1. Background

• Apathy can be considered a deficit in goal-directed behaviour.

• Impairments of social cognition and dysfunction in more classical processes of goal-directed behaviour may constitute the basis of apathy in Huntington’s Disease (HD).

• We aimed to investigate if executive dysfunction and deficits of social cognition were associated with apathy in a large cohort of HD gene expansion carriers.

2. Methods

Participants
• 80 premanifest and motor-manifest HD gene expansion carriers
• 32 controls

Inclusion criteria
• MMSE score ≥ 24
• MoCa score ≥ 19
• CAG repeat length ≥ 39

Instruments
• The Lille Apathy Rating Scale (LARS)
• Cognitive battery including tests on executive functions
• Social cognitive tests:
  • The Awareness of Social Inference Test (TASIT), Social Inference Minimal (SI-M)
  • Emotion Hexagon test (EH)
  • Reading the Mind in the Eyes test (RMET)

3. Results

• The motor-manifest participants had significantly higher apathy scores, compared to premanifest and control participants ($p = .009$, $p = .001$ respectively).

• Apathy was significantly correlated with most executive test scores (all $p < .05$), and the emotion recognition test ($\rho = -.27$, $p = .014$).

• In a multiple stepwise regression model, the motor function ($b = 0.14$, $p = .003$) and depression ($b = 0.41$, $p = .034$) were the only significant predictors of apathy. No cognitive test score could significantly predict apathy.

4. Discussion

• Despite being significantly correlated with apathy, cognitive variables did not have a significant impact on apathy, when depression and motor function were accounted for.

• Apathy should be considered an independent symptom of Huntington’s Disease, that requires specific examination.