Title page: Psychological Therapies and Non-Suicidal Self Injury in LGBTIQ in Accident and Emergency Departments in the UK a scoping review

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Keywords: Emergency departments, psychological therapies, overdosing, self-harm, non-suicidal self-harm (NSSI).

Abstract

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Background: To identify psychological interventions that improve outcomes for those who overdose, especially amongst Lesbian, Gay, Bisexual, Transgender, Intersex and Questioning populations.

Objective: To recognise and assess the results from all studies including randomised control trials that have studied the efficiency of psychiatric and psychological assessment of people who have depression that undergo Non-Suicidal Self Injury (NSSI) by self-poisoning, presenting to UK A & E Departments

Method: A scoping review of all studies including randomised controlled trials of psychiatric and psychological therapy treatments. Studies were selected according to types of engagement and intervention received. All studies including Randomised Controlled Trials (RCTs) available in databases since 1998 in the Willey version of the Cochrane controlled trials register in 1998 till 2021, Psych INFO, Medline, Google Scholar and from manually searching of journals were included. Studies which included information on repetition of NSSI behaviour were also included. Altogether this amounts to 3,900 randomised study participants with outcome data.

Results: 7 trials reported repetition of NSSI as an outcome measure which were classified into 4 categories. Problem solving therapy (PST) is indicated as a promising therapy and has shown to significantly reduce repetition in participants who NSSI by overdosing than patients in the control treatment groups consisting of standard after care.

Conclusion: The data shows that *Manualised Cognitive Therapy (MACT) psychological intervention was more effective than TAU after care*. However, these differences are not statistically significant with p = 0.15; CI 0.61, 1.0 which crosses the line of no effect.
And Psychodynamic Interpersonal Therapy (PIT) is more effective than standard treatment. Despite being only one study in this subgroup the analysis shows a statistically Significance with p = 0.009, CI0.08; 0.7

Background

Literature reviews have shown that compared to cisgender heterosexual communities that Lesbian, Gay, Bisexual, Transgender, Intersex and Questioning(LGBTIQ) populations alongside non-binary people are 1.5 times more likely to suffer from mental health problems such as depression and twice as likely to end their lives by suicide (King et al, 2008; Marchi et al, 2022; Bhugra et al, 2022). Rates of Non – Suicidal Self Injury (NSSI) figures are similarly increased but not much is known about the gradual aspects that lead to committing an NSSI. In some cases, the precipitating factors appear to be interpersonal difficulties as shown by Hawton et al (1998) but others refer to body image difficulties and substance misuse especially within lesbian and bisexual women (Bhugra et al, 2022). Difficulties in capturing the data pose a challenge ranging from questions raised for exploration to individual freedoms and how much monitoring information is needful (Phillips et al, 2019; Coffman et

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al, 2017). The Hawton et al (1998) review was restricted to gender binary populations and found that Problem Solving Therapies (PST) proved to be the most effective in reducing NSSI behaviour repetition.

The figure for LGBTIQ and non-binary person who self harms by overdosing remains unknown, however in a Swedish study conducted using 70,000 participants between the years 1969 – 2010 found that LGBT people reported higher rates for NSSI than their cisgender heterosexual counterparts. Interestingly, the authors commented that those identifying as LGBT were more likely to be forthcoming on personal information than people who identified as cisgender heterosexual (Björkenstam et al 2016). This supports the findings in the UK in a cross-sectional study by Slinn et al 2001 and a longitudinal New Zealand study (Skegg et al 2003; Salway et al, 2019). Bränström & Pachankis, (2018) also verify that psychological distress features highly within the LGBTIQ population particularly in gay and bisexual men.

Little research is available on the graduation techniques or how one experiments leading to overdosing behaviour but the predisposing risk factors involve mental illness, non-white intersections of ethnic status, asylum seekers, and in some cases minority stress (Carroll et al 2014). The objective of this review is to evaluate which interventions might work for LGBTIQ and non-binary populations and if these differ from interventions delivered for cisgender heterosexual populations. Previously problem solving techniques appeared to be the better option for cisgender heterosexual participants as the main precipitating factor being interpersonal difficulties.Several types of problems are identified as precipitating factors in patients that commit NSSI by overdosing. These commonly include interpersonal difficulties especially with a partner n = 28% and family members n = 44%, unemployment, financial, housing problems, and social isolation (Gibbons et al 1978; Hawton et al 1997; Williams & Pollock 2000; Muehlenkamp, (2006)., Selby et al 2012; Ani, Ross and Campbell 2017, Taylor et al 2018).

These problems may link in with the Minority Stress theory (Meyer 2003) as Minority Stress is a problem experienced by some within the LGBTIQ and non-binary community. The LGBTIQ and non-binary person experiencing stigma on a regular basis which affect the cognitive, emotional and behavioural functioning. Minority stress (Meyer 2003) leads to many self-defeating behaviours like sexuality concealment, enforced straight-acting behaviours in order to conform to cisgender/heteronormative expectations, unprotected sex and compulsive sex activities to mediate the stress. These behaviours are commonly used alongside substance misuse as a coping strategy to alleviate high levels of stress. Some believe Minority Stress deserves to be a stand-alone diagnosis in the next DSM and ICD

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classifications publication (Hatzenbuehler, Nolen-Hoeksema, & Dovido, 2009; Safren & Heimberg, 1999; Hatzenbuehler, McLaughlin, & Nolen-Hoeksema, 2008; Pachankis et al 2015).

Importance of the review?

Hawton et al (1998) reviewed the evidence for the cisgender heterosexual populations and concluded by stating that problem solving was the most promising intervention. The studies used to aid Hawton et al, (1998) to conclude on this point showed a high level of transparency. The outcome measure across the studies was the reduction of NSSI. In this review it would be prudent to use the same outcome measure, and also to explore whether minority stress is mentioned in the problem definition. MS is a specific problem because it links into identity and its concealment for survival. Previous reviews did not include an analysis to see if LGBTIQ and non-binary populations were included. Whilst they may have been a participant, they were not clearly identified as being LGB.

The interventions on offer in the studies are:

1) **Manualised Cognitive Therapy (MACT) psychological intervention v TAU after care –** Studies with manualised CBT show a high adherence and efficacy when compared to other types of delivery. MACT is compared with treatment as usual which is typically an out-patients appointment with a mental health worker like a psychiatrist, nurse or psychologist generally lasting for up to one hour.
2) **Psychodynamic Interpersonal Therapy vs standard treatment –** PIT is brief therapy form provided to help with interpersonal difficulties. The time period for this is generally for a 6 -month period. This might work as often the main reason for NSSI are interpersonal problems.
3) **Intensive care plus standard treatment –** The use of a crisis card in a 12-month period. This might work because it consisted of a CBT book prescription service. Upto 6 CBT books could be prescribed for the 1st group compared to the 2nd group. The 2nd group received face to face individual therapist sessions of CBT after they read CBT chapters on problem solving, thought management and managing difficult emotions.
4) **Community doctor (GP) *v* Community Mental Health Teams –** GP's following management of NSSI protocol and a referral to mental health services. This is a traditional route in the NHS and works for most cases but not for all. This might work

because you have more than one person supervising the patient. A team approach brings each speciality and expertise availability for the patient.

Aim

To recognise and assess the results from all studies including randomised control trials that have studied the efficiency of psychiatric and psychological assessment of people who have depression that commit Non-Suicidal Self Injury (NSSI) by self-poisoning, presenting to UK A & E Departments.

Method

The scoping review of all studies including randomised controlled trials of psychiatric and psychological therapy treatments. Studies were selected according to types of engagement and intervention received. All studies including Randomised Controlled Trials (RCTs) available in databases since 1998 in the Willey version of the Cochrane controlled trials register in 1998 till 2021, Psych INFO, Medline, Google Scholar and from manually searching of journals. Patients who commit Non-Suicidal Self Injury (NSSI) by overdosing within a fixed period prior to entry into the study or RCT. Also include studies having the information on repetition of NSSI behaviour. Altogether this amounts to 8,024 randomised study participants with outcome data.

Criteria for considering studies for the review

Inclusion criteria-Studies were included within the review if they met the following criteria.
1. LGBTIQ and non-binary study participants aged 18 yrs. and older have engaged in NSSI by overdose shortly before entry into study.
2. Studies must have reported repetition of NSSI as an outcome measure, thirdly study participants had to be randomised to treatment and control groups. If a qualitative study, then a decision was undertaken regarding the outcome measure and noted accordingly. Studies were included reporting any similarities between different types of psychiatric and psychological interventions, including standard after care. This subject to availability and local resources and if the type of aftercare was clearly specified.
3.Studies were included if they assessed minority stress as part of the problem definition but herein lies the problem as MS is not a widely recognised problem. Studies which do not mention MS were also included because the minority group problems might have been noted but not specified as MS but instead formulated for example within a depression formulation.

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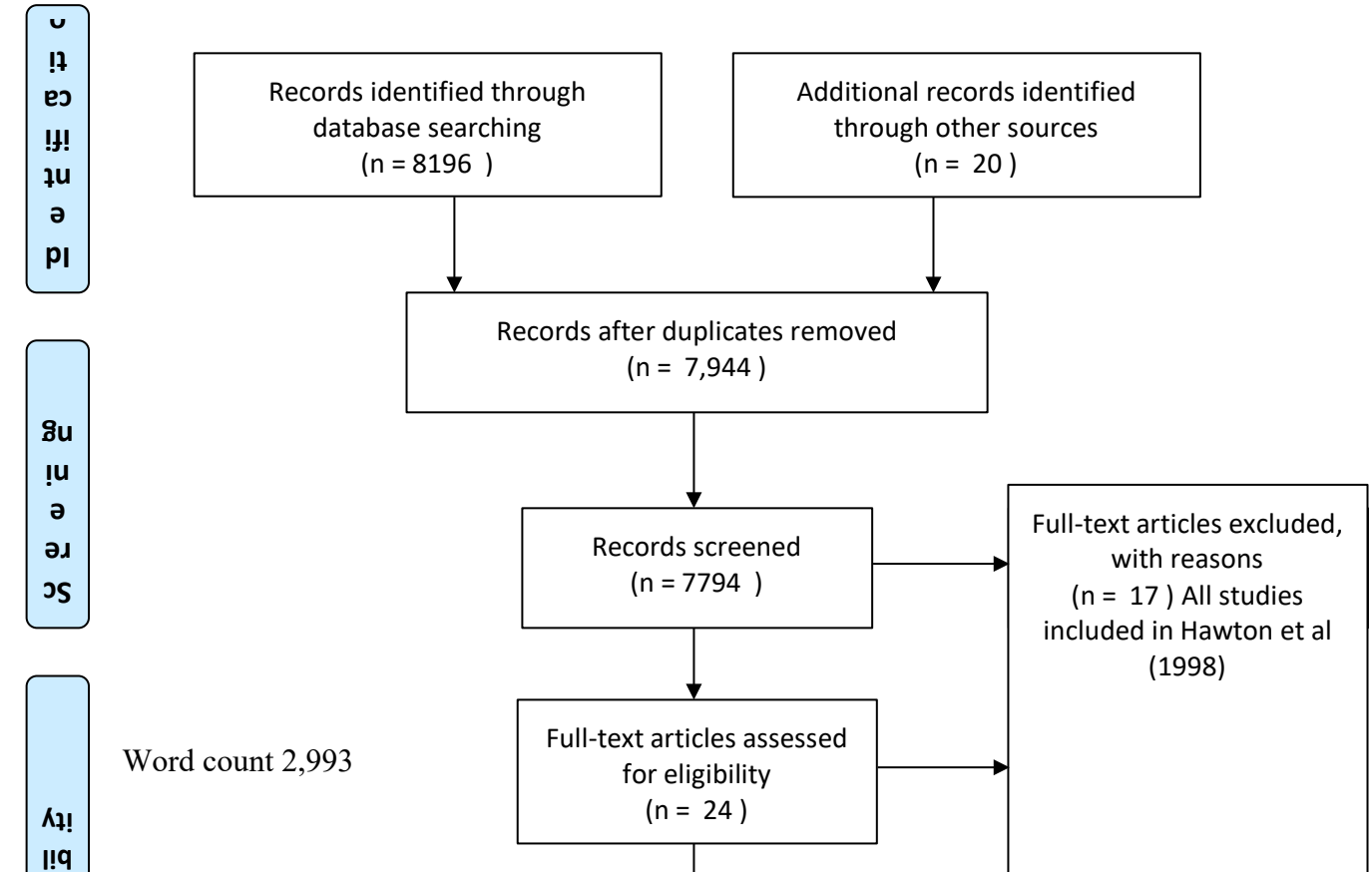
Exclusion criteria-Studies with no A & E involvement and studies included in Hawton et al (1998) review as well as those focusing on suicide were excluded as were those published in other languages (i.e.not English).

PRISMA 2009 Flow Diagram



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Search methods for identification of studies.

The search was performed in line with PRISMA criteria for both quantitative, qualitative and mixed methods studies (Moher et al 2009) to identify studies of participants who had presented to A&E departments and received psychological therapy.

Identification of relevant trials-A literature search was carried out by using electronic databases: 1) The electronic search process was replicated four times between November 2018 and April 2021. 2) The keywords used in search was Deliberate Self Harm, DSH, Non-Suicide Self Injury, NSSI, NSSID and LGBT; Self harm and LGBTIQ and non-binary and LGBT with RCT. Accident and emergency departments and self-harm studies.

Data collection and analysis

The following data was extracted from the articles like title, year; population sample; recruitment processes; sample size; alongside main findings and limitations of the study. The studies overall did not follow a theoretical model like minority stress (Meyer, 2003) but are therefore summarised in the results and discussion sections.

Results

Twenty-four studies were identified and were grouped as described in the methods section. But only 7 studies were included in this review as the other 17 studies can be seen in Hawton et al (1998). Looking at the table summarising the seven trials included in this review, their groupings, details and history of NSSI, the interventions used and the same quality of the

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concealment scores previously used in Hawton et al, (1998). The data was assessed by the authors with the verification process in place. Quality of the studies was defined by transparency. Table 1 illustrates 4 studies being given the score of 1 (for good transparency) and 3 studies scoring 3 (inadequate and not transparent). Blinding of the assessors were not stated or was unclear, only in one trial was fully reported. Total 8024 patients, had been randomised in the twenty-four trials, and outcome data regarding repetition of NSSI during follow up were available. The results of seventeen trials can be seen using the older Cochrane measure for the assessment of risk in Hawton et al (1998) for the individual studies in terms of repetition of NSSI during follow up. For studies since 1998 then look at table 1. But as this is not a systematic review the ROB 2 was not used to identify bias (Sterne, Savović, and Page, et al 2019). And finally, table 2 shows the first 2 studies suffered a high attrition rate and NSSI incidence rate. But minority stress was not mentioned as a factor used for assessment of the NSSI problem.

Table 1: All quantitative studies included in the scoping review of literature since 1998

Study	**Info about participants**	**Psychological intervention used**	**No of study participants randomised (Not lost through follow up)**	**Action after the study**	**How transparent is the study process with participants**
		Manualised Cognitive Therapy (MACT) psychological intervention v TAU after care			
Evans et al (UK 1999) RCT	Patients aged 16-50 yrs. with a personality disturbance and previous parasuicide episode within last 12 months. No LGBT identifiable data	Experimental (n=18): Manual Assisted Cognitive Behavioural Therapy (MACT) plus standard treatment. Manualised therapy for individuals with personality disorders developed by Davidson & Tyrer (1996). 2-6 sessions given with time period not stated for each session. Therapists were 1 psychiatrist, 2 nurses, 2 social workers.	32	12 months	1

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Tyrer et al (UK 2003) RCT	480 Patients (all continuous NSSI) admitted to hospital after an NSSI episode. Mean aged 32 yrs. No LGBT identifiable data	Experimental (n= 239): Manualised Assisted Cognitive Therapy (MACT): Manualised treatment along with 7 sessions with a therapist. Control (n= 241): various problem-solving approaches, psychodynamic psychotherapy, GP or voluntary group referrals.	401	1 year	1
Byford et al (UK 2003)	480 Adults aged 16-65 presented to 5 centres in UK.	Four hundred and eighty patients were randomized to TAU (N=241) or MACT (N=239).	397	6 and 12 months follow up	1
Weinberg et al (UK 2006)	30 females aged 18 – 40 yrs. No LGBT identifiable data	Experimental group (n=15) and control group TAU (n=15)	No data	12 months	3
		Psychodynamic Interpersonal Therapy vs standard treatment			
Guthrie et al (UK 2001)	119 adults aged 18-65 yrs., who had deliberately poisoned themselves and presented to the emergency department of a teaching hospital	Experimental (n=58) Brief therapy Psychodynamic Interpersonal. Completed >2 sessions (n=50) Completed 4 sessions (n=35). Follow up, 1 month (n=46) 6 months (n=47) Control TAU (n=61), Stayed in group (n=61) Follow up, Follow up: 1 month (n=43) 6 months (n=48)	95	6 months	1
		Intensive care (Crisis card) plus standard treatment			
Evans et al (UK 2005)	827 adults' patients, 64% were admitted into hospital.	Experimental group (n=417) Control group (n=410). There were 167 individuals (20.2%) with repeat episodes of self-harm in the 12 months after the index episode. Of participants carrying a crisis card, 90 (21.6%) had a repeat episode of self-harm within 1 year compared with 77 (18.8%) in the control group	No data	12 months	3
		Community doctor (GP) *v* Community Mental Health Teams			

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Bennewith et al (UK 2002) RCT	1932 Patients aged 16 – 95 yrs., from 98 GP practices who were selected from the NSSI register each having recent N SSI episode. No LGBT identifiable data	Experimental (n=49 practices/964 patients): mailing sent from A&E department following DSH 869 of these were participant who overdoses, mail sent to GP informing of presentation. GP provide follow up using guidelines for management. Control (n=49 practices/968 patients) 864 were participant who overdoses usual follow up care via a referral to a community mental health team with no NSSI specialist service.	No data	12 months	3

*1=best transparency; 3=poorest and not transparent.

Table 2 Summary of outcome data in all the quantitative studies, i.e., Review on repetition of NSSI.

Category, trial	**Experimental**	**Control**
Manualised Cognitive Therapy (MACT) psychological intervention v TAU after care		
Evans et al (1999)	10/18 (56%)	10/14 (71%)
Tyrer et al (2003)	93/239 (39) (2*)	110/241 (46) (5*)
Byford et al 2003	197/239(77)	200/241(74)
Weinberg et al 2006	1/15(7)	MD/15(MD)
Psychodynamic Interpersonal Therapy (PIT) vs standard treatment		
Guthrie et al (2001)	5/58 (9)	17/61 (28)
Intensive care plus outreach *v* standard care		
Evans et al 2005	90/417 (21.6)	77/410 (18.8)
Community doctor (GP) *v* Community Mental Health Teams		
Bennewith et al (2002)	76/964 (20)	102/968 (18)

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(Proportion (%) of participants who repeated behaviour, during follow up. MD = Missing data

***Reported suicides).**

The data shows that *Manualised Cognitive Therapy (MACT) psychological intervention was more effective than TAU after care*. However, these differences are not statistically significant with p = 0.15; CI 0.61, 1.0 which crosses the line of no effect.

Psychodynamic Interpersonal Therapy (PIT) is more effective than standard treatment. Despite being only one study in this subgroup the analysis shows a statistically Significance with p = 0.009, CI0.08; 0.71. Standard care was more effective than Intensive care plus outreach, but not statistically significant p=032; CI 0.85, 1.62 Community doctor (GP) was more effective than Community Mental Health Teams.

Table 3: Looking at odds ratio overall, including all studies under review

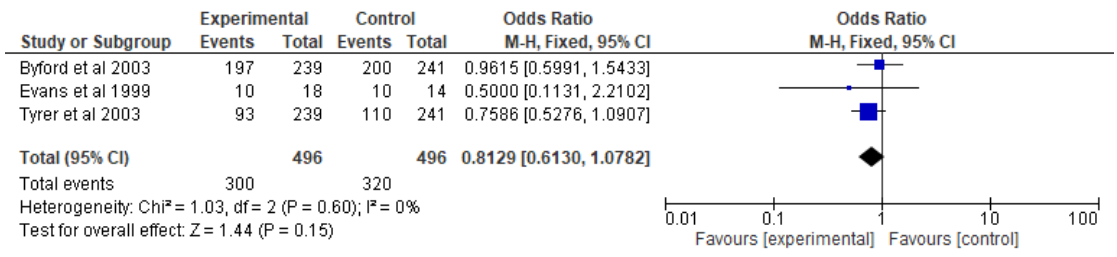

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Table 4: Odds ratio for each group

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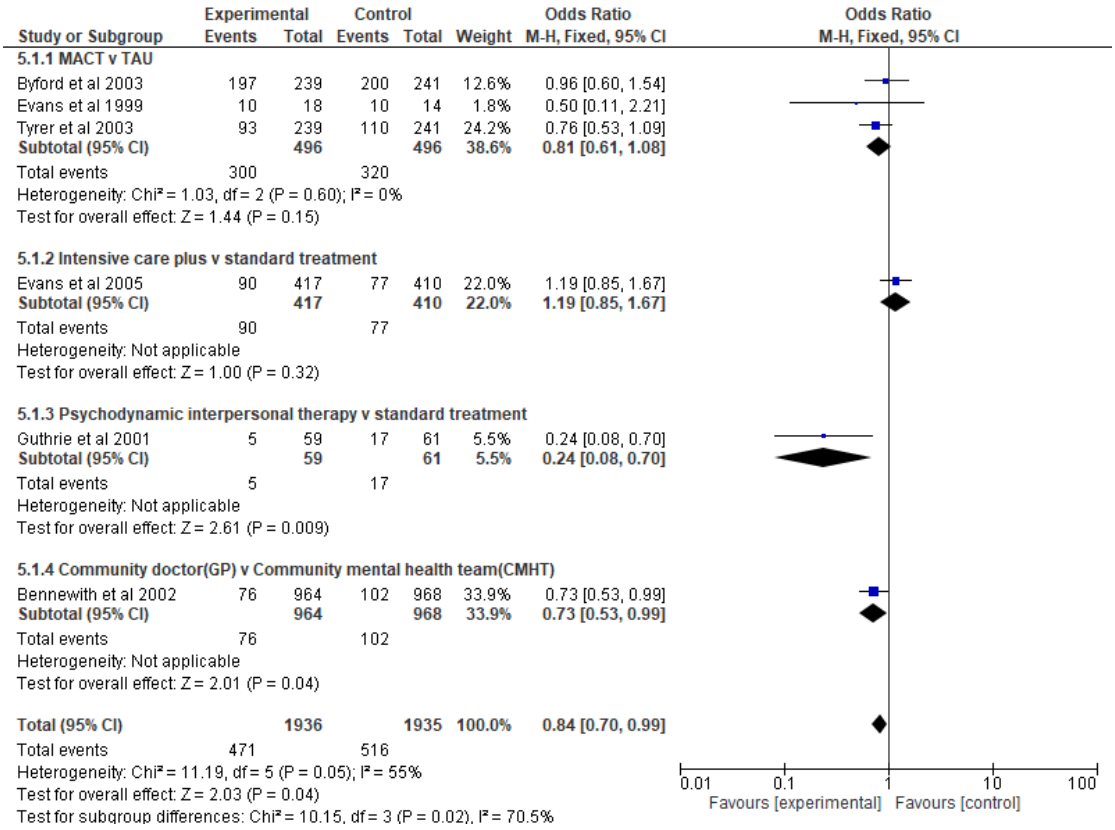

Fig 1: Key aspects of Manualised brief cognitively orientated or MACT psychotherapy for self-harm

- Focus on self-harm episode
- Behavioural chain analysis of specific circumstances of recent self-harm episode
- Problem solving techniques
- Self-monitoring of thoughts and feelings
- Distress coping strategies
- Education for problems with alcohol or drug abuse
- Strategies for cutting downing on drinking
- Revisit focus on self-harm episode
- Skills deficit identified
- Coping strategies for the future identified

(Adapted from Evans et al 1999)

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As can be seen in Fig 1 the key aspects of MACT the study (Evans et al 1999) looking at Manualised Cognitive Therapy (MACT) psychological intervention v TAU after care.
-The largest study of problem solving carried out by Tyrer et al (2003). Four hundred and eighty participants were randomly assigned between Manualised treatment along with 7 sessions with a therapist. Control (n= 241): Various problem-solving approaches, psychodynamic psychotherapy, GP or voluntary group referrals. At 12 months showed no significant difference between those treated with MACT (39%) and treatment as usual (46%).

Weinberg et al (2006) showed a reduced rate in the repetition of NSSI during follow up in participants in the experimental group. N = 15 TAU and 15 = CBT with elements of DBT, which the researchers claim similar findings supported by Koons et al. (2001) after 6 months of DBT, 92% decrease in frequency and by Turner (2000) after 3 months of DBT skills, an 84% decrease in frequency. However, the sample is small, was not a PIKO study and therefore the results are to be treated with caution. This however does show promise as the time scale traditionally assigned to DBT was in question with promising results of the decrease in outcome measure at 3 months.

Fig 2: Key aspects of psychodynamic interpersonal therapy for NSSI

- Focus on self-harm episode
- Use of 'here-and-now' and 'focus-on-feelings' strategies
- Identification of maladaptive patterns in relationships
- Development of strong working alliance
- Testing out problem solutions in therapy
- Testing of solutions in outside relationships
- Risk assessment
- 'Goodbye letter' which summaries the therapy with strategies and goals for future management of interpersonal problems
- Close liaison with GP

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As can be seen in Fig 2 the key aspects of Psychodynamic Interpersonal Therapy vs standard aftercare, (PIT) integrates the psychodynamic interpersonal and humanist approaches to therapy. In evaluating this second largest RCT of psychological treatment following NSSI Guthrie et al (2001) had brief PIT in the experimental group and the control standard aftercare. The experimental group found significant reduction in suicidality at six months follow up compared with control. Repetition here included all self-reported acts of NSSI in addition to presentations to A&E departments. Half the total (n=119) approached declined to have psychological treatment even when offered.

Intensive care plus outreach versus TAU standard aftercare- In Evans et al (2005) showed that there no benefit in providing participants with a crisis card. This allowed people to call in using a telephone service. There was no significance between the 2 groups at 12 months follow up. Low attrition and NSSI rates are reported in table 2.
Community doctor (GP) v Community Mental Health Teams- Bennewith et al (UK 2002) Participants from 98 GP practices were selected from the NSSI register each having had a recent NSSI episode in the last 12 months. It concludes that 31% had contacted the GP following an episode of NSSI and 53% after 4 weeks. And 44% were discharged from A&E were more likely than not to make contact after 4 weeks. But again low attrition and NSSI rates within the large sample. This study alongside Evans et al (2005) seemed to produce a lower repetition rate of NSSI behaviour.

Discussion

This scoping review highlights that there is limited evidence that strongly supports any intervention, or indeed to make firm recommendations to help the LGBTIQ and non-binary patients that commit NSSI by overdosing. In nearly all trials since the study participants were recruited following a presentation to A&E departments due to NSSI. Some trials included study participants who had committed NSSI by overdosing only, whilst other methods of NSSI were not described. Unfortunately, none of the studies in this review addressed the problem defined as MS or traits of MS within the formulation. As the number of study

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participants are low in some treatment categories, results need to be treated with caution but does provide a direction to follow up.

It appears that the best evidence available in dealing with NSSI by overdosing participants is the psychodynamic study. The MACT approach with a particular focus on interpersonal problems showed no significance. Taylor et al (2018) produce further evidence to support this and although the content and context of problem-solving therapy varied between trials. The earliest by Evans et al (1999) was the first to place more overt emphasis on cognitive processes and procedures. A specific focus placed upon emotions, negative thinking together with a treatment manual. Features of the approach can be seen in Fig 1 (Evans et al 1999).

The study had been repeated by Tyrer et al (2003) excluding patients with personality disorders and substance misuse difficulties, finding no significant difference between the MACT and standard aftercare. What it does suggest is that brief CBT is of limited efficacy in reducing NSSI by overdosing, but the findings taken in conjunction with the economic evaluation (Byford et al 2003) indicate superiority of MACT over standardised aftercare in terms of cost and effectiveness combined.

This would support the meta-analysis of problem-solving techniques versus control conditions indicate positive results in other outcome measures not included in this scoping review by Townsend et al (2001). In reviewing six studies (Gibbon et al 1978; Patsiokas & Clum 1985; Hawton et al 1987; McLeavey et al 1994; Salkovskis et al 1990; and Evans et al 1999) the results showed that PST were statistically significant in bringing improvement in scores for depression and hopelessness along with problem solving ability, compared to the control groups.

Promising significant evaluations were found for Psychodynamic interpersonal study by Guthrie et al (2001) for interpersonal difficulties, which is a brief, easily taught form of treatment and therefore the skills are transferrable offering an advantage to A&E clinicians. But the studies exclude demographic data like LGBTIQ and non-binary populations which upon reflection of the current climate appears to be an outdated working practice. Thus, supporting the one size fits all approach which has no place in person centred care. Skills training reflecting and pinpointing solutions to include LGBTIQ and Non- Binary populations would be beneficial in measuring and reducing the impact of minority stress (Meyer 1997). It could help A&E clinicians come to assess problems like transgender hate crimes or LGB gay bashings and violence with confidence.

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Strengths and Weaknesses of the review

Conclusion

At present evidence is lacking to indicate the most effective forms of treatment for NSSI-overdosing, in LGBTIQ and Non-Binary populations. This is a serious situation given the size of the population at risk and the risks of subsequent NSSI incidents pose. The best evidence available regarding psychological treatments supports the PST approach with a particular focus on interpersonal issues.

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