

- Second Messenger -

Educational Outcomes

The goals of continuing medical education

Meghan M. Grady
NEI Staff Writer

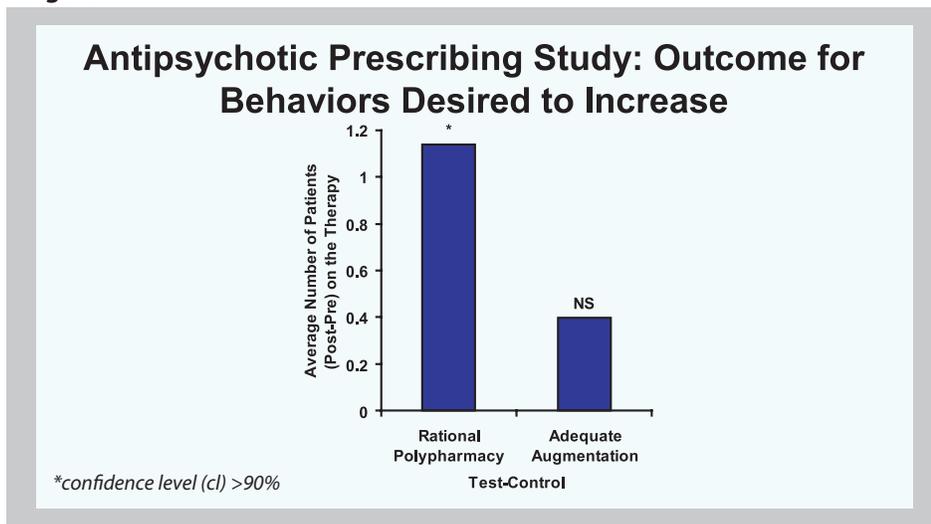
Issue Outcomes studies are necessary to determine the impact of continuing medical education.

Actions The Neuroscience Education Institute (NEI) has conducted multiple outcomes studies for our educational activities.

Benefits Data from outcomes studies allow the Neuroscience Education Institute to customize future activities to the educational needs and learning styles of our participants.

While continuing medical education (CME) is presumed to affect physician behavior, actual changes in prescribing and other behaviors as a result of continuing education are rarely documented. Outcomes studies are essential to evaluating the effectiveness of CME as well as shaping future educational interventions to maximize impact. The Neuroscience Education Institute (NEI) routinely investigates the effectiveness of our educational activities so that we can be sure to provide the most useful experiences possible to our participants. Following are two examples of outcomes studies we have conducted.

Figure 1

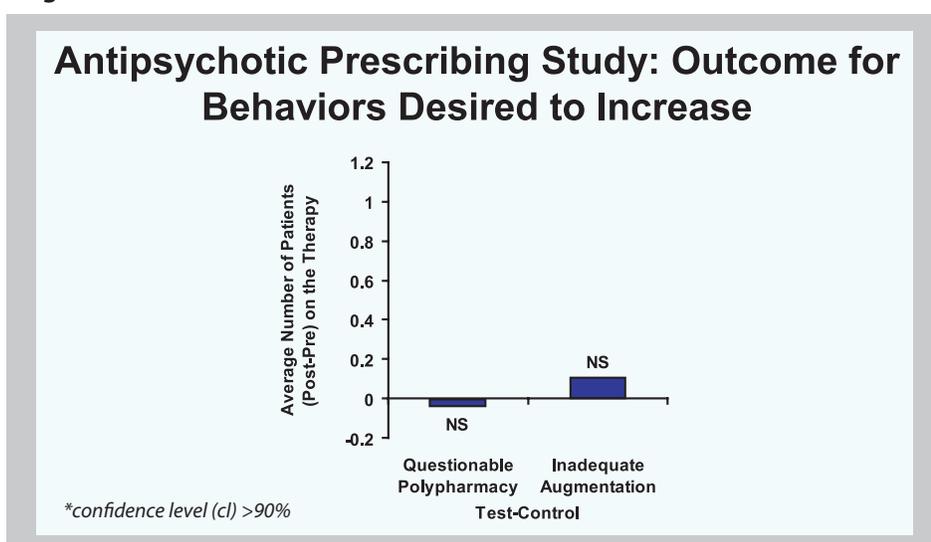


Study one: effectiveness of an educational activity designed to improve antipsychotic prescribing practices

Objective: A case study was conducted to evaluate the effectiveness of an educational intervention designed to decrease questionable antipsychotic prescribing practices and increase rational antipsychotic prescribing practices.

Method: Physicians who were identified as high prescribers of antipsychotic polypharmacy¹ attended a half-day live symposium on evidence-based uses of antipsychotics followed by two remote conferences held 30 and 60 days following the initial meeting. Changes in prescribing behaviors of those physicians were then measured in the four months following the intervention relative to a control group. Data were analyzed by IMS Health Management Consulting. Thirty physicians who participated in the educational intervention were matched to 30 control physicians, and a paired comparison analysis was conducted to measure changes in prescription writing behavior. Polypharmacy was defined as concurrent use of multiple antipsychotics, and was considered rational if it was short-term (less than 60 days overlap) and questionable if it was long-term (60 or more days of overlap). Augmentation was defined as concurrent use of a non-antipsychotic psychotropic agent with an antipsychotic. Augmentation with divalproex, carbamazepine, lamotrigine, lithium, benzodiazepines, or oxcarbazepine was considered adequate, while augmentation with gabapentin or topiramate was considered inadequate.

Figure 2



Results: Test physicians significantly increased usage of rational short-term polypharmacy and adequate augmentation with carbamazepine. There was a directional increase in adequate augmentation with lamotrigine, lithium, divalproex, and benzodiazepines (Figure 1). There was no significant change in questionable polypharmacy, adequate augmentation with oxcarbazepine, or inadequate augmentation with gabapentin or topiramate (Figure 2).

Discussion: The educational intervention was effective at increasing rational antipsychotic prescribing practices, but was not effective at reducing antipsychotic prescribing practices that are without documented efficacy and/or mechanistic rationale.

Future directions: These data suggest that physicians may be more likely to introduce new treatment practices following an educational intervention than to discontinue existing practices. It is also possible that, even if physicians no longer initiate patients on regimens described in the educational intervention as questionable or inadequate, they may be unlikely to discontinue those regimens in current patients who are stabilized. This study was small and preliminary, and additional studies evaluating the effectiveness of education on physician prescribing behaviors would be valuable.

Outcomes studies are essential to evaluating the effectiveness of CME as well as shaping future educational interventions.

Study two: impact of education on antidepressant use

Objective: A case study was conducted to evaluate the impact on prescribing behavior of an educational activity designed to increase augmentation strategies for treating residual symptoms of depression.

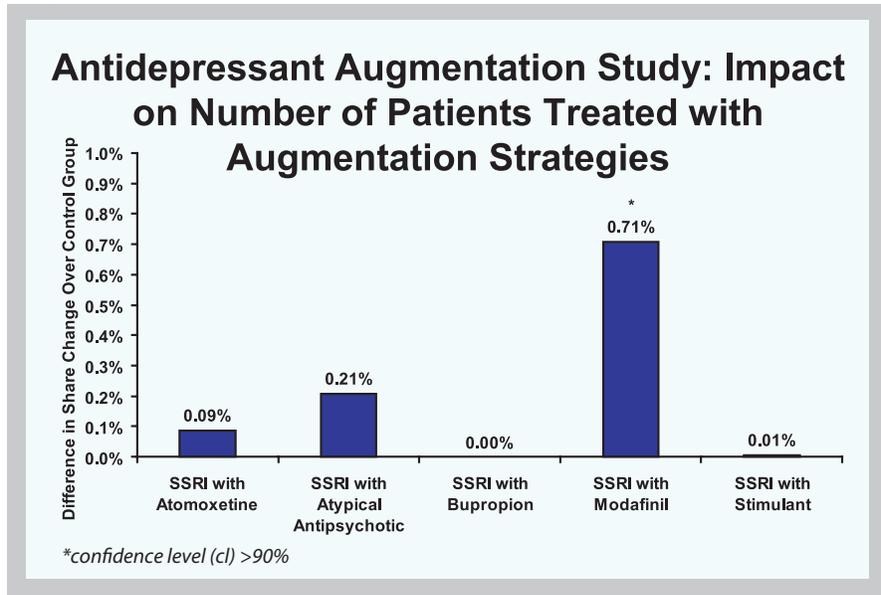
Method: The educational intervention occurred in two formats: dinner meetings and half-day live symposia. The dinner meetings consisted both of slide presentation by faculty and discussion groups. The half-day symposium consisted of lecture presentations with an interactive format that included audience response systems (ARS). Participants could attend only a dinner meeting, only a half-day symposium, or both. Data were analyzed by IMS Health Management Consulting. 1,184 physicians who participated in the educational intervention were matched to 1,184 control physicians based on specialty, location, and prescribing of selective serotonin reuptake inhibitor (SSRI) and dual serotonin and norepinephrine reuptake inhibitor (SNRI) monotherapy as well as augmentation of SSRIs with atomoxetine, modafinil, atypical antipsychotics, bupropion, and stimulants. A paired comparison analysis was conducted to measure changes in prescription writing behavior. Both physician- and patient-level data were analyzed.

Results: Relative to the control group, test physicians significantly increased their use of augmentation with modafinil and directionally increased their use of augmentation with

Reference

1. Stahl SM et al. Poster presented at the CINP, Montreal, Canada, June 23–27, 2002.

Figure 3



atomoxetine. No change was seen in use of augmentation with atypical antipsychotics, bupropion, or stimulants (Figure 3). Significantly more test physicians prescribed augmentation with modafinil and with atomoxetine than did control physicians, with no difference in the number of physicians prescribing augmentation with atypical antipsychotics, bupropion, or stimulants (Figure 4).

Discussion: The educational intervention was effective at increasing use of relatively novel treatments such as modafinil and atomoxetine, with which the physicians were unlikely to have notable prior experience. The intervention had no effect on use of established agents such as bupropion or stimulants, perhaps because the physicians were already aware of these

options. Bupropion in particular is one of the most frequently used augmenting agents in depression. The intervention also had no effect on augmentation with atypical antipsychotics.

Future directions: These data suggest that the educational intervention was effective at increasing understanding, awareness, and use of novel augmentation strategies for depression. The educational design of this intervention may therefore be useful for future interventions aimed at introducing novel treatment strategies.

The bottom line—Outcomes studies are an integral part of continuing medical education. At NEI we routinely evaluate the impact of our educational activities and use that information to sculpt future activities. ☒

Figure 4

