia	Greek-born and Italian-born immigrants (202; 48-88 years (mean: 65.4); 71.5% female). RCT, Longitudinal	*Primary Outcomes*: **Depression literacy**: D-Lit scale (translated and adapted) **Personal and perceived depression-related stigma**: Depression Stigma Scale (DSS) **Severity of depressive symptoms**: Beck Depression Inventory–II (BDI–II)	Multicultural Information on Depression Online (*MIDonline*): web-based psychoeducation about depression literacy, stigma, and symptoms. Control: semistructured interview with a bilingual interviewer asking open-ended questions relating to the participant's beliefs about depression.	2 weeks Information about: - depressive symptoms - diagnoses - related disorders - causes - treatment options - how to find bilingual mental health professional - stigma related to mental illness - multilingual translated resources Website (10-minute introduction to the site and then 1 hour to explore the online material).	*Primary Outcomes:* **Depression Literacy**: Intervention group showed a significant increase in depression literacy scores at post-intervention ($p < .001$) and 1-week follow-up ($p < .001$) compared with control group. <u>Personal Stigma</u>: Intervention group showed a significant decrease in personal stigma at post-intervention ($p < .001$) and follow-up ($p = .001$). <u>Perceived Stigma</u>: No significant difference between intervention and control groups at post-intervention ($p = .44$) and follow-up ($p = .30$). When adjusting for post-intervention perceived stigma score, intervention group showed significant increase in stigma from post-intervention to follow-up, compared to control ($p < .03$). <u>Depression level</u>: No significant difference between intervention and control groups at post-intervention ($p = .86$) and follow-up ($p = .19$).
Levin et al. (2017) USA	College students (79; 18+ years (mean: 20.51); 66% female) RCT, Longitudinal	*Process Measures*: **Psychological Flexibility**: AAQ-II; Cognitive Fusion Questionnaire (CFQ); Valuing Questionnaire (VQ) **Awareness and Acceptance** (contribute to Psychological Flexibility): Philadelphia Mindfulness Scale (PHLMS) *Primary Outcomes*: **Mental health difficulties** (specifically in college students): Counseling Center Assessment of Psychological Symptoms (CCAPS-34). *Secondary Outcomes*:	ACT self-help website, transdiagnostic intervention Control: waitlist, given access to ACT website at post-intervention	4 weeks Six sessions in specific sequence: Avoidance, Defusion, Mindfulness, Acceptance, Values, Action. Brief therapeutic homework assignments after each session. Participants were encouraged to wait four days before moving on the next session.	*Process Measures*: <u>Psychological Flexibility</u>: Significant improvements from pre- to post-intervention for intervention group for PHLMS Acceptance ($p = .001$, $d = .62$) and VQ Obstruction subscale ($p < .001$, $d = .82$). No significant group differences on AAQ-II, CFQ, PHLMS Awareness, or VQ Progress subscale (all p's > .10). *Primary Outcomes*: <u>CCAPS</u>: Intervention group showed significant improvements from pre- to post-intervention for total distress ($p = .005$, $d = .52$), depression ($p = .024$, $d = .40$), general anxiety ($p = .031$, $d = .39$), social anxiety ($p < .001$, $d = .69$), academic concern ($p = .014$, $d = .45$). *Secondary Outcomes*: <u>MHC-SF</u>: Intervention group showed significant improvements from pre- to post-intervention for social wellbeing ($p = .001$, $d = .64$) and total score ($p = .001$, $d = .60$).

		Emotional, psychological, social wellbeing: Mental Health Continuum-Short Form (MHC-SF).			
Nickerson et al. (2019)	Refugee men with PTSD symptoms from Arabic, Farsi or Tamil-speaking backgrounds (103; 18-65 (mean: 39.37); all male) RCT, Longitudinal	*Primary Outcomes:* **Self-stigma related to PTSD**: Self-Stigma for Depression scale was adapted to measure self-stigma for PTSD **Self-stigma related to help-seeking**: Self-Stigma of Seeking Help Scale **Help-seeking intentions**: adapted version of the General Help-Seeking Questionnaire **PTSD symptoms**: Posttraumatic Diagnostic Scale *Secondary Outcomes:* **Help-seeking behaviors**: Actual Help-Seeking Questionnaire	*Tell Your Story*: interactive web-based modules using social contact, psychoeducation, and cognitive reappraisal of negative beliefs about mental health and help-seeking. Control: wait-list	4 weeks 11 short modules comprising information, short videos, and activities designed to reduce stigma and increase help-seeking Videos featured Arabic, Farsi and Tamil-speaking men sharing their personal experiences in overcoming stigma	*Primary Outcomes:* Self-stigma related to PTSD: No significant effects (all p's > .54). No significant effects for PTSD symptoms (all p's > .57) Self-stigma related to help-seeking: Significantly greater increase in self-stigma for help-seeking from post-to follow-up in control group, compared to intervention group ($p = .008$, $d = -0.42$). Help-seeking intentions: Significantly greater decreases in help-seeking intentions for intervention group participants from post to follow-up assessments, relative to control ($p = .027$, $d = -0.27$). *Secondary Outcomes:* Help-seeking behaviors: Participants in the intervention group accessed significantly more sources of help in the 2 weeks prior to the follow-up assessment, compared to control group ($p = .007$).
Taylor-Rodgers & Batterham (2014) Australia	Australian young adults (67; 18-25 years (mean:21.9); 74.8% females) RCT, Longitudinal	*Primary Outcomes*: **Mental Health Literacy**: A-Lit; D-Lit; Literacy of Suicide Scale **Stigma**: Depression Stigma Scale (DSS); Generalised Anxiety Stigma Scale (GASS); Stigma of Suicide Scale short form (SOSS) **Help-seeking**: Attitudes Toward Seeking Professional Help Short	Brief online psychoeducation about depression, anxiety, suicide Control: Links to webpages on topics not related mental health (dental hygiene, nutrition facts, household medications).	3 weeks Vignettes of typical young person experiencing mental health problem: description, symptoms, stigmatising views, treatment options Optional multiple-choice questions. Based on DSM criteria Information synthesised	*Primary Outcomes*: Mental Health Literacy: Significantly greater increase of anxiety literacy in Intervention group from pre- to post-intervention, compared to control ($p = .001$, $d = .65$). No significant effects for depression or suicide literacy (all p's > .13). Stigma: Significantly greater decrease in depression stigma for Intervention group, compared to control ($p = .009$, $d = 0.53$). No significant changes for anxiety and suicide stigma (all p's > .18). Help-seeking: Significant change in help-seeking attitudes in Intervention group, compared to control ($p = .009$, $d = 0.58$). Significant increase in help-seeking intentions towards general practitioner ($p = .032$, $d = .53$).

Form scale; General Help-Seeking Questionnaire

Secondary Outcomes:
Symptomology:
Generalised Anxiety Disorder scale (GAD-7); Patient Health Questionnaire (PHQ-9)

Satisfaction and Adherence: single question "How satisfied were you with the intervention?" rated on a 5-point scale.

from mental health websites, e.g. *BluePages*, Youth Beyondblue, and the Black Dog Institute.

Secondary Outcomes:

Symptomology:
No significant difference between groups for depression and anxiety symptoms on PHQ-9 ($p = .34$) and GAD-7 ($p = .75$).

Satisfaction and Adherence:
No significant difference between groups for mean satisfaction ($p = .37$) or email ($p = .28$) or webpage ($p = .59$) adherence.

3.3   *Types of intervention*

Of the eight studies, seven involved web-based interventions. The one non-web-based intervention (Jeffcoat & Hayes, 2012) assessed an ACT self-help workbook, with hard copies delivered to participants' workplaces. Although the majority of interventions were web-based, there was a large amount of variability in their formats. Two of the web-based studies that investigated interventions based on ACT had modules covering key domains of ACT including Avoidance, Defusion, Mindfulness, Acceptance, Values and Action. However, one of these studies included nine web-based modules, tested over a 2-week period (Kelson et al., 2017), while the other included six web-based modules, with approximately 24 days to complete, as participants were encouraged to wait four days before moving on to the next module, and to complete the downloadable between-module homework assignments (Levin et al., 2017). The remaining five web-based interventions consisted primarily of psychoeducation. Two of these interventions focused on depression, with one combining psychoeducation with case studies (Kiropoulos et al., 2011), and the other with CBT for depression, delivered via a printed manual with week-by-week instructions over a 6-week period (Farrer et al., 2012). In contrast, Taylor-Rodgers and Batterham (2014) provided psychoeducation on three different topics (depression, anxiety and suicide) over a 3-week period.

One study (Gulliver et al., 2012) compared a psychoeducation condition completed over two weeks, which focused on mental health literacy and destigmatisation, with two other interventions (as well as a control condition): a 'feedback' condition in which participants completed interactive quizzes to receive feedback about their symptoms; and a 'minimal content' condition, which was a website providing a list of help-seeking resources. Finally, Nickerson et al. (2019) supplemented psychoeducation with strategies of social contact and cognitive reappraisal to target self-stigma related to PTSD and help-seeking in male refugees.

23

The hourly input required to complete the intervention was only clearly stated in two of the seven web-based intervention studies, with Kelson et al. (2017) stating that a maximum completion time of 4.5 hours (270 minutes) and Kiropoulos et al. (2011) allowing participants an hour to explore the intervention online webpages freely. The other five studies did not provide data on estimated completion time but Levin et al. (2017) reported that the average completion time was 73.58 minutes.

Five of the eight studies looked at adherence to the intervention. One study (Gulliver et al., 2012) electronically monitored web usage and found that 95% of participants visited the website at least once, and 81% visited it during both weeks 1 and 2 of the intervention, with the intervention condition having no significant effect on the quantity of website visits. In Levin et al.'s (2017) study, 55% of participants completed all sessions, and 20% of participants in the study by Nickerson et al. (2019) completed all modules. Two studies relied on participants' self-reported usage, with 64% of participants in Jeffcoat and Hayes' (2012) study reporting that they read the entire workbook and completed all of the online exercises, and 65.4% of intervention-condition participants in Taylor-Rodgers and Batterham's (2014) study reporting having viewed all four web pages.

4. Discussion

Self-stigma related to mental health problems affects self-esteem, self-efficacy and chances of recovery and can have continuing negative consequences for wellbeing. While there has been an increase in research in this area and a growing wealth of interventions, the present review identified only eight articles over a 12-year period that considered self-interventions aimed at reducing mental health related self-stigma. This limited evidence base indicates a clear gap in the literature. Of the identified studies, only one assessed a self-help intervention for self-stigma, three reported self-help interventions that addressed psychological flexibility through ACT approaches, while the remaining four studies reported

psychoeducation-based self-help interventions addressing personal stigma. The reviewed studies' findings indicate that self-help interventions can be of benefit in reducing self-stigma, specifically depression personal stigma (Farrer et al., 2012; Gulliver et al., 2012; Kiropoulos et al., 2011; Taylor-Rodgers and Batterham, 2014), and self-stigma related to help-seeking (Nickerson et al., 2019). However, the results were mixed for other areas of personal stigma, such as anxiety, suicide, and PTSD (Gulliver et al., 2012; Nickerson et al., 2019; Taylor-Rodgers & Batterham, 2014). It may be helpful to consider if this is related to self-stigma playing a larger role for depression than for anxiety or PTSD. Huggett and colleagues (2018) describe a 'hierarchy of stigma' whereby different levels of stigmatisation are experienced depending on diagnostic labels and the related negative connotations. In particular, interventions that incorporate psychoeducation (Farrer et al., 2012; Gulliver et al., 2012; Kiropoulos et al., 2011; Nickerson et al., 2019; Taylor-Rodgers & Batterham, 2014), and/or that draw on components of ACT (Kelson et al., 2017) may be beneficial and should be considered further. Web-based formats appear to be acceptable and suitable formats for such self-help interventions.

All of the studies were rated as good quality, achieving total scores of 31 to 35 out of a possible 36 on the quality appraisal tool. A common weakness was in the reporting of ethics and bias. The majority of the studies delivered their interventions via web-based platforms, with one study (Jeffcoat & Hayes, 2012) providing its participants with hard copies of the intervention workbook supplemented with online exercises. There was variability in how the websites were presented and what additional materials were made available to participants. However, the majority of the interventions required participants to work through sessions in a sequential order over a number of weeks. The length of the interventions ranged from 1 hour to 8 weeks. Adherence to the interventions was reported for five of the eight studies (in two of the five studies, this was based on participant self-report) and ranged from 20% to 85%.

The variation in intervention format and structure, and high levels of heterogeneity of the target populations in the reviewed studies pose questions regarding the generalisability of the present findings and indicate the need for more research.

4.1 *Implications*

Previous reviews of interventions aimed at reducing self-stigma reported that the majority of such interventions are group or peer interventions, with a small number being therapist-guided individualised interventions (Mittal et al., 2012; Yanos et al., 2015). It is important to be mindful of the presumed disclosure in such interventions (Herman, 1993), and how many individuals would prefer to avoid disclosure (Corrigan et al., 2006). As such there are clear benefits to self-help interventions, which are accessible to anyone, including individuals who would otherwise avoid or reject individual or group interventions due to fears about disclosure. Other benefits of self-help interventions include their potential wider reach and the ability for participants to access materials freely at a time of their choice. However, given that we identified only eight studies over a 12-year timeframe suggests that more consideration should be given to the development and evaluation of self-help interventions that can help reduce self-stigma. Further research is also required to assess whether such self-help interventions can positively impact self-stigma more broadly, rather than specifically depression personal stigma.

4.2 *Limitations*

A key limitation of this systematic review is the small body of literature identified that directly addressed the research question, as only one article addressing self-stigma (Nickerson et al., 2019) was identified directly from the database searches, with the remaining articles relating to either personal stigma or psychological flexibility. It is important to consider the limitations of combining research focused on overlapping yet distinct constructs. A review of the ACT literature relating to self-stigma and prejudice

concluded that there is preliminary evidence for interventions based on a psychological flexibility model reducing self-stigma (Masuda et al., 2012). The notion that ACT can reduce self-stigma and shame was confirmed by Luoma and Platt (2015) who suggest this occurs through reducing the impact of self-disparaging thoughts, decreasing avoidance, and increasing psychological flexibility. However, although there is evidence that self-stigma and psychological flexibility are related and that outcome measures used to measure them are correlated (Masuda et al., 2009), they do remain divergent both theoretically and psychometrically. It may also be of benefit to explore how different interventions fit within the different theoretical models of self-stigma: interventions addressing depression self-stigma seem to correspond more with Corrigan et al.'s (2006) model of self-stigma and the associated negative stereotypes, whereas those addressing psychological flexibility may fit better within a fear/shame model of self-stigma (Luoma et al., 2012).

Future reviews may wish to review self-help interventions for self-stigma more broadly, combining research across mental health, sexuality, substance dependency, HIV/AIDS and other stigmatised identities. A meta-analysis of interventions for reducing stigma relating to substance use (Livingston et al., 2012) identified three studies targeting self-stigma and concluded that the evidence indicated that self-stigma can be reduced through ACT group interventions. There is also evidence that ACT interventions have positive effects on self-stigma relating to weight (Berman et al., 2016).

It is of note that the four articles relating to personal stigma were identified from reference lists and meta-analyses. It is possible that this is due to personal stigma not being a widely used term to refer to self-stigma. This review aimed to focus specifically on self-stigma, but it seems that this narrow focus of the search strategy may have limited the comprehensiveness of the review. Other overlapping constructs and factors influencing or contributing to self-stigma more broadly should be considered in future reviews of the

evidence. Internal shame may be of particular relevance to the field of self-stigma, as it involves the self-focused evaluations of the self as being inadequate (Lewis, 2003). As such, it may be helpful to explore interventions for shame and self-criticism, such as Compassion Focused Therapy (Gilbert & Procter, 2006).

While an attempt was made to address publication bias by searching for unpublished reviews on PROSPERO (NIHR), publication bias remains a limitation of this review. Five articles identified through the searches provided study protocols or did not include the outcomes of a potentially relevant intervention. Future reviews may wish to consider contacting the authors to request any unpublished materials.

It is also of note that there may be an effect of language bias as the search strategy was restricted to articles published in English. There is mixed evidence for the potential impact of not including non-English-language trials: one study found that non-English trials were more likely to produce significant results at $p<0.05$ (Jüni et al., 2002), whereas an earlier review concluded that excluding non-English trials did not significantly affect the results of meta-analyses (Moher et al., 2003).

4.3   Recommendations

Given that self-stigma affects large numbers of people and can negatively affect their chances of recovery and wellbeing, it is important to address potential barriers to accessing help, by providing interventions in a range of formats, including self-help, as this is often more acceptable and more easily accessible. While interventions that seek to reduce the self-stigma that many experiencing mental health problems face, self-help interventions appear to be relatively under-explored. The findings from this review suggest that increased investment into the development and evaluation of self-help interventions that target self-stigma should be considered. Studies of new self-help interventions should carefully assess their

acceptability and usability in order to develop interventions that will be successful at reducing the clinical impact of self-stigma.

Conflict of interest

The authors have no potential conflicts of interest to declare.

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