The Prevention of Depression in Children and Adolescents: A Review

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Objective: To review the recent literature on the prevention of clinical diagnoses of depression in children and adolescents.

Method: Several preventive intervention programs targeting depressive diagnoses in youth were reviewed. These programs based their prevention strategies on cognitive-behavioural and (or) interpersonal approaches, which have been found to be helpful in the treatment of depression. In addition, family-based prevention strategies were reviewed. Also, nonspecific risk factors for youth depression, including poverty and child maltreatment, were discussed as important considerations in prevention programs targeting youth depression.

Results: In general, successful prevention programs targeting youth depression are based on evidence-based treatment programs for youth depression, structured and outlined in manuals, involve careful training of personnel implementing the protocols, and include assessment of fidelity to the intervention protocols. The programs were consistent with cognitive-behavioural and (or) interpersonal psychotherapy traditions. Overall, it appears that there is reason for hope regarding the role of interventions in preventing depressive disorders in youth.

Conclusions: Several new directions for future research on the prevention of depression in youth were outlined. Future research is needed to establish an empirical base for the prevention of depression in high-risk youth and should: focus on targeted and indicated prevention approaches, attend to moderators of intervention effects, include approaches that aim to enhance the family environment, attend to nonspecific risk factors for disorder, and focus on the dissemination phase of prevention research.

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Clinical Implications

- Given the high prevalence and costs of pediatric depression and the difficulty in treating depression once it has developed, efforts to prevent youth depression are warranted.
- Evidence-based prevention programs targeting depression in at-risk youth have yielded promising results.

Limitations

- There is a dearth of research on the prevention of depressive disorders in at-risk youth from different ethnic and cultural groups.
- Further research is needed to demonstrate the effectiveness of youth depression prevention programs delivered in a range of settings by a range of practitioners.

Key Words: *prevention, depression, intervention, children, adolescents, cognitive-behavioural, interpersonal*

Depressive illness is one of the leading causes of morbidity and mortality in the world today[1] and places a profound economic burden on society.[2,3] Youth depression is quite common[4] and is associated with negative long-term psychiatric and functional outcomes,[5–9] including impairment in school, work, and interpersonal relationships, substance abuse, and suicide attempts.[10,11] One-year prevalence rates for MDD are about 2% in childhood and range from 4% to 7% in adolescence.[12] According to the NCS,[13] the lifetime prevalence of MDD in adolescents aged 15 to 18 years is 14%, and an estimated 20% of adolescents will have had a depressive disorder by the time they are 18 years old.[14,15] One-half of first episodes of depression occur during adolescence,[16] and early onset depression is associated with a chronic, episodic course of illness.[12] Although efficacious treatments for youth depression have been explored, such as antidepressants, cognitive-behavioural interventions, and interpersonal psychotherapy, such treatments have been found to work for only about 50% to 60% of cases under controlled research conditions.[17]

Given the high prevalence and costs of pediatric depression, the connection between early onset depression and recurrence of disorder in adulthood, the impairment associated with youth depression, and the difficulty in treating depression once it has developed, efforts to prevent depression are warranted. In fact, prevention may be the key to decreasing the burden of adolescent and adult depression on society, and may be more cost-effective as well as less distressing for people than waiting for the condition to appear and then trying to treat a full depressive episode. The importance of preventing depressive disorder through the development and evaluation of preventive interventions was highlighted by the IOM Report,[18] Preventing Mental Disorders,[19] and has been emphasized by numerous recent expert panels.[20,21]

Abbreviations used in this article

CBP	Cognitive-Behavioural Prevention
CWS	Coping with Stress
FBP	Family Bereavement Program
HMO	health maintenance organization
IOM	Institute of Medicine
IPT-AST	Interpersonal Psychotherapy–Adolescent Skills Training
MC	monitoring control
MDD	major depressive disorder
NBP	New Beginnings Program
NCS	National Comorbidity Survey
PRP	Penn Resiliency Program
PSFL	Problem Solving for Life
RCT	randomized controlled trial
SES	socioeconomic status
UC	usual care

The IOM report defined prevention as referring to interventions that occur before the onset of the disorder, and are designed to prevent the occurrence of the disorder. That is, according to the IOM report, prevention initiatives must target clinical diagnoses of disorder, rather than symptoms alone. The report outlined 3 categories of preventive interventions. Universal preventive interventions target the general public or community regardless of risk (for example, all high school freshmen in the community). Selective prevention programs target members of a subgroup who are at higher risk for disorder, such as children of depressed parents. Finally, indicated prevention programs target all people who manifest subclinical signs or symptoms of a given disorder (for example, adolescents with subclinical depressive symptoms). Using these categories of preventive interventions, 2 recent meta-analytic reviews of prevention research for youth depression have reported small-to-moderate effects for depression prevention programs.[22,23] Selective and indicated approaches have been found to be more effective than universal prevention efforts.

Although these reviews are helpful in identifying new directions for prevention research, they both focus on studies that examine the effects of preventive interventions on depressive symptoms rather than diagnoses. It is true that most prevention studies for youth depression target depressive symptoms and thus measure these symptoms as a key outcome variable. And, depressive symptoms in adolescents are strongly associated with later depressive disorder,[24] as well as with a range of internalizing and externalizing problems in youth.[25] However, consistent with the IOM definition of prevention as an intervention that prevents a clinically diagnosable disorder, the selection criteria for our review targeted programs included in the meta-analytic reviews that examine the effects of preventive intervention on clinical diagnoses of depression in youth. We include only programs evaluated in rigorous RCTs.

Prevention of Depression in Youth

To date, researchers who have studied the effects of preventive interventions on depressive diagnoses in youth have based their prevention strategies on cognitive-behavioural and (or) interpersonal approaches.[25] These approaches have been found to be helpful in the treatment of depression[26] and recently have been evaluated to determine whether they may be useful in preventing youth depression. These strategies have in common that they have clearly identified, well-specified targets for preventive interventions that are manual-based, delivered with fidelity, and involve cognitive and social–relationship dimensions.

Penn Resiliency Program

The PRP,[27] perhaps the most widely evaluated depression prevention program for youth,[28] was developed to target cognitive and behavioural risk factors for depression in school-aged children. The PRP takes place in the larger context of Dr Martin Seligman, and Gillham et al[27,28] focus on positive psychology and on encouraging optimism. Based on cognitive-behavioural therapy, PRP is a school-based program that teaches participants the connection between life events, their beliefs about those events, and the emotional consequences of their interpretations. The manualized PRP curriculum generally is administered by trained school personnel during school time and consists of twelve 90- to 120-minute group sessions.

PRP has been evaluated empirically over several years with children and adolescents of varying ages and from varying ethnic and cultural backgrounds both in universal and in targeted prevention studies.[28] Overall, these studies have found that, relative to participants in the control conditions, participants in PRP experienced reduced depressive symptoms. Some evidence has emerged suggesting that the PRP program also has positive effects on participants' cognitive styles, and may even be associated with preventing behavioural problems.[29]

Only one recent investigation of PRP has examined the effects of this program on preventing clinical episodes of depression.[30] In this targeted prevention study, which was conducted in primary care clinics within a HMO, children aged 11 and 12 years identified as high risk based on a self-report questionnaire delivered via the mail were invited to participate. Children with a diagnosis of a current depressive disorder were excluded. Children ($n = 271$) from 2 HMO clinics were randomized to the PRP, led by a therapist from the HMO who was trained in the program, or UC. Children completed self-report measures at baseline, postintervention, and up to 2 years follow-up. Diagnostic information was obtained through the HMO's computerized database. Although PRP was found to improve explanatory style (that is, world view) for positive events, and reduced depressive symptoms for girls only, no overall preventive effects of PRP were found for depression diagnoses. However, there was a trend for high-symptom children who were assigned to the PRP condition to have fewer diagnoses of depression than high-symptom children assigned to the control condition during the follow-up interval (21% for the PRP group, compared with 36% for the control group; $P < 0.10$).

The PRP has been found to have positive effects on risk factors for youth depression. Overall, best effects are found for studies when PRP is implemented by members of the research team.[28] One study looking at diagnostic information suggests that, for highest risk youngsters, there may be some meaningful preventive effects from PRP.

Prevention of Depression Project

Based on research by Lewinsohn et al[31] examining risk for depression in adolescents, Clarke and colleagues[32] developed the CWS course, a manual-based psychoeducational group program targeting adolescents at risk for the development of depressive disorders. The CWS program aims to help at-risk teens gain control over negative moods, resolve conflicts that arise at home and with peers, and alter maladaptive thought patterns. The CWS program targets teens aged 13 to 17 years and is delivered by trained mental health professionals (for example, social workers and psychologists) in a group setting.

Clarke et al[33] examined the effectiveness of the CWS program, relative to a UC control condition, in an RCT of 94 adolescent offspring of adults treated for depression in an HMO. Eligible teens had to have subdiagnostic depressive symptoms and (or) a history of mood disorder, and a parent with a significant depressive disorder. The CWS condition consisted of fifteen 60-minute sessions for groups of 6 to 10 adolescents. Results indicated that, relative to teens assigned to the UC condition, teens in the CWS program reported fewer depressive symptoms, fewer symptoms of suicide, and better overall functioning. Moreover, survival analyses of major depressive episodes indicated a significant preventive effect for the CWS program. At 12-month follow-up, 9.3% of the teens in the CWS program met diagnostic criteria for major depression, compared with 28.8% of the teens in the UC control ($P = 0.003$). Although the significant preventive effect persisted across a 24-month follow-up interval, the magnitude of the effect diminished ($P = 0.02$ at 18 months; $P = 0.05$ at 24 months).

Based on the strength of these results, a 4-site effectiveness study led by Judy Garber of Vanderbilt University, is being conducted using a variant of the CWS program. Known as the Prevention of Depression in At-Risk Adolescents study, Garber and colleagues from Vanderbilt University, the Center for Health Research at Kaiser Permanente in Portland, Oregon, University of Pittsburgh Medical Center, and Judge Baker Children's Center, and Harvard Medical School[34,35] have modified the CWS program to include 8 weekly and 6 monthly continuation sessions, and have recruited 316 teens (nearly 80 from each site) who have been assigned randomly to the CBP or UC condition. Preliminary reports at scientific meetings indicate significant preventive effects from the CBP intervention. Specifically, survival analyses showed that, through the follow-up assessment conducted at the completion of the monthly continuation sessions, significantly fewer teens in the CBP group had a probable or definite episode of depression, compared with adolescents in the UC control condition.[36] Moreover, this main intervention effect was moderated by current parental depression at baseline,

such that among adolescents whose parents were not depressed at baseline, CBP was much more effective in preventing onset of depression than UC; among adolescents in both conditions with a currently depressed parent, rates of incident depression were not significantly different from each other.

Using careful assessment and research controls, and across different settings and investigators, Clarke and colleagues have demonstrated that a relatively short-term cognitive-behavioural group intervention approach can have significant effects on reducing actual episodes of major depression in children at very high risk for depressive disorders. Future work using Clarke and colleagues' program will benefit from a focus on understanding ways to maintain prevention effects over longer follow-up intervals.

Intervention Based on Interpersonal Psychotherapy Model

Based on an effective interpersonal psychotherapy treatment program for depressed adolescents,[37,38] the IPT-AST program was developed and evaluated for effectiveness in preventing the onset of depressive disorders in high-risk teens. This school-based group intervention focuses on psychoeducation regarding depression and prevention, and skill-building that targets interpersonal role disputes, role transitions, and interpersonal deficits.

Although the efficacy of IPT-AST in reducing adolescents' depressive symptoms has been examined,[39] only recently has this program been explored for preventive effects on clinical diagnoses of depression. Young et al[40] report a school-based study of IPT-AST in which 41 primarily Hispanic youth aged 11 to 16 years with elevated scores on a measure of depressive symptoms were assigned randomly to either the intervention group or to a school counselling control group. The IPT-AST intervention included 2 initial individual sessions, followed by 8 weekly 90-minute group sessions. Sessions were conducted during the school day and implemented by school guidance counsellors and (or) psychologists trained by the research team.

Results indicated that, relative to children in the school counselling control condition, adolescents in the IPT-AST group reported fewer symptoms of depression, controlling for baseline depression scores, and better overall functioning, and these differences were sustained across the 6-month follow-up. In addition, across the 6-month follow-up interval, 3.7% of the IPT-AST teens met diagnostic criteria for a clinical diagnosis of depression, compared with 28.6% of the teens assigned to the control group. This difference was marginally significant ($P = 0.08$).[40] In a related study, Young[41] found that IPT-AST had significant preventive effects on depressive diagnoses over a 6-month follow-up interval, relative to a school counselling control group. Data from 12- and 18-month follow-up intervals are currently being collected.

While promising, the samples in these studies consist mostly of Hispanic youth in New York public schools so the generalizability to other populations is limited. Also, only one-half of eligible youth elected to participate. As Young et al[40] have noted, many families may choose not to participate in prevention services. Nonetheless, the work does show considerable promise. It may be possible to prevent depressive disorders with relatively short interventions, and, as the investigators themselves have suggested, it may well make sense to combine this approach with more traditional cognitive-behavioural approaches to depression prevention in youth.[39]

Problem Solving for Life

Spence and colleagues[42,43] report data from a universal, school-based prevention program targeting 1500 youth aged 12 to 14 years attending high school in Queensland, Australia. Schools were assigned randomly to the intervention or the MC, or the so-called school-as-usual condition, in which students completed all assessments but did not participate in the prevention program. Participants were evaluated for depressive symptoms and a range of other risk variables at baseline (preintervention) and again at 12-month follow-up. In addition, they were evaluated for depressive symptoms and social problem solving immediately postintervention. A group of high-risk participants was identified at baseline based on elevated scores on measures of depressive symptomatology.

The intervention, PSFL, consists of eight 45- to 50-minute weekly sessions that focus on teaching cognitive restructuring and problem solving. Participants are taught to identify and connect their thoughts and their feelings, and are taught cognitive techniques to challenge negative thoughts that may lead to depressed mood and depressive disorder. The program is implemented by classroom teachers who are trained in the program's theory, content, and implementation techniques during a 6-hour training session.

Overall, at postintervention, students assigned to the PSFL condition evidenced reduced symptoms of depression, relative to students assigned to the MC condition, and postintervention, a greater number of high-risk students in the PSFL condition were no longer classified as high risk. However, these group differences were not maintained at 12-month follow-up, nor were they evident at 2-, 3- and 4-year follow-ups. Moreover, survival analyses revealed there was no significant group difference in the incidence of depressive disorders in high-risk participants during the 12-month (9.9% for the PSFL group, compared with 8.4%

for the MC group) or 4-year (25.2% for the PSFL group, compared with 24.5% for the MC group) follow-up intervals.

This work suggests that prevention programs can be delivered by teachers with fidelity, that youth may be receptive to such interventions, and that this intervention can yield short-term positive effects in reducing depressive symptoms. However, this work also highlights the importance of long-term follow-up and the difficulties of using a universal prevention approach to reduce depression diagnoses.

Prevention of Depression in Special Populations

Although not focusing directly on the prevention of depressive disorders in youth, 2 additional research groups deserve mention. Both the Beardslee[49] and the Sandler[55] research teams have developed and evaluated manualized prevention programs targeting at-risk populations. In Massachusetts, the Beardslee Preventive Intervention Team used a public health, family-based approach and a focus on parents with mood disorders. In Arizona, Sandler's prevention team has targeted bereaved children and children of divorce. Both research teams have conducted careful RCTs with long-term follow-up, and the work of both teams has been included in systematic meta-analytic reviews of depression prevention work.

Preventive Intervention Project

Based on studies of risk factors for depression in youth[44] and on Rutter's[45] assertion that the transmission of risk for depression occurs through negative interactions between parents and children, Beardslee et al[49] have developed 2 public health interventions for families when parents are depressed. Similar to the programs reviewed above, the Beardslee et al approaches emphasize a cognitive orientation and focus on building strengths and resilience in youth. However, unlike other prevention approaches for youth depression, both Beardslee et al approaches focus on the family as a unit of change and aim to increase parents' understanding of depression and the effects of their depression on their spouses and children. The interventions encourage improved communication between family members and stress the importance of increasing children's understanding of parental depression, thereby reducing self-blame for parental symptoms and behaviour.

In the Beardslee clinician-facilitated intervention approach, six to eight 45- to 90-minute sessions were conducted with a clinician and with individual families. It culminated in a family meeting in which the clinician facilitated a family discussion of depression and its effects on the family. The lecture control condition consisted of 2 small group lectures for parents only. Although children did not attend these lecture sessions directly, parents were encouraged to discuss with their children the effects of depression on the family.

Beardslee et al[46–50] have examined the efficacy of the Beardslee prevention approaches. In this research, 100 families with parental depression and a nondepressed child aged 8 to 15 years were assigned randomly to either the clinician-facilitated or the lecture group condition, and were assessed at baseline, immediately postintervention, and then at about 1-year intervals during several years. Both conditions were associated with positive changes in parents' behaviours and attitudes regarding their children, in general family improvements, and in decreased depressive symptoms in children. However, relative to the lecture group condition, the clinician-facilitated condition was associated with greater understanding by children of their parents' depressive illness and improved communication between children and parents. Intervention effects were sustained at 2.5- and 4-year follow-up intervals.[49,50] Moreover, families in which parents reported the most change in behaviour and attitude had children who showed the greatest increase in their understanding of their parents' illness, one of the main targets of this preventive intervention. No intervention effects were detected for reducing the clinical diagnoses of depression in children between the 2 conditions; the sample size would have needed to be much larger to detect such differences as both interventions had substantial effects. However, of the children in both intervention conditions who received a clinical diagnosis of depression during the course of the study, significantly more children (about 75%) received treatment for their illness than is typical in the general population. Also, depressive symptomatology declined in both groups, even though they were passing through a developmental epoch when depressive symptomatology is expected to increase.

It is noteworthy that since the development of these intervention approaches, several research groups have adapted the general principles of these programs to new populations and have evaluated these approaches in effectiveness trials. Podorefsky et al[51] adapted the clinician-facilitated intervention approach for use in a low-income, urban population and found that families who participated in the intervention reported positive change in family communication, understanding, and focus on the child. They also recently adapted it for use with Latino mothers.[52] Several European countries have developed countrywide programs for children of people with mental illness. Solantaus et al[53] have developed a successful program in Finland and selected the clinician intervention, as one of several interventions, for widespread use. It proved possible both to adapt it to the Finnish context and to train clinicians in its use.[54]

New Beginnings Program and Family Bereavement Program

Unlike other researchers examining the prevention of youth depression in teens identified based on their elevated depressive symptoms (that is, indicated prevention approaches), Sandler et al[55] focused on preventing negative outcomes in children at risk based on difficult life circumstances, including parental divorce and bereavement. Both research programs rely on correlational studies to identify protective and vulnerability factors that may be addressed through intervention, and both programs focus on experimental studies that evaluate the effects of these interventions on changing these factors to promote resilience.

Based on research indicating that parental divorce—although common, places children at risk for postdivorce adjustment difficulties—Tein et al[56] and Wolchik et al[57] developed and evaluated the NBP, a preventive intervention for divorced families that consists of 2 components: a mother program, and a dual-component program that targeted mothers and children in separate but concurrent intervention approaches. These 2 active intervention programs were contrasted to a self-study literature control program in which, during a 6-week period, mothers and children received written materials pertaining to parental divorce.

In a study of 240 recently (within the past 2 years) divorced families with a female primary residential parent and at least one child aged 9 to 12 years, families were assigned randomly to either the mother program, the dual-component (mother and child) intervention, or the self-study control condition. Overall, the mother program was associated with positive change in the mother–child relationship, discipline, and the child's relationship with the father, relative to families who were assigned to the self-study control condition, although some of these changes were not sustained during the 6-month follow-up. In addition, the mother program was associated with mother and child reports of children's decreased internalizing and externalizing of problems. And, at 6-year follow-up, youths in the dual-component intervention, relative to youths in the control condition, tended to have fewer diagnosed mental disorders ($P = 0.007$).[58] Children in the NBP improved more on total psychiatric symptoms, externalizing problems, substance use, grade point average, and had a reduced number of sexual partners.[58,59]

Sandler et al[60–62,64] and Tein et al[63] have also developed the FBP, which aims to prevent mental health problems in bereaved children aged 8 to 16 years, and to promote resilient outcomes for children and families facing parental loss. Based on the study of risk factors for mental health difficulties in bereaved children and on case studies with bereaved families, the FBP targeted key family-level variables, including: the quality of the caregiver–child relationship; mental health problems in the caregiver; the child's exposure to negative life events; and, discipline (that is, setting clear rules and contingencies, and teaching that misbehaviour will have consequences).[61] The FBP is a 2-component program that includes separate groups for parents and (or) caregivers and for bereaved children.

Sandler et al[64] evaluated the FBP in an RCT of 156 families in which a parent had died between 4 and 30 months prior to enrolment, and in which neither the surviving parent nor the child (aged 8 to 16 years) were receiving mental health or bereavement services. Families were assigned randomly to either the FBP or to a self-study control program, in which books about grief were distributed to parents and to children at monthly intervals.

Overall, results indicated that, relative to families in the self-study control group, families in the FBP demonstrated improved family and individual risk factors immediately following intervention. However, the FBP was not associated with a change in children's mental health problems at posttest. At 11-month follow-up, program effects on mental health outcomes were moderated by the child's sex and by internalizing and (or) externalizing scores at baseline, such that the FBP was found to improve self-report mental health outcomes for girls, and for children who exhibited more internalizing and externalizing difficulties at baseline. Finally, new program main effects emerged at 6-year follow-up for youths' self-esteem and externalizing behaviours.[64]

Work by Sandler et al[55] highlights the importance of intervening with families during times of stress and suggests that interventions involving the entire family may lead to significant family change. In addition, this work suggests the possibility that intervention effects may emerge gradually over time, and that the effects of intervention strategies may vary by sex. Presently, Sandler and colleagues are examining longer-term intervention effects and exploring the effects of intervention on clinical diagnoses of depression.

Nonspecific Risk Factors

A comprehensive approach to the prevention of depression involves addressing both specific and nonspecific risk factors for disorder.[65] Specific risk factors include, for example, having: a prior depression, a depressogenic cognitive style, symptoms of depression, and an extensive family history of depression. Nonspecific risk factors documented to increase rates of depression include poverty, exposure to violence, social isolation, child maltreatment, family breakup, and, in adults, experiences such as job loss. We refer to these as nonspecific because they increase the rates of numerous childhood disorders, especially when they occur in combination.

Decades of research have demonstrated a connection between the number of childhood adversities experienced and poor adult outcomes. In fact, reducing the burdens of poverty, exposure to violence, child maltreatment, and other forms of family instability may play an important role in the reduction of depressive disorders in youth. Research on the additive effects of childhood risk factors[66,67] suggests that addressing both specific and nonspecific risk factors together may have the best chance of preventing disorder. In the following, we focus on 2 nonspecific risk factors—poverty and child maltreatment—as they have been particularly well studied and because both are potentially amenable to intervention.

Poverty has been associated with many negative outcomes. Specifically, a recent study[68] of a subsample of the United States National Collaborative Perinatal Project examined the relation between lower SES in families of young children and later rates of depression. This was a prospective longitudinal study using standard diagnostic interviews for a birth cohort initially assessed in 1959 and followed-up when the subjects were aged 18 to 39 years. Lifetime risk for depression was related to occupational level of the parents at birth. Subjects with parents of lower SES backgrounds had significantly increased lifetime rates of depression. In particular, being and having a family history of mental illness were associated with later depression, while adult educational attainment and depression were inversely related.

Child maltreatment also has been associated with increased rates of psychiatric disorders in a wide array of studies. In a prospective longitudinal study of 676 maltreated children and 520 nonabused and nonneglected control subjects, Widom et al[69] found a significant relation between child physical abuse and increased risk for lifetime MDD, and between child neglect and increased risk for current MDD. Likewise, according to the NCS[70] of more than 8800 subjects in the United States, childhood sexual abuse was reported by 13% of the women and 2.5% of the men. Analyses controlled for childhood adversities in such a way that it was possible to look at the effects both in combination with other adversities and separately. Significant associations were found between childhood sexual abuse and various mood, anxiety, and substance abuse disorders in adulthood. Subjects who did not report childhood sexual abuse had a lifetime of depression of 19.2%, compared with 39.3% for those with a childhood sexual abuse history.

More generally, exposure to poverty and maltreatment are potent risk factors for depression and for a range of negative outcomes. We have mentioned in detail childhood sexual and physical abuse because empirical investigations have revealed such strong associations between these factors and later disorder, both independently and in combination with other childhood adversities. Effective prevention programs targeting youth depression need to consider these nonspecific risk factors in addition to the more specific risk factors of family depression and subsyndromal symptomatology.

Summary and Discussion

The specific depression prevention programs reviewed above share several meaningful characteristics. In general, the content of these interventions was based on evidence-based treatment programs for adolescent depression. The interventions were structured and outlined in manuals, and those implementing the protocols were carefully trained, and fidelity to the intervention protocols was assessed. The programs were consistent with cognitive-behavioural and (or) interpersonal psychotherapy traditions.

Overall, it appears that there is reason for hope regarding the role of interventions in preventing depressive disorders in youth. Certainly it seems that such prevention programs decrease children's levels of depressive symptoms and, as symptoms clearly are forerunners of full-blown episodes, they are an important positive outcome in and of themselves. It also appears that: the PRP may prevent depressive diagnoses in very high-risk children; the Prevention of Depression program prevents episodes of major depression in high-risk children of depressed parents, as implemented by different investigators in different settings; and, IPT–AST may reduce the incidence of depressive diagnoses in preadolescents. Although Spence et al's[42,43] PSFL intervention did not demonstrate significant effects on depression diagnoses in a large sample of adolescents, this study differed from the other studies reviewed in that it was a universal prevention approach.

In addition, prevention programs targeting special populations have yielded encouraging results. The Preventive Intervention Project, the NBP, and the FBP have all demonstrated that interventions can produce meaningful family change, and that this change in family functioning can have long-term, positive benefits on children and adolescents.

Our review highlights several directions for future research on the prevention of depression in youth.

1. In our view, it is quite likely that further research will continue to establish an empirical base for the prevention of depression in high-risk youth. Thus it is likely that consideration of short-term, manual-based preventive interventions for youth at high risk for depression should and will eventually be considered for widespread use as core parts of the array of resources available to clinicians and families at high risk for depression.
2. Targeted and indicated prevention approaches appear to be more effective than universal prevention approaches.

3. It is important to attend to moderators of intervention effects. It appears that some intervention programs work better for youth at particularly high risk for depression, as based on individual risk variables and (or) family risk. Additional important moderators to consider in future research include sex and exposure to recent stressors.[39,71]

4. It is important to consider approaches that can be widely used and easily taught, in addition to more specialized approaches. The family approaches of the Preventive Intervention Project and the development of countrywide programs in Scandinavia emphasize that when good public health interventions are available, they can be widely disseminated.

5. Prevention programs targeting youth depression should include efforts to enhance the family environment. Avenevoli and Merikangas[72] argue that family-based programs are indicated because parental psychopathology is associated with general dysfunction in parental and (or) family environment, such that changing the environment of at-risk youth may lower their risk for depression. In fact, family factors may maintain depression in youth,[73,74] and family factors have been found to predict outcome and treatment response among depressed children and adolescents. Moreover, adverse family environments are among the most consistent risk factors for adolescent depression.[20] The Preventive Intervention Project as well as the programs developed by Sandler and colleagues[55] are examples of effective family-based programs. Similar programs targeting the prevention of youth depression are warranted.

6. As noted, attention to nonspecific risk factors for disorder, such as poverty and (or) child maltreatment, is important in adolescence and adulthood. Nonspecific risk factors are well described as a part of precipitating episodes in adulthood. Their presence in childhood and adolescence significantly increases the lifetime risk for depression.

7. More research is needed on the dissemination phase of prevention research. Efforts to demonstrate the effectiveness of prevention programs need to consider the unique needs and experiences of children from different ethnic and cultural groups.[75]

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References

1. World Health Organization. The global burden of disease. Geneva (CE): WHO Press; 1996.
2. Greenberg PE, Kessler R, Birnbaum H. The economic burden of depression in the United States: how did it change between 1990 and 2000? J Clin Psychiatry. 2003;64:1465–1475.
3. Lynch F, Clarke G. Estimating the economic burden of depression in children and adolescents. Am J Prev Med. 2006;31:S143–S151.
4. Kovacs M. Next steps for research on child and adolescent depression prevention. Am J Prev Med. 2006;31:S184–S185.
5. Bardone AM, Moffitt T, Caspi A, et al. Adult mental health and social outcomes of adolescent girls with depression and conduct disorder. Dev Psychopathol. 1996;8:811–829.
6. Bardone AM, Moffitt T, Caspi A. Adult physical health outcomes of adolescent girls with conduct disorder, depression and anxiety. J Am Acad Child Adolesc Psychiatry. 1998;37:594–601.
7. Lewinsohn PM, Pettit JW, Joiner TE, et al. The symptomatic expression of major depressive disorder in adolescents and young adults. J Abnorm Psychol. 2003;112:244–253.
8. Rao U, Ryan ND, Birmaher B, et al. Unipolar depression in adolescents: clinical outcome in adulthood. J Am Acad Child Adolesc Psychiatry. 1995;34:566–578.
9. Weissman MM, Wolk S, Goldstein RB, et al. Depressed adolescents grown up. JAMA. 1999;17:7–13.
10. Rubin KH, Both L, Zahn-Waxler C, et al. Dyadic play behaviors of children of well and depressed mothers. Dev Psychopathol. 1991;3:243–251.
11. Harnish JD, Dodge KA, Valente E. Mother–child interaction quality as a partial mediator of the roles of maternal depressive symptomatology and socioeconomic status in the development of child behavior problems. Child Dev. 1995;66:739–753.
12. Costello EJ, Pine DS, Hammen C, et al. Development and natural history of mood disorders. Biol Psychiatry. 2002;52:529–542.
13. Kessler R, Walters EE. Epidemiology of DSM-III-R major depression and minor depression among adolescents and young adults in the National Comorbidity Survey. Depress Anxiety. 1998;7:3–15.
14. Birmaher B, Ryan ND, Brent D, et al. Child and adolescent depression: a review of the past ten years. Part I. J Am Acad Child Adolesc Psychiatry. 1996;35:1427–1439.
15. Birmaher B, Ryan ND, Williamson DE, et al. Child and adolescent depression: a review of the past ten years. Part II. J Am Acad Child Adolesc Psychiatry. 1996;35:1575–1583.
16. Kessler R, Wai CT, Demler O, et al. Prevalence, severity, and comorbidity of 12-month DSM-IV disorders in the National Comorbidity Survey replication. Arch Gen Psychiatry. 2005;62:617–627.
17. March JS, Silva S, Petrycki S. Treatment for Adolescents with Depression Study Team. Fluoxetine, cognitive-behavioral therapy, and their combination for adolescents with depression. JAMA. 2004;292:807–820.
18. National Research Council and Institute of Medicine. Prevention Committee. Preventing emotional and behavioral disorders among young people: progress and possibilities. [place unknown]: National Academies Press;2009.
19. Mrazek PJ, Haggerty RJ. Reducing risks for mental disorders: frontiers for preventive research. Washington (DC): National Academy Press; 1994.
20. Evans DL, Foa EB, Gur RE, et al. Treating and preventing adolescent mental health disorders: what we know and what we don't know. New York (NY): Oxford University Press; 2005.
21. The National Advisory Mental Health Council Workgroup on Child and Adolescent Mental Health Intervention Development and Deployment. Blueprint for change: research on child and adolescent mental health. Washington (DC): The National Institute of Mental Health, Office of Communications and Public Liaison; 2001.
22. Horowitz JL, Garber J. The prevention of depressive symptoms in children and adolescents: a meta-analytic review. J Consult Clin Psychol. 2006;74(3):401–415.
23. Merry SN, McDowell H, Hetrick S, et al. Psychological and/or educational interventions for the prevention of depression in children and adolescents. The Cochrane Database of Systematic Reviews. 2006;3:1–107.
24. Angst J, Sellaro R, Merikangas KR. Depressive spectrum diagnoses. Compr Psychiatry. 2000;41:39–47.
25. Gillham JE, Shatte AJ, Freres DR. Preventing depression: a review of cognitive-behavioral and family interventions. App Prev Psychol. 2000;9(2):63–88.
26. Kaslow NJ, Thompson MP. Applying the criteria for empirically supported treatments to studies of psychosocial interventions for child and adolescent depression. J Clin Child Psychol. 1998;27:146–155.
27. Gillham J, Reivich K, Jaycox L, et al. The Penn Resiliency Program. Philadelphia (PA): University of Pennsylvania; 1990.
28. Gillham J, Brunwasser SM, Freres DR. Preventing depression in early adolescence. In: Abela JRZ, Hankin BL, editors. Handbook of depression in children and adolescents. New York (NY): Guilford Press; 2008. p 309–322.
29. Jaycox L, Reivich K, Gillham J, et al. Prevention of depressive symptoms in school children. Behav Res Ther. 1994;32:801–816.

30. Gillham JE, Hamilton J, Freres DR, et al. Preventing depression among early adolescents in the primary care setting: a randomized controlled study of the Penn Resiliency Program. J Abnorm Child Psychol. 2006;34(2):203–219.
31. Lewinsohn PM, Roberts R, Seeley J, et al. Adolescent psychopathology: II. Psychosocial risk factors for depression. J Abnorm Psychol. 1994;103:302–315.
32. Clarke G, Hawkins W, Murphy M, et al. Targeted prevention of unipolar depressive disorder in an at-risk sample of high school adolescents: a randomized trial of a group cognitive intervention. J Am Acad Child Adolesc Psychiatry. 1995;34:312–321.
33. Clarke G, Hornbrook M, Lynch F, et al. A randomized trial of a group cognitive intervention for preventing depression in adolescent offspring of depressed parents. Arch Gen Psychiatry. 2001;58:1127–1134.
34. Clarke G, Gladstone T, DeBar L, et al. Coping with stress course: prior effectiveness research, revision and improvements. Paper presented at the American Academy of Child and Adolescent Psychiatry; 2007; Boston (MA).
35. Garber J, Clarke G, Brent D, et al. Preventing depression in at-risk adolescents: design and sample characteristics. Paper presented at the American Academy of Child and Adolescent Psychiatry; 2007; Boston (MA).
36. Weersing R, Brent D, Garber J, et al. Prevention of depression in at-risk adolescents: outcome at 8 months. Paper presented at the American Academy of Child and Adolescent Psychiatry; 2007; Boston (MA).
37. Mufson L, Dorta KP, Moreau D, et al. Interpersonal psychotherapy for depressed adolescents. 2nd ed. New York (NY): Guilford Press; 2004.
38. Mufson L, Dorta KP, Wickramaratne P, et al. A randomized effectiveness trial of interpersonal psychotherapy for depressed adolescents. Arch Gen Psychiatry. 2004;61:577–584.
39. Horowitz JL, Garber J, Ciesla JA, et al. Prevention of depressive symptoms in adolescents: a randomized trial of cognitive-behavioral and interpersonal prevention programs. J Consult Clin Psychol. 2007;75:693–706.
40. Young JF, Mufson L, Davies M. Efficacy of interpersonal psychotherapy-adolescent skills training: an indicated preventive intervention for depression. J Child Psychol Psychiatry. 2006;47:1254–1262.
41. Young JF. Recent findings on interpersonal psychotherapy—adolescent skills training. Paper presented at the Society for Prevention Research; 2008; San Francisco (CA).
42. Spence SH, Sheffield JK, Donovan CL. Preventing adolescent depression: an evaluation of the problem solving for life program. J Consult Clin Psychol. 2003;71(1):3–13.
43. Spence SH, Sheffield JK, Donovan CL. Long-term outcome of a school-based, universal approach to prevention of depression in adolescents. J Consult Clin Psychol. 2005;73(1):160–167.
44. Beardslee W, Keller MB, Seifer R, et al. Prediction of adolescent affective disorder: effects of prior parental affective disorders and child psychopathology. J Am Acad Child Adolesc Psychiatry. 1996;35:279–288.
45. Rutter M. Commentary: some focus and process considerations regarding effects of parental depression on children. Dev Psychol. 1990;26:60–67.
46. Beardslee W, Salt P, Versage E, et al. Sustained change in parents receiving preventive interventions for families with depression. Am J Psychiatry. 1997;154(4):510–515.
47. Beardslee W, Versage E, Wright E, et al. Examination of preventive interventions for families with depression: evidence of change. Dev Psychopathol. 1997;9:109–130.
48. Beardslee WR, Wright EJ, Salt P, et al. Examination of children's responses to two preventive intervention strategies over time. J Am Acad Child Adolesc Psychiatry. 1997;36(2):196–204.
49. Beardslee WR, Gladstone TRG, Wright EJ, et al. A family-based approach to the prevention of depressive symptoms in children at risk: evidence of parental and child change. Pediatrics. 2003;112(2):E99–E111.
50. Beardslee W, Wright E, Gladstone T, et al. Long-term effects from a randomized trial of two public health preventive interventions for parental depression. J Fam Psychol. 2007;21:703–713.
51. Podorefsky DL, McDonald-Dowdell M, Beardslee WR. Adaptation of preventive interventions for a low-income, culturally diverse community. J Am Acad Child Adolesc Psychiatry. 2001;40(8):879–886.
52. D'Angelo EJ, Llerena-Quinn R, Shapiro R, et al. Adaptation of the preventive intervention program for depression for use with Latino families. Fam Process. Forthcoming.
53. Solantaus T, Toikka T. The effective family programme: preventative services for the children of mentally ill parents in Finland. Int J Ment Health Promot. 2005;3:37–43.
54. Beardslee W, Hosman C, Solantaus T, et al. Children of mentally ill parents: an opportunity for effective prevention all too often neglected. In: Hosman C, Jane-Llopis E, Saxena S, editors. Prevention of mental disorders: effective interventions and policy options. Oxford (GB): Oxford University Press. Forthcoming.
55. Sandler IN, Wolchik SA, Davis CH, et al. Correlational and experimental study of resilience for children of divorce and parentally-bereaved children. In: Luthar SS, editor. Resilience and vulnerability: adaptation in the context of childhood adversities. New York (NY): Cambridge University Press; 2003. p 213–240.
56. Tein JY, Sandler IN, MacKinnon DP, et al. How did it work? Who did it work for? Mediation in the context of a moderated prevention effect for children of divorce. J Consult Clin Psychol. 2004;72:617–624.
57. Wolchik SA, West SG, Sandler IN, et al. An experimental evaluation of theory-based mother and mother–child programs for children of divorce. J Consult Clin Psychol. 2000;68:843–856.
58. Wolchik SA, Sandler IN, Millsap RE, et al. Six-year follow-up of preventive interventions for children of divorce: a randomized controled trial. J Am Acad Child Adolesc Psychiatry. 2002;288:1874–1881.
59. Sandler IN, Ayers TS, Wolchik SW, et al. Children suffering from family disruption: separation, divorce and bereavement. In: Hosman CMH, Jane-Llopis E, Saxena S, et al, editors. Prevention of mental disorders: an overview on evidence-based strategies and programs. London (GB): World Health Organization. Forthcoming.
60. Sandler IN, Ayers TS, Romer AL. Fostering resilience in families in which a parent has died. J Palliat Med. 2002;5:945–956.
61. Sandler IN, Ayers TS, Wolchik SA, et al. The Family Bereavement Program: efficacy evaluation of a theory-based prevention program for parentally bereaved children and adolescents. J Consult Clin Psychol. 2003;71(3):587–600.
62. Sandler IN, Wolchik SA, Ayers TS. Resilience rather than recovery: a contextual framework on adaptation following bereavement. Death Stud. 2008;32:59–73.
63. Tein JY, Sandler IN, Ayers TS, et al. Mediation of the effects of the Family Bereavement Program on mental health problems of bereaved children and adolescents. Prev Sci. 2006;7:179–195.
64. Sandler IN, Wolchik SA, Ayers TS, et al. Linking theory and intervention to promote resilience of children following parental bereavement. In: Stroebe M, Hansson M, Stroebe W, et al, editors. Handbook of bereavement research: consequence, coping and care. Washington (DC): American Psychological Association. Forthcoming.
65. Beardslee WR, Gladstone TRG. Prevention of childhood depression: recent findings and future prospects. Biol Psychiatry. 2001;49(12):1101–1110.
66. Rutter M, Quinton D. Psychiatric disorder: ecological factors and concepts of causation. In: McGurk H, editor. Ecological factors in human development. Amsterdam (NL); North-Holland Publishing Company; 1977. p. 173–187.
67. Sameroff AJ, Bartko WT, Baldwin A, et al. Family and social influences on the development of child competence. In: Lewis M, Feiring C, editors. Families, risk and competence. Mahwah (NJ): Erlbaum; 1998. p 161–185.
68. Gilman SE, Kawachi I, Fitzmaurice GM, et al. Socioeconomic status in childhood and the lifetime risk of major depression. Int J Epidemiol. 2002;31:359–367.
69. Widom CS, DuMont K, Czaja SJ. A prospective investigation of major depressive disorder and comorbidity in abused and negected children grown up. Arch Gen Psychiatry. 2007;64:49–56.
70. Molnar BE, Buka SL, Kessler RC. Child sexual abuse and subsequent psychopathology: results from the National Comorbidity Survey. Am J Public Health. 2001;91(5):753–760.
71. Sims B, Nottelmann E, Koretz DS, et al. Prevention of depression in children and adolescents. Am J Prev Med. 2007;32:451–455; erratum.
72. Avenevoli S, Merikangas KR. Implications of high-risk family studies for prevention of depression. Am J Prev Med. 2006;31:S126–S135.
73. Brent D, Holder D, Kolko D, et al. A clinical psychotherapy trial for adolescent depression comparing cognitive, family and supportive therapy. Arch Gen Psychiatry. 1997;54:877–885.
74. Hammen C, Rudolph K, Weisz J, et al. The context of depression in clinic-referred youth: neglected areas in treatment. J Am Acad Child Adolesc Psychiatry. 1999;38:64–71.
75. Barrera M. Directions for expanding the prevention of depression in children and adolescents. Am J Prev Med. 2006;31:S182–S183.

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Résumé : La prévention de la dépression chez les enfants et les adolescents : une revue

Objectif : Effectuer une revue de la documentation récente sur la prévention des diagnostics cliniques de dépression chez les enfants et les adolescents.

Méthode : Plusieurs programmes d'intervention préventive axés sur les diagnostics de dépression chez les jeunes ont été examinés. Ces programmes basaient leurs stratégies de prévention sur des approches cognitivo-comportementales et (ou) interpersonnelles, qui se sont révélées utiles dans le traitement de la dépression. En outre, les stratégies de prévention familiales ont été examinées. De même, des facteurs de risque non spécifiques de la dépression chez les jeunes, y compris la pauvreté et la violence envers les enfants, ont été discutés comme étant d'importantes considérations des programmes de prévention ciblant la dépression chez les jeunes.

Résultats : En général, les programmes de prévention ciblant la dépression chez les jeunes qui réussissent sont basés sur des programmes de traitement de la dépression chez les jeunes fondés sur des données probantes, structurés et présentés dans les manuels. Ils incluent une formation approfondie du personnel qui applique les protocoles, ainsi qu'une évaluation de la fidélité aux protocoles d'intervention. Les programmes étaient conformes aux traditions de la psychothérapie cognitivo-comportementale et (ou) interpersonnelle. En somme, il semble qu'il y ait raison d'espérer en ce qui concerne le rôle des interventions pour prévenir les troubles dépressifs chez les jeunes.

Conclusions : Plusieurs nouvelles orientations pour la future recherche sur la prévention de la dépression chez les jeunes ont été proposées. Il faut d'autre recherche afin d'établir une base empirique pour la prévention de la dépression chez les jeunes à risque élevé, et cette recherche devrait : mettre l'accent sur les approches de prévention ciblées et indiquées, porter attention aux modérateurs d'effets d'intervention, inclure des approches qui visent à améliorer le milieu familial, prendre en compte les facteurs non spécifiques de risque de trouble, et mettre l'accent sur la phase de diffusion de la recherche préventive.