

## Summary: Sequenced Treatment Alternatives to Relieve Depression (STAR\*D)

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When it comes to primary care treatment of depression, what can the clinician expect? Often, the diagnosis of a patient with clinical depression is fairly straightforward and on the first visit in the office, the clinician may prescribe a medication, most often an SSRI. What can we reasonably expect from using these medications? How many patients will achieve remission and what do we do when two months later the patient is still depressed?

The Sequenced Treatment Alternatives to Relieve Depression (STAR\*D) trial was undertaken to answer these questions. The study has been funded by the National Institute of Mental Health and is the largest (over 4000 patients at over 40 clinical sites) and longest (data collected over seven years) study ever done to evaluate depression treatment. The study reflects what happens in clinical practice, as patients who fail to achieve remission in the first level of treatment are able to select alternative or add-on treatments in subsequent levels 2, 3, and 4 of the study.

In the trial, all patients were given citalopram (Celexa) for Level 1 treatment. The medication was started at 20 mg daily then increased, if needed, to 40 mg/day on week 4 and 60 mg/day on week 6. If the patient did not become symptom free (i.e., reach remission) at 12 weeks or had intolerable side effects, they were encouraged to progress to the second level of treatment. Results showed that approximately 30% of patients achieved remission (about 1 in 3) with the citalopram and another 15% showed improvement.

Primary care providers and psychiatrists achieved similar results. Patients most likely to achieve remission were highly educated, currently employed, married, Caucasian women with few complicating psychiatric or medical disorders. For remission, the mean dose of citalopram was higher (42 mg/day) and mean duration of treatment was longer (47 days with 5.5 visits) than might have been expected on the basis of current clinical practice.

Approximately 70% of these patients did not reach remission in the first level of treatment, which is what you are likely to see in your practice. At Level 2, patients had the option to either switch medication (Zoloft, Wellbutrin or Effexor) or try another treatment (cognitive behavioral therapy); or add a treatment (Wellbutrin, Buspar or cognitive behavioral therapy). The Level 2 results showed that 1 in 4 patients or 25% achieved remission in the switch group and about 1 in 3 patients in the add-on group were able to achieve remission.

If the patient did not achieve remission in Level 2, they were offered to continue with Level 3, which again was a switch versus add-on choice. At this point, patients could elect a switch to Remeron or Nortriptyline or add either lithium or triiodothyronine (T3). Twelve to 20 percent of patients became symptom free at this level in this switch group and 20% became symptom free in this add-on group. Finally, in Level 4 the other medications were stopped and either an MAOI was used or the combination Effexor/Remeron was tried. Only an additional 7-10% of patients became symptom free at this level.

Overall, approximately 50% of patients were symptom free after 2 treatment levels and up to 70% were in remission after Level 4. Results indicate that, although with every treatment level there was some ability of patients to achieve remission, there was less of a chance in subsequent levels to do so. Patients were followed for 12 months after remission and it was observed that patients who needed several treatment steps to achieve remission were more likely to relapse.

The results of this trial show that treatment for depression needs to be individualized for the patient and that we as clinicians need to have patience with the process. Adding medication (like we do all the time for treatment of other chronic diseases like diabetes and hypertension) may be more effective than switching medications and doses need to be optimized for the patient. The patients also need to be involved in the process and given adequate explanation that it may take several attempts at treatment before an optimal regimen is achieved.

**References:**

Rush AJ. STAR\*D: What Have We Learned? American Journal of Psychiatry. 164(2):201-4, 2007 Feb.

STAR\*D Sequenced Treatment alternatives to Relieve Depression.  
<http://www.edc.gsph.pitt.edu/stard/> Accessed on: May 4, 2007.