Helping youth who self-harm

OVERVIEW
Understanding self-harm

REVIEW
Effective treatments for self-harm
Preventing substance misuse: Programs that work with high-risk youth

Some youth, such as those with behaviour problems, are at higher risk for problematic substance use. We examine interventions that can help these young people.

How to Cite the Quarterly

We encourage you to share the Quarterly with others and we welcome its use as a reference (for example, in preparing educational materials for parents or community groups). Please cite this issue as follows:

Understanding self-harm

Common reasons young people give when asked why they harm themselves include the following:

• To get relief from my distress
• To punish myself
• To get a reaction
• To help me cope
• To feel something, even if it’s pain

Their explanations suggest that prior to engaging in self-harm, young people may be experiencing considerable distress but have limited ways to cope.

What does self-harm include?

Self-harm encompasses a variety of behaviours performed with the intent of causing physical or psychological injury. While cutting is the most frequent type of self-harm, other common behaviours include preventing wounds from healing, banging one’s head or biting, scratching or hitting oneself, and self-poisoning or overdose.

Many youth engage in self-harm without any intention of ending their lives. Yet it is important to recognize that self-harm is often associated with thoughts of suicide as well as suicide attempts. In fact, youth who self-harm are five times more likely to have had suicidal ideation and nine times more likely to have attempted suicide.

How common is self-harm?

Self-harm can affect a surprising number of young people. According to studies in representative samples, 11 to 28% of adolescents have reported harming themselves at some point. As well, two British Columbia studies provide information about local rates. A survey of nearly 40,000 youth from 58 school districts found that 17% reported engaging in self-harm in the past year. Similarly, a population-based survey of nearly 600 Victoria youth found that 17% reported harming themselves at some point.

A recent systematic review also found that approximately 50% of those who harmed themselves did so only once or twice. Yet for some youth, self-harm occurred more frequently: 22% reported three to five episodes, 22% reported six to 10, and 5% reported more than 10. So it is important to identify who may be most at risk for ongoing self-harm.

What increases risk for self-harm?

Although robust studies are just beginning to emerge on causal risk factors, self-harm in young people has been correlated with a number of situations or conditions. Being female is a particularly strong correlate. The systematic review noted above showed that girls were 1.7 times more likely than boys to harm themselves.
Similarly, the BC survey reported that girls harmed themselves at twice the rate of boys (24% vs. 11%).

The Victoria survey, meanwhile, found even more pronounced gender differences, with girls harming themselves at triple the rate of boys (24% vs. 8%).

Other correlates of youth self-harm have also been identified. These include low socio-economic status, parenting problems, adverse childhood experiences (including child maltreatment), exposure to others harming themselves, concerns about sexual orientation, limited problem-solving skills, and mental health problems (including depression, anxiety and substance misuse). Researchers have found that being victimized is a particularly strong risk factor for self-harm — including being maltreated by parents, peers or siblings, and being a victim of cyberbullying or a crime. As well, being exposed to multiple types of victimization adds greater risk.

Who seeks help and from whom?

According to systematic review evidence, about half of young people share their experiences of self-harm. Friends were the most common confidantes (49% of disclosures), followed by family members (25%) and mental health professionals (18%).

The Victoria survey also found that about half of the young people who harmed themselves had disclosed to a friend. As well, this survey reported that many youth disclosed self-harm to family members (48%) and many sought professional help — from psychiatrists or psychologists (54%), other mental health professionals (32%), family doctors (30%) or telephone helplines (18%).

When is treatment needed?

Not all youth who hurt themselves seek treatment or even need treatment. For example, if self-harm is a one-time event and there are no other mental health concerns, intervention may not be needed. However, youth who are harming themselves more frequently and who are struggling with adversities will likely need support to address underlying problems and learn better ways of coping. In the Review article that follows, we identify interventions that can help.
Effective treatments for self-harm

To identify the best treatments for youth who harm themselves, we conducted a systematic review of interventions aimed at addressing these behaviours. We built quality assessment into our inclusion criteria to ensure that we reported on the best research available. This included requiring studies to use randomized controlled trial (RCT) evaluation methods. We specifically sought RCTs on interventions for preventing and treating self-harm in young people without limiting by publication date, enabling us to identify evidence over the past 70 years. (Please see the Methods section for additional details on our search strategy and inclusion criteria.)

After screening more than 800 records, we retrieved and evaluated 49 studies. Seven RCTs met our inclusion criteria, evaluating five unique psychosocial interventions: Dialectical Behaviour Therapy (DBT), Mentalization-Based Treatment (MBT), Systemic Family Therapy, Development Group Therapy and Resourceful Adolescent Parent Program (RAP-P). All were psychosocial treatments. No RCTs on prevention programs or medications met our inclusion criteria.

Of the seven included studies, four evaluated treatments that aimed to comprehensively address self-harm and were delivered as stand-alone interventions. The other three assessed treatments aimed to address self-harm by supplementing standard clinical care.

Stand-alone psychosocial treatment studies

Of the stand-alone treatments, two RCTs evaluated DBT, one evaluated MBT, and one evaluated Systemic Family Therapy. All three treatments included both youth and families, but each had unique components as well. DBT focused on teaching skills for regulating emotions and tolerating distress. MBT emphasized reducing impulsivity, regulating emotions and enhancing youths’ understanding of their own and others’ feelings. Meanwhile, Systemic Family Therapy focused on building strengths as well as reducing blame and increasing mutual understanding among family members.

In all four RCTs, treatments were compared to standard care, which was often quite robust. For example, youth could receive multiple interventions, including individual, group and family therapy as well as...
psychiatric medications and hospitalization if deemed necessary.10–13 Table 1 gives more details on these treatments.

### Table 1: Stand-Alone Psychosocial Intervention Studies

<table>
<thead>
<tr>
<th>Program</th>
<th>Delivery</th>
<th>Sample size</th>
<th>Ages (Years) Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dialectical Behaviour Therapy (DBT) I</td>
<td>Weekly individual child skills training sessions, group family skills training sessions, 3 family therapy sessions (on average) + telephone coaching (as needed) over nearly 5 months</td>
<td>77</td>
<td>12 – 18 Norway</td>
</tr>
<tr>
<td>Dialectical Behaviour Therapy (DBT) II</td>
<td>As above except 8+ family therapy sessions plus longer duration (6 months)</td>
<td>173</td>
<td>12 – 18 United States</td>
</tr>
<tr>
<td>Mentalization-Based Treatment (MBT)</td>
<td>Weekly individual child psychodynamic therapy sessions + monthly family sessions over 1 year</td>
<td>80</td>
<td>12 – 17 England</td>
</tr>
<tr>
<td>Systemic Family Therapy</td>
<td>Monthly family sessions (occurring more frequently initially) over 6 months</td>
<td>832</td>
<td>11 – 18 United Kingdom</td>
</tr>
</tbody>
</table>

### Supplementary psychosocial treatment studies

Of the supplementary treatments, two RCTs evaluated Development Group Therapy and one evaluated Resourceful Adolescent Parent Program (RAP-P).14–16 These treatments were delivered to youth only or parents only. Development Group Therapy taught youth strategies to address challenges with self-harming behaviours, depression, anger, relationships and school.14–15 RAP-P provided parents with information on self-harm and suicidal behaviours, practical strategies to help their children avoid or minimize self-harm, and information on additional support services.16

All youth — both intervention and comparison — received standard clinical care as well. This care varied according to individual needs and could include interventions such as individual counselling, family therapy and psychiatric medications. Table 2 gives more details on these interventions.

### Table 2: Supplementary Psychosocial Intervention Studies*

<table>
<thead>
<tr>
<th>Program</th>
<th>Delivery</th>
<th>Sample size</th>
<th>Ages (Years) Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developmental Group Therapy I</td>
<td>Weekly child group CBT- + DBT-based sessions** over 6 months</td>
<td>63</td>
<td>12 – 16 England</td>
</tr>
<tr>
<td>Developmental Group Therapy II</td>
<td>As above but with longer duration (1 year)</td>
<td>366</td>
<td>12 – 16 England</td>
</tr>
<tr>
<td>Resourceful Adolescent Parent Program (RAP-P)</td>
<td>Weekly to biweekly parent psychoeducation sessions over 4 to 8 weeks</td>
<td>48</td>
<td>12 – 17 Australia</td>
</tr>
</tbody>
</table>

* Interventions were designed to augment standard care provided to all children in the study.

** Acute phase included weekly sessions for 6 weeks followed by booster phase including weekly sessions for as long as needed.

For Developmental Group Therapy I, group sessions were sometimes augmented by individual sessions.
Stand-alone treatment outcomes

For the four RCTs assessing the three stand-alone treatments, outcomes were assessed at different times, ranging from post-test to one-year follow-up. In the first DBT evaluation, the program significantly reduced self-harm episodes and suicide attempts (reported as a combined outcome) at post-test. In fact, while treatment was taking place, DBT youth had an average of nine self-harm episodes versus 23 for comparison youth. DBT youth also had significantly less suicidal ideation and fewer depressive symptoms (by interviewer rating but not by self-report) at post-test. But there were no differences between the two groups on all other post-test outcomes, including hospital admissions and emergency room visits, reported feelings of hopelessness and borderline personality disorder symptoms. By one-year follow-up, only one significant difference was found: DBT youth had fewer self-harm episodes and suicide attempts. Specifically, DBT youth had an average of six self-harm episodes versus 15 episodes for comparison youth between the end of treatment and one-year follow-up.

For the second DBT evaluation, at post-test DBT youth had significantly fewer self-harm episodes than comparison youth, with a notable effect size (odds ratio [OR] = 0.32). The program also significantly reduced suicide attempts, with 10% of DBT youth making one or more attempts versus 22% of comparison youth during treatment (OR = 0.30). DBT youth also had less suicidal ideation at post-test. However, by six-month follow-up, there were no significant differences between the two groups regarding self-harm, suicide attempts or suicidal ideation.

The second stand-alone program, MBT, also resulted in significant gains. By post-test, MBT youth had significantly fewer self-harm episodes than comparison youth. They also had fewer symptoms of depression and borderline personality disorder, with a small effect size for the latter (Cohen's $d = 0.4$). As well, MBT youth were significantly less likely to be diagnosed with borderline personality disorder than comparison youth (33% vs. 58%; Cohen's $d = 0.3$). (Please see the accompanying sidebar for more information on the need for caution in diagnosing borderline personality disorder in youth.) However, the two groups showed no difference in risk-taking. This study did not assess outcomes beyond post-test.

The third stand-alone program, Systemic Family Therapy, also showed benefits. By six-month follow-up, intervention youth had significantly less suicidal ideation than comparison youth, with emotional and behavioural well-being also being significantly improved (by parent report but not by self-report). Yet there was no difference between the groups for hospital visits for self-harm, depressive symptoms, hopelessness, quality of life or family functioning. By one-year follow-up, intervention youth still showed significant gains.

The harms in diagnosing personality disorders in youth

Personality disorders are characterized by enduring patterns of impairments in thinking, feeling and behaving — typically diagnosed in adulthood, after many months or years of stable patterns being observed. However, there are considerable concerns with making these diagnoses in young people. The Diagnostic and Statistical Manual of Mental Disorders warns practitioners that for children and youth, personality traits are still evolving and often early patterns do not persist into adulthood. For borderline personality disorder specifically, researchers have confirmed substantial changes in symptoms between adolescence and adulthood. As well, personality disorder diagnoses have considerable stigma, with borderline being among the most stigmatized of these disorders. Individuals with this diagnosis are often misperceived as being manipulative and difficult. For these reasons, much caution is needed before diagnosing any young person with borderline personality disorder.

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Supplementary treatment outcomes

For the three RCTs assessing the two supplementary treatments, outcomes were assessed at times ranging from post-test to six-month follow-up. In the first evaluation of Developmental Group Therapy, intervention youth had significantly fewer self-harm episodes than comparison youth at one-month follow-up. In fact, comparison youth had more than six times the odds of engaging in self-harm. However, there were no significant differences between the groups for suicidal ideation, depression diagnoses, depressive symptoms, behaviour disorders or global functioning.

In contrast, the second evaluation of Developmental Group Therapy failed to produce any significant gains by post-test. Specifically, intervention and comparison youth did not significantly differ regarding self-harm episodes and severity, suicidal ideation, depressive symptoms and global functioning. This study did not assess outcomes beyond post-test.
However, the other supplementary program, RAP-P, did lead to significant benefits by six-month follow-up. Benefits included reduced self-harm episodes, reduced suicide attempts, plans, threats and ideation; better emotional and behavioural well-being (by both parent and youth report); and improved youth and family functioning (by both parent and youth report). Table 4 summarizes the findings for the three supplementary psychosocial interventions.

**Table 4: Supplementary Psychosocial Intervention Outcomes**

<table>
<thead>
<tr>
<th>Program</th>
<th>Outcomes</th>
<th>1 month</th>
<th>6 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developmental Group Therapy I (^*) (^1)</td>
<td>Not assessed</td>
<td>✧ Self-harm episodes, Suicidal ideation, Depression diagnosis, Depressive symptoms, Behaviour disorders, Global functioning</td>
<td>Not assessed</td>
</tr>
<tr>
<td>Developmental Group Therapy II (^*) (^2)</td>
<td>✧ Self-harm episodes, Self-harm severity, Suicidal ideation, Depressive symptoms, Global functioning</td>
<td>Not assessed</td>
<td>Not assessed</td>
</tr>
<tr>
<td>Resourceful Adolescent Parent Program (RAP-P)(^*) (^3)</td>
<td>Not assessed</td>
<td>Not assessed</td>
<td>✧ Self-harm, suicide attempts, plans, threats + ideation, Emotional + behavioural well-being (2 of 2), Global functioning, Family functioning (2 of 2)</td>
</tr>
</tbody>
</table>

✧ Statistically significant improvement for supplementary treatment + standard care over standard care alone.

득 No statistically significant difference between supplementary treatment + standard care over standard care alone.

득 Statistically significant improvement for supplementary treatment + standard care over standard care alone.

**Positive evidence on helping youth who self-harm**

Our review findings suggest that much can be done to help young people who self-harm. Of the stand-alone treatments, DBT and MBT both proved effective. DBT stood out for significantly reducing self-harm according to two RCTs, conducted in Norway and the United States. However, there were differences in the duration of effects, despite intervention delivery being quite similar. In the first RCT, significant reductions in self-harm and suicide attempts were sustained through to one-year follow-up. But in the second RCT, while reductions in self-harm and suicide attempts were seen at post-test, gains were not sustained by six-month follow-up. MBT also reduced self-harm. However, the benefits were examined only at post-test, so replication studies are still needed. In contrast, Systemic Family Therapy did not significantly reduce self-harm at either six-month or one-year follow-up, although it did improve youth well-being by parent report.

One supplementary treatment, RAP-P, also succeeded. This program, provided to parents, was effective in reducing youth self-harm and suicide attempts. As well, the benefits lasted six months after the program ended. Regarding Developmental Group Therapy, while one evaluation showed positive effects on self-harm, the replication trial did not.
Implications for practice and policy

Our systematic review shows that there are effective interventions to help young people who harm themselves. Our results lead to four recommendations.

- **Build on strengths within your service.** There are three effective interventions for reducing self-harm: DBT and MBT as stand-alone programs, and RAP-P as a supplementary program. Deciding which programs to invest in may be guided by the services already available in a given community. For communities that have yet to adopt programs for youth who self-harm, DBT may be a particularly helpful place to start. But if effective treatments are already on offer, it may be helpful to supplement them with RAP-P.

- **Recognize that ongoing support may be needed.** For some young people, self-harming behaviours may come to an end when treatment does. For others, however, these behaviours may re-emerge in the future. It may be helpful therefore to reconnect with youth after treatment ends to determine whether follow-up support is needed.

- **Offer effective interventions — and hope — to youth and families.** By the time a young person or their family seeks help for self-harm, feelings of distress may be daunting. So once someone does come forward, it is essential to communicate about effective treatment options — and to immediately offer these options. Letting people know that they can access effective treatments will help give them hope.

- **Consider prevention.** Many correlates of self-harm can be addressed. Addressing these includes intervening when there are parenting challenges and preventing child maltreatment by using effective programs such as those identified in previous Quarterly issues on these topics. As well, effective prevention and treatment interventions can be implemented to address depression, anxiety and substance misuse in young people, also identified in previous Quarterly issues. Beyond this, steps can be taken to address the socio-economic inequities that are also correlated with youth self-harm, for example, through income redistribution programs.

When a young person harms themselves it can be highly distressing — for the young person, for their families and for others around them. This behaviour can also be an expression of distress, indicating that underlying issues need to be addressed. It comes with serious attendant risks, such as suicide attempts, that must also be addressed. Yet much can be done to help, particularly by teaching young people and their families more effective ways to cope.
We use systematic review methods adapted from the Cochrane Collaboration and Evidence-Based Mental Health. We build quality assessment into our inclusion criteria to ensure that we report on the best available evidence, requiring that intervention studies use randomized controlled trial (RCT) methods and meet additional quality indicators. For this review, we searched for RCTs on interventions that aimed to help young people who self-harm. Table 5 outlines our database search strategy.

**Table 5: Search Strategy**

<table>
<thead>
<tr>
<th>Sources</th>
<th>CINAHL, ERIC, Medline and PsycINFO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search Terms</td>
<td>Self-harm, deliberate self-harm, self-injury, self-injurious behaviour, self-inflicted wounds or self-mutilation and prevention, intervention or treatment</td>
</tr>
<tr>
<td>Limits</td>
<td>Peer-reviewed articles published in English up to December 31, 2018</td>
</tr>
<tr>
<td></td>
<td>Pertaining to children aged 18 years or younger</td>
</tr>
<tr>
<td></td>
<td>RCT methods used</td>
</tr>
</tbody>
</table>

To identify additional RCTs, we also hand-searched reference lists from relevant published systematic reviews\textsuperscript{21–23} and from previous Children’s Health Policy Centre publications. Using this approach, we identified 49 studies published in the past 70 years. Two team members then independently assessed each study, applying the inclusion criteria outlined in Table 6.

**Table 6: Inclusion Criteria for RCTs**

- Participants were randomly assigned to intervention and control groups
- Studies provided clear descriptions of participant characteristics, settings and interventions
- Interventions aimed to reduce self-harming behaviours
- Interventions were evaluated in settings that were applicable to Canadian policy and practice
- Attrition rates were 20% or less at final assessment and/or intention-to-treat analysis was used
- Child mental health indicators included self-harm
- Studies documented reliability and validity of all primary outcome measures or instruments
- Studies reported levels of statistical significance for primary outcome measures
- Studies were excluded when authors indicated a lack of statistical power

Seven RCTs met all the inclusion criteria. Figure 1, adapted from Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), depicts our search process. Data from these studies were then extracted, summarized and verified by two or more team members. In extracting outcomes, we reported on single scales separately (i.e., self-harm and suicide attempts) whenever possible rather than reporting on combined outcomes. Similarly, we extracted data on total scale scores rather than subscale scores when RCT authors reported on both. Throughout our process, any differences between team members were resolved by consensus.

**For more information on our research methods, please contact**

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Simon Fraser University, Room 2435, 515 West Hastings St. Vancouver, BC V6B 5K3
Figure 1: Search Process for RCTs

Identification
- Records identified through database searching (n = 796)
- Records identified through hand-searching (n = 5)

Screening
- Total records screened (n = 801)
- Records excluded after title screening (n = 610)

Eligibility
- Abstracts screened for relevance (n = 191)
- Abstracts excluded (n = 142)

Included
- Full-text articles assessed for eligibility (n = 27 studies [49 articles])
- Full-text articles excluded (n = 20 studies [32 articles])

Studies included in review (n = 7 RCTs [17 articles])
To best help children, practitioners and policy-makers need good evidence on whether or not a given intervention works. Randomized controlled trials (RCTs) are the gold standard for assessing whether an intervention is effective. In RCTs, children are randomly assigned to the intervention group or to a comparison or control group. By randomizing participants — that is, giving every child an equal likelihood of being assigned to a given group — researchers can help ensure the only difference between the groups is the intervention. This process provides confidence that benefits are due to the intervention rather than to chance or other factors.

Then, to determine whether the intervention actually provides benefits to children, researchers analyze key outcomes. If an outcome is found to be statistically significant, it helps provide certainty the intervention was effective rather than it appearing that way due to a random error. In the studies we reviewed, researchers set a value enabling at least 95% confidence that the observed results are real.

Once an intervention has been found to have a statistically significant benefit, it is helpful to quantify the degree of difference it made, or its effect size. Beyond identifying that the intervention works, an effect size indicates how much of a clinically meaningful difference the intervention made in children's lives. The effect size measures reported in this issue are described below.

Odds ratio is a frequently used measure of effect size. It indicates how many times greater or lesser the chances are of a given outcome occurring. For example, an odds ratio of 2.0 indicates that youth in the routine care group had twice the odds of engaging in self-harm compared to youth who received a specialized intervention for self-harm.

Cohen’s $d$ is another commonly used measure of effect size reported in this issue. Values can range from 0 to 2. Standard interpretations are $0.2 = \text{small effect;} \ 0.5 = \text{medium effect;} \ 0.8 = \text{large effect.}$
REFERENCES

BC government staff can access original articles from BC’s Health and Human Services Library. Articles marked with an asterisk (*) include randomized controlled trial data that was featured in our Review article.


The *Children's Mental Health Research Quarterly* Subject Index provides a detailed listing of topics covered in past issues, including links to information on specific programs.

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<th>Year/Volume</th>
<th>Topics</th>
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</thead>
</table>
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50 lessons learned  
1 – Helping youth with bipolar disorder |
| 2018 / Volume 12 | 4 – Helping children who have been maltreated  
3 – Preventing child maltreatment  
2 – Treating substance misuse in young people  
1 – Preventing youth substance misuse:  
Programs that work in schools |
| 2017 / Volume 11 | 4 – Helping children with depression  
3 – Preventing childhood depression  
2 – Supporting LGBTQ+ youth  
1 – Helping children with ADHD |
| 2016 / Volume 10 | 4 – Promoting self-regulation and preventing ADHD symptoms  
3 – Helping children with anxiety  
2 – Preventing anxiety for children  
1 – Helping children with behaviour problems |
| 2015 / Volume 9 | 4 – Promoting positive behaviour in children  
3 – Intervening for young people with eating disorders  
2 – Promoting healthy eating and preventing eating disorders in children  
1 – Parenting without physical punishment |
| 2014 / Volume 8 | 4 – Enhancing mental health in schools  
3 – Kinship foster care  
2 – Treating childhood obsessive-compulsive disorder  
1 – Addressing parental substance misuse |
| 2013 / Volume 7 | 4 – Troubling trends in prescribing for children  
3 – Addressing acute mental health crises  
2 – Re-examining attention problems in children  
1 – Promoting healthy dating relationships |
| 2012 / Volume 6 | 4 – Intervening after intimate partner violence  
3 – How can foster care help vulnerable children?  
2 – Treating anxiety disorders  
1 – Preventing problematic anxiety |
| 2011 / Volume 5 | 4 – Early child development and mental health  
3 – Helping children overcome trauma  
2 – Preventing prenatal alcohol exposure  
1 – Nurse-Family Partnership and children's mental health |
| 2010 / Volume 4 | 4 – Addressing parental depression  
3 – Treating substance abuse in children and youth  
2 – Preventing substance abuse in children and youth  
1 – The mental health implications of childhood obesity |
| 2009 / Volume 3 | 4 – Preventing suicide in children and youth  
3 – Understanding and treating psychosis in young people  
2 – Preventing and treating child maltreatment  
1 – The economics of children's mental health |
| 2008 / Volume 2 | 4 – Addressing bullying behaviour in children  
3 – Diagnosing and treating childhood bipolar disorder  
2 – Preventing and treating childhood depression  
1 – Building children's resilience |
| 2007 / Volume 1 | 4 – Addressing attention problems in children  
3 – Children’s emotional wellbeing  
2 – Children’s behavioural wellbeing  
1 – Prevention of mental disorders |