

Evaluation of Outcomes for Adolescents Receiving School-Based Mental Health Services

Laura A. Nabors

*Department of Psychology
University of Cincinnati*

Christine A. Prodenté

*Center for School Mental Health Assistance
Departments of Psychiatry and Psychology
University of Maryland School of Medicine*

Youth in urban areas have been effected by a reduced availability of mental health services and increased contact with serious risk factors. School mental health (SMH) programs may be an optimal avenue for providing services to these youth who otherwise might not receive treatment. In this pilot study, we examined change in adolescent reports of behavioral and emotional functioning for youth receiving SMH services in inner-city schools. Results indicate minor improvements, but not clinically significant changes in functioning at 12- and 18-month follow-ups. Youth identified as having a greater number of resilience factors were more likely to remain in and complete therapy. Adolescents reported feeling satisfied with their treatment; high satisfaction was positively related to perceptions of clinicians as being warm, caring, and exhibiting positive regard for them.

School mental health (SMH) programs are an important setting for providing mental health services to adolescents, especially urban youth who typically face increased exposure to risk factors (Pumariega & Vance, 1999). SMH programs reduce barriers to receiving services (e.g., access regardless of ability to pay for care; Evans, 1999). Longitudinal studies such as this one that assess outcomes related to participation in SMH services for urban youth are needed. Program evaluation ac-

tivities for this project were funded by the Agency for Healthcare Research and Quality to examine the effectiveness of SMH services and thus strengthen the research base in this emerging field. The main goals for this project were twofold. First, we examined change in behavioral and emotional functioning at 12 and 18 months for youth receiving or who had received SMH services. Second, we examined the relations among several factors, such as number of sessions and satisfaction with treatment and ratings of change in behavioral and emotional functioning.

Positive relationships between clinicians and adolescents, as well as adolescent satisfaction with treatment, influence outcomes (Nabors, Reynolds, & Weist, 2000; Stein & Lambert, 1995). Qualitative data from focus groups with adolescents receiving SMH services indicated that they perceived a warm and caring relationship with their therapist as having a positive impact on therapy process (Nabors et al., 2000; Nabors, Weist, & Tashman, 1999). Adolescents also reported high levels of satisfaction with their services (Nabors, Weist, Reynolds, Tashman, & Jackson, 1999). Researchers have indicated that the association between satisfaction and outcomes is equivocal, and more research is needed in this area (Lambert, Salzer, & Bickman, 1998). For this project, we examined the association between student ratings of clinician relationship skills (e.g., warmth, caring), satisfaction with treatment, and changes in behavioral and emotional functioning.

School-based mental health services cover a broad range of areas including assessment, therapy, consultation, and prevention activities. For this project, we evaluated services provided by clinicians from the School Mental Health Program in Baltimore, Maryland, including different types of individual and group therapies with youth. Clinicians from this program also provide a variety of other services including consultation, family therapy, crisis evaluation and referral, and small group and classroom-wide mental health prevention activities.

METHOD

Participants

At the 12-month follow-up, 79 adolescents were in the treatment group (181 in the initial sample), and 54 were in the comparison group (113 in the initial sample). Information on the sample at intake and 6 months can be found in a previous study published in this journal (Nabors & Reynolds, 2000). Students in the comparison group attended the same schools but were not receiving SMH services. Students were between the ages of 11 and 18 years ($M = 15$ years). They attended middle schools or high schools in an urban area and were from low-income families. The majority of youth in the treatment and comparison group were African American ($n = 91$). The ratio of girls to boys in the sample was approximately 2:1. At the 18-month follow-up, 47 adolescents in the treatment group were located (29 girls;

37 African American youth; 38 in high school). Mean age was still 15 years. Assent from adolescents and parental consent were required for participation in this research.

Measures

Tracking form. Clinician's recorded diagnosis, Global Assessment of Functioning (American Psychiatric Association, 1994), length of sessions, number of visits, and number of treatment goals and protective factors on a checklist developed for this study.

Child and Adolescent Functional Assessment Scale (CAFAS; Hodges, 1995, 1997). Clinicians recorded perceptions of changes in psychosocial functioning for youth on the CAFAS. The total score was used in analyses. This measure has adequate psychometric properties (Hodges, 1995, 1997; Hodges & Wong, 1996) and has been used to assess outcomes for children receiving SMH services (Hodges, Wong, & Latessa, 1998).

Youth Self-Report Form (YSR; Achenbach, 1991). Adolescents recorded perceptions of their behavioral and emotional functioning on the YSR. The psychometric properties of the YSR are outstanding and are documented in the manual.

My Counselor's Attitude Questionnaire (MCAQ). Adolescents recorded perceptions of clinician relationship skills on five 4-point Likert scales ranging from 1 (*rarely*) to 4 (*always*) in the following areas: warmth, caring, unconditional positive regard, and empathy. Total scores on the MCAQ ranged from 5 to 20. This measure was developed for this study.

Youth Satisfaction With Counseling Questionnaire (YSC). Adolescents completed a checklist, developed for this study, which assessed their reasons for satisfaction and dissatisfaction with services. They also rated their level of satisfaction on a 3-point Likert scale ranging from 3 (*very satisfied*) to 1 (*not satisfied*). They also could provide a "don't know" response for this item. A total score was calculated for the YSC by adding the number of reasons for satisfaction and student level of satisfaction with services (rated on a 4-point Likert scale question) and then subtracting the number of reasons for dissatisfaction.

Procedure

At the initial assessment, adolescents in the treatment and comparison groups completed the YSR, and clinicians completed the CAFAS and tracking form for

students in treatment. At 3 and 6 months, clinicians completed the CAFAS and tracking form for students in treatment. Adolescents in the treatment and comparison groups completed the YSR at 6 months. At 12 and 18 months, adolescents in the treatment group completed the YSR, MCAQ, and YSC; clinicians completed the tracking form at these times. Adolescents in the comparison group completed the YSR at 12 months.

RESULTS

At 1 year, change in YSR scores was examined using a 2 (gender) \times 2 (age: middle school, high school) \times 2 (group: therapy, comparison) mixed factorial design. Adolescents receiving mental health services showed significantly more improvement in YSR scores at 12 months than students in the comparison group. Specifically, youth in treatment reported higher YSR scores at intake than those in the comparison group. This difference diminished at follow-up when the mean score for adolescents in treatment was roughly equivalent to the mean score for adolescents in the comparison group. There was a trend for a Gender \times Group interaction. Specifically, boys in the treatment group reported decreases in YSR scores, whereas boys in the control group reported a slight increase in scores. Girls in the treatment group and the comparison group reported decreases in YSR scores.

A stepwise regression analysis indicated that two factors, YSR scores at 6 months and ratings of clinician relationship skills (MCAQ scores), predicted 79% of the variance in YSR scores at 1 year. Lower YSR scores at 6 months and higher MCAQ scores were related to lower YSR scores at 12 months. There were trends indicating number of sessions (lower) and higher satisfaction ratings were related to lower YSR scores. Clinician ratings on the CAFAS, gender, and age level (middle school vs. high school) did not predict changes in functioning.

Another stepwise regression analysis indicated that two factors, lower scores on the YSR at 12 months and total number of sessions ($M = 25$), accounted for 70% of the variance in YSR scores at 18 months. Participating in more sessions was related to reporting higher YSR total scores. The MCAQ, CAFAS, YSC, gender, and age level were not significant predictors. Adolescents who had successfully completed treatment by 18 months (i.e., treatment goals accomplished or graduated from high school) were rated as having more protective factors than adolescents who left treatment prematurely, were expelled, or had left school (were high school dropouts).

Adolescent Perceptions of Their Treatment and Clinician Relationship Skills

Reports of clinician relationship skills on the MCAQ were positively related to total scores on the YSC at 12 and 18 months. Interestingly, YSR total scores were not

related to YSC scores at either time period. Many adolescents (80%) reported high levels of satisfaction at both follow-ups. The most common reasons for satisfaction were that the counselor “gives good advice,” “helps with family problems,” “helps me deal with my boyfriend or girlfriend,” and “helps me learn to control my temper.” Some adolescents were dissatisfied with high staff turnover.

DISCUSSION

Results indicated that adolescents receiving SMH services reported improved functioning after a year, although this difference did not reflect a clinically significant change in functioning (i.e., a change of 1 *SD* on the YSR). The sensitivity of the outcome measures may not have been adequate to assess change, or the therapeutic interventions may not have been sufficient to promote change in the adolescents’ functioning as assessed. At 18 months, adolescents participating in more sessions reported higher YSR scores. The fact that there was not an appreciable change in functioning for youth between 12 and 18 months indicated that perhaps there is an optimal “dose” of therapy sessions. On the other hand, many youth with more severe problems had dropped out of school before the 18-month assessment.

Findings suggested a trend for boys receiving SMH services to report improved functioning compared to boys in the comparison group at 12 months. It may be that participating in mental health services was a protective factor for urban boys who faced exposure to significant stressors. Girls receiving and not receiving treatment both reported improved functioning. This may reflect positive effects related to maturation. These statements are purely speculative, and more research needs to be conducted to understand Gender \times Treatment interactions in this setting.

Results also indicated that adolescents exhibiting several protective factors were more likely to complete treatment. Using a checklist for assessing total number of protective factors is a very rudimentary measure. Research in this field has provided information on specific factors that improve outcomes for at-risk youth, such as having a relationship with a supportive adult (Resnick et al., 1997).

A majority of the adolescents reported feeling satisfied with their treatment. Those who viewed their therapist as warm and caring were more likely to report satisfaction with treatment. This makes sense intuitively and supports evidence from earlier research (Nabors et al., 2000, Nabors, Weist, et al., 1999). Satisfaction with treatment and perceptions of clinician relationship skills were not related to reports of behavioral and emotional functioning. It may be that these are two different constructs and therefore are unrelated.

Several factors pose limitations on the usefulness of our findings. For example, attrition rates were unusually high. Youth who received the school-based services typically had high rates of school absence and truancy, making data collection difficult. A secondary analysis for this study indicates that students tended to drop out

of school for multiple reasons (e.g., failing grades, suspension, poor relationships with teachers, moving to a new apartment), and we were unable to discover which factors were the primary cause of their leaving school. It was evident that older youth, especially juniors and seniors in high school, tended to drop out of school more often than underclassmen and middle school students. Thus, finding ways to retain students in urban high schools remains a goal for schools, communities, and SMH programs.

Other shortcomings existed for this pilot study. In this study assessing global outcomes, many of the variables we investigated (e.g., CAFAS scores) were not significantly related to changes in functioning for youth. The sample size was relatively small at both follow-up assessments, providing low power to detect possible effects. A larger sample with a randomly assigned control group would strengthen a larger scale evaluation. These results reflect an examination of services in general; these services are comprised of many different interventions for youth with different diagnoses. Current statistical techniques are not designed to detect differences in interventions nested within clinical diagnoses for small sample sizes.

Unfortunately, data for the no-treatment comparison group were not obtained at 18 months. However, this may not have significantly impacted our conclusions because there was not a significant difference in YSR total scores between 12 and 18 months. Data for adolescents in the comparison group were not collected at 18 months due to staff attrition.

A noteworthy finding underlying all the results is that the program may have been most helpful for urban adolescents who were at lower risk for mental health problems. Results showed only slight improvements in functioning for youth receiving services, and those students likely to remain in treatment were described as more resilient than those who did not. Students with significant problems may have dropped out of school and treatment. This speculation raises the question of whether the school-based clinicians were serving well the students most in need of mental health care. Utilizing a waiting-list control group may demonstrate that functioning sharply declines for students who do not receive SMH services. Hence, it will be important to develop multisite evaluation studies with randomized control and treatment groups to conduct future studies.

Evaluation of the effectiveness of SMH services remains imperative, although difficult to conduct, because results can be used to improve knowledge and provide accountability data. For the field to advance, multisite evaluation studies need to be conducted to provide a better description of SMH services across communities, understand the effects of specific factors on student functioning, and increase knowledge of the effectiveness of services. Before this step can be taken, however, researchers will need to overcome ethical issues related to assigning high-risk youth with multiple needs to no-treatment control groups. One rationale in favor of conducting clinical trials is that these types of studies can provide evidence in support of providing treatment to at-risk adolescents (i.e., if they did not receive treat-

ment their conditions might worsen). Consequently, although our results showed only a slight improvement for adolescents receiving services, adding a no-treatment control group may have demonstrated that, without SMH services, student functioning may have declined.

ACKNOWLEDGMENTS

We thank the Agency for Healthcare Research and Quality for funding this project (Grant RO3 HSO9542).

Additionally, we thank Mark Weist and clinicians and students participating in the School Mental Health Program for their support of this project. Information on the measures developed for this project (and their scoring), statistical analyses, and results is available from Laura A. Nabors.

REFERENCES

- Achenbach, T. M. (1991). *Manual for the Youth Self-Report and 1991 Profile*. Burlington: University of Vermont, Department of Psychiatry.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- Evans, S. W. (1999). Mental health services in schools: Utilization, effectiveness, and consent. *Clinical Psychology Review, 19*, 165–178.
- Hodges, K. (1995). *CAFAS Self-Training Manual*. (Available from CAFAS, 2140 Old Earhart Road, Ann Arbor, MI 48105)
- Hodges, K. (1997). *CAFAS manual for training coordinators, clinical administrators, and data managers*. (Available from CAFAS, 2140 Old Earhart Road, Ann Arbor, MI 48105)
- Hodges, K., & Wong, M. M. (1996). Psychometric characteristics of a multidimensional measure to assess impairment: The Child and Adolescent Functional Assessment Scale. *Journal of Child and Family Studies, 5*, 445–468.
- Hodges, K., Wong, M. M., & Latessa, M. (1998). Use of the Child and Adolescent Functional Assessment Scale (CAFAS) as an outcome measure in clinical settings. *Journal of Behavioral Health Services & Research, 25*, 325–336.
- Lambert, W., Salzer, M. S., & Bickman, L. (1998). Clinical outcome, consumer satisfaction, and ad hoc ratings of improvement in children's mental health. *Journal of Consulting and Clinical Psychology, 66*, 270–279.
- Nabors, L. A., & Reynolds, M. W. (2000). Program evaluation activities: Outcomes related to treatment for adolescents receiving school-based mental health services. *Children's Services: Social Policy, Research, and Practice, 3*, 175–189.
- Nabors, L. A., Reynolds, M. W., & Weist, M. D. (2000). Qualitative evaluation of a high school mental health program. *Journal of Youth and Adolescence, 29*, 1–13.
- Nabors, L., Weist, M., Reynolds, M., Tashman, N., & Jackson, C. (1999). Adolescent satisfaction with school-based mental health services. *Journal of Child and Family Studies, 8*, 229–236.
- Nabors, L. A., Weist, M. D., & Tashman, N. A. (1999). Focus groups: A valuable research tool for assessing adolescents' perceptions of school based mental health services. *Journal of Gender, Culture, and Health, 4*, 39–48.

- Pumariega, A. J., & Vance, H. R. (1999). School-based mental health services: The foundation of systems of care for children's mental health. *Psychology in the Schools, 36*, 371–378.
- Resnick, M. D., Bearman, P. S., Blum, R. W., Bauman, K. E., Harris, K. M., Jones, J., et al. (1997). Protecting adolescents from harm: Findings from the national longitudinal study on adolescent health. *Journal of the American Medical Association, 278*, 823–832.
- Stein, D. M., & Lambert, M. J. (1995). Graduate training in psychotherapy: Are therapy outcomes enhanced? *Journal of Consulting and Clinical Psychology, 63*, 182–196.