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Faculty of Veterinary Medicine – Final degree project – June 2019

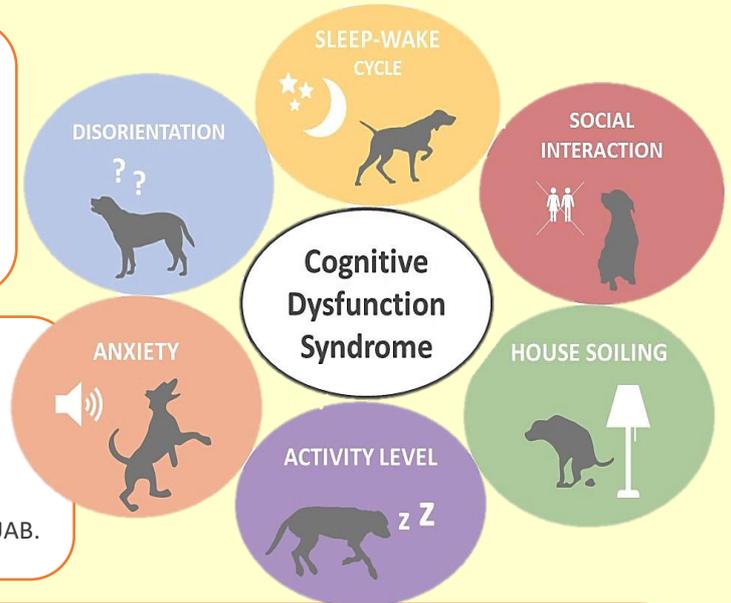
INTRODUCTION

Canine Cognitive Dysfunction (CCD) is a progressive neurodegenerative syndrome of elderly dogs characterized by a gradual onset of cognitive decline, which affected dogs manifest as behavioural changes, variable amongst individuals.

Owner-based questionnaires are widely accepted as screening tools for CCD, useful to reach prompt diagnosis of the disease.

OBJECTIVES

1. Evaluate the PCS questionnaire as a CCD diagnostic tool.
2. Study whether age and CCD scores have a positive correlation.
3. Determine the prevalence of CCD at *Hospital Clínic Veterinari UAB*.



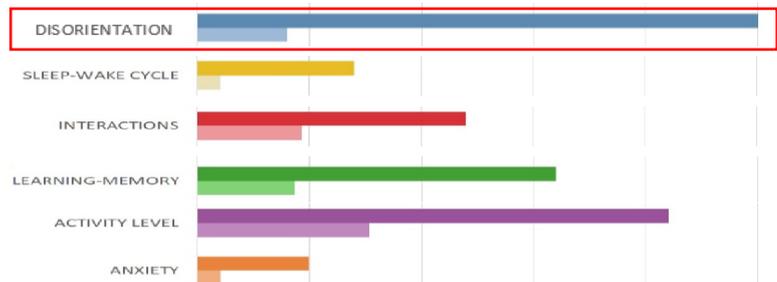
MATERIAL AND METHODS

PURINA CAWEC SCALE (PCS)

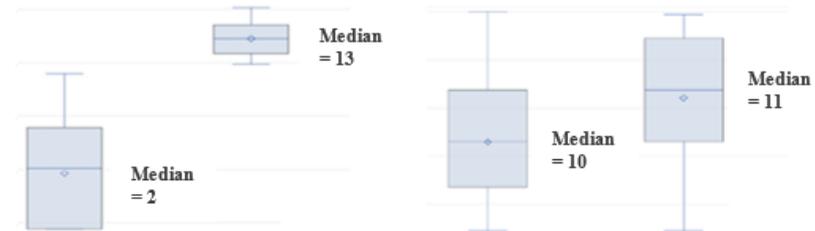
- Stares blankly at walls, floor, corners, etc.
- Does not remember the way home
- Gets stuck or cannot get around objects/furniture
- Goes to the wrong side of doors or wrong doors
- Decreased response to auditory or visual stimuli
- Decreased signalling to go out when he used to
- Walking at nights for no reason
- Vocalizations at night for no reason
- Decreased recognition of familiar people
- Decreased recognition of familiar dogs or friends
- More fearful
- Indoor soiling of urine or stools
- Lack of response to previously learned commands
- Decreased activity, less playful
- Manifests repetitive behaviours
- Pacing aimlessly
- Shows separation anxiety signs

PCS consists in 17 items covering 6 sections of behavioural changes: Disorientation, social Interactions, Sleep-wake cycle, House soiling (learning-memory), Activity level and Anxiety; commonly described by the acronym **DISHAA**.

Each of the 17 items conforming the PCS is quantified depending on its **frequency** over the preceding 6 months. **CCD stages** are identified according to the score ranges: 0-7 Normal aging, 8-40 Mild cognitive impairment, 41-69 Severe cognitive impairment.



Statistics showed that **scores** from normal ageing dogs were significantly different from impaired dogs (left boxplot) and that median **age** was significantly higher in impaired dogs in comparison to mentally healthy dogs (right boxplot).



CONCLUSIONS

- ✓ The PCS is a practical CCD screening tool, able to distinguish between normal aging dogs and those with cognitive decline.
- ✓ Geriatric dogs are more likely to suffer from CCD as they grow older; age is an important predisposing factor.
- ✓ Disorientation signs seem to be good clinical markers of CCD.
- ✓ CCD appeared to be an underdiagnosed disease at *Hospital Clínic Veterinari UAB*, with a prevalence around 25%.
- ✓ Further research is needed for CCD diagnosis, as it is a disease that affects senior dogs' welfare and human-canine bonds.