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Using an evidence-based CBT group intervention model for adolescents with depressive symptoms: lessons learned from a school-based adaptation

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ABSTRACT

This paper highlights the process of implementing and adapting an evidence-based cognitive–behavioural therapy (CBT) depression group intervention model for adolescents (ages 11–18) in two middle schools and one alternative high school in the USA. The paper describes the process of moving an evidence-based intervention from a clinic-based setting to a school-based setting by engaging in the following steps: (1) reviewing the literature and selecting the evidence-based intervention with the greatest chance of success in the school environment; (2) adapting the evidence-based intervention to address delivery issues in a school setting; (3) preparing social workers to deliver the evidence-based intervention with fidelity; (4) evaluating the fidelity and outcomes of the implementation of the evidence-based intervention; and (5) addressing issues of sustainability or continuous quality improvement of the evidence-based intervention. The paper concludes with a section on lessons learned from piloting an adaptation of an evidence-based intervention in a real world setting.

INTRODUCTION

Depression is a significant problem for adolescents, with up to 8% of adolescents in the USA experiencing depression (Collins *et al.* 2004). Adolescent females are twice as more likely to experience depressive symptoms than adolescent males (Crisp *et al.* 2006). Adolescents with or at risk of depression, if untreated, are more likely to experience negative outcomes such as social withdrawal, poor academic performance, drug use, lowered self-esteem, suicide and increased risk of other psychiatric disorders (Angold & Costello 1993; Arias *et al.* 2003; Clarke *et al.* 2003). In addition, many adolescents in the USA who experience depressive symptoms or depression do not receive mental health treatment because of fear of stigma or lack of access to treatment (Collins *et al.* 2004). For those adolescents who do receive treatment, the services are usually provided in the school setting (Burns *et al.* 1995). Catron and Weiss (1994) reported that 98% of youth referred to school-based mental health workers received services, although only 17% of students referred to clinic-based mental health services received treatment. Although schools may represent an ideal location for delivering mental health services and increasing access to mental health treatment for adolescents, many school social workers and school mental health providers are not trained or supervised to deliver evidence-based interventions that may result in more positive outcomes for these adolescents. Zins *et al.* (2004), in their review of school-based interventions, found that a majority of the interventions delivered to youth with emotional or behavioural problems in a school setting were not empirically based. In addition, the interventions with the strongest evidence are often not easy to implement in a school-based setting. This paper highlights how two middle schools and an alternative high school adapted

an evidence-based cognitive–behavioural therapy (CBT) group intervention for adolescents with or at risk of depression. The pilot evaluation study conducted to assess the adapted intervention is also presented.

THE PROCESS

Chinman *et al.* (2004) identified 10 steps to selecting and implementing evidence-based interventions to maximize positive outcomes. These steps included:

1. choosing which problem(s) to focus on;
2. identifying goals, target population, and desired outcomes;
3. finding existing programmes and best practices worth copying;
4. modifying the programme or best practices to fit your needs;
5. assessing capacity to implement the programme/intervention;
6. making a plan for getting started;
7. evaluating planning and implementation;
8. evaluating programme's success in achieving desired results;
9. making a plan for continuous quality improvement; and
10. considering how to keep the programme going if it is successful.

For this paper, the steps identified above have been collapsed into the following key components: (1) reviewing the literature and selecting the evidence-based intervention with the greatest chance of success in the school environment; (2) adapting the evidence-based intervention to address delivery issues in a school setting; (3) preparing social workers to deliver the evidence-based intervention with fidelity; (4) evaluating the fidelity and outcomes of the implementation of the evidence-based intervention; and (5) addressing issues of sustainability or continuous quality improvement of the evidence-based intervention.

Reviewing the literature and selecting the evidence-based intervention

Because of the number of students who had requested services from school social workers at the two middle schools and the alternative high school for high levels of depressive symptoms, the school-based health and wellness clinic administrator and school social workers decided to explore evidence-based interventions that have demonstrated positive outcomes for this population. Students seeking school-based mental health services for depression were in part caused by the ease of accessibility as the mental health services were provided within the school-based health clinic. It is important to note that the motivation to implement an evidence-based intervention was initiated by the school social workers. An evaluation project team that involved the school social workers, a supervisor who had expertise in delivering CBT interventions, the administrator of the school-based health clinics and an evaluator was formed.

Data from meta-analyses of randomized controlled trials supported the use of CBT in the treatment of adolescents with depressive symptoms (Munoz-Solomando *et al.* 2008). In addition, in a review of school-based interventions studies for students with or at risk of depression, Hilt-Panahon *et al.* (2007) found that CBT had the strongest evidence base for reducing depressive symptoms with moderate to large effect sizes. Knowing that the CBT evidence-base was strong for treating adolescents with depressive symptoms, the evaluation study project team examined those studies that had specified treatment components and could be adapted to a school-based setting in more detail. Fixsen *et al.* (2005), in their review of implementation research, found that interventions that had clear identifiable components known and defined are more readily able to be adapted and implemented in different settings. During this exploration phase, it was important to consider the context in which the intervention would be delivered. In this situation, the following factors also influenced the selection of the evidence-based intervention that would be implemented: (1) the feasibility of delivering the intervention in the school during the school day; (2) the level of training and supervision needed to deliver the intervention; and (3) whether the intervention could be delivered in a group format. These were important considerations as delivering the intervention during the school day would increase access to the intervention for all students, the training needed to be easy to implement as there are multiple competing demands on the school social workers' time in addition to delivering any evidence-based interventions, and because of the limited staffing at the school clinics, a group format would allow the school social workers to reach more students in need of the intervention.

The evaluation project team secured funding from the State Community Mental Health Department to pilot an adapted, evidence-based CBT group intervention to be delivered in the school setting, to

conduct an initial evaluation of the intervention and to develop a supervision manual that could facilitate replication in other school-based settings.

Adapting the evidence-based intervention to address delivery issues in a school setting

The two middle schools and the alternative high school where this intervention was delivered had school-based health and wellness clinics, and the social workers were based in these clinics. The clinics provide free health and mental health services to youth in the schools. The school-based health and wellness clinics are funded through grants from the state and participating school districts. The schools had a high concentration of adolescents living in impoverished conditions, and over half of the adolescents lived in families that had health services through Medicaid (the public assistance medical insurance). It is important to mention that the adolescents at these schools viewed the school-based health and wellness clinics positively, and over 80% of the students had used the services of the clinic at some point during an academic year for physical or mental health concerns. Receiving mental health services and group interventions at the school-based health and wellness clinics did not carry the stigma often associated with accessing mental health treatment. In addition, most of the adolescents at these schools – if referred to specialty mental health services outside the school – would often not follow through with getting treatment.

The Adolescent Coping with Depression intervention developed by Clarke *et al.* (2001) was selected for adaptation and implementation. This intervention was based on their randomized studies using CBT in a group format with adolescents experiencing depression (Clarke *et al.* 1993, 1995). The group intervention was delivered in a clinic setting and involved education activities, role playing exercises and homework assignments to help adolescents use the CBT skills in coping with depression. The groups were comprised of four to eight adolescents. The intervention manual describes the 16-week group intervention. Each session lasted 2 hours each. The intervention used a fixed group format and the groups were of mixed gender. The adolescents in the groups were between the ages of 13 years and 18 years. Seventy per cent of the adolescents who participated in this clinic-based group intervention showed significant improvement in their depressive symptoms at the end of the group sessions and at a 12-month follow-up measurement point (Clarke *et al.* 2001). The intervention manual was online and accessible, with permission given by the developers for social workers and other mental health professionals to use the manual for work with adolescents.

In reviewing the intervention, it was clear that the intervention addressed the core cognitive–behavioural components identified in meta-analyses as critical components for successful CBT outcomes. These components included cognitive restructuring, problem-solving, pleasant activity scheduling, the tripartite model of emotions and mood spirals. The intervention manual provided group leaders the didactic materials needed to address each of the CBT components, exercises that could be used during the sessions to reinforce the learning of the CBT components and homework assignments that further reinforced the change efforts for participants.

The intervention needed to be adapted from the clinical-based model to a school-based model. It was not feasible for the school-based social workers to secure a 2-hour time period during the school day to deliver the model as developed by Clarke *et al.* (2001). In addition, the 16-week session format was too long and did not fit well into the class rotation structure. The adaptation to a school setting would result in having less time per group intervention session and fewer sessions than the manual prescribed. In consultation with the school administrators and teachers, the evaluation study project team determined that the delivery of the group intervention needed to be limited to 45-minute sessions (to parallel the class structure in the school) and be delivered over 9 weeks to parallel the school calendar cycle. This was a significant change for the clinic-based model and the results might be significantly compromised. The team was aware that by modifying the intervention, there was a risk that the outcomes may not be the same as what was achieved in the randomized trials of this CBT group intervention. It is similar to baking a cake but not including the sugar or flour; the modifications might not result in the hoped-for outcomes.

The clinic-based intervention components were reviewed by the supervisor with CBT expertise and the evaluator to determine how the critical components from the research could be maintained in this adapted model. A school-based intervention manual was developed that included the critical CBT components from research (cognitive restructuring, problem-solving, pleasant activity scheduling, the tripartite model of emotions and mood spirals). The session exercises were modified to address the shorter 45-minute sessions (instead of 2-hour sessions in the

Table 1 Adapted depression group cognitive–behavioural therapy session outline

Session 1: Depression and social learning: tripartite model of emotion and mood spirals
Session 2: Depression, self-observation and change: starting conversations
Session 3: Self-observation and change: baseline study of pleasant activities and relaxation
Session 4: Learning how to change: examining baseline information and goal setting for pleasant activities
Session 5: Pleasant activities, self-rewarding, and conversation skills
Session 6: Changing your thinking
Session 7: Power of positive and accurate thinking
Session 8: Changing negative thinking to accurate thinking
Session 9: Disputing irrational thinking, maintaining gains and termination

original manual). Each group session had a team-building exercise, a CBT lesson, an activity to demonstrate the skill acquisition in group and a homework assignment that highlighted the learning in the group. This was the same format as the original intervention. The flow of the introduction of CBT components also remained the same. The change or adaptation in the school-based intervention was that each session did not have all the exercises that helped adolescents learn and practise the CBT skills, and the intervention was briefer. In addition, the components not identified through research as critical to the change in the clinic-based manual were not kept in the adapted model (e.g. family component, socialization exercises). The approach to identifying the exercises to support the learning of key CBT components for each session centred on reviewing all the exercises in the original intervention manual and identifying those exercises that could be adapted effectively in a briefer session and that would capture the key components best. Pre- and post-group measures were developed to ensure that core components identified for a particular group session were covered. A supervision manual was also developed that was linked to the adapted group intervention manual. This process of reviewing the clinic-based model and adapting the model for the school-based setting took place over 3 months and involved piloting components to see if the changes were appropriate. Table 1 provides the key themes covered at each session for the adapted intervention model.

Preparing social workers to deliver the evidence-based intervention with fidelity

Once the intervention had been adapted, the supervision and training by the CBT expert prior to implementation was initiated. The funding from the grant provided the necessary resources to train the school-based social workers in the evidence-based CBT practice. The supervision and training was delivered in a mentorship-style group format and was provided on a weekly basis during the initial training time and then twice monthly for one or two hours each time once the initial CBT groups were implemented. This mentorship supervision model was also supported by grant funds. One of the challenges that school-based social workers experience is often not having the resources to secure adequate, ongoing supervision. The school-based social workers who participated in the project operated out of different school clinics and usually would not have had a chance to meet with each other to engage in training and supervision activities. The mentorship supervision model supported the school-based social workers in connecting with each other and providing each other ongoing support during the training and implementation phase.

The training focused on the development of direct cognitive–behavioural practice skills and group intervention skills. The supervision and training process included all the clinic-based CBT educational components, clinical case discussions, demonstrations and role-plays. The pre-group didactic information on CBT included the cognitive model of depression; the tripartite model of emotions, monitoring and baselining; behavioural activation techniques; cognitive restructuring; and coping self-statements. The pre-group supervision also addressed school-based issues, including establishing criteria for referral to the CBT groups, reviewing the manual and practising implementation of each group session. The pre-implementation phase took 3 months before the social workers were ready to implement the CBT groups. Once the CBT groups were implemented, the supervision changed to focusing more on fidelity to the intervention and addressing any challenges in delivering the intervention as adapted. Table 2 provides the format for the mentorship supervision and training approach used.

Evaluating the fidelity and outcomes of implementing the evidence-based intervention

Evaluating the fidelity and outcomes of the adapted school-based CBT depression group intervention involved several steps. According to Blasé and Fixsen (2005), measuring fidelity involves assessing if the pre-conditions for implementing the intervention have been met, ensuring that the practitioner uses intervention processes prescribed by the practice and

Table 2 Mentorship supervision and training approach

Pre-implementation cognitive–behavioural therapy (CBT) training and mentorship supervision sessions:
1. Didactics related to cognitive–behavioural and social learning theory
   a. Classical and operant conditioning models
   b. Cognitive model of depression
   c. Tripartite model of emotions and mood spirals
2. Didactics related to interventions directed at pleasant activity scheduling and behaviour change
   a. Monitoring and baselining: the benefits of self recording and data collection to facilitate and monitor change
   b. Behavioural activation techniques
   c. Progressive muscle relaxation
3. Didactics related to interventions directed at thoughts and beliefs
   a. Thought identification, connections to feelings and actions
   b. Identifying cognitive distortions and negative thinking
   c. Cognitive restructuring and coping self-statements
   d. Identifying and challenging dysfunctional beliefs
4. Case presentations and discussions
5. Role play and practise of CBT techniques
6. Readings and self study
7. Addressing buy in from teachers, parents and students
8. Adapting the group intervention to support delivery during the school day in nine sessions
9. Establishing criteria for inclusion in group and the referral process

Implementation and ongoing supervision sessions:
1. Assess previous week's CBT groups session
2. Evaluate treatment adherence and fidelity by the school based social worker
3. Review adapted intervention manual and prepare for upcoming group session
4. Practise CBT strategies, role play, demonstration and troubleshoot

demonstrating that the practitioner has the level of skill needed to deliver the intervention as prescribed. The context issues and pre-conditions for implementation had been addressed in the pre-implementation supervision process with the social workers. The school-based social workers met with teachers individually and at staff meetings to talk about the intervention and to seek the teachers' feedback about when the best times would be to deliver the intervention during the school day. In addition, the school-based social workers shared the information about the intervention at parent–teacher meetings for feedback and through a newsletter. The school administrators supported the implementation of the group intervention during the school day and viewed the intervention as important for the well-being of students in the school. The necessary approvals and buy-ins from the school administration and teachers had been secured. Implementation fidelity measures were developed that focused on determining if the social workers delivered the intervention in the way that was intended and assessed whether the students learned the critical components of CBT taught in each session. Using the mentorship supervision model, the social workers met prior to each group session with the supervisor to review the session components and to practise the skills needed to deliver the CBT components for that session. After the group session, the social workers debriefed the group session with the supervisor and identified any areas where the social workers might have deviated from the group session structure. The biggest challenge to fidelity identified by the social workers in the supervision sessions was that many times the students were delayed in arriving for the group session so the team-building exercises needed to be shortened to allow for adequate time to cover the critical CBT components. To monitor that students were learning the critical CBT components in each session and to ensure that content from the previous sessions was covered in the assignments, a pre- and post-session knowledge quiz was given and homework assignments were reviewed.

The pilot evaluation of the school-based CBT depression group intervention involved pre- and post-group measures and a 6-week follow-up measure. The purpose of the key questions for the evaluation was to determine if a modified school-based CBT depression group intervention delivered during the school day would decrease youth depressive symptoms and would improve school engagement and peer relationships. Parents provided their written consent for their adolescents to participate in the groups, and the adolescents signed assent forms. The evaluation study was approved by the Institutional Review Board at the university where the evaluator was based. In the two middle schools, parents of the adolescents were

interviewed prior to entering the CBT group intervention using standardized instruments to assess their perceptions of each adolescent's level of depression and the adolescent's functioning in school, at home and with peers. Information was also obtained from parents about the adolescent's mental health service use. All the adolescents completed pre- and post-tests of depression measures as well as measures that assessed peer relationships and school engagement.

Adolescents were referred for the school-based CBT depression group intervention by teachers, parents, student self-referral and other school personnel. The social workers completed the depression assessment and evaluation protocol forms to determine if the student was appropriate for the school-based CBT depression group intervention. The measures used in the pilot evaluation were brief standardized measures and could be maintained in ongoing practice with little modification if the evaluation outcomes for this adapted CBT group intervention were positive. Using instruments that the social workers would find useful in their everyday practice once the project was completed was an important consideration in the selection of measures.

The 27-item, self-report Child Depression Inventory (CDI) (Kovacs 1992) was used to measure depressive symptoms in the adolescents in the two middle schools. Each item on the CDI gives the adolescents three possible responses. The CDI norms were based on a sample of public school students in the USA. The Beck Depression Inventory II (BDI II) (Beck *et al.* 1996) was used to measure depressive symptoms in the adolescents at the alternative high school. The BDI II contains 21 questions and is also a self-report instrument. The BDI II is composed of items relating to depressive symptoms. The CDI and the BDI II has high levels of internal consistency and test–re-test reliability. The social workers had already been using these measures in their individual therapy work.

Because this was a school-based population, the level of depressive symptoms ranged from mild to moderate for adolescents referred to the school-based CBT depression group intervention. At the alternative high school, the students referred to the group intervention tended to have higher levels of depressive symptoms than did the adolescents in the middle schools.

Parents reported on the adolescent's functioning using the Columbia Impairment Scale (CIS; Bird *et al.* 1993). This scale assesses the adolescent's functioning across key domains (e.g. school, peers, parents, siblings) and could be done by telephone. The item responses were from 0 (no problem) to 4 (a very bad problem). The 13-item scale ranged from 0 to 52, with a cut-off score of 15 or higher, indicating impairment. The scale was formed from a community sample of parents with youth ages 9–17 years in the USA. In addition to these standardized measures, students were also asked questions that focused on school engagement and peer relationships. Teachers in the middle schools provided pre- and post-information on the adolescent's school performance and interactions in the classroom.

THE RESULTS OF THE PILOT EVALUATION

A total of 60 adolescents participated in the school-based CBT depression groups. Fifteen of the adolescents were from the alternative high school. A majority of the adolescents who participated were white (33% were black). More female adolescents than male adolescents participated in the groups. This is consistent with the epidemiological data that suggests that more adolescent females experience depression than adolescent males. The age range for the adolescents who participated in the groups was 11–18 years. The older adolescents were at the alternative high school. Each school-based CBT depression group was comprised of five to seven students, consistent with the original clinic-based model. The groups used a fixed format where no new students were added once the group began. The students had high levels of attendance at the group sessions as the group sessions were held during the school day and did not interfere with other classes or outside school commitments. Attrition was very low with only a couple of students leaving the groups caused by moving out of the area. The pre- and post-student knowledge checks at each group session indicated that the group intervention was being delivered with fidelity.

The adolescents from the middle schools reported moderate levels of depression (CDI Mean = 30.64, standard deviation [SD] = 11.02) at the start of the school-based CBT depression groups. Parents of the middle school adolescents reported that their adolescents had moderate functioning difficulties in school and with friend and family relationships (CIS Mean = 20.70, SD = 9.08) prior to joining the school-based CBT depression groups. The adolescents from the alternative high school also reported moderate levels of depression at the start of the school-based CBT depression groups (BDI II Mean = 19.5, SD = 9.08).

After the 9-week school-based CBT depression group was completed, adolescents at both the middle

schools and the alternative high school reported significant decreases ($P < 0.01$) in depressive symptoms. In addition, there was a significant difference ($P < 0.01$) between pre- and post-measures on the negative mood, anhedonia and self-esteem sub-scales of the CDI for the adolescents in the middle school. A pre- and post-test mood instrument was also given that had been part of the original manual. There was a significant difference ($P < 0.05$) in the pre- and post-test mood scores for the adolescents in the middle school and in the alternative high school. Teachers in the middle school reported improvements in class participation and attendance while the adolescents were attending the school-based CBT depression group sessions. Teachers shared that students who participated in the groups completed homework assignments more and earned better grades. Students at the middle schools and the alternative high school did not report any major changes in their relationships with peers. At the 6-week follow-up measurement, the adolescents still reported positive changes and improved mood but the difference was no longer significant. There were no significant differences noted between the older, high school adolescents and the younger, middle school adolescents on depression measures. Differences based on race/ethnicity and gender was also not significant.

Qualitative comments from the students at the end of the school-based CBT depression group sessions indicated that they had found the group sessions to be helpful and would recommend the group to other students. In fact, several students commented that they found friends in the group and that they wished the group would continue. Students at the end of the group were able to identify at least one adult whom they could talk with when they were feeling down or depressed. This question was asked post-group intervention as the literature suggests that having an adult to confide and talk with helps students who are coping with depressive symptoms (Auger 2005). Students could label the core cognitive–behavioural components taught during the group sessions, and many had used the techniques outside of group sessions to help them cope with their feelings of depression. This was still true at the follow-up measurement point.

Addressing issues of sustainability or continuous quality improvement of the evidence-based intervention

It is too early to look at sustaining this adapted, school-based CBT depression group intervention as more work still needs to be done in determining if the positive outcomes can be stabilized post-group intervention. This pilot evaluation showed some positive results with the adapted, evidence-based CBT depression group intervention immediately after completing the group sessions. The one area that continues to need to be addressed is how to ensure that the changes made during the group sessions are maintained at follow-up times. Because the adapted model was delivered in a briefer time period and with less time for the intervention at each session than the original clinic-based model, it makes sense to think about adding booster sessions every month for the first 3 months after the group has ended in order to maintain the gains achieved in the group. As part of the continuous quality improvement activities, the information gathered from this pilot evaluation would be incorporated in the next evaluation of the intervention.

In terms of sustainability, the intervention has been converted into a manual or rather, 'manualized'; the supervision manual has been developed and the intervention is easy to implement. The social workers are motivated to follow the manual and there are processes in place to help them note if they drift from the prescribed interventions. The supervision mentorship model provided opportunity for consistent feedback to the school social workers about their performance in delivering the adapted school-based CBT depression group intervention. At this point, the supervisor with CBT expertise will continue to provide supervision in a group format, in order to ensure fidelity with the goal of transitioning supervision to the school social workers for new workers or for changes in the core trained staff.

Fixsen *et al.* (2005) identify the need to have individuals or a group of individuals named as 'purveyors' in order for the implementation of evidence-based practices to occur with fidelity. In this current project, the evaluation study team served in this role. The evaluation study team actively worked to ensure that the school social workers remained engaged in this process and willing to deliver a 'manualized' intervention. Using a manual that prescribes what happens in each group session and staying on task were new to the school-based social workers. At this point, the school social workers have transitioned into being the purveyors for this adapted school-based CBT depression group intervention.

LESSONS LEARNED

In spite of the fact that the adapted, school-based CBT depression group was delivered in fewer sessions

and in less time at each session, there was a significant change in depressive symptoms for adolescents who completed the group sessions. In this adapted model, the adolescents were able to learn the core cognitive–behavioural skills to assist them in coping with symptoms of depression. The qualitative data at follow-up did indicate that the adolescents were using the skills taught in the school-based CBT depression group, but the standardized measures did not show that the decrease in depressive symptoms noted at the end of the intervention had been maintained. Working on adding booster sessions and check-in points to the adapted model for these adolescents after completion of the group may result in having similar outcomes at 12 months as the clinic-based model. This adapted model, although it fits well into the school-based setting, did cut out significant material and exercises from the clinic-based model, and being able to practise the skills more over time will need to be addressed in the next evaluation study of this adapted model.

The mentorship group supervision model was successful in teaching the social workers the skills they needed to deliver the CBT depression group intervention with fidelity. In order for change to occur, the training of practitioners needs to be done over time and reinforced through fidelity checks. The social workers who were trained in this adapted, school-based CBT depression group intervention began to use this same model in individual sessions with students who presented with depressive symptoms. The evaluation study team began to also measure the changes for pre- and post-intervention for those adolescents who received the individual-adapted CBT depression intervention. The results were similar to the group intervention. There were significant differences in mood, depressive symptoms and coping skills for these adolescents as well at the end of treatment. The group model is still preferred by the school-based setting as more students can be reached through this approach, and access to mental health services will be increased.

Moving the evidence-based clinic model to the school-based setting with fidelity involved significant time in the development of the adapted group and supervision manual. It is not easy for most practitioners working in school-based settings to secure the time needed to obtain training and to receive the ongoing supervision by a CBT expert. Schools that want to implement and adapt evidence-based practices need to have administrative and funding supports to engage in this change in practice effort. This current project had funding for the first 2 years but the evaluation project team continues to meet to refine the adapted model. Delivering the adapted evidence-based model in a 'real world' setting did improve access to services for the targeted population and did create an environment in the school-based settings for exploring additional evidence-based interventions to improve mental health services delivered to students during the school day.

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REFERENCES

Angold, A. & Costello, E. (1993) Depressive comorbidity in children and adolescents: empirical, theoretical, and methodological issues. *American Journal of Psychiatry*, **150,** 1779–1791.

Arias, E., MacDorman, M., Strobino, D. & Guyer, B. (2003) Annual summary of vital statistics-2002. *Pediatrics*, **112,** 1215–1230.

Auger, R.W. (2005) School-based interventions for students with depressive disorders. *Professional School Counseling*, **8,** 344–352.

Beck, A., Steer, R. & Brown, G. (1996). *Manual for the Beck Depression Inventory II*. Psychological Corporation, San Antonio, TX.

Bird, H., Shaffer, D. & Gould, M. (1993) The Columbia Impairment Scale (CIS): pilot findings on a measure of global impairment for children and adolescents. *International Journal of Methods in Psychiatric Research*, **3,** 167–176.

Blasé, K. & Fixsen, D. (2005) Measuring fidelity of implementation. Presented at the 15th Annual Conference on State Mental Health Agency Services Research, Tampa, FL, February 6–8.

Burns, B., Costello, E., Angold, A., Tweed, D., Stangle, D. & Farmer, E. (1995) Children's mental health service use across service sectors. *Health Affairs*, **14,** 148–159.

Catron, T. & Weiss, B. (1994) The Vanderbuilt school-based counseling program: an interagency, primary care-model of mental health services. *Journal of Emotional and Behavioral Disorders*, **2,** 247–253.

Chinman, M., Imm, P. & Wandersman, A. (2004) *Getting to Outcomes 2004: Promoting Accountability through Methods and Tools for Planning, Implementation, and Evaluation*. RAND Corporation, Santa Monica, CA.

Clarke, G., Hawkin, W., Murphy, M. & Sheeber, L. (1993) School-based primary prevention of depressive symptomology in adolescents: findings from two studies. *Journal of Adolescent Research*, **8,** 183–204.

Clarke, G., Hawkin, W., Murphy, M., Sheeber, L., Lewinsohn, P. & Seeley, J. (1995) Targeted prevention of unipolar depressive disorder in an at-risk sample of high school adolescents: a randomized trial of a group cognitive intervention. *Journal of American Academy of Child Adolescent Psychiatry*, **34,** 312–321.

Clarke, G., Lewinsohn, P. & Hops, H. (2001) Instructor's manual for adolescents coping with depression course. Retrieved from Kaiser Permanente Center for Health Research website. Available at: http://www.kpchr.org/public/acwd/acwd.html (accessed 30 September 2008).

Clarke, G., DeBar, L. & Lewinsohn, P. (2003) Cognitive-behavioral group treatment for adolescent depression. In: *Evidence-Based Psychotherapies for Children and Adolescents* (ed. A. Kazdin), pp. 120–134. Guilford Press, New York.

Collins, K., Westra, H., Dozois, D. & Burns, D. (2004) Gaps in accessing treatment for anxiety and depression: challenges for the delivery of care. *Clinical Psychology Review*, **24,** 583–616.

Crisp, H.L., Gudmundsen, G.R. & Shirk, S.R. (2006) Transporting evidence-based therapy for adolescent depression to the school setting. *Education and Treatment of Children*, **29,** 287–309.

Fixsen, D., Naoom, S., Blasé, K., Friedman, R. & Wallace, F. (2005). *Implementation Research: A Synthesis of Theliterature*. University of South Florida, Tampa, FL.

Hilt-Panahon, A., Kern, L., Divatia, A. & Gresham, F. (2007) School-based interventions for student with or at risk for depression: a review of the literature. *Advances in School Mental Health Promotion*, **1,** 32–41.

Kovacs, M. (1992). *Children's Depression Inventory (CDI)*. Multi-Health Systems, Inc, North Tonawanda, NY.

Munoz-Solomando, A., Kendall, T. & Whittington, C. (2008) Cognitive behavioural therapy for children and adolescents. *Current Opinion in Psychiatry*, **21,** 332–337. Available at: http://www.medscape.com/viewarticle/575409_print (accessed 1 October 2008).

Zins J.E., Weissberg R.P., Wang M.C. & Walberg H.J. (eds) (2004) *Building Academic Success on Social and Emotional Learning: What Does the Research Say?* Teachers College Press, New York.