Randomised controlled trial of brief psychological intervention after deliberate self poisoning

Elspeth Guthrie, Navneet Kapur, Kevin Mackway-Jones, Carolyn Chew-Graham, James Moorey, Elizabeth Mendel, Federica Marino-Francis, Sarah Sanderson, Clive Turpin, Gary Boddy, Barbara Tomenson

Abstract

Objectives To determine the effects of a brief psychological intervention (brief psychodynamic interpersonal therapy) for patients after deliberate self poisoning compared with usual treatment. To compare the impact of the active intervention and usual treatment on patients' satisfaction with care.
Design Randomised controlled trial.
Participants 119 adults who had deliberately poisoned themselves and presented to the emergency department of a teaching hospital.
Setting Community based study.
Intervention Four sessions of therapy delivered in the patient's home. Control patients received "treatment as usual," which in most cases consisted of referral back to their general practitioner.
Outcome measures Severity of suicidal ideation six months after treatment as assessed by the Beck scale for suicidal ideation. Secondary outcome measures at six month follow up included depressive symptoms as measured by the Beck depression inventory, patient satisfaction with treatment, and self reported subsequent attempts at self harm.
Results Participants randomised to the intervention had a significantly greater reduction in suicidal ideation at six month follow up compared with those in the control group (reduction in the mean (SD) Beck scale 8.0 *v* 1.5). They were more satisfied with their treatment and were less likely to report repeated attempts to harm themselves at follow up (proportion repeating 9% *v* 28% in control group; difference 19%, 95% confidence interval 9% to 30 %, P = 0.009).
Conclusion Brief psychodynamic interpersonal therapy may be a valuable treatment after people have deliberately tried to poison themselves.

Introduction

Deliberate self poisoning is one of the commonest reasons for medical admission in the United Kingdom.[1] Of patients presenting to hospital with deliberate self poisoning, 3% to 15% eventually kill themselves.[2–4] However, services for this problem remain poorly organised,[5] probably because there are no interventions of proved efficacy. A recent systematic review concluded that while some treatments showed promise, further randomised intervention trials were required.[6]

About 70% of all episodes of deliberate self harm are precipitated by an interpersonal problem,[7] so there is a strong rationale for investigating the efficacy of an interpersonal intervention. We used a randomised controlled trial to determine whether a brief psychological treatment compared with usual treatment for deliberate self poisoning results in decreased suicidal ideation, reduced severity of depressive symptoms, and a reduction in further episodes of self harm.

Methods

The study was conducted at the emergency department of a university hospital. Patients between the ages of 18-65 years were considered eligible for the study if they presented with an episode of deliberate self poisoning.[8]

Consecutive patients meeting inclusion criteria were invited to take part in the study by the emergency department doctor who assessed them at the time of presentation. After patients gave signed consent they were assigned to the psychotherapy intervention or usual treatment.

Psychotherapy intervention—Patients in the intervention group were offered four sessions of psychodynamic interpersonal therapy within one week of presentation. This therapy entails identifying and helping to resolve interpersonal difficulties which cause or exacerbate psychological distress.[9 10] It has proved efficacy in the treatment of depression[11 12] and has been shown to be cost effective.[13] The therapy was delivered by nurse therapists (CT, GB, SS) in the patient's home. Sessions were offered weekly and lasted 50 minutes. Treatment fidelity and adherence was ensured by weekly supervision, audiotaping of interviews, and use of a standardised rating scale.[10]

Usual care—Patients who were randomised to the "treatment as usual" arm received routine care. In most cases this consists of an assessment by a casualty doctor or a junior psychiatrist in the emergency department, on the basis of which about one third patients are referred for follow up as a psychiatry outpatient, a small number are referred to addiction services, and the remainder are advised to consult their own general practitioner.[5]

Outcome measures—We considered suicidal ideation as our primary outcome measure because it is an important predictor of successful suicide.[14] We took a difference of 5 points on the Beck scale for suicidal ideation to be clinically significant.[15] The standard deviation (SD) of this scale in a previous study was 7.7.[16] Assuming $\alpha = 0.05$ and $\beta = 0.2$ and allowing for a one third drop out rate, we calculated we would need to recruit 60 patients to each group. We considered depressive symptoms, patients' satisfaction with their treatment, and repetition of deliberate self harm as secondary outcome measures. Patients were assessed on entry to the study, at the end of the one month treatment phase, and six months later. Patients completed the Beck scale for suicidal ideation[17] and the Beck depression inventory,[18] which is a 21 item scale measuring symptoms of depression. Higher scores on

School of Psychiatry and Behavioural Sciences, University of Manchester, Rawnsley Building, Manchester Royal Infirmary, Manchester M13 9WL
Elspeth Guthrie *senior lecturer in liaison psychiatry*
Navneet Kapur *lecturer in psychiatry*
Elizabeth Mendel *research assistant*
Federica Marino-Francis *research assistant*
Sarah Sanderson *research nurse*
Clive Turpin *research nurse*
Gary Boddy *research nurse*
Barbara Tomenson *statistician*
Emergency Department, Manchester Royal Infirmary
Kevin Mackway-Jones *consultant*
Department of General Practice, University of Manchester, Manchester M14 5NP
Carolyn Chew-Graham *senior lecturer*
Department of Psychology, Manchester Royal Infirmary
James Moorey *psychologist*
Correspondence to: E Guthrie elspeth.a.guthrie@man.ac.uk

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the scales indicate greater suicidal intent and greater severity of depression.

Follow up—Patients were asked to give a detailed description of further episodes of self harm at one month and six month assessments.[8] In addition, a separate check of the hospital database was carried out. Follow up assessments were conducted by one of two research assistants (EM, FM-F), who were blind to treatment groups. The study was granted ethical approval from the Central Manchester ethics committee.

Data analysis—We included in the analysis all patients who completed the assessments at the end of treatment or at six month follow up assessments. Comparisons between groups were made on an intention to treat basis. We compared normally distributed variables using *t* tests and used analysis of covariance in the comparisons at follow up to adjust for baseline differences.

Results

During the recruitment phase of the study 587 adults presented with deliberate self poisoning. Of these, 354 were ineligible. Of the 233 patients eligible for the study, 119 (51%) agreed to participate. Seventy one (60%) had a history of self harm, and 67 (56%) had a history of psychiatric treatment. The intervention and usual treatment groups were similar in terms of baseline characteristics with the exception of marital status (table 1). Paracetamol was the drug most commonly chosen for self poisoning (36% of patients).

Psychological assessments were completed on 89 (75%) patients at the end of the treatment phase and 95 (80%) patients at six month follow up. Patients assessed at follow up were similar to those lost to follow up in terms of baseline clinical and demographic characteristics.

Table 1 Demographic and clinical characteristics of patients admitted for deliberate self poisoning according to treatment group at baseline. Figure are numbers of participants

	Intervention group (n=58)	Treatment as usual group (n=61)
Women	33	33
Married	8	25
Employed	8	11
Incapable of work	21	22
Evidence of planning	15	12
Suicide note	14	8
Avoided discovery	14	13
Wanted to die	47	44
Alcohol with overdose	34	35
Psychiatric history	28	37
History of deliberate self harm	33	38

Table 2 Mean scores for two Beck scales at baseline, end of treatment, and six month follow up. Scores at end of treatment and six month follow up adjusted for baseline differences with analysis of covariance. Figures are means (SD)

Outcome measures (No with data)	Intervention group	Treatment as usual group	Difference between means (95% CI)	P value
Beck scale for suicidal ideation				
Baseline (n=119)	15.9 (9.9)	14.3 (10.8)	1.6 (–2.2 to 5.4)	0.40*
End of treatment phase (n=88)	10.3 (8.6)	12.4 (9.9)	–2.1 (–5.6 to 1.4)	0.22†
Six month follow up (n=95)	7.9 (8.6)	12.8 (10.4)	–4.9 (–8.2 to –1.6)	0.005†
Beck depression inventory				
Baseline (n=119)	30.2 (12.2)	28.5 (11.6)	1.7 (–2.6 to 6.0)	0.43*
End of treatment phase (n=89)	21.3 (13.1)	22.8 (13.3)	–1.4 (–6.2 to 3.4)	0.55†
Six month follow up (n=95)	18.8 (13.5)	23.7 (12.6)	–5.0 (–9.7 to –0.3)	0.037†

*Independent samples *t* test.
†Analysis of covariance.

Symptom measures

Patients who received psychotherapy showed greater improvement on the outcome measures than patients in the control group at six month assessment (table 2). When we adjusted for differences in marital status between the groups, the differences in the scores on the Beck scale for suicidal ideation remained significant (P = 0.027) but the scores for the Beck depression inventory did not (P = 0.11).

Satisfaction

Patients who received the intervention were more satisfied with their treatment at the end of therapy (mean (SD) satisfaction scores 6.6 (3.4) *v* 4.4 (3.1), 95% confidence interval for difference in means 0.7 to 3.6, P = 0.003, *t* test) and at six month follow up (5.5 (3.4) *v* 3.9 (2.8), 0.3 to 2.8, P = 0.015).

Further episodes of self harm

Twenty nine patients harmed themselves again during the study period. Twenty one patients reported doing so without seeking hospital treatment, and six reported attending hospital. We found data on two further patients on the computerised database. At six month follow up five patients (9%) in the intervention group had harmed themselves again compared with 17 patients (28%) in the usual treatment group (P = 0.009, Fisher's exact test, difference in proportion 19%, 9% to 30%). There were no successful suicide attempts in either group during the follow up period.

Discussion

In patients who poison themselves deliberately we have shown that suicidal ideation and self reported self harm were reduced after brief psychological intervention. Patients who received the therapy also reported higher levels of satisfaction with their treatment. There intervention did not reduce the use of health services (data not shown). Our previous research suggests that a more intensive therapeutic intervention may be required to effect such a change.[13]

Methodological considerations

We made no attempt to control for the non-specific effects of psychotherapy in this study as the trial was a pragmatic one. We aimed to compare a specific intervention with the usual treatment in the United Kingdom for patients who harm themselves.[19] Effects of treatment may have resulted from non-specific factors, such as increased contact with nurses for patients in the intervention group. However, previous studies that have involved a similar or greater intensity of clinical contact have failed to show benefit on several outcomes,[20 21] and psychodynamic interpersonal therapy has already been found to be superior to a psychological placebo in other patient groups.[22]

Our inclusion criteria may have resulted in the exclusion of people who were at somewhat higher risk of suicidal behaviour in the future. However, such patients might be unlikely to engage in treatment in any case. Only half of the eligible participants agreed to participate, but our recruitment rate is comparable with that in previous studies[20 21] and reflects the

What is already known on this topic

Deliberate self poisoning is one of the commonest reasons for admission to hospital in the United Kingdom and up to 15% of patients who poison themselves eventually kill themselves

There are no interventions of proved efficacy for these patients

Most episodes of self poisoning are precipitated by some form of interpersonal problem

What this study adds

Compared with usual treatment four sessions of psychodynamic interpersonal therapy reduced suicidal ideation and self reported attempts at self harm

The intervention also improved patients' satisfaction with care

difficulty of engaging such patients in intervention programmes. The participants in this study had high levels of psychological morbidity compared with other patients who poison themselves.[1 5 20] Our results may therefore not be generalisable to other groups of people who poison themselves but may have less severe psychological problems. Nevertheless, the effectiveness of a low intensity intervention in this group of patients is encouraging.

The data regarding further episodes of self harm should be interpreted cautiously as they are based on reports from the patients themselves. This allowed us to include 21 episodes in the patients who had not attended hospital, an outcome which has been relatively neglected in research to date. This finding may be affected by reporting or interpretation bias, though episodes were included only if they met a standardised definition.[8]

Possible explanations for treatment effects

Why has the current study shown clear treatment effects, in contrast with previous research? The intervention in the current study focused specifically on interpersonal problems, which are an important antecedent of many episodes of self harm.[7] Our sample included a high proportion of patients with a history of self harm, who may particularly benefit from psychological treatments.[6] Lastly, our measure of repetition included episodes of self harm when the patient did not present to hospital.

Conclusion

These results are promising, but larger studies of interpersonal psychotherapies in different settings are needed to establish the potential costs and benefits of such treatments for patients who poison themselves. Studies comparing psychodynamic interpersonal therapy with placebo treatments and other psychological interventions may help to identify the active components of the therapy. Such research would inform our future approaches to a problem which is both difficult to manage and widespread.

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Commentary: Another kind of talk that works?

George C Patton

Departments of Paediatrics and Psychiatry, University of Melbourne, Melbourne, Australia

George C Patton *professor*

Correspondence to: Centre for Adolescent Health, William Buckland House, Parkville 3052, Australia

Patients presenting to emergency departments after deliberately harming themselves are an important problem. Rates of concomitant psychiatric disorder are high and crude mortality may reach 10% within a decade.[1] Such presentations should offer good opportunities for clinical intervention. Given this, it is striking that deliberate self harm has remained such an elusive target. The paper by Guthrie et al from Manchester suggests that a brief psychotherapeutic intervention, based in part on a psychodynamic approach, may be an effective treatment. The findings have implications not only for the management of suicidal behaviour but also for views on what kind of psychotherapy works.

The trial compared psychodynamic interpersonal psychotherapy given once a week for four weeks by nurses practitioners with normal management. It combined elements of outreach (visiting patients at home) with a psychotherapy focused on the individual's current difficult relationships. Their findings that suicidal ideation and self report of further self harm were reduced in the intervention group at six month follow up carry important implications for medical responses to patients who harm themselves. They stand in contrast with results of previous trials, which have failed to produce consistent evidence of positive effect.[2]

This study is notable for positive features, including an efficient block randomised design, good participation rates of those randomised, and high tracing rates at six months. It has not, however, avoided all the methodological problems that have clouded interpretation of studies in this topic. The study was of a modest size, raters were not blind to the intervention status of patients at follow up, and retrospective self report was the only assessment for subsequent self harm. Low rates of uptake of the intervention were a further limitation, with only a fifth of those presenting eventually coming into the trial. The authors note that the severity of symptoms in participants at the outset was similar to that found in earlier trials, but it still leaves open a question of the feasibility of this approach in the majority of those presenting with an overdose.

These limitations in mind, the findings remain impressive. The patients reported substantial reductions in both suicidal ideation and depressive symptoms that could not be explained by differential contact with health services. The reduction in further episodes of self harm seems stronger than in earlier studies, even though rates of self harm in the comparison group were consistent with those found in controls in previous reports.

In the past decade it has become clear that focal psychotherapies are effective for the treatment of a range of common psychiatric and behavioural problems.[3] Much of the evidence has concerned cognitive behavioural approaches. The current study adds to the evidence, some of it from the lead author, that focal psychodynamic approaches might also be effective and viable in terms of cost.[4 5] It is another indicator of the need for randomised trials to move the debate around psychotherapy into an evidence based arena. A first step must be replication of studies of this kind in bigger samples and different locations. Beyond that, the hope is that the debate moves from whether psychotherapy works to questions of how well do specific psychotherapies work in the range of clinical problems and contexts in which they might be indicated.

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My most unfortunate mistake

"Relative" contradiction

It was a busy night in a teaching hospital. As the resident medical officer, I was called to casualty to see a patient, a woman in her 70s who presented with left sided weakness of sudden onset. Clinically, she presented as a stroke. I took her history and made an examination. As I came out from examining her, a staff nurse took me to see her daughter. I explained the likely cause of her mother's left sided weakness. It was at this point that she interrupted me to tell me the weakness was on the right side. Of course, having just examined the patient and as the doctor knowing I had my facts right, I responded by repeating my relevant physical findings. Regardless, she reaffirmed that the weakness was on the right. I mused on her inability to differentiate between left and right, politely disagreed, and suggested that she come through to see her mother.

I drew the curtain aside to reveal the old lady, at which point the daughter glared and said, "But this isn't my mother." I was tempted to say, "Of course this is your mother. I have just examined her," but realised that if a mistake was being made it was I who was making it. At this moment the same staff nurse took the daughter through to the next cubicle, where, indeed, her mother was. My embarrassed apologies were left hanging in the air.

What a stroke of bad luck. Having seen one patient, I had been taken to see the daughter of the other patient who had come in at exactly the same time. Later, on reflection, I considered my mistake was based on two premises. Firstly, I had not inquired of the relative not only as to her relationship but indeed whether she was related at all. Secondly, I did not listen to her when she contradicted my assessment of her "mother." I have since been better at introductions, and I have learnt to listen.

Angus Graham *specialist registrar in rehabilitation medicine, Hunters Moor Hospital, Newcastle upon Tyne*