## The Need for Cognitive Evaluation in HIV Patients Experience from Indonesia

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RSCM

Background

- Prevalence of HIV in Indonesia is still high
- Majority productive age
- Cognitive evaluation not routine in HIV clinic

Jumlah Kasus HIV di Indonesia sampai 2014 Triwulan III
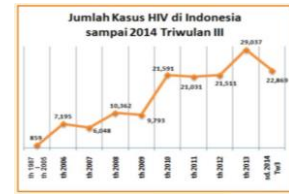
Background

- Cognitive impairment, HIV neurological complications (mostly ANI and MND)
  - Asymptomatic neurocognitive impairment
  - Mild Neurocognitive Disorder
  - HIV associated Dementia

- The impact of cognitive impairment
  - Decreased quality of life
  - Reduced medication adherence

Background

- To determine the prevalence of cognitive impairment in Indonesian HIV naïve patients
- Part of **JakCCANDO Study** (Jakarta Candida, CMV infection response in HIV patients on ART, evaluation in Neurology, Cardiology, Ophtalmology)

Methods

- HIV naïve, CD4<200 cells/uL
- Done by trained physician
- In a quiet room, 45-60 minutes
- Before antiretroviral therapy (ART), 3, 6 and 12 months after ART

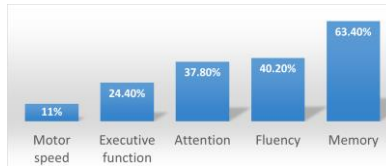| Cognitive Tools	
Forward Digit Span	Attention
Backward Digit Span	
Trail Making A & B	Executive Function
Rey Auditory Verbal Learning Test	Memory
Animal Naming Test	Fluency
Grooved Peg Board	Motor Speed

Results

- Total subjects (N) = 82
- Median of age 31 yo, range (19-48)
- Male 56% (68)
- Education >9 years 64% (78)
- Median CD4 T 62 (2-199) cells/uL
- Plasma HIV RNA log10, 5.1 (2.6-6.6)
- Transmission route

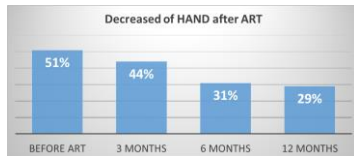Homosexual Heterosexual
IV drug user Unknown
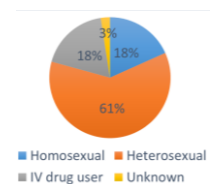
Results

- From 82 HIIV Naïve patients, 51% HAND (HIV Associated Neurocognitive disorders)
- The most common impairment is memory (63%)

▶ Education effect, pronounced in
  ▶ Fluency (p<0.001)
  ▶ Executive function (p=0.04)
  ▶ Fine motor skill (p=0.05)

Results

- Lower education, higher risk for developing HAND (p<0.05)
- No CD4-T Lymphocyte and plasma level RNA difference between HAND and non-HAND subjects

Results

- Evaluated before ART, after 3 months, 6 months and 12 months
- Number of cases with HAND decreased after ART

Conclusions

- Prevalence of cognitive impairment in Indonesian HIV patients is high
- There was improvement of cognitive function after ART
- Cognitive evaluation should be routinely performed for HIV naïve patients and during ART
- Need to find / develop simple and short tools for cognitive screening

Other studies underway using JakCCANDO cohort

▶ The role of CMV will be assessed through levels of CMV reactive antibody
▶ The role of cardiovascular disease will be assessed through cIMT measurements and studies of retinal blood vessels
▶ The role of immune activation will be assessed using plasma markers and cell surface markers detected on blood leukocytes
▶ Correlations with co-infections (eg: TB) and co-morbidities (eg: oral health, neuropathy) will be sought
▶ Genetic factors influencing neurocognitive function will be identified.

Thank You