

EMPIRICALLY GROUNDED CLINICAL GUIDANCE PAPER

Subthreshold personality disorder: how feasible is treatment in primary care?

William Barber¹ , Frances Apps², Clara Strauss¹ , Helen Startup¹ and Juliet Couche^{3*}

¹Sussex Partnership NHS Foundation Trust, Research and Development, Sussex Education Centre, Hove, UK, ²Sussex Partnership NHS Foundation Trust, Bluebell House, Burgess Hill, UK and ³Health in Mind, Woodside, Hellingly, Hailsham, UK

*Corresponding author. Email: Juliet.Couche@NHS.net

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Abstract

Individuals with subthreshold borderline personality disorder (BPD) are commonly encountered in primary care settings, yet the psychological treatments they receive are rarely tailored to their needs. In an effort to capture and treat this group of individuals in a targeted and meaningful way, some primary care settings offer Systems Training for Emotional Predictability and Problem Solving – Emotional Intensity (STEPPS-EI). This evaluation sought to assess the feasibility of STEPPS-EI within NHS primary care services. Employing an uncontrolled design, the evaluation examined recruitment, retention, effectiveness and group appraisal. Findings supported three out of four evaluation objectives for feasibility: uptake of the group was high at 74%, the group was well received by the group and significantly effective at reducing symptoms of BPD, depression and anxiety. However, retention rates were low, with only 43% classed as ‘completers’ of the programme. The results indicate preliminary evidence for STEPPS-EI as a potentially feasible intervention with possible modification to enhance retention and avenues for further study.

Key learning aims

After reading this paper, the reader will be aware of:

- (1) Recent developments in the classification and diagnosis of personality disorder leading to the conceptualisation of subthreshold presentations.
- (2) The feasibility of conducting a primary care intervention for individuals with emotional intensity difficulties.
- (3) The preliminary beneficial outcomes of utilising a primary care intervention for individuals with emotional intensity difficulties.
- (4) Potential issues for participants and providers of primary care programmes with future direction for improvement and implementation.

Keywords: mental health; personality disorder; primary care; STEPPS-EI; subthreshold

Introduction

Difficulties with psychosocial functioning, enduring emotional and cognitive disturbances and pervasive distress is often diagnosed as ‘personality disorder’, a contentious diagnostic term due to the stigmatised perception of the whole person (Department of Health, 2003; Lamb and Sibbald, 2018). The term is used here to aid clarity as it is without doubt that people meeting diagnostic criteria typically experience these idiosyncratic features. The most common

personality disorder subtype in non-forensic healthcare settings is borderline personality disorder (BPD), characterised by emotional instability, feelings of abandonment, intense interpersonal relationships, suicidal behaviour, impulsivity and a negative self-image (National Institute for Health and Clinical Excellence, 2009). BPD is further related to a myriad of negative associations, such as increased use of healthcare services, higher risk of self-harm/suicide ideation, co-morbidity, substance and alcohol misuse, physical health problems, poor treatment outcomes, and shorter life expectancy, all of which contribute to the aforementioned stigma (Fok *et al.*, 2012; Goddard *et al.*, 2015; Moran *et al.*, 2016a,b; Newton-Howes *et al.*, 2006; Oldham, 2006; Quirk *et al.*, 2016; Soeteman *et al.*, 2008; Sansone *et al.*, 2011; Tyrer *et al.*, 2015).

How BPD develops continues to be debated within nosology, but it has become widely accepted that factors such as genetics, neurobiology, psychosocial factors, attachment and trauma contribute to the aetiology (National Institute for Health and Clinical Excellence, 2009; Stepp *et al.*, 2016). Symptoms usually present in childhood and adolescence with compounding evidence supporting long-term positive outcomes for patients who receive early diagnosis and intervention (Biskin, 2015). Despite this, GPs and clinicians are reluctant to diagnose the condition in 'emerging adulthood', based on suspected transient features and potential stigmatisation, which in reality lacks sufficient rationale to delay an evidence-based intervention (Biskin, 2015; Bozzatello *et al.*, 2019; Chanen, 2015; Laurensen *et al.*, 2013). As for adults, evidence suggests the clinical presentation of BPD is different to that of those in 'emerging adulthood' and therefore could be overlooked (Morgan *et al.*, 2013a). Overall, the trajectory for BPD is positive as longitudinal studies have found a decrease in symptomology over time and high remission rates (73–85%) after 6–10 years from diagnosis (Álvarez-Tomás *et al.*, 2019; Zanarini *et al.*, 2003a).

Subthreshold BPD

However, remission from BPD does not guarantee complete recovery from symptoms or traits. This pattern of symptom alleviation across the lifespan is common but rates of recovery are poor (Zanarini *et al.*, 2012). One study by Zanarini *et al.* (2003a) saw a significant reduction in 73.5% of participants' symptoms and no longer met diagnostic criteria cut-off after 6 years, but the majority still experienced the typical BPD symptoms. This lack of diagnostic label is all but arbitrary and polythetic, which could deny individuals adequate treatment. Recent developments in the classification of BPD will see severity of personality diagnosed first, ranging from no personality disorder to severe personality disorder, with subtype domains a secondary diagnosis (Tyrer *et al.*, 2011; World Health Organisation, 2018). This dimensional approach to conceptualising personality disorder accounts for individuals who do not warrant a full diagnosis or meet clinical cut-off and present with subthreshold symptoms (Yang *et al.*, 2010; Zimmerman *et al.*, 2013).

Overall, subthreshold BPD remains an under-explored area in mental health research (Morgan *et al.*, 2013b). This presentation is not limited to those vulnerable to developing BPD but is also relevant for non-clinical populations experiencing symptoms (Johnson and Levy, 2020). Initial findings suggest that individuals with as little as one BPD trait still experience a degree of disability and distress that rivals the impairment of full-syndrome BPD (Bos *et al.*, 2011; Kaess *et al.*, 2017; Lu *et al.*, 2017; Zimmerman *et al.*, 2013). Furthermore, individuals experiencing subthreshold BPD traits possess higher rates of co-morbidity, in particular depression and anxiety, posing poorly for treatment outcomes and full-syndromes alike (French *et al.*, 2017; Gorwood *et al.*, 2010; Heggul *et al.*, 2016; Hill *et al.*, 2016; Karukivi *et al.*, 2017; Newton-Howes *et al.*, 2006).

Access to treatment and primary care

As subthreshold BPD does not meet clinical cut-off, individuals with these symptoms do not receive an adequate, evidence-based treatment. This creates the need for an intervention which supports people experiencing subthreshold BPD symptoms and improved accessibility

of treatment for individuals unable to access specialist secondary care (Chanen and McCutcheon, 2013; Chanen and Thompson, 2018; Thompson *et al.*, 2018). This is not to be confused with early intervention, which would be a treatment seeking to prevent the exacerbation or development of symptoms leading to full-syndrome BPD (best targeted in emerging adulthood). A treatment for subthreshold BPD would aim to bridge the gap between specialist, evidence-based treatment and those who may experience persistent BPD symptoms throughout their lifetime but may never develop the full disorder. Without addressing these needs, individuals may not benefit from standard interventions, resulting in a higher cost for services and latent co-morbidity.

This presentation has been explicitly observed within primary care Improving Access to Psychological Therapies (IAPT) services, a UK government initiative to address common mental health concerns in the UK population (French *et al.*, 2019; Goddard *et al.*, 2015; Hepgul *et al.*, 2016). With an initial focus on treatment anxiety and depression, 2016 saw a new emphasis on treating people meeting criteria for personality disorder in primary care services following the publication of the *Five Year Forward View for Mental Health* (NHS England, 2016). However, the presentation of patients within primary care is a complicated issue. Individuals meeting diagnostic criteria for personality disorder had already been utilising IAPT services, which have adversely affected and been identified as a prognosis risk factor to treatment outcomes (French *et al.*, 2017; Goddard *et al.*, 2015; Hepgul *et al.*, 2016). The presence of subthreshold BPD difficulties has led to possible misclassification between conditions and an increased risk of developing depression and anxiety in later life (Moran *et al.*, 2016a,b). By treating anxiety and depression, whilst ignoring subthreshold BPD symptoms, interventions in IAPT are less effective with the need to address these concerns. Two primary care services in the South East of England have attempted to address this by offering a cognitive behavioural therapy group intervention devised for people experiencing subthreshold BPD traits: Systems Training for Emotional Predictability and Problem Solving – Early Intervention (STEPPS-EI; Blum *et al.*, 2016).

STEPPS-EI was adapted from STEPPS for BPD (Blum *et al.*, 2002b; Blum *et al.*, 2016), following pilot studies run within primary care services in Sussex and Essex (Harvey, 2016). The full-programme STEPPS is a manualised, psychoeducational treatment, which aims to train individuals to become more aware of their emotions, and to provide them with skills on how to challenge and effectively manage their emotional intensity difficulties (EID). Individuals are then further reinforced by the facilitators and other group members to develop a system of support with significant others (Blum *et al.*, 2002a). STEPPS is currently supported by three randomised controlled trials which have found that it can reduce the severity of BPD symptoms and symptoms of depression, and improve global functioning and quality of life (Blum *et al.*, 2008; Bos *et al.*, 2011; van Wel *et al.*, 2009). In addition, the evidence base for STEPPS is further supported by numerous uncontrolled studies, and it is recognised by the National Institute for Health and Clinical Excellence (NICE) as an effective treatment method that improves general functioning and reduces self-harm and suicide ideation (Black *et al.*, 2009; Harvey, 2016; Hill *et al.*, 2016; National Institute for Health and Clinical Excellence, 2009).

STEPPS-EI was established to address the absence of early intervention for subthreshold BPD (Blum *et al.*, 2016). As it is directed at individuals without a formal diagnosis, the term subthreshold BPD will be used to describe participants. The adapted version is a 13-week programme, as opposed to 20 weeks, and consists of three modules: (1) Awareness of EID, (2) Emotion Management and (3) Behaviour Management Training (see Supplementary material for full module and session breakdown). Each session is 2 hours long and is delivered within the community after an initial primary care referral to STEPPS-EI. The intervention is then delivered using the STEPPS-EI manual, with additional homework and materials.

The present study

STEPPS-EI is yet to be clinically evaluated, and it is important to assess whether the NHS is providing an effective yet feasible treatment service for a population in which research is limited. The emerging literature has so far outlined the difficulty with identifying subthreshold BPD and the dysfunction and distress encountered by BPD symptoms, such as EID (Harvey, 2016; Kaess *et al.*, 2017; Tyrer, 2017; Zimmerman *et al.*, 2013). Although initial evidence suggests that individuals meeting criteria for full-syndrome personality disorder can make significant progress over the course of short-term treatment, more research is needed in relation to subthreshold BPD (Laporte *et al.*, 2018). It has therefore become a clinical priority to investigate the indicated prevention of BPD by treating individuals presenting with subthreshold symptoms (Chanen *et al.*, 2017). However, this is further complicated by the complex presentation of subthreshold BPD. The co-morbidity of personality difficulties with depression and anxiety has affected treatment outcomes and created a need to address associated difficulties individually (French *et al.*, 2017; Goddard *et al.*, 2015; Hepgul *et al.*, 2016). By evaluating STEPPS-EI within primary care, the impact of intervention on subthreshold BPD symptoms can be further assessed and begin to formulate a profile of individuals with subthreshold BPD.

The present article seeks to expand on the initial pilot evaluation of STEPPS-EI. As preliminary effectiveness has been established, this evaluation sought to draw on further aspects of an uncontrolled feasibility study (Medical Research Council, 2000; Medical Research Council, 2019), with the intention to explore whether STEPPS-EI is feasible to be delivered in NHS primary care mental health settings. The primary aims were to assess:

- (1) Recruitment. Is it possible to recruit participants into STEPPS-EI groups? This was operationalised as recruiting at least 30 participants within each service each year and running at least three groups.
- (2) Retention. Is it possible to retain participants in STEPPS-EI groups? This was operationalised as having at least 70% of participants offered a group attending 10 or more sessions and completing treatment.
- (3) Potential effectiveness. Is there preliminary evidence that STEPPS-EI groups are effective at improving symptoms of emotional intensity, depression and anxiety? This is operationalised as pre–post effect sizes on measures of emotional intensity, depression and anxiety being in the direction of benefit, and that the 95% confidence interval for the pre–post effect size includes a medium-sized effect.
- (4) Group appraisal. How did participants experience the STEPPS-EI groups? This is determined through open-ended feedback from intervention completers.

Method

Participants

All individuals were referred to one of two NHS primary care mental health services in the South of England and screened for STEPPS-EI at assessment. Inclusion criteria were: scoring 7 or more (out of a possible 10) on the STEPPS-EI screening tool (see Supplementary material) adapted from the McLean Instrument for BPD (Zanarini *et al.*, 2003b), aged 18 and over, tolerance of group settings, motivation to complete work outside of sessions, and reading/writing skills necessary to complete intervention exercises.

Exclusion criteria were: having a formal diagnosis of personality disorder ($n = 10$), as identified by a psychiatrist or GP; completing an alternative STEPPS intervention; antisocial, avoidant or narcissistic traits; ongoing co-morbidity which would prevent engagement, such as persistent physical health problems; history of long-term severe mental health problems, e.g. schizophrenia; use of illicit

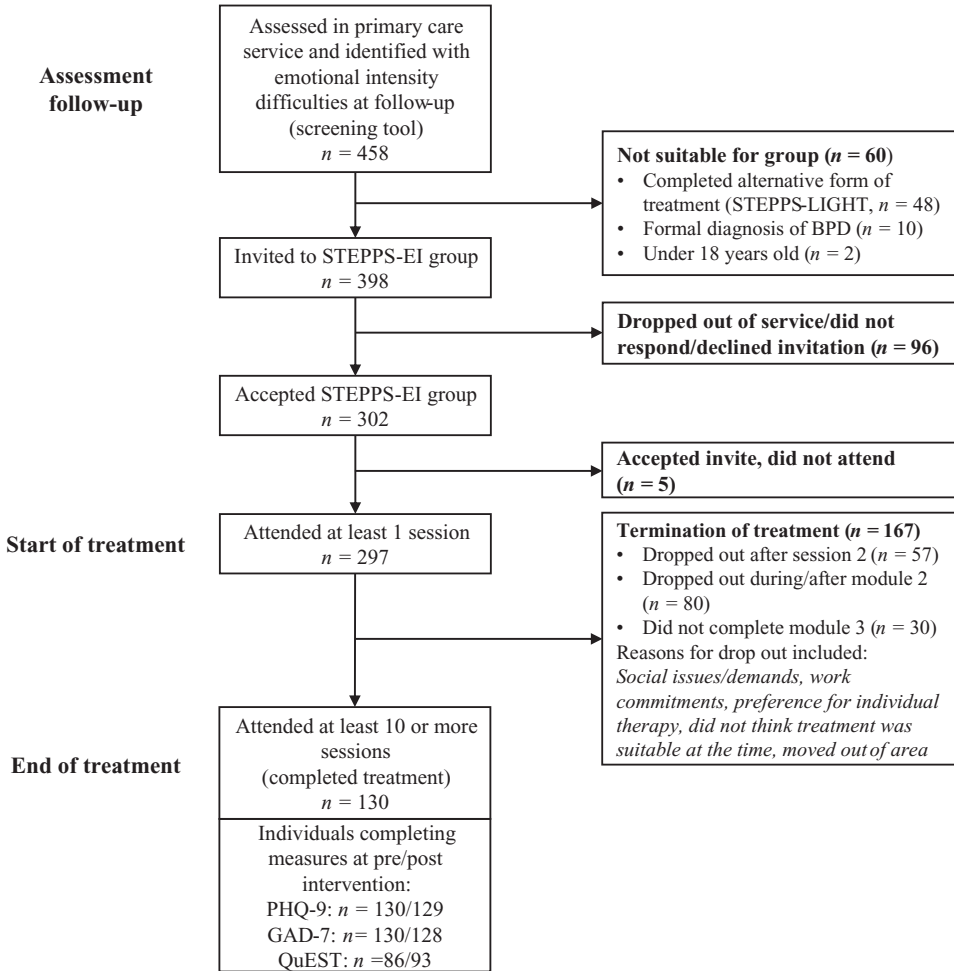


Figure 1. The flow of participants through primary care attending STEPPS-EI groups.

substances which create instability; or a history of multiple psychological treatments. See Fig. 1 for flow of participants within the evaluation.

A *a priori* analysis was run using G*Power 3.1 to determine the sufficient number of participants needed to test the study hypotheses with a pre–post effect size of $d = .95$, 95% power, two-tailed hypotheses and $p < .05$ (Faul *et al.*, 2007). The estimated effect size was based on Harvey *et al.* (2010) due to the shared similarities with regard to a UK clinical population, uncontrolled STEPPS study, study design and location. The total sample size required was 80 participants, which was sufficiently achieved.

The sample was recruited from two NHS patient database systems, PC-MIS and SystmOne (University of York, 2006; tpp, 2018). Four hundred and fifty-eight individuals were screened by primary care mental health workers and invited to participate in STEPPS-EI. If invited individuals declined the group, they would be offered an alternative intervention within the stepped care model with consideration of subthreshold BPD symptoms. Of the sample, 12 participants were excluded after not meeting inclusion criteria. In addition, 48 individuals completed an alternative form of STEPPS-EI (STEPPS-Light; an earlier version of STEPPS shortened to 16 sessions) during 2013–2014 and were further excluded from the final sample.

Table 1. STEPPS-EI demographics with individual grouping based on number of sessions completed

Demographic	Total sample		Completed no sessions		Completed 1–9 sessions		10 or more sessions	
	(n = 398)		(n = 101)		(n = 167)		(n = 130)	
	n	%	n	%	n	%	n	%
Gender								
Male	71	17.8	11	10.9	38	22.8	22	16.9
Female	321	80.7	89	88.1	127	76.0	105	80.8
Transgender	6	1.5	1	1.0	2	1.2	3	2.3
Age								
18–19	39	9.8	17	16.8	15	9.0	7	5.4
20–29	180	45.2	48	47.5	74	44.3	58	44.6
30–39	100	25.1	19	18.8	38	22.8	43	33.1
40–49	52	13.1	14	13.9	23	13.8	15	11.5
50–59	21	5.3	3	3.0	12	7.2	6	4.6
60+	6	1.5			5	3.0	1	0.8
Ethnicity								
British or mixed British	348	87.4	84	83.2	149	89.2	115	88.5
Other mixed background	5	1.3	2	2.0	2	1.2	2	1.5
Other White background	21	5.3	6	5.9	7	4.2	8	6.2
Other Black background	2	.5			2	1.2		
Other	6	1.5			4	2.4	2	1.5
White and Asian	3	.8	1	1.0			2	1.5
Not stated	13	3.3	8	7.9	4	2.4	1	.8
Sexual orientation								
Heterosexual	228	57.3	58	57.4	92	55.1	78	60.0
Homosexual	37	9.3	8	7.9	19	11.4	10	7.7
Bisexual	27	6.8	7	6.9	12	7.2	8	6.2
Refused/not stated	106	26.6	28	27.7	44	26.3	34	26.2
Marital status								
Single	223	56.0	59	58.4	89	53.3	75	57.7
Married/civil partnership	40	10.1	8	7.9	14	8.4	18	13.8
Co-habiting	8	2.0			6	3.6	2	1.5
Partnered	62	15.6	11	10.9	34	20.4	17	13.1
Divorced/separated	16	4.0	4	4.0	4	2.4	8	6.2
Widowed/surviving	1	.3					1	.8
Not stated	48	12.1	19	18.8	20	12.0	9	6.9
Religion								
Not religious	191	48.0	47	46.5	82	49.1	62	47.7
Christian	54	13.6	15	14.9	22	13.2	17	13.1
Religion (other)	12	3.1	1	1.0	9	5.4	2	1.5
Buddhist	5	1.3	2	30.7	2	1.2	1	.8
Pagan	5	1.3	3	3.0	2	1.2		
Jewish	2	.5	1	1.0			1	.8
Muslim	1	.3	1	1.0				
Unknown/refused	128	32.2	31	30.7	50	29.9	47	36.2

Of the remaining 398 participants, 321 were female (81%) with an age range of 18 to 62 years (mean = 31.05, $SD = 9.39$). Full sample demographics are presented in Table 1, with individual differences between groups based on the number of completed sessions. Incidentally, some patient data were incomplete, resulting in missing data for some individuals at pre- and post-periods (see Table 2).

Procedure

This evaluation draws on aspects of an uncontrolled feasibility study of STEPPS-EI. STEPPS-EI is a psychoeducational, group intervention for individuals with subthreshold BPD. Based on

Table 2. Missing data for each outcome measure

Measure	Missing data							
	Full sample (<i>n</i> = 398)				10 or more sessions (<i>n</i> = 130)			
	Pre	%	Post	%	Pre	%	Post	%
QuEST	214	53.77	283	71.11	44	33.85	37	28.46
PHQ-9	68	17.10	232	58.29	0	0	1	0.77
GAD-7	68	17.10	233	58.54	0	0	2	1.54

cognitive behavioural principles, the programme aims to teach individuals skills to identify and manage emotional intensity with the additional help of a social support network. The programme consists of 13 weekly sessions, divided into three modules, with the introductory module being 1 week and the following two modules 6 weeks accordingly. Module 1 introduces EID as a problem with emotion regulation rather than an illness or diagnosis. Following on, module 2 teaches individuals emotion management skills (such as distancing and challenging) to help identify and address factors that perpetuate their EID. These difficulties are identified as cognitive factors, expressed by negative coping strategies and maladaptive schema ('filters'). Module 3 elaborates on module 2 by developing behavioural management skills (such as distraction and self-soothing techniques) to improve competent coping strategies in their day-to-day environment. Both emotional and behavioural management skills are consolidated in weekly homework assignments, as group members are actively encouraged to practise STEPPS-EI during their daily routine.

The intervention is set up to imitate a 'classroom experience', with group members and two facilitators. STEPPS-EI facilitators possess significant experience with cognitive behavioural principles before being trained across a 2-day workshop and participating in a STEPPS group as an observer. Facilitators were from a range of professional backgrounds (psychologists, primary care mental health workers, psychological wellbeing practitioners and nurses). Facilitators were also provided with regular clinical supervision to discuss group delivery, dynamics and any reflections they may have.

Twenty-five STEPPS-EI groups were implemented during the designated collection period (February 2015 to July 2018). Service-users were screened for suitability at assessment follow-up (see Supplementary material) and invited to treatment. If a service-user declined treatment, they would be offered treatment as usual depending on presentation, or signposted elsewhere. Invited participants would consent to start treatment and complete baseline measures at the first session as part of routine service evaluation. At each following session, primary care staff collected and recorded outcome measures on specified patient databases (PC-MIS and SystemOne). Data were then extracted from these platforms and hard copy questionnaires, with post-intervention classed as the last attended session. Participants who completed 10 or more of the 13 sessions were regarded as completing treatment and included in the analysis. The researchers were not involved in facilitation or consultation of any STEPPS-EI groups and have independently examined the data.

Measures

Within the current study, feasibility measures are outlined below with preliminary effectiveness assessed using a repeated-measures design at pre- and post-intervention variables (symptoms of BPD, depression and anxiety).

Recruitment

This is the number of individuals who were invited to treatment and participated. Recruitment is reported as percentage rates of the total population who attended at least one group session and average enrolment per year, per site. Recruitment was deemed feasible if each service recruited at least 30 participants and ran at least three groups in total since September 2014.

Retention

This is the rate at which participants completed treatment. Retention was deemed feasible if 70% of participants offered the group would attend 10 or more sessions. Participants were considered to have 'completed' treatment if they had attended 10 or more sessions. This threshold was taken from the full-programme of STEPPS which allows for three missed sessions (Blum *et al.*, 2002b).

Group appraisal

Feedback on participant experiences of the group was collected using evaluation forms that were distributed to the participants in the final STEPPS-EI session. A total of 56 participants responded to these questionnaires (43% of those attending 10 sessions or more). Evaluation questions consisted of open and closed questions with the addition of rating scales (see Supplementary material).

Effectiveness

The outcome measures of interest were the QuEST (symptoms of BPD), PHQ-9 (symptoms of depression) and GAD-7 (symptoms of anxiety).

Quick Evaluation of Severity Over Time (QuEST) – Pfohl *et al.*, 1997; Pfohl *et al.*, 2009; Blum *et al.*, 2016

This is a 15-item psychometric test designed specifically for STEPPS-EI as a measure of emotional intensity severity over time. Participants track their progress weekly during the programme on a 5-point Likert scale with responses ranging from none/slight to extreme. The scale consists of three subsections: (A) Thoughts and Feelings, (B) Behaviour (negative) and (C) Behaviour (positive). An example question is: 'Going to extremes to try and keep someone from leaving you'. The scale was originally adapted from the full STEPPS programme instrument, Borderline Evaluation of Severity over Time (BEST), and is found to possess good sensitivity to clinical change, moderate test-re-test reliability and a high internal consistency in the current study ($\alpha = .78$).

Patient Health Questionnaire 9 (PHQ-9) – Kroenke *et al.* (2001)

This is a brief 9-item instrument used within the NHS to assess symptoms of depression. The questionnaire is based on the *DSM-IV* criteria for depression as individuals rate their experience on a 4-point Likert scale (not at all; several days; more than half the days; nearly every day). Scoring can range from 0 to 27, with cut-off points of 10, 15 and 20 signifying mild, moderate and severe depression, respectively, and possesses high internal consistency ($\alpha = .83$). The scale is frequently used within IAPT services with scores ≥ 10 indicative of an episode of major depression, and an improvement or deterioration of ≥ 6 indicating reliable change (NHS Digital, 2019). An example statement is: 'Little interest or pleasure in doing things?'

Generalised Anxiety Disorder Questionnaire (GAD7) – Spitzer et al. (2006)

This is a brief 7-item instrument also used within the NHS, to measure symptoms of anxiety. Individuals rate their experience on a 4-point Likert scale (not at all; several days; more than half the days; nearly every day). Scoring can range from 0 to 21, with cut-off points for mild (5), moderate (10) and severe anxiety (15) accordingly, with high internal consistency ($\alpha = .84$). This scale is frequently used with IAPT services with scores ≥ 8 indicative of clinically significant anxiety symptoms, and an improvement or deterioration of ≥ 4 indicative of reliable change (NHS Digital, 2019). An example statement is: ‘Feeling nervous, anxious, or on edge’.

Data analysis

All data were analysed using Statistical Package for the Social Sciences (SPSS), version 24 (IBM Corporation, 2016). Differences in demographics were compared across participants based on the number of sessions completed (no sessions; 1–9 sessions; 10 or more sessions) using the Kruskal–Wallis H test as all demographic data were not normally distributed. Substance misuse was classed as any reported current drug use which is listed on the UK government ‘controlled drug list’ or exceeding the recommended weekly alcohol intake, excluding any drugs for medical purposes. Furthermore, *post hoc* Dunn tests were conducted, with adjusted Bonferroni correction to account for a potential higher risk of Type I error. To test the change between pre- and post-outcome measure data, individuals who completed treatment (10 or more sessions) were analysed using a per-protocol (PP) analysis. Both *t*-test and the Wilcoxon test were employed for significance testing with Pearson’s *r* correlation coefficients calculated for effect sizes (ES).

As mentioned previously, there was a lack of complete data for the full sample. For individuals who did not attend any sessions, screening data were carried forward to baseline for the PHQ-9 and GAD-7 only. Percentage recovery, reliable improvement and deterioration were also calculated using criteria for these used in IAPT as follows: (1) recovery is deemed to have occurred when PHQ-9 and GAD-7 scores are below clinical cut-offs at post-intervention when at least one of these scores was in the clinical range at baseline; (2) reliable improvement/deterioration is deemed to have occurred when PHQ-9 scores decrease/increase by 6 or more points and GAD-7 scores increase/decrease by 4 or more points, respectively (NHS Digital, 2019).

Group appraisal was analysed following the six stages for thematic analysis by Braun and Clarke (2006). To begin with, the data were transcribed verbatim from the paper questionnaires and assessed to identify codes. These codes encapsulated units relating to the evaluation of the STEPPS-EI course. The list of codes was analysed to derive themes and sub-themes, with a thematic map used to formulate how the themes and codes relate to each other. The analysis was conducted by one of the authors (F.A.) under supervision of three of the other authors (C.S., J.C. and H.S.).

Results

Feasibility of STEPPS-EI

Recruitment

Three hundred and ninety-eight participants out of 458 referrals were invited to take part in a STEPPS-EI group. Of those 398 participants invited, 75% attended at least one STEPPS-EI session (see Table 3). The average recruitment rate across both sites per year was 110 individuals ($SD = 49.66$). Site 1 conducted 14 STEPPS-EI groups between May 2015 and July 2018 (mean = 3.50, $SD = 1.00$) and Site 2 conducted 11 STEPPS-EI groups between September 2014 and July 2018 (mean = 3.67, $SD = 2.08$). Reasons recorded by group facilitators for not attending any sessions included time of session, location, work

Table 3. Overall recruitment for STEPPS-EI at Site 1 and Site 2; total number of groups, sign-ups and attrition per year

Site	Number of groups	Total sign-up	Attended 0 sessions	
	<i>n</i>	<i>n</i>	<i>n</i>	%
Site 1				
2015	4	67	13	19.40
2016	4	59	11	18.64
2017	4	57	8	14.04
2018	2	21	4	19.05
Total	14	204	36	17.65
Site 2				
2016	6	105	35	33.33
2017	2	44	21	47.73
2018	3	45	9	20
Total	11	194	65	33.51
Combined				
2015*	4	67	13	19.40
2016	10	164	46	28.05
2017	6	101	29	28.71
2018	5	66	13	19.7
Total	25	398	101	25.38

At time of analysis, 2018 had not been completed (July 2018), reflecting a lower number of groups and recruitment. *Only Site 1 registered a group for 2015 which met the inclusion criteria.

commitments, childcare commitments, fear/anxiety of working in a group, social issues/demands, bereavement and medical appointments.

Retention

One hundred and thirty participants attended 10 or more sessions (43% of those who accepted the group invitation). The overall sample also completed a mean of 5.59 sessions ($SD = 4.85$), with 26 individuals completing the full program of 13 sessions (6.5%).

Group appraisal

Two over-arching themes emerged from the thematic analysis: Aspects and Evaluation of STEPPS-EI and Psychological Changes. As displayed in Table 4, these two themes are interdependent; as the participants experience aspects of STEPPS-EI, they undergo psychological changes which then influence their evaluation of the course. Aspects and Evaluation of STEPPS-EI consisted of four themes: Interpersonal Sensitivities, the Length of the Course, Paperwork and Reinforcement team cards, and Responses to Diagnostic Ambiguity. The second over-arching theme encompassed four themes: Emotional Changes, Interpersonal Changes, Behavioural Changes and Cognitive Changes. The theme Emotional Changes breaks down further into two subordinate themes: Changes in Everyday Emotions and Changes in EID.

Effectiveness

A per protocol (PP) analysis was conducted to evaluate change between measures at baseline and post-intervention for individuals who attended at least 10 sessions. There were 130 participants with complete data at both baseline and post-intervention.

PP paired-samples *t*-test was conducted on pre- and post-data from the QuEST and PHQ for individuals attending at least 10 sessions (Table 6). QuEST scores, assessing BPD symptoms,

Table 4. Over-arching themes, themes, subordinate themes and illustrative quotes from qualitative STEPPS-EI feedback forms

Over-arching themes	Themes	Subordinate themes	Illustrative quote	
1. Aspects and Evaluation of STEPPS-EI	1.1 Interpersonal Sensitivities		'Some sessions have had some instances that have caused some anxiety. Issues due to other members of the groups and their opinions and how they show these ...'	
	1.2 Length of the Course		'I like the time limit but spending 2 weeks on each session would be good to better understand each topic'	
	1.3 Paperwork and Reinforcement Team Cards		'Useful to have the information accessible to refer back to when considering own emotions during difficult periods'	
	1.4 Responses to diagnostic ambiguity		'... A possible clarification on a diagnosis on what it is we possibly have or don't have'	
2. Psychological Changes	2.1 Behavioural		'I have noticed patterns of behaviours and can intervene earlier'	
	2.2 Interpersonal		'I hate like sharing infor and having to talk in front of people and I felt in the group setting I haven't been able to talk about how I really feeling and get stuff off my chest it has been good when I have been brave enough to share infor about the problems at work and have felt I was given really good advice back and people were supportive'	
	2.3 Cognitive		'Learning skills and my own filters so I can analyse them better. Relating to others for a better perspective'	
	2.4 Emotional	2.4.1 Changes in quotidian Emotions		'to understand different emotions and how to deal with problems'
		2.4.2 Changes in EID		'Much clearer & less uncertain. I have learned to recognise emotional intensity in myself & others & spot signs early on before an episode develops'

decreased significantly from baseline (mean = 44.65, SD = 9.71) to post-intervention (mean = 33.39, SD = 11.43); $t_{83} = 8.96, p < .001$, with a large effect size; $r = .70$.

PHQ scores significantly decreased from baseline (mean = 16.46, SD = 5.38) to post-intervention (mean = 13.78, SD = 6.25) scores; $t_{128} = 4.74, p < .001$, with a medium-large effect size; $r = .39$. At baseline 89% ($n = 116$) of individuals scored at caseness for clinical significance on the PHQ; following the intervention, 32 of these individuals scored below the caseness threshold (23.2%). In addition, 37 of these individuals showed reliable improvement on the PHQ-9, with an improvement in score of at least 6 points (29%). Eleven individuals (8.46%) showed reliable deterioration in their PHQ-9 score of at least 6 points.

GAD data violated the assumption of normality which was reinforced by a significant Shapiro-Wilk test ($p < .001$). A Wilcoxon signed-rank test was employed to assess change in GAD scores (Table 7). GAD scores significantly decreased from baseline (Mdn = 15, SD = 4.67) to post-intervention (Mdn = 11, SD = 5.59); $Z = -5.04, p < .001$, with a medium effect size, $r = -.31$. At baseline 88% ($n = 114$) were at caseness for clinical significance on the GAD; following the intervention, 30 individuals scored below the threshold to non-caseness (23.1%). In addition, 52 individuals made reliable improvement (40%) and six individuals (4.62%) showed reliable deterioration. Overall, 16 (13%) individuals showed recovery on both PHQ-9 and GAD-7 measures. See Table 8 for full primary care recovery, improvement and deterioration calculations.

Table 5. Comparisons of pre- and demographic variables between samples, grouped by number of completed sessions with Dunn–Bonferroni correction *post hoc* and effect sizes

Kruskal–Wallis H test	Dunn–Bonferroni correction								
	Characteristic	d.f.	χ^2	No sessions vs 1–9 sessions		No sessions vs 10 or more sessions		1–9 sessions vs 10 or more sessions	
				<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>
Outcome measure									
Pre-PHQ-9	2	8.994*	.230	.114	.011	.199	.247	.084	
Pre-GAD-7	2	2.062							
Demographic									
Age	2	8.257*	.024	–.158	.042	–.133	1.00	.046	
Gender	2	5.615							
Ethnicity	2	2.815							
Sexual orientation	2	.356							
Marital status	2	1.145							
Religion	2	.505							
Referrer	2	5.931							
Psychotropic medication	2	7.360*	.021	.197	.189	.119	1.00	–.049	
Drug misuse	2	1.818							
History of overdose	2	1.399							
History of deliberate self-harm	2	4.864							
History of previous therapy	2	3.519							

**p* < .05.

Table 6. Paired samples *t*-test between outcome measures

Paired-samples <i>t</i> -test	Measure						95% CI for mean difference	<i>t</i>	d.f.	<i>r</i>
	Baseline			Post						
	Mean	<i>SD</i>	<i>n</i>	Mean	<i>SD</i>	<i>n</i>				
QuEST	44.65	9.71	84	33.39	11.43	84	8.76, 13.76	8.96*	83	.70
PHQ	16.46	5.38	129	13.78	6.25	129	1.56, 3.79	4.74*	128	.39

**p* < .001.

Table 7. Wilcoxon signed-rank test between outcome measures

Wilcoxon signed-rank	Measure						<i>Z</i>	<i>r</i>
	Baseline			Post				
	Mdn	<i>SD</i>	<i>n</i>	Mdn	<i>SD</i>	<i>n</i>		
GAD	15.00	4.70	130	11.00	5.59	128	–5.04*	–.31

**p* < .001.

Demographic differences

Further analysis compared differences between the number of sessions attended (grouped by no sessions, attended 1–9 sessions, and 10 or more sessions) and participant demographics (see Table 5 for full analysis). Groups significantly differed between pre-intervention PHQ-9 scores, $H(2) = 8.99$, $p < .02$. Dunn *post hoc* tests revealed a significant difference between overall scores for participants who attended no sessions (Mdn = 20, IQR = 7) and those who attended 10 or more sessions (Mdn = 17, IQR = 8) with a small effect size, $p < .02$, $r = .20$.

Table 8. Primary care measures of caseness, reliable improvement and deterioration, recovery and reliable recovery

	Completed 10 or more sessions											
	Caseness		Non caseness		Reliable improvement		Reliable deterioration		Recovery		Reliable recovery	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
GAD	114	87.69	16	12.31	52	40	6	4.62	16	12.5	14	10.77
PHQ	116	89.23	14	10.77	37	28.46	11	8.46			13	10

* $p < .001$.

In addition, there were significant differences between sessions attended and psychotropic medication use, $H(2) = 7.36$, $p < .03$.

In addition, observations revealed significant differences between number of sessions attended and age, $H(2) = 8.26$, $p < .02$. Pairwise comparisons found significant differences between individuals who attended no sessions ($Mdn = 26$, $IQR = 14$) and both 1–9 sessions ($Mdn = 29$, $IQR = 14$), $p = .024$, $r = -.16$, or 10 or more sessions ($Mdn = 29.50$, $IQR = 13$), $p < .05$, $r = -.13$. There were no statistically significant differences between session attendance and gender, ethnicity, sexual orientation, marital status, religion, drug misuse, history of overdose, deliberate self-harm, previous therapy, and referrer; $p > .05$.

Discussion

The present evaluation sought to investigate the feasibility of STEPPS-EI as an intervention for individuals presenting with subthreshold BPD traits within primary care services. Results partially supported STEPPS-EI as a feasible treatment, meeting three out of four study aims of recruitment, effectiveness and group appraisal, but narrowly falling short due to issues with retention. This evaluation did not allow for follow-up data for those who dropped out, but we can speculate on this low retention rate based on the present findings.

One explanation for this could be that there are specific engagement issues with the overall STEPPS programme model and shortened STEPPS-EI course itself. STEPPS programmes have been found to possess higher rates of drop-outs in comparison with other group BPD treatments, although overall rates are inconclusive due to large confidence intervals and variation between studies (Barnicot *et al.*, 2011; Droscher *et al.*, 2014; Martino *et al.*, 2012). In this evaluation, observed drop-out rates for STEPPS-EI (57%) were higher in comparison with other STEPPS studies (26–50%) and general primary care services (42–48%), regardless of specified disorder (Byng *et al.*, 2011; Murphy *et al.*, 2013; Richards and Borglin, 2011). One key difference, besides the shortened number of sessions, is the lack of routine ‘reinforcement’ sessions. Reinforcement sessions are usually conducted weekly alongside the full programme as a means to consolidate knowledge and further practise STEPPS outside of the group environment. Marshall *et al.* (2016) outlined ways in which primary care services can reduce drop-out, which included being more flexible as a service and developing stronger therapeutic relationships between clinicians and participants. By integrating reinforcement sessions more proactively into primary care treatment, we can elicit a stronger therapeutic alliance and model a secure base for those with subthreshold BPD. With such a high drop-out rate in primary care and STEPPS programmes alike, it is possible that in practice the feasibility threshold set in this evaluation is unobtainable.

Alternatively, this higher rate could be accounted for by some demographic risk factors that increase the likelihood of drop-out and which overlap with people diagnosed with symptoms of

BPD, e.g. unstable relationships, alcohol use and suicide attempts (Buckman *et al.*, 2018; Wnuk *et al.*, 2013). Our findings suggest that younger participants, those who use psychotropic medication and those with higher scores of depressive symptomatology are more likely to drop out of the programme completely. It is quite possible that these more complex participants would meet a formal diagnosis for BPD, but due to clinician ambivalence to diagnose, they do not receive appropriate care. On the other hand, by not possessing a full profile of BPD symptoms, some parts of the course may not feel relevant or these traits may not be as severe/problematic to warrant a full treatment programme. Positively, the overall retention rate has increased each year since 2016.

Despite this, the course itself is attractive enough to recruit a substantial number of participants and those who complete the course find it broadly acceptable. Participants were able to learn from each other, validate their symptoms and experience a shared group identity. This was further benefited from the lack of formal diagnosis by identifying problematic traits/symptoms, but without being labelled with a stigmatising 'personality disorder'. This was confirmed by the second over-arching theme, Psychological Changes, which found that some of the participants objectified their EID. Perhaps more can be done before the initial session to inform participants of what is expected of them within the group, whilst also gauging their motivation to engage.

The findings for the effectiveness of the course for those who complete the course are very promising. The large effect sizes of pre–post treatment for symptoms of EID/BPD (QuEST) and medium effect sizes for depressive (PHQ-9) and anxiety symptomatology (GAD) indicate a meaningful decrease in symptoms related to distress. These findings are also in line with the original STEPPS programme (moderate to large) and stepped care short-term treatment for BPD in reducing the symptoms of EID within participants (Blum *et al.*, 2008; Bos *et al.*, 2011; Harvey *et al.*, 2010; Hill *et al.*, 2016; Laporte *et al.*, 2018). However, effect sizes remain lower than in an evaluation of IAPT more broadly with pre–post PHQ-9 ($r = .67$) and GAD-7 ($r = .73$) scores showing large improvements following treatment (Clark *et al.*, 2009). Only 13% of the participants who completed treatment could be considered recovered in line with IAPT criteria. Still, the aim of STEPPS-EI is not primarily to address symptoms of depression or anxiety but rather emotional intensity, hence it would be misguided to evaluate the feasibility of STEPPS-EI based solely on these recovery rates (McCusker *et al.*, 2018).

Limitations

First, this was an uncontrolled feasibility evaluation. There was no control group to establish the efficacy of STEPPS-EI. Second, there was a considerable amount of missing data, reducing ecological validity. Although the data reflect a real-world setting, the analyses do not take full account of those who dropped out. Third, there was no follow-up to the study. The longevity of symptom/trait improvement and whether individuals re-present to the service or other services is unknown. Fourth, the screening tool to assess for subthreshold BPD has not been psychometrically validated. Fifth, due to the nature of a dimensional scoring for BPD, there is uncertainty whether the sample is truly subthreshold. Individuals may have undiagnosed, full-syndrome BPD or temporary emotional difficulties without pervasive distress which would not constitute subthreshold. Moreover, there is controversy over what constitutes subthreshold BPD in relation to core behaviours, such as impulsivity, and how can STEPPS-EI measure and capture these different traits.

Future research

Despite the limitations, the findings from this evaluation create scope for further study. Future research should focus on understanding the reasons why participants decline treatment and

drop out, and how this can inform future groups to improve the overall feasibility. Once this has been established and rates improved, the next step would be to conduct a randomised controlled trial to test the efficacy of STEPPS-EI with long-term follow-up. This could also be supplemented with a cost-effectiveness analysis to assess the potential economic benefits of the intervention.

Currently, ethnic minority groups and males are under-researched within STEPPS research, so further study into different socio-demographic groups would be beneficial. In addition, as outlined in the study limitations, validating a screening tool for subthreshold BPD would be advantageous. Contemporary research by Johnson and Levy (2020) found that subtypes of subthreshold BPD may exist, suggesting that further adaptations to the STEPPS-EI programme may be needed in an effort to personalise treatment based on presentation phenotype.

In summary, this evaluation has presented the preliminary evidence of STEPPS-EI in primary care. The promising results of recruitment, acceptability and overall effectiveness indicate that STEPPS-EI is a possible treatment to address the current gap in treatment provision for patients presenting in primary care settings with subthreshold BPD. However, more needs to be done to further understand this client group and how treatments can be adapted to meet their needs and therefore improve the overall retention rate. Future research is crucial to understanding this.

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Conflicts of interest. None.

Ethical statement. This evaluation was part of a wider service evaluation of STEPPS-EI within primary care, approved by the Clinical Audit Team for Sussex Partnership NHS Foundation Trust. Data analysed and collected were a part of routine data collection, with participants consenting for their anonymised data to be used for evaluation purposes.

Data availability. Anonymised data are available from the corresponding author upon reasonable request.

Supplementary material. To view supplementary material for this article, please visit: <https://doi.org/10.1017/S1754470X2100009X>

Key practice points

- (1) Screening for subthreshold BPD traits in primary care is essential to identify greater clinical need.
- (2) STEPPS-EI has potential to be a feasible treatment modality for individuals presenting with subthreshold BPD traits if issues with retaining participants are addressed.
- (3) Despite this, STEPPS-EI can significantly reduce symptoms of emotional intensity, depression and anxiety.
- (4) Prospective therapists may wish to focus on ways to increase the therapeutic alliance when forming a group to increase overall group retention.

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