Cognitive dysfunction has been described in First Episode of Depression (FED), affecting: Attention, Processing Speed, Memory and Executive Functions. [1, 2] Findings are still scarce and show discrepancies on the specificity or the degree of such cognitive deficits.

Among the factors related with the inconsistencies in cognitive impairment in FED, the consideration that the patient would have a unique neuropsychological profile (i.e. averaging neurocognitive performance of all patients could be the most relevant one). It might be necessary to define subgroups of patients taking into account specific characteristics, as some patients could present cognitive deficits while others could not.

Aims:
1. Determine the cognitive performance of FED patients in order to explore the presence of different cognitive profiles.
2. Investigate whether cognitive deficits at illness onset could predict baseline clinical profile and follow-up clinical outcomes.

Background
Cognitive dysfunction has been described in First Episode of Depression (FED), affecting: Attention, Processing Speed, Memory and Executive Functions. [1, 2] Findings are still scarce and show discrepancies on the specificity or the degree of such cognitive deficits.

Methods
PARTICIPANTS:
- 40 patients with a diagnosis of FED (DSM-IV-TR) and 20 healthy controls were included.
- Patients were antidepressant treatment-naïve or had taken antidepressants for less than two weeks prior to the study inclusion.
- Depressive symptoms were evaluated using the 17-item Hamilton Depression Rating Scale (HDRS-17) at the beginning and 12-months after.

NEUROPSYCHOLOGICAL ASSESSMENT:
- A comprehensive neuropsychological battery was administered to all participants at the beginning of the study.
- Neuropsychological tests covered the domains of language, attention, verbal and visual memory, and executive functions.

DATA ANALYSES:
- To investigate cognitive variability in FED patients a Principal Component Analysis (PCA) was used and cognitive dimensions were obtained.
- Cognitive dimensions were then used in a Hierarchical Cluster Analysis, so as to define different cognitive profiles (clusters).
- To predict clinical outcomes (HDRS-17 scores at baseline and change in HDRS-17 at 12-months), two Generalized Linear Models were run.

Results
PRINCIPAL COMPONENT ANALYSIS of intelligence Quotient-adjusted neuropsychological data offered five orthogonal dimensions which corresponded to five identifiable cognitive domains. (Table 1)
- The five selected components explained a cumulative variance of 78.85%.
- The Hierarchical Cluster Analysis revealed a two-cluster solution, and patients were classified as cognitively preserved (29 patients) and cognitively impaired (11 patients). (Figure 1)
- Patients with cognitive deficits showed subtle impairments in attention/working memory and visual memory (>1SD), and significant impairment in verbal memory and executive function (>1.5SD).

FIRST LINEAR REGRESSION MODEL showed that females (β=−0.74) and patients with sick leave (β=1.09) and more educated (β=0.33) has significantly higher HDRS-17 scores at baseline. (Table 2)
- In addition, patients with lower education by worse executive functioning (β=0.28) had higher scores in HDRS-17, as well as being on sick leave by having executive dysfunction (β=0.73).
- When predicting change in HDRS-17 at 12 months (SECOND LINEAR REGRESSION MODEL), the model showed that better cognitive performance; executive component (β=−0.51) and attention/working memory component (β=0.07), was associated with greater improvement of depressive symptoms.
- Additionally, being on sick leave by having executive dysfunction (β=−2.005) was associated with greater worsening.

Conclusions
- The cluster analysis revealed that within patients’ group there were two different profiles: preserved and impaired, indicating that only some patients displayed cognitive deficits.
- Patients in the impaired cluster displayed deficits in verbal memory and executive functioning suggesting a key role in the clinical manifestation of depression, as well as in the clinical course.
- Cognitive assessment at illness onset, in particular verbal memory, attention/working memory and executive functioning, has proven to be useful in predicting depressive symptoms at baseline and long term together with other demographic and psycho-social variables. Therefore, cognitive assessment should be included in clinical settings so as to capture the characteristics of a FED that may further determine the course of the illness.
- Treatment interventions for depression should be directed to improve cognitive performance so as to reach cognitive remission together with clinical remission, which in turn, may improve psychosocial functioning. [3]
- Possibly, an early intervention may improve patient’s quality of life and even prevent new episodes, although no evidence is available yet.

References