



## DATA TRENDS: October 2000 #16

Summaries of research on mental health services for children and adolescents and their families



### Dose-Effect and Outcome in Children's Mental Health Services

- Sources:
- Andrade, A.R., Lambert, E.W., & Bickman, L. (2000). Dose effect in child psychotherapy: Outcomes associated with negligible treatment. *Journal of the American Academy of Child and Adolescent Psychiatry*, 39 (2), 161-166.
- Angold, A., Costello, E.J., Burns, B.J., Erkanli, A., & Farmer, E.M.Z. (2000). Effectiveness of nonresidential specialty mental health services for children and adolescents in the "Real World". *Journal of the American Academy of Child and Adolescent Psychiatry*, 39 (2), 154-160.
- Hoagwood, K. (2000). Commentary: The dose effect in children's mental health services. *Journal of the American Academy of Child and Adolescent Psychiatry*, 39 (2), 172-174.
- Petti, T.A. (2000). Commentary: More outcome studies are needed. *Journal of the American Academy of Child and Adolescent Psychiatry*, 39 (2), 169-171.

The February 2000 edition of the *Journal of the American Academy of Child and Adolescent Psychiatry* features two studies with opposing findings about the effectiveness of children's mental health services. Two commentaries in the same journal discuss the disparity between the results of these studies.

#### Angold et al. (Great Smoky Mountain Study):

Angold et al. present findings based on data from the Great Smoky Mountains Study (GSMS), a longitudinal research project that studied the development of psychiatric disorders and need for mental health services in youth. The GSMS followed samples of 9, 11, and 13 year-olds from rural North Carolina over four years in which "American Indian youths, and children with behavioral problems...were oversampled" (p. 155). The researchers studied changes in *psychiatric impairment* (difficulties functioning in 17 areas, including life at home, at school, etc.), *psychiatric symptoms*, and *parental impact* (i.e. financial difficulties, restrictions on activities, relationship problems etc.) over time. The researchers used statistical analysis to control for different levels of initial symptoms among participants.

Unlike many research projects, Angold et al. distinguish between psychiatric impairment and psychiatric symptoms, hypothesizing that with treatment, level of *symptomatology* may decline without a corresponding change in impairment. In fact, results did indicate that youth who were treated for more than eight sessions had a significant reduction in number of symptoms, without any change in impairment or parental impact. These results are interesting because they indicate that previous outcome studies may, in part, have failed to detect improvement because researchers have generally used global outcome measures that do not differentiate between symptom reduction and improvement in overall functioning. Although there was a significant reduction in symptoms for participants who had received more than eight sessions, those who received less did not improve, indicating that treatment of a shorter duration is unlikely to be effective.

Another unusual aspect of this research was the measurement of pretreatment trajectory. Angold et al. measured changes in youth who never presented for treatment (although they were still considered symptomatic) and youth who were going to receive treatment but hadn't yet started. They found that those who were going to receive treatment were actually getting worse before treatment, while the no-treatment group was improving. This is an interesting finding that requires more analysis, but appears to indicate that although both groups met official criteria for diagnosis of a mental disorder, those who presented for treatment were in greater need of services. This also indicates that the level of improvement in the treated group may be understated, given the fact that their symptoms were getting worse before treatment.

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## **Andrade et al. (Fort Bragg Evaluation Project):**

In the other study, Andrade et al., used data from the Fort Bragg Evaluation Project (FBEP) to compare outcomes of children who received ongoing, outpatient treatment with those who received “negligible” treatment. Negligible treatment was defined in a number of ways, ranging from no treatment at all to a maximum of seven outpatient visits. Children in this sample were “military-dependent” (p. 162) and ranged in age from 5 to 17 years old, with an average age of 11. The majority came from 2-parent, middle-income, well-educated families. The researchers statistically controlled for variations in participants’ initial symptom severity.

Using four outcome measures from different raters’ perspectives (youth, parent, and observer), measurements of mental health were taken up to three times (intake, 6 months, and 12 months). Results indicated that there were no significant differences in improvement between those who received negligible treatment and those who received longer-term treatment, as measured by any of the four scales. In contrast to the results of Angold et al., these findings indicate that more treatment does not result in improved mental health.

## **Conclusions:**

Two commentaries in the same journal address the disparity between these two studies’ findings. Kimberly Hoagwood notes that there is a “lack of specificity” (p. 172) regarding the definition of dose in mental health treatment, and a lack of clarity about what particular problems are being treated with what types of treatments in dose-effect studies. She notes that various studies use different outcome measures, given at different times, and analyzed with a variety of statistical tests. In reference to these two studies, she notes, “They vary in methods, design, measurement of outcomes, and analytic techniques. It is not surprising that the authors come up with two contradictory answers” (p. 173).

Theodore Petti notes that in the Andrade study, a potentially inaccurate assumption is made that treatment is synonymous with psychotherapy. He indicates that there are many forms of treatment besides traditional psychotherapy (such as services in school and through the child welfare and juvenile justice systems) that were not controlled for in this study, potentially confounding the results. He notes that the children who were placed in the negligible treatment group may actually have been receiving services from another source besides the FBEP. He also notes the disparity between the two studies in terms of the age of clients (5 to 17 in the FBEP vs. 10 or older in the GSMS), as well as backgrounds (2-parent, middle-income, military in the FBEP vs. rural children with behavioral problems in the GSMS).

Both commentators note that these were well-designed, carefully executed, real-life studies. They agree that further studies addressing the dose-effect question in children’s mental health treatment are needed and that future studies would benefit from clearer definitions of terms and understandings of the effective mechanisms of psychotherapeutic services. Taken together, these studies and commentaries underline the need to carefully weigh all accumulated evidence in a research area, and to avoid prematurely drawing conclusions or making policy recommendations based on findings from a few studies.