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**ABSTRACT:** Objective: Valbenazine is approved for tardive dyskinesia (TD) in adults based on clinical trials that included patients with mood disorders (e.g., bipolar disorder, major depressive disorder). In two long-term phase 3 trials, KINECT 3 (NCT02274558) and KINECT 4 (NCT02405091), sustained TD improvements were found in participants who received once-daily treatment with valbenazine (40 or 80 mg). Data from these studies were analyzed post hoc to evaluate changes in psychiatric status of patients with a primary mood disorder.

**METHODS:** Data were pooled from participants with mood disorders in KINECT 3 (6-week double-blind, placebo-controlled period; 42-week double-blind extension period; 4-week drug-free washout) and KINECT 4 (48 week open-label treatment; 4-week drug-free washout). At screening, patients must have had a Brief Psychiatric Rating Scale total score <50. Mood changes were evaluated after long-term treatment (Week 48) and washout (Week 52) using the Young Mania Rating Scale (YMRS) and Montgomery-Åsberg Depression Rating Scale (MADRS). For each scale, mean changes from baseline in the total score and individual item scores were analyzed descriptively.

**RESULTS:** Of the 95 participants with a primary mood disorder (40 mg, n = 32; 80 mg, n = 63), 59 (62.1%) were diagnosed with bipolar disorder, 32 (33.7%) with major depressive disorder, and 4 (4.2%) with another mood disorder. A majority of all mood participants received concomitant antidepressants (84.2%) and/or antipsychotics (76.8%) during treatment; other common concomitant medications included antiepileptics (47.4%), anxiolytics (38.9%), and anticholinergics (22.1%). Mean YMRS and MADRS total scores in all mood participants indicated mood symptom stability at baseline (YMRS, 2.7; MADRS, 5.9). This stability was maintained during the studies, as indicated by minimal changes from baseline in mean total scores (YMRS: Week 48, 1.0; Week 52, -1.0; MADRS: Week 48, 0.3; Week 52, 0.9). Changes in individual items on both scales were also small (<±0.3), indicating no clinically significant changes or worsening in specific mood symptoms or domains.

**CONCLUSIONS:** Mood symptom stability was maintained in patients with TD and a primary mood disorder who received up to 48 weeks of treatment with once-daily valbenazine in addition to their psychiatric medication(s).

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### Cognitive Impairment in Schizophrenia. First-generation Long-acting Antipsychotics versus Aripiprazole Long-acting Injectable

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**ABSTRACT:** Study Objectives: To assess differences in cognitive impairment in a group of patients with schizophrenia receiving first-generation long-acting antipsychotics (FG-LAI) versus Aripiprazole long-acting injectable (ALAI).

**METHOD:** A descriptive, cross-sectional, multicenter study.

Study sample: 28 outpatients with stable schizophrenia (18 men and 10 women) with ages ranging from 22 to 64 years.

Inclusion criteria were: Clinically stable patients with a diagnosis of schizophrenia (according to DSM-5 criteria) and without any changes to their antipsychotic or antidepressant therapy in the last six months.

Simple stratified sampling was performed to collect data from patients with schizophrenia receiving FG-LAI (n = 14) versus patients with schizophrenia receiving Aripiprazole long-acting injectable (ALAI) (n = 14)

Groups were matched by age, gender, years of evolution of the disease, and years on formal education.

Functionality in the different cognitive domains was evaluated based on the Brief Assessment of cognition in Schizophrenia (BACS.), a hetero-applied instrument, which Spanish version has been validated. BACS evaluates the following cognitive domains:

Verbal memory (V.M): Word list test

Working memory (W.M): Digit sequencing task

Motor speed (M.S): Token motor task

Verbal fluency (V.F): Semantic or category fluency

Attention (A): Symbol coding

Executive function (E.F): Tower of London

The data obtained were analyzed using the SPSS 22.0 statistical package. Differences between the means of quantitative variables were assessed using the independent-sample Student-t test. Individual test scores were converted into standardized (T and Z) scores and composite scores that were corrected for age and gender. Informed consent was obtained from all patients according to the Declaration of Helsinki (World Medical Association).

**RESULTS:** In the group receiving ALAI, the most severely impaired cognitive domain was attention, whereas motor

TABLE 1.

Z-score	FG-LAI	ALAI
GLOBAL B.A.C. S	-3.10 ( $\pm$ 0.91)	-2.37 ( $\pm$ 1.08)*
V.M.	-3.19 ( $\pm$ 0.58)	-2.21 ( $\pm$ 0.76)*
W.M.	-2.76 ( $\pm$ 1.13)	-1.45 ( $\pm$ 1.02)**
M.S.	-0.27 ( $\pm$ 0.75)	0.07 ( $\pm$ 0.70)
V.F.	-1.97 ( $\pm$ 0.54)	-1.28 ( $\pm$ 0.48)**
A.	-3.12 ( $\pm$ 3.18)	-2.65 ( $\pm$ 2.77)
E.F.	-2.67 ( $\pm$ 1.26)	-1.55 ( $\pm$ 1.64)*

\*p < 0.05; \*\*p < 0.01

speed was barely affected. In contrast, verbal memory was most impaired, whereas motor speed was the least impaired cognitive domain in the group receiving FG-LAI. Patients with schizophrenia taking ALAI showed a better cognitive function in all domains (except for motor speed and attention) than patients receiving FG-LAI. Summarized results in Table 1.

**CONCLUSIONS:** In our study, patients with schizophrenia receiving Aripiprazole long-acting injectable have better cognitive function than patients receiving first-generation long-acting antipsychotics.

## 69 Mnemonics versus Cramming. Learning Can Be Effective, Efficient and Fun. A Systematic Review Studying Memorization Techniques in Education

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**ABSTRACT:** The Problem: While learning is at the core of any education (e.g., primary or high school, college, or continuing medical education, to name a few), evidence-based methods of effective memorization are lacking from most forms of education. If attempts are made to teach memorization techniques, they are often without a sound scientific backing. The classical form of memorization (popularly known as “cramming”, or “rote learning”) is tedious, time consuming, and - we know from personal experience - can be so boring that students avoid memorizing at all. A “new” technique of memorization, which is usually referred to as “mnemonics” or “memory techniques” (first reported as being used by the Greeks and the Romans to learn speeches by heart) has received rave reviews from enthusiastic users. A quick

search of the scientific databases shows the technique has been studied quite extensively in a number of areas, including education, the medical world, and in the field of learning disabilities, but as far as we know no systematic reviews have assessed the effectivity of using the mnemonics technique versus classical memorization in education.

**STUDY OBJECTIVE:** We hypothesize that memorization using mnemonics is a more effective strategy than classical memorization (cramming). To study this hypothesis we have performed a systematic review as described below. In this poster we will describe our study and show preliminary findings.

**METHOD:** Design: We have performed a systematic review using the Rapid Evidence Assessment procedure described by the Center for Evidence Based Management.

Setting and participants: Studies included limited to those that tested the use of mnemonics in education (primary school, high school, university).

Interventions and main outcome measure of the primary studies: We included studies that compared memorization using mnemonics with “regular” memorization (cramming).

**RESULTS:** Using 4 databases (Academic Search Premier, PubMed, ERIC and PsycInfo) we found 803 articles. After one round of filtering 589 articles were excluded from the study. The major reasons for exclusion were: learning disabilities, non-educational setting, and no study. In this poster we present the results of the first 10 papers that were included after the second, more stringent, round of filtering. In all 10 papers the mnemonics group performed significantly better on at least a number of the memorization tasks, but in no instance worse than the control group. In some cases where the control groups performed worse, the results were not significant.

**CONCLUSIONS:** This poster describes the analysis of the first 10 papers of our full set of mnemonics studies. They all show a significant advantage of using mnemonics in memorization. If these results are confirmed in our full systematic review, we expect this to have a significant impact on the way “learning how to learn” is taught.

## 74 Alpha Lipoic Acid Responsive Hypergeusia

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