

A Feasibility Study Highlighting Challenges in Evaluating a Structured, Psychological Treatment for Self-Harm in Adult Psychiatric Inpatient Settings

Abstract

Background: Despite being the most common reason for admission to psychiatric inpatient services, no evidence-based treatment currently exists for self-harm in this setting. Dialectical Behavioural Therapy (DBT) trials have found promising results in treating self-harm in outpatient settings; however findings for inpatient settings are still limited.

Method: A single-arm feasibility trial was conducted examining a DBT-informed ‘Coping with Crisis’ (CwC) group protocol, which focused on self-harm and crisis management strategies. Twenty-four participants were recruited from an inpatient ward in a National Health Service (NHS) Trust in the UK. The Inventory of Statements about Self-Injury and Distress Tolerance Scale were administered at baseline and post-therapy. Data was collected on the rates of recruitment, retention, session attendance, outcome measure completion, adverse events and participant feedback, in order to inform the design of a main study.

Results: Findings indicated that it was feasible to run the ‘CWC’ group and research study on an inpatient ward. However, there were several challenges in recruiting to target (80% achieved) and retaining participants (38% of consented participants completed). A number of implementation issues were identified and recommendations have been made

to inform future group and study designs.

Keywords: self-harm; feasibility; dialectical-behavioural therapy; inpatient

1. Introduction

The National Institute of Health and Clinical Excellence (NICE; 2011) in the UK defines self-harm as “self-poisoning or self-injury, irrespective of the apparent purpose of the act”. The definition used for this act by the American Psychiatric Association (APA) differs to that used in the UK by including the idea of suicidal intent, highlighting an area of contention in the self-harm literature. In 2013, the fifth version of the Statistical and Diagnostic Manual of Mental Disorders (DSM-5) from the APA included ‘nonsuicidal self-injury disorder’ (NSSID) in Section III as a discrete condition. The DSM-5 (APA, 2013) defines self-harm as “deliberate, self-inflicted harm that *isn't intended to be suicidal*”.

Graff and Mallin (1967) were among the first to recognise self-harm as a mental health condition. Since then, self-harm has become recognised as increasingly common (Perry et al., 2012). It has been associated with long-term difficulties (relationship breakdowns, housing or financial problems; Hawton, Zahl & Weatherall, 2003), mental health conditions (Haw et al., 2001; Meltzer et al., 2002) and a higher risk of completed suicide (Hawton, Saunders & O'Connor, 2012). More recently, the literature presents an alternative view of self-harm as a ‘positive experience’ (Edmondson, Brennan & House, 2016) and a strategy that helps people cope with difficult life experiences (James et al., 2017; Shaw & Shaw, 2012). Suicidal behaviours have not been described as a strategy to

cope, indicating one of the stark differences between the behaviours and supporting the need for separation in the development of treatment and research. Previous research also shows inconsistencies in defining self-harm and the debate about inclusion of suicidal behaviours have had a significant impact on the collection of self-harm data and the quality of research in this field (Muehlenkamp, 2005; Ougrin & Zundel, 2009; Turner, Austin, & Chapman, 2014; Washburn et al., 2012), which is an important consideration in research of this kind. This study will separate them and focus on self-harm behaviours in order to provide clarity in recommendations for treatment and further research.

The National Suicide Prevention Strategy for England (Her Majesty's Government Department of Health, 2012) suggests people who self-harm are at high-risk and subsequently in serious need of attention. National standards for inpatient care and recent research stipulate that therapeutic activities are crucial in treating people in psychiatric inpatient facilities (NICE, 2011; Beavon, Raphael & Shaygan, 2017; Bowers et al., 2015).

Over the last five decades, the psychiatric inpatient services in the UK have been 'deinstitutionalised', initiating a shift in treatment from hospital to community settings. Whilst, overall this process has been viewed as a positive one (Lakeman, McGowan & Walsh, 2007), it has also meant there has been a shift in focus and funding while demand for beds has not reduced (Gilbert, 2015). This has resulted in many wards being reported as "not safe, therapeutic or conducive to recovery" by patients and carers (Commission on Acute Adult Psychiatric Care, 2015) and often not cost effective due to the requirement of additional investment in community resources (Naylor & Bell, 2010). This shift has left inpatient services with little research, development or direction

(Bowers, 2005) and has meant delivering evidence-based treatment is difficult. In turn, research is practically very challenging to carry out in ward environments that are typically busy and chaotic (James et al., 2017; Roach et al., 2009). This may go some way to explain why no evidence-based treatment currently exists to treat self-harm behaviour in adults in an inpatient environment (Turner, Austin & Chapman, 2014; Winter et al., 2007).

Boyce et al. (2003) reported “no single treatment has confirmed superiority” for treating self-harm with a psychological intervention in any setting, but concluded, “DBT appears to confer most benefit”. Dialectical Behavioural Therapy (DBT) trials have found promising results in treating self-harm in outpatient settings (Linehan, 1993). More recently, there have been favourable results from a DBT-informed group in an inpatient setting (Booth et al., 2014; Gibson et al., 2014); however these were uncontrolled trials and the interventions were longer than the average length of stay on an inpatient ward and therefore not practically applicable.

The previous research on DBT-informed groups ran for 24 sessions over six weeks (Booth et al., 2014), recruited 114 participants in an inpatient setting. The Deliberate Self-Harm Inventory (DSHI; Gratz, 2001) was used to measure the frequency and severity of self-harm, which was included in a three-month follow-up post attendance to the group. The researchers found significantly decreased self-harm after the participants attended the group ($P = .01$). They concluded that this suggested a brief DBT-based group conducted on an inpatient ward could be effective in reducing self-harm. This study was the first to assess the impact of the DBT skills groups only; therefore, these results provided tentative evidence that groups alone may be enough to have a positive

impact on self-harm. Gibson et al. (2014) extended this study and included assessments on the impact on inpatients with BPD. They recruited a similar number of participants (N = 103), who consented to attend the 24 sessions of the LTD group over six-weeks. They found that when measured at three-months post-intervention, the self-harm was significantly reduced (P = 0.01). These findings add to the results of the study by Booth et al. (2014), suggesting that adding the LTD group to an inpatient's treatment plan reduced the rate of self-harm compared to treatment as usual (TAU). Gibson et al. (2014) reported a 73% retention rate, which is similar to previous inpatient research (Jacobsen et al., 2018; Wood et al., 2018). In addition, both these group programmes (Booth et al., 2014; Gibson et al., 2014) ran for longer than is practical on inpatient wards.

It was decided that the current study would aim to evaluate feasibility and acceptability of a novel transdiagnostic DBT-informed skills group (Linehan et al., 1991; Linehan 1993a,b) for adults who self-harm in a psychiatric inpatient setting. Firstly, an aim was set to obtain more than 70% retention rate. Due to the flexible nature of the intervention, with patients being able to attend as many or few groups as they wished, participant engagement was defined by attendance to at least one therapy group, similar to previous inpatient research (Paterson, 2018). Secondly, an aim was set to run groups to fit *within the average length of stay*. The treatment modality included four standalone group sessions conducted within a two-week period, a timeframe chosen because the average psychiatric inpatient admission is 31 days (NHS Benchmarking, 2018).

The treatment protocol differs from previous studies in that it is a shorter transdiagnostic group programme, aimed at female *and* male inpatients who self-harm. The group aimed to provide the participants with coping strategies derived from

Linehan's (2014) DBT Skills Training Handouts and Worksheets manual, with the aim of equipping them to manage times of crisis.

The aims for this feasibility study were:

- 1) To determine the number of eligible participants who are screened, recruited and accept the current treatment within this setting.
- 2) To determine the extent of participant engagement to the psychological groups (aim was set to obtain more than 70% retention rate, defined by engaging in at least one therapy group).
- 3) To obtain means and a standard deviation for the outcome measures in order to estimate sample size for large-scale trials.
- 4) To determine suitability of a compact group skills programme.

2. Method

2.1 Design

A single-arm feasibility trial was conducted to examine the feasibility and acceptability of the DBT-informed Coping with Crisis (CWC) intervention. This study followed guidance outlined by the Consolidated Standards for Reporting Trials (CONSORT) for feasibility trials (Eldridge et al., 2016). As the aim of this study was to examine feasibility and acceptability, a randomised controlled trial (RCT) was not required and thus a single-arm trial was conducted to maximise the number of participants accessing the intervention (Eldridge et al., 2016). Health Research Authority

and NHS Research Ethics Service (NRES) approval was granted prior to the commencement of this study. The study process is outlined in figure 1.

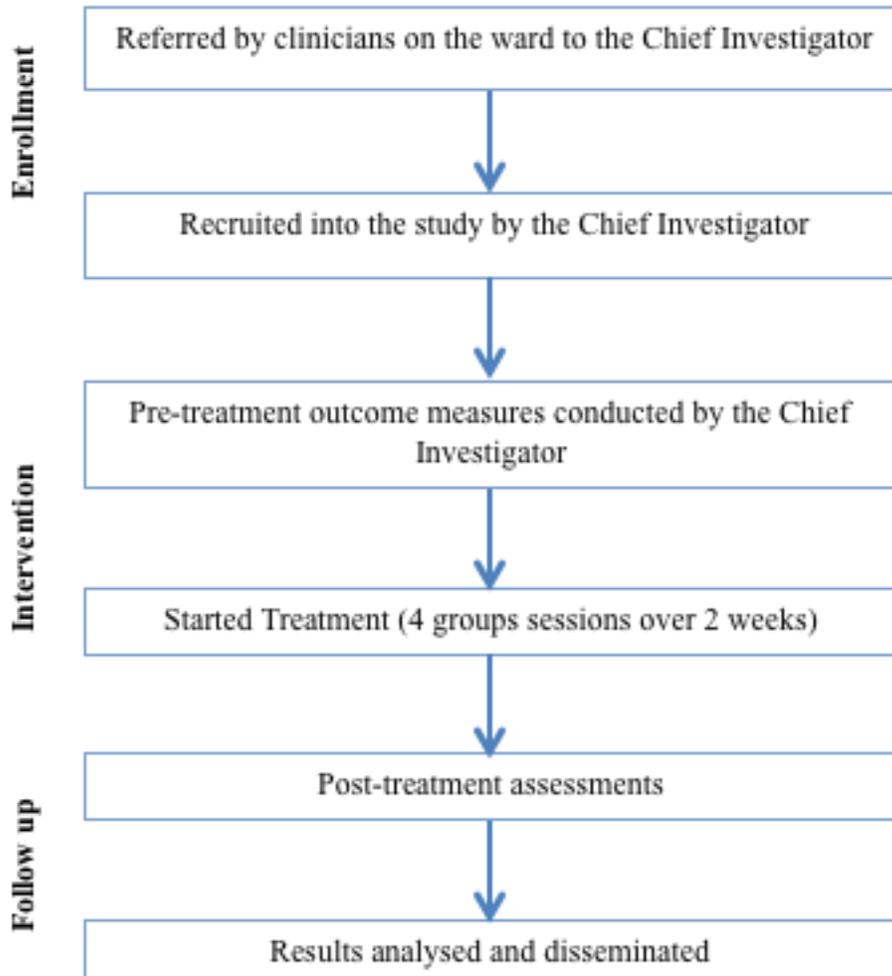


Figure 1. *Flow diagram of study procedure.*

2.2 Participants

The setting for the research was a mental health inpatient unit, in an outer London hospital. Patients were recruited from five inpatient wards, and were either informal or

formally detained under the Mental Health Act (Bluglass & Beedie, 1983).

Participants were included if they; i) were aged between 18-65 years, ii) admitted to a mental health inpatient hospital, iii) had a history of or at least one episode of self-harm, and iv) had capacity to consent (determined by their ability to understand the information sheet). They were excluded if; i) they were non-English speakers (due to translation costs), ii) they lacked the capacity to give informed consent, which was assessed on an on-going basis by the researcher (the participants were given the opportunity not to attend the groups or complete the forms at all times) and iii) if their symptoms prevented them from concentrating for an hour at a time (i.e. severe thought disorder).

2.3 Sample size

This feasibility study aimed to recruit 30 participants. Sample sizes of 24-50 have been determined as suitable to meet the requirements of a feasibility study (Browne, 1995; Julious, 2005; Lancaster, Dodd & Williamson, 2004; Sim & Lewis, 2012).

2.4 Measures

Two standardised self-report measures were used at baseline and post-therapy. 'The Inventory of Statements About Self-Injury' (ISAS; Klonsky & Glenn, 2009) is a 46 item self-report measure, with two additional optional items, designed to assess the function and frequency of self-harm previously reported in the literature (Klonsky, 2007). 'The Distress Tolerance Scale' (DTS; Simons & Gaher, 2005) was used to assess distress tolerance called the 'Distress Tolerance Scale' (DTS; Simon & Gaher, 2005). The DTS consists of 15 items, which measures participants' appraisal of their emotional distress,

their ability to tolerate this distress and any regulation efforts to alleviate it.

In terms of feasibility measures, participant demographics were taken to examine the age, education, ethnicity, gender, employment status, diagnoses, medication, previous treatment, previous hospital admissions and mean length of stay in hospital. A feasibility measure was developed to collect key other feasibility outcomes including rates of recruitment, participant engagement, session attendance, outcome measure completion, adverse events and participant feedback on the study and treatment. A qualitative feedback questionnaire, based on one developed by Wood et al. (2017), provided participants with the opportunity to give their views on both the acceptability and usefulness of the therapy groups and research process including suitability of outcome measures was also used. These questionnaires asked what they found helpful and unhelpful.

2.5 Intervention

The intervention was developed following complex intervention guidelines outlined by the Medical Research Council (Craig et al., 2008). Four novel transdiagnostic, one-hour, standalone group sessions based on DBT skills were developed. Initially, systematic review of relevant literature was examined to identify relevant group protocols which would inform the research (Booth et al., 2014; Gibson et al., 2014; Linehan et al., 2006). The protocol was informed by Marsha Linehan's (1993) DBT manual. Permission to copy handouts and worksheets from 'DBT Skills Training Handouts and Worksheets' by Marsha Linehan (2014) was given for the purpose of this study. The first draft of the group protocol was developed by the author in consultation with a clinical psychologist /

DBT practitioner (fully trained and certified in DBT) who advised on the skills and group content. Clinical psychologists at the hospital where the study was planned to take place, who have extensive experience with the client group under study, were sent the initial draft for review. Following feedback from the clinical psychologists, the protocol was adapted in order to enable assistants to facilitate.

The skills included in the group protocol included mindfulness focusing on i) operating from 'wise mind', ii) observing skills, iii) describing skills, iv) participating skills, all underlined with the skill of being non-judgmental and not self-critical. Reflection on the mindfulness was a part of these sections, which aids the teaching of mindfulness (this took 15 minutes of the group). For the remaining 45 minutes of the groups 'Distress Tolerance' (DT) and 'Emotional Regulation' (ER) skills were included using the following skills; labelling emotions, STOP skill, (acting opposite), coping strategies (pros and cons, building mastery, taking care of the body), self-soothing (five senses), crisis survival strategies (contingency plan). The final iteration of the intervention was developed so it could be delivered by assistant psychologists, as well as qualified psychologists.

3. Results

3.1 Aim 1; To determine the number of participants screened and recruited to the study.

In order to determine the number of eligible participants who are screened, recruited and accepted the treatment, a pre-determined recruitment window was set at six months, which is in line with relevant research (Wood et al., 2017). In this time, the study was

able to recruit a total of 24 participants. Demographics for these participants are outlined in table 1. This was 80% of the target sample size (30 participants).

Table 1

Sample characteristics at baseline (characteristic / gender)

Characteristic	Gender		Total (n = 24)
	Male (n = 17)	Female (n = 7)	
Mean age in years (SD): (8.8)	38.8 (5.7)	37.4 (14.3)	36.3
Age range in years: 21-55	21-55	25-48	
Ethnicity: n (%)			
(71%) White British	14 (82%)	3 (43%)	17
'Mixed' ethnicity	0	2 (29%)	2 (9%)
Black British	0	1 (14%)	1 (4%)
Pakistani	1 (6%)	0	
1 (4%)			
White European	1 (6%)	0	1 (4%)
Jamaican	1 (6%)	0	
1 (4%)			
Polish	0	1 (14%)	1 (4%)
Education: n (%)			
Primary	0	1 (14%)	1 (4%)
Secondary School	4 (25%)	4 (57%)	17 (71%)
O-Levels / GCSEs	11 (65%)	2 (29%)	13
(54%)			
A-Levels	2 (12%)	0	2 (9%)
Marital Status: n (%)			
(71%) Single	13 (76%)	4 (57%)	17
Married	2 (9%)	2 (29%)	4 (17%)
Engaged	1 (6%)	0	1 (4%)
Divorced	0	1 (14%)	1 (4%)
Separated	1 (6%)	0	
1 (4%)			
Employment status: n (%)			
Unable to work	2 (29%)	4 (57%)	9 (38%)
Out of work	4 (25%)	2 (28%)	6 (25%)
Employed	7 (41%)	1 (14%)	8 (33%)
Self-employed	1 (6%)	0	1 (4%)
Diagnosis: n (%)			
BPD	3 (18%)	3 (44%)	6 (25%)
Psychosis	3 (18%)	2 (28%)	5 (21%)
Not known	2 (11%)	2 (28%)	4 (17%)

Depression	5 (29%)	0	5 (21%)
No diagnosis	2 (12%)	0	2 (8%)
Anxiety	1 (6%)	0	1 (4%)
ASC	1 (6%)	0	
1 (4%)			
Medication:			
Yes	13 (76%)	5 (71%)	18 (75%)
Mean stays in current hospital stay (SD):	20 (SD, 36)	66 (SD, 41)	31 (SD, 42)
Previous admission:			
Yes	11 (65%)	6 (86%)	17 (71%)
More than 5 previous admissions	4 (24%)	5 (71%)	9 (38%)
Mean length of previous stay	30 (SD, 19)	66 (SD, 41)	44 (SD, 33)
Previous talking therapies			
Yes	7 (41%)	6 (86%)	13 (54%)

Notes. BPD = Borderline Personality Disorder, ASC = Autism Spectrum Disorder

Participant flow is outlined in figure 2. Of the 63 people who were referred by clinicians as eligible for the self-harm intervention over the recruitment period, 43 people (68%) agreed to meet with a researcher and 20 people (32%) did not. The reasons for not obtaining consent to meet with a researcher from these 20 people can be split into two; those who actively declined to meet with the researcher (two people, 10%) and those who were not available to be asked because they were either on leave, discharged or asleep (18 people, 90%).

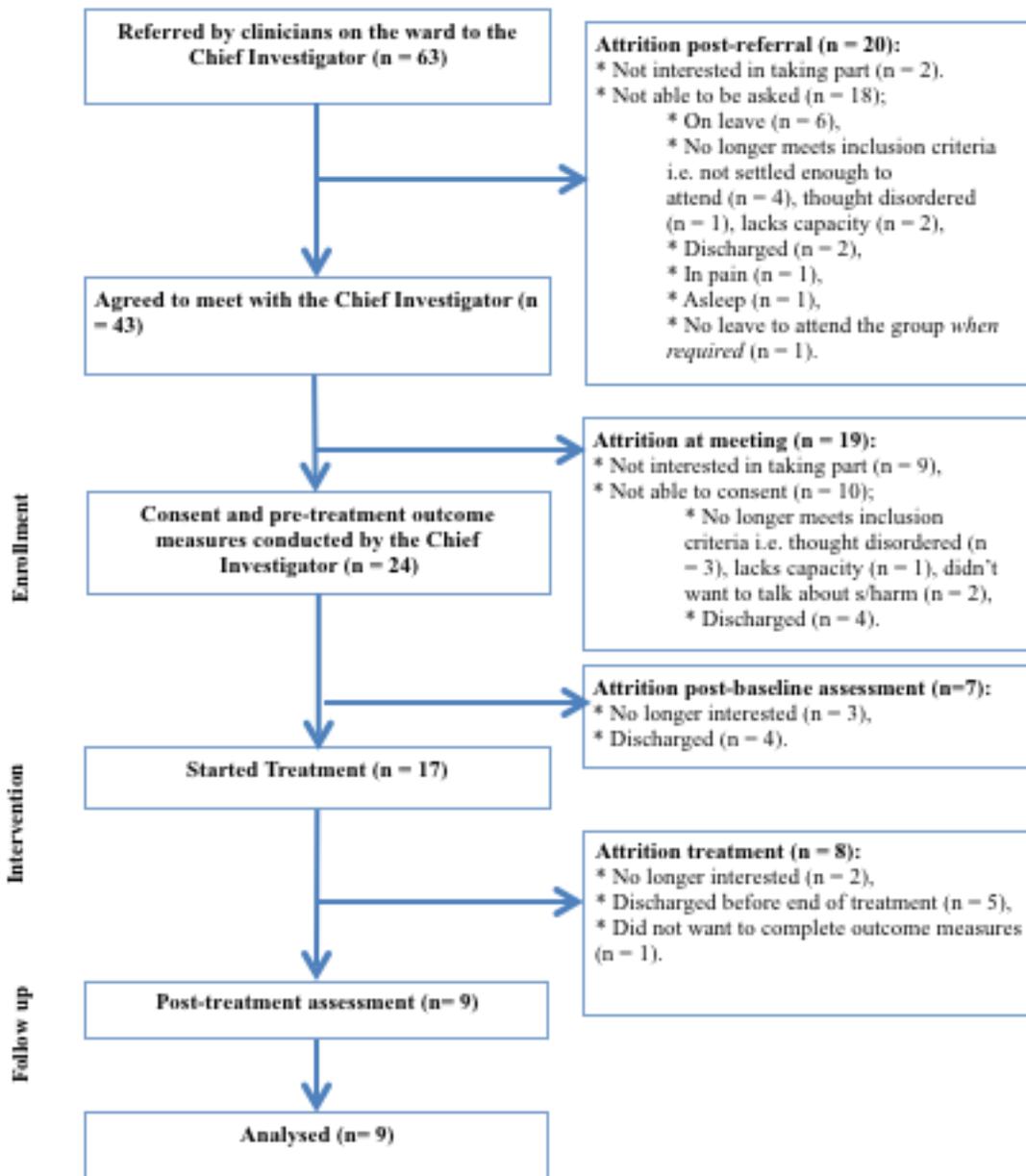


Figure 2. Flow diagram of participants progressing through the study.

Of the people who agreed to meet with the researcher (n=43), 24 people (56%) agreed to consent and complete the outcome measures. Of the 19 people (44%) who did not consent to take part when at the researcher meeting, nine people (47%) expressed that they were not interested in taking part in the group and 10 people (53%) were not able to

take part. From these 10 people who were not able to take part, six people (60%) no longer met the inclusion criteria (one person lacked capacity, three people presented with thought disorder, two people did not want to talk about their self-harm), four people (40%) were being discharged the same day or following day.

3.2 Aim 2; To determine participant engagement with the psychological groups.

In order to determine participant engagement to the groups, attendance records were kept. Out of the 24 people who were consented to start the groups, 71% of participants attended at least one group, in line with previous retention rates to programmes of this kind (Gibson et al., 2014) and indicating feasibility of participant recruitment and engagement. Two people (8%) attended all four groups, three participants (13%) attended three groups, seven participants (29%) attended two groups, five participants (21%) attended one group only and seven participants (29%) did not attend any groups after consenting to take part.

Overall, being discharged from the ward accounted for the most common reason people did not attend the groups (45%). Being tired or unmotivated to take part accounted for the next highest reason people excused themselves from groups (27%), followed by people having other commitments, such as meetings or being on leave from the ward (23%) and lastly the deterioration of mental state prevented one person from attending groups (5%).

A further eight people (33%) dropped out during treatment. From the people who dropped out during treatment (n=8), five people (63%) were discharged, two people (25%) were 'no longer interested', and one person (12%) did not want to complete the

outcome measures.

3.3 Aim 3; To obtain statistics for the outcome measures.

In order to obtain means and a standard deviation for the outcome measures all 24 participants were asked to complete both pre and post outcome measures. However, only nine participants (38%) completed post-intervention outcome measures, which meant 15 participants (62%) were not able to complete these. Of these 15 participants, six people (40%) decided not to complete the measures despite remaining on the ward for treatment, eight people (53%) were discharged before they were asked to complete the measures, one person (7%) was not able to due to deterioration in their mental state. Given the low post-intervention measures completion rates (38%), resulting in a high level of missing data, the analysis of the pre and post outcome measures was limited to descriptive statistics.

If the participants endorsed at least one form of self-harm on the ISAS (Klonsky & Glenn, 2009) they were asked to complete section two of the ISAS. Twenty-three participants (96%) completed this section at baseline and nine (38%) participants completed this section post-intervention.

The statements measure thirteen different functions of self-harm. Table 2 summarises the descriptive data obtained from both outcome measures. This table includes the mean and standard deviations of each module in the DTS (tolerance, absorption, appraisal and regulation) and function in the ISAS (affect regulation, interpersonal boundaries, self-punishment, self-care, anti-dissociation, anti-suicide, sensation seeking, peer-bonding, interpersonal influence, toughness, marking distress, revenge and autonomy).

3.4 Aim 4; To determine acceptability of group skills programme.

The suitability of the compact group skills programme was assessed using adverse events recording and feedback questionnaires. In order to do this, clinicians were asked to monitor any adverse events for participants during the group intervention period. This practice is used to assess any potential (unexpected) impact or risk and to assess the feasibility of using the forms for a larger trial. No adverse events were reported.

The questions used in the feedback questionnaire were related to whether the group intervention and research process under investigation was feasible from the point of view of participants attending the group. Inductive content analysis (Cole, 1988; Harwood & Garry, 2003) was chosen so that a systematic approach could be taken to analysing the open-ended questions provided in the feedback questionnaire. All nine participants who completed the post-intervention outcome measures also completed the feedback questionnaire.

The feedback questionnaire started by asking participants what they found helpful about the 'CwC' therapy groups. Three people (33% of respondents) named "mindfulness" as a helpful aspect of the group intervention, one person (11%) named 'distress tolerance cards', and two people (22%) reported the "strategies" given overall were helpful. These answers demonstrate that participants found the *strategies* within the intervention particularly helpful, rather than other aspects of the group process, such as the sharing / hearing of the experiences of others.

Next, the participants were asked what they found unhelpful about the group intervention. Out of the nine people who agreed to fill in the questionnaire, five people (56%) left this question blank, three people (33%) answered 'nothing' was unhelpful and

one person named mindfulness as not very helpful. This demonstrates that most of the participants (88%) who contributed to the feedback could not name any part of the intervention that was unhelpful. Only one person (11%) felt that mindfulness was unhelpful.

When asked what could be improved in the intervention, three participants did not respond (33%), two (22%) said no improvement was needed, two people (22%) felt that the group did not feel safe at times, one person (11%) said they would like more individual help and one person (11%) thought there should be more content about self-harm. The highest number of participants (33%) did not respond with any suggestions about how the group could be improved, which could indicate that people did not think there was any way the content could be improved, or that they could not think of any ways it could be improved. Four people (44%) gave responses that made suggestions about possible improvements to the group compared to three people (33%) responding that no improvement was needed.

The questionnaire went on to ask how many times the participants had harmed themselves since completing the group intervention. Most of the participants (five people, 56%) said that they had not harmed themselves since attending the groups. Two people (22%) did not respond to this question, one person (11%) said twice and one person (11%) said 10 times.

The next question asked whether the participants thought they had been able to manage difficult times differently since completing the groups. Three people (33%) did not respond, three people (33%) said they had managed to react differently to difficult experiences, two people (22%) said 'no' and one person said they had 'not yet' managed

to respond differently. If the respondents had said “yes” to the previous question (above), they were then asked *how* they had managed things differently since the group ended. Three people (33%) said “yes” to the previous question and all of them responded to the next question. Participant 13 wrote; “I no longer feel affected by voices”, participant 42 wrote that their “feelings of suicide have gone”, and participant 58 was hopeful that the “reminders” provided by the group “will help me”. Participants 13 and 42 referred in this question to their “voices” and “feelings of suicide” no longer being present. This could be an indication that the group helped them with the reduction of these symptoms, but they did not directly refer to the group in this way.

4. Discussion

This project demonstrated outcomes in line with previous research (James et al., 2017; Roach et al., 2009) in that conducting the project in a ward environment was challenging. Several difficulties with recruiting participants to the study were identified during the recruitment period, so adaptations were made to the methods. The means, standard deviations and effect size were calculated for the two outcome measures, however given the paucity of data obtaining robust effect sizes for future trials was not possible. The acceptability of the research process and group were analysed; there were no adverse events recorded. The participant feedback gave the participants an opportunity to voice any concerns they had about the study, unfortunately this could only be completed by 38% of the full sample in this study.

4.1 Adaptations to recruitment method and group process

The study found that there were three initial factors affecting recruitment, including i) availability of the study team, ii) screening methods, and iii) inconsistencies with the conceptualisation of self-harm by patients and clinicians.

Firstly, availability was improved by training assistant psychologists to run groups and making groups 'stand-alone' so that participants could join at any point. Secondly, attention was paid to how the participants were screened, in particular the clinician confusion about whether suicide attempts were to be included in 'self-harm behaviours'. This study found that clinicians on this UK ward tended towards the US guidance by distinguishing between the two behaviours (self-harm and suicide attempt), consequently eligible participants were missed, supporting previous research findings that definition discrepancies cause problems in conducting research and producing evidence-based treatment (Muehlenkamp, 2005; Ougrin & Zundel, 2009; Turner, Austin, & Chapman, 2014; Washburn et al., 2012). In addition, patients were found to deny harming themselves, despite it clearly being stated in their notes. This instigated concerns about the language around self-harm putting potential participants off taking part in the study and language was adapted accordingly.

4.2 Strengths and limitations of the study

This study had a number of strengths. First, the trial protocol was registered before recruitment began (ClinicalTrials.gov; no.: 205350). Secondly, the study closely followed CONSORT guidelines (Eldridge et al., 2016) for feasibility studies to ensure methodological rigor.

This study sought to highlight and make progress in developing an evidence-based

treatment for self-harm, which is currently untested in an inpatient setting. In order to meet this aim, a novel psychological intervention for self-harm was designed with input from experienced clinical psychologists and run with participants, demonstrating it does not produce adverse effects and is acceptable to the facilitators and participants.

Although not required for a feasibility study (CONSORT guidelines; Eldridge et al., 2016), the main limitations of this study are the lack of randomisation, a control group, and follow-up data collected.

A further limitation was the lack of monitoring of confounding factors relating to inpatient treatment. Inpatients are in receipt of inpatient treatment to reduce their self-harm and suicidality (Bowers et al., 2005), as such their mental health crisis is likely to improve the longer they are residing there (Bland & Altman, 1994). This being the case, the impact of factors such as these largely remains unknown and therefore the results should be viewed with caution.

In addition, two weeks is not a suitable time frame in which to comprehensively assess the impact of a psychological group. Further research should include follow-up on self-harm rates in the community, post-discharge to monitor impact of the treatment out of a supervised environment of an inpatient ward. Data from emergency departments before and after the admission to hospital could be used to determine the impact of the treatment given in hospital. Data should also be collected to assess how likely these patients are to engage in treatment following a hospital admission.

4.3 Implications of findings

The findings can increase awareness of the challenges of inpatient research and

possibilities for overcoming these. The adaptations made to the design provide information for future research studies, particularly in the field of self-harm and inpatient research. Overall, the study met the original aims of furthering understanding of the challenges of research of this kind in order to design and conduct a larger trial to assess the efficacy of a self-harm intervention on an inpatient ward.

One finding in this research was unexpected discharge from the ward accounted for the most common reason people did not attend the groups (45%). With the national drive towards ‘deinstitutionalisation’ of psychiatric services and funding being focused into community settings (Lakeman, McGowan & Walsh, 2007), it could be argued that it is reasonable that stays are short. However, one of the main reasons for admitting a patient is if they are at risk of harm to themselves or others (Bowers et al., 2005). This means patients are admitted at a time of crisis and as soon as the crisis has ‘settled’, they are moved back (without substantial prior warning or possibly sufficient treatment) to where the crisis had occurred. The current evidence suggests that for someone who self-harms early experiences have often been chaotic, meaning a lower capacity for tolerating distress (Linehan, 1993a). Therefore, the impact of the drive for community-based treatments and the resulting unpredictability of where one is residing should be considered more carefully. Given that national standards for inpatient care and recent research stipulate that therapeutic activities are crucial in treating people in psychiatric inpatient facilities (NICE, 2011; Beavon, Raphael & Shaygan, 2017; Bowers et al., 2015), the demand for beds has not reduced (Gilburt, 2015) and community treatment is often not cost effective (Naylor & Bell, 2010), this research would recommend that more focus is devoted to ensuring evidence-based research and treatment is present on inpatient

wards in the UK. This may mean that patients stay for longer on wards to receive the recommended treatment before returning to the community settings.

4.4 Future research

There are a number of practical issues raised by this study that future research should address. Firstly, to increase the recruitment, research should provide education for clinical staff about self-harm, how to screen participants, and intervene before discharge to collect measures and feedback. In order for this to happen, the whole MDT need to prescribe to ensuring treatment planning and care provision is following national standards (NICE, 2011; Beavon, Raphael & Shaygan, 2017) for inpatient treatment, which include delivery of evidence-based psychological therapies. An additional measure to assess the severity of their symptoms, including thought disorder, such as 'The Positive and Negative Syndrome Scale' (PANNS; Kay, Fiszbein, & Opler, 1987) could also be used to reliably determine the presence of this rather than relying on diagnosis and clinician assessment.

Secondly, to increase the reliability of the primary outcome data the repetition of self-harm should be collected through clinicians as well as self-report data for an accurate number of self-harm episodes.

Thirdly, future research should collect data from patients who have been discharged back to the community in order to better reflect the efficacy of an inpatient treatment aimed at reducing self-harm, particularly where the participants are in a supervised environment such as an inpatient ward.

Furthermore, it would be beneficial for future research to explore the ways in which

service users define their own behaviours. This research could aid a wider initiative for improved understanding among clinical staff and researchers of self-harm behaviours and introduce a wider conceptualisation that would move towards a more individual-focused understanding. Service-user led research has criticised the current evidence-base that informs the policy-making for being over reliant on studies that have carried out research 'on' people who self-harm with a focus on managing and preventing self-harm in a medical way (Hume & Platt, 2007).

Conclusion

This feasibility study evaluated whether an intervention for self-harm in an inpatient setting can be run and successfully provided insight to the feasibility and acceptability of the intervention. Importantly, key barriers were identified which can be used to inform future research in the development of evidence-based inpatient treatment.

Funding Information

This work was sponsored by the University of Essex as part of a doctoral thesis. Funding source had no involvement in the study design, data collection, analysis, interpretation, writing or the decision for it to be submitted for publication.

References

- Beavon, M., Raphael, H., & Shaygan, S. (2017). *Accreditation for Inpatient Mental Health Services: standards for acute inpatient services working-age adults (AIMS-WA) – 6th Edition*. London: Royal College of Psychiatrists.
- Bland, J. M., & Altman, D. G. (1994). Statistics notes: some examples of regression towards the mean. *Bmj*, *309*(6957), 780. doi: 10.1136/bmj.309.6957.780.
- Bluglass, R., & Beedie, M. A. (1983). Mental Health Act 1983. *British Medical Journal (Clinical research ed.)*, *287*(6388), 359.
- Booth, R., Keogh, K., Doyle, J., & Owens, T. (2014). Living through distress: a skills training group for reducing deliberate self-harm. *Behavioural and cognitive psychotherapy*, *42*(02), 156-165. doi: 10.1017/S1352465812001002.
- Bowers, L. (2005). Reasons for admission and their implications for the nature of acute inpatient psychiatric nursing. *Journal of Psychiatric and Mental Health Nursing*, *12*(2), 231-236. doi: 10.1111/j.1365-2850.2004.00825.x.
- Bowers, L., James, K., Quirk, A., Simpson, A., Stewart, D. & Hodsoll, J. (2015). Reducing conflict and containment rates on acute psychiatric wards: The Safewards cluster randomised controlled trial. *International Journal of Nursing Studies*, *52*, 1412–1422. doi: 10.1016/j.ijnurstu.2015.12.006
- Boyce, P., Carter, G., Penrose-Wall, J., Wilhelm, K., & Goldney, R. (2003). Summary Australian and New Zealand clinical practice guideline for the management of adult deliberate self-harm. *Australasian Psychiatry*, *11*, 150-155. doi: 10.1046/j.1039-8562.2003.00541.x.
- Browne, R. H. (1995). On the use of a pilot sample for sample size determination. *Statistics in medicine*, *14*(17), 1933-1940. doi: 10.1002/sim.4780141709
- Clements, C., Turnbull, P., Hawton, K., Geulayov, G., Waters, K., Ness, J., ... & Kapur, N. (2016). Rates of self-harm presenting to general hospitals: a comparison of data from the Multicentre Study of Self-Harm in England and Hospital Episode Statistics. *British Medical Journal open*, *6*(2), e009749.
- Cole, F. L. (1988). Content analysis: process and application. *Clinical Nurse Specialist*. *2*(1), 53–57.
- Commission on Acute Adult Psychiatric Care. (2015). *Improving Acute Inpatient Psychiatric Care for Adults in England: Interim Report*. London: The Commission

on Acute Adult Psychiatric Care. Available at: www.caapc.info/ (accessed on 9th September 2019)

Craig, P., Dieppe, P., Macintyre, S., Michie, S., Nazareth, I., Petticrew, M., & Medical Research Council Guidance (2008). Developing and evaluating complex interventions: the new Medical Research Council guidance. *BMJ (Clinical research ed.)*, 337, a1655. doi:10.1136/bmj.a1655

Department of Health. (2011). 2010/11 working age adult and older adult National Survey of investment in Adult Mental Health Services. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/216591/dh_130861.pdf

Department of Health Statistics SD2 HES. (1998). *Hospital Episode Statistics*. London: Stationary Office.

Edmondson, A. J., Brennan, C. A., & House, A. O. (2016). Non-suicidal reasons for self-harm: A systematic review of self-reported accounts. *Journal of Affective Disorders*, 191, 109-117. doi: org/10.1016/j.jad.2015.11.043

Eldridge, S. M., Chan, C. L., Campbell, M. J., Bond, C. M., Hopewell, S., Thabane, L., & Lancaster, G. A. (2016). CONSORT 2010 statement: extension to randomised pilot and feasibility trials. *Pilot and feasibility studies*, 2(1), 64. doi: 10.1186/s40814-016-0105-8.

Faulkner, A. & Thomas P (2002). User-led research and evidence-based medicine. *British Journal of Psychiatry*, 180: 1-3. doi: 10.1192/bjp.180.1.1.

Gibson, J., Booth, R., Davenport, J., Keogh, K., & Owens, T. (2014). Dialectical behaviour therapy-based skills training for deliberate self-harm: A controlled trial with 3-month follow-up data. *Behaviour research and therapy*, 60, 8-14. doi: 10.1016/j.brat.2014.06.007.

Gilburt, H. (2015). *Mental health under pressure*. London: The Kings Fund.

Graff, H., & Mallin, R. (1967). The syndrome of the wrist cutter. *American Journal of Psychiatry*, 124(1), 36-42.

Haw, C., Hawton, K., Houston, K., & Townsend, E. (2001). Psychiatric and personality disorders in deliberate self-harm patients. *The British Journal of Psychiatry*, 178(1), 48-54. doi: 10.1192/bjp.178.1.48.

- Harwood, T. G. & Garry, T. (2003). An overview of content analysis. *The Marketing Review*, 3, 479–498.
- Hawton, K., Saunders, K. E., & O'Connor, R. C. (2012). Self-harm and suicide in adolescents. *The Lancet*, 379(9834), 2373-2382. doi: 10.1016/S0140-6736(12)60322-5.
- Hawton, K., Zahl, D. & Weatherall, R. (2003). Suicide following deliberate self-harm: long-term follow-up of patients who presented to a general hospital. *British Journal of Psychiatry*, 182, 537–542.
- Health and Social Care Information Centre (2014). *Mental Health Bulletin; Annual report from MHMDS returns 2013-2014*. Available at <http://digital.nhs.uk/catalogue/PUB15990/mhb-1314-ann-rep.pdf>
- Her Majesty's Government and Department of Health. (2012). *Preventing Suicide in England: A Cross-Government Outcomes Strategy to Save Lives*. London, UK: Her Majesty's Government and Department of Health.
- Hume, M., & Platt, S. (2007). Appropriate interventions for the prevention and management of self-harm: a qualitative exploration of service-users' views. *BMC Public Health*, 7(1), 9. doi: 10.1186/1471-2458-7-9.
- Jacobsen, P., Hodkinson, K., Peters, E., & Chadwick, P. (2018). A systematic scoping review of psychological therapies for psychosis within acute psychiatric in-patient settings. *The British Journal of Psychiatry*, 213(2), 490-497.
- Jacobson, C. M., Muehlenkamp, J. J., Miller, A. L., & Turner, J. B. (2008). Psychiatric impairment among adolescents engaging in different types of deliberate self-harm. *Journal of Clinical Child & Adolescent Psychology*, 37(2), 363-375. doi: 10.1080/15374410801955771.
- James, K., Stewart, D., & Bowers, L. (2012). Self-harm and attempted suicide within inpatient psychiatric services: A review of the Literature. *International journal of mental health nursing*, 21(4), 301-309. doi: 10.1111/j.1447-0349.2011.00794.
- James, K., Samuels, I., Moran, P., & Stewart, D. (2017). Harm reduction as a strategy for supporting people who self-harm on mental health wards: the views and experiences of practitioners. *Journal of affective disorders*, 214, 67-73. doi: org/10.1016/j.jad.03.002

- Johnson, D. M., Shea, M. T., Yen, S., Battle, C. L., Zlotnick, C., Sanislow, C. A., ... & Gunderson, J. G. (2003). Gender differences in borderline personality disorder: Findings from the Collaborative Longitudinal Personality Disorders Study. *Comprehensive Psychiatry*, *44*(4), 284-292. doi: 10.1016/S0010-440X(03)00090-7.
- Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational researcher*, *33*(7), 14-26.
- Julious, S. A. (2005). Sample size of 12 per group rule of thumb for a pilot study. *Pharmaceutical Statistics*, *4*(4), 287-291. doi: 10.1002/pst.185.
- Kapur, N., Gunnell, D., Hawton, K., Nadeem, S., Khalil, S., Longson, D., ... & Cooper, J. (2013). Messages from Manchester: pilot randomised controlled trial following self-harm. *The British Journal of Psychiatry*, *203*(1), 73-74. doi: 10.1192/bjp.bp.113.126425.
- Kawanishi, C., Aruga, T., Ishizuka, N., Yonemoto, N., Otsuka, K., Kamijo, Y., ... & Hitomi, Y. (2014). Assertive case management versus enhanced usual care for people with mental health problems who had attempted suicide and were admitted to hospital emergency departments in Japan (ACTION-J): a multicentre, randomised controlled trial. *The Lancet Psychiatry*, *1*(3), 193-201. doi: 10.1016/S2215-0366(14)70259-7.
- Kay, S. R., Fiszbein, A., & Opler, L. A. (1987). The positive and negative syndrome scale (PANSS) for schizophrenia. *Schizophrenia bulletin*, *13*(2), 261-276.
- Kern, R. S., Kuehnel, T. G., Teuber, J., & Hayden, J. L. (1997). Multimodal cognitive-behavior therapy for borderline personality disorder with self-injurious behavior. *Psychiatric services*, *48*(9), 1131. doi: 10.1176/ps.48.9.1131.
- Kerr, P. L., Muehlenkamp, J. J., & Turner, J. M. (2010). Nonsuicidal self-injury: a review of current research for family medicine and primary care physicians. *The Journal of the American Board of Family Medicine*, *23*(2), 240-259. doi: 10.3122/jabfm.2010.02.090110.
- Khan, K. S., Ter Riet, G., Glanville, J., Sowden, A. J., & Kleijnen, J. (2001). *Undertaking systematic reviews of research on effectiveness: CRD's guidance for carrying out*

- or commissioning reviews (No. 4, 2nd Edition). NHS Centre for Reviews and Dissemination.
- Klonsky, E. D. (2007). The functions of deliberate self-injury: A review of the evidence. *Clinical Psychology Review, 27*, 226-239. doi: 10.1016/j.cpr.2006.08.002.
- Klonsky, E. D., & Glenn, C. R. (2009). Assessing the functions of Deliberate self-harm: Psychometric properties of the Inventory of Statements About Self-injury (ISAS). *Journal of Psychopathology and Behavioral Assessment, 31*(3), 215-219. doi: 10.1007/s10862-008-9107-z.
- Klonsky, E. D., May, A. M., & Glenn, C. R. (2013). The relationship between nonsuicidal self-injury and attempted suicide: converging evidence from four samples. *Journal of Abnormal Psychology, 122*(1), 231. doi: 10.1037/a0030278.
- Klonsky, E. D., & Muehlenkamp, J. J. (2007). Self-injury: A research review for the practitioner. *Journal of Clinical Psychology, 63*(11), 1045-1056. doi: 10.1002/jclp.20412.
- Klonsky, E. D., Oltmanns, T. F., & Turkheimer, E. (2003). Deliberate self-harm in a nonclinical population: Prevalence and psychological correlates. *American Journal of Psychiatry, 160*(8), 1501-1508. doi: 10.1176/appi.ajp.160.8.1501.
- Lakeman, R., McGowan, P., & Walsh, J. (2007). Service users, authority, power and protest: A call for renewed activism. *Mental Health Practice, 11*(4), 12-16.
- Lancaster, G. A., Dodd, S. & Williamson, P. R. (2004). Design and analysis of pilot studies: recommendations for good practice. *J Eval Clin Practice, 10*:307-312. doi: 10.1111/j..202.384.doc.x.
- Linehan, M. M. (1993). *Cognitive Behavioural Treatment of Borderline Personality Disorder*. New York; Guildford.
- Linehan, M. M. (1993a). Dialectical behavior therapy for treatment of borderline personality disorder: implications for the treatment of substance abuse. *NIDA research monograph, 137*, 201-201.
- Linehan, M. M. (1993b). *Skills Training Manual for Treating Borderline Personality Disorder*. New York: Guilford Press.
- Linehan, M. M. (2014). *DBT skills training manual*. New York: Guilford Publications.
- Linehan, M. M., Armstrong, H. E., Suarez, A., Allmon, D., & Heard, H. L. (1991).

- Cognitive-behavioral treatment of chronically parasuicidal borderline patients. *Archives of general psychiatry*, 48(12), 1060-1064. doi: 10.1001/archpsyc.1991.01810360024003.
- Low, G., Jones, D., Duggan, C., Power, M., & MacLeod, A. (2001). The treatment of deliberate self-harm in borderline personality disorder using dialectical behaviour therapy: A pilot study in a high security hospital. *Behavioural and cognitive psychotherapy*, 29(01), 85-92. doi: 10.1017/S1352465801001096.
- McAllister, M. (2003). Multiple meanings of self harm: A critical review. *International journal of mental health nursing*, 12(3), 177-185. doi: 10.1046/j.1440-0979.2003.00287.x.
- Meltzer, H., Lader, D., Corbin, T., Singleton, N., Jenkins, R., & Brugha, T. (2002). *Non-fatal suicidal behaviour among adults aged 16 to 74*. Great Britain: Stationery Office.
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Prisma Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *PLoS medicine*, 6(7). doi: 10.1371/journal.pmed.1000097.
- National Institute for Health and Care Excellence. (2011). *Self-harm: longer-term management (Clinical guideline CG133)*. Retrieved from <http://www.nice.org.uk/guidance/CG133:NICE> on 7th August 2017.
- Naylor, C., & Bell, A. (2010). *Mental health and the productivity challenge*. King's Fund.
- NHS Benchmarking Network (2018). Mental Health Inpatient and Community Services. Retrieved on 17th April 2019 from <https://www.nhsbenchmarking.nhs.uk/projects/mental-health-inpatient-and-community-services>
- Paterson, C. (2018). Psychological intervention for acute mental health inpatient care: a meta-analysis and feasibility study (Doctoral dissertation, Edinburgh Napier University).
- Perry, I.J., Corcoran, P., Fitzgerald, A.P., Keeley, H.S., Reulbach, U., & Arensman, E (2012). The incidence and repetition of hospital-treated deliberate self harm: Findings from the world's first national registry. *PLoS ONE*, 7(2). doi: 10.1371/journal.pone.0031663.

- Roach, P., Duxbury, J. A., Wright, K., Bradley, D., & Harris, N. (2009). Conducting research on acute mental health admission wards. *Nurse researcher*, *16*(4). doi: 10.7748/nr2009.07.16.4.65.c7162
- Schulz, K. F., Altman, D. G., & Moher, D. (2010). CONSORT 2010 statement: updated guidelines for reporting parallel group randomised trials. *BMC medicine*, *8*(1), 18. doi: 10.1186/1741-7015-8-18.
- Shaw, C., & Shaw, T. (2012). Harm-minimisation for self-harm. *Mental health Today*, *September/October*, 19-21.
- Sim, J., & Lewis, M. (2012). The size of a pilot study for a clinical trial should be calculated in relation to considerations of precision and efficiency. *Journal of clinical epidemiology*, *65*(3), 301-308. doi: 10.1016/j.jclinepi.2011.07.011.
- Simons, J. S., & Gaher, R. M. (2005). The Distress Tolerance Scale: Development and validation of a self-report measure. *Motivation and Emotion*, *29*(2), 83-102. doi: 10.1007/s11031-005-7955-3.
- Turner, B. J., Austin, S. B., & Chapman, A. L. (2014). Treating nonsuicidal self-injury: a systematic review of psychological and pharmacological interventions. *Canadian journal of psychiatry. Revue canadienne de psychiatrie*, *59*(11), 576. doi: 10.1177/0898010114528282
- Winter, D., Sireling, L., Riley, T., Metcalfe, C., Quaiter, A., & Bhandari, S. (2007). A controlled trial of personal construct psychotherapy for deliberate self-harm. *Psychology and Psychotherapy: Theory, research and practice*, *80*(1), 23-37. doi: 10.1348/147608306X102778.
- Wood, L., Byrne, R., Enache, G., & Morrison, A. P. (2017). A brief cognitive therapy intervention for internalised stigma in acute inpatients who experience psychosis: A feasibility randomised controlled trial. *Psychiatry Research*. *262*:303-310. doi: 10.1016/j.psychres.2017.12.030.