

# Review: Problem-solving treatment after deliberate self-harm improves depression, hopelessness, and personal problems

Townsend E, Hawton K, Altman DG, et al. The efficacy of problem-solving treatments after deliberate self-harm: meta-analysis of randomized controlled trials with respect to depression, hopelessness and improvement in problems. *Psychol Med*. 2001 Aug;31:979-88.

## QUESTION

In persons committing deliberate self-harm, does problem-solving therapy improve mood, hopelessness, and personal problems?

## DATA SOURCES

Studies were identified by searching MEDLINE; EMBASE/Excerpta Medica; PsycLIT; the Cochrane Controlled Trials Register; and the Cochrane Depression, Anxiety, and Neurosis Trials Register and by hand searching journals.

## STUDY SELECTION

2 reviewers independently selected studies if they were randomized controlled trials that compared problem-solving therapy with any control intervention for deliberate self-harm. Studies were excluded if participants were suicide ideators (without self-harm) or if deliberate self-harm was an outcome variable in persons with depression (without previous self-harm).

## DATA EXTRACTION

2 reviewers independently extracted data on patient and trial characteristics and outcomes (depression, hopelessness, and improvement in problems). Disagreements were resolved by a third reviewer.

## MAIN RESULTS

6 studies met the selection criteria. Sample sizes ranged from 10 to 400 patients (mean

97 patients). Control treatments were usual care (2 studies), individual psychological therapy (1 study), general practitioner care (1 study), standard psychiatric treatment (1 study), and brief problem-solving therapy that was standard aftercare focusing on solving the immediate problem rather than providing skills to improve problem-solving ability (1 study). 4 studies reported depression outcomes (3 used the Beck Depression Inventory; 1 used the Hospital Anxiety and Depression Scale) and showed that problem-solving therapy was more effective than control treatments for relieving depression ( $P = 0.04$ ) (Table). 3 studies assessed hopelessness by using the Hopelessness Scale. The pooled results showed that patients in the problem-solving group had less hopelessness

than did patients in the control group ( $P = 0.002$ ) (Table). 2 studies showed that more patients in the problem-solving group than in the control group had improvement in their problems ( $P = 0.004$ ) (Table).

## CONCLUSION

In patients committing deliberate self-harm, problem-solving therapy improves depression, hopelessness, and personal problems.

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### Problem-solving therapy (PST) vs control treatment for deliberate self-harm\*

Outcomes	Weighted mean scores		Standardized mean difference (95% CI)	
	PST	Control		
Depression (BDI)	NA	NA	0.36 (0.11 to 0.61)	
Weighted mean difference (CI)				
Hopelessness (HS)	6.22	9.19	2.97 (1.13 to 4.81)	
Outcomes	Weighted event rates		RBI (CI)	NNT (CI)
	PST	Control		
Improvement in problems	86%	61%	40% (18 to 67)	5 (3 to 8)

\*BDI = Beck Depression Inventory; HS = Hopelessness Scale; NA = not available. Other abbreviations defined in Glossary; weighted mean scores, weighted event rates, RBI, NNT, and CI calculated from data in article using a fixed-effects model.

## COMMENTARY

Patients who present to general hospitals after deliberately harming themselves are a common problem. It is somewhat embarrassing that we still do not have good evidence to determine the best treatment for this group in the era of evidence-based medicine. As one author of the review by Townsend and colleagues pointed out in an earlier article (1), previous therapy trials have not been large enough to stand a good chance of detecting a statistically significant difference when repetition of deliberate self-harm is the outcome. Although repetition is important, most people do not repeat, and other outcomes are also important. This review considers the effect of problem-solving treatments on depression, hopelessness, and improvement in problems. Reassuringly, as seen from the limited evidence available, problem-solving treatment seems to improve these outcomes.

Two problems arise in interpreting the evidence. First, patients who agree to be randomized in these trials probably differ from most people who harm themselves. Many trials done in the area of self-harm exclude large numbers of persons who refuse to be randomized or who do not meet the study criteria (those with substance abuse are often excluded).

Second, both the problem-solving treatments and the control interventions varied among the included studies. Although these problems do not invalidate the findings in this review, they may affect their generalizability.

A large study using problem-solving treatment with repetition and other relevant outcomes is clearly needed. A key question for hard-pressed clinical services and funders is the minimum amount of therapy needed to make a difference. For clinicians and patients, problem-solving treatment appears to be the most appealing and pragmatic therapy available that has evidence to show it improves some important outcomes after deliberate self-harm.

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## Reference

- Hawton K, Arensman E, Townsend E, et al. Deliberate self-harm: systematic review of efficacy of psychosocial and pharmacological treatments in preventing repetition. *BMJ*. 1998;317:441-7.