Cognitive Impairments in Older Adults
Clinical Characteristics of Osler's Memory Clinic

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BACKGROUND

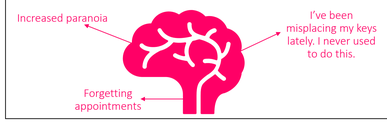
- Dementia is used to describe several diseases that affect neurocognitive functions.
- Over 733,000 Canadians currently live with dementia.
- 1,000,000 Canadians are projected to be living with dementia by 2030.
- Alzheimer's Disease (AD) is the most common form of dementia that primarily affects the aging population.
- AD is defined by cognitive symptoms interfering with social functioning and instrumental activities of daily living.
- The molecular pathology of AD begins decades before cognitive decline becomes apparent.
- Subjective Memory Complaints (SMCs) refers to an individuals' perception of their own or a loved one's cognitive impairment.
- SMCs may precede objective memory impairment, measured in neurocognitive assessments.
- Neurocognitive assessments assess objective cognitive performance.
- Since SMCs can be more apparent early in the disease course compared to some neurocognitive tests, they are a potentially valuable screening tool for AD.
- SMC screening would identify older adults that require further formal neurocognitive assessments and early management.
- Cognitive decline is often underdiagnosed due to challenges in administering objective tools.
- Subjective self-reported impairment is easier to administer and less costly.
- SMCs are useful for identifying at-risk patients for Mild Cognitive Impairment (MCI), an early manifestation of AD.
- Systemically comparing the neurocognitive test scores and SMCs of patients at the Osler Memory Clinic will help identify if SMCs can be integrated into the diagnosis process.
- Including self-reported data will minimize test administration challenges and reduce costs.

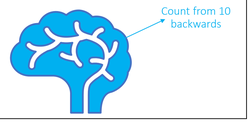
Subjective Memory

Recalling information with interpretations, emotions, and biases added to the memory. It includes personal feelings, and opinions about the remembered event.

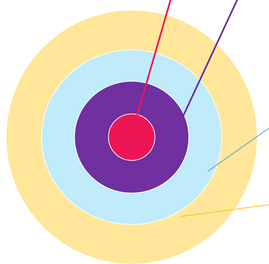
Objective Memory

The ability to recall the specific facts. Information is recalled with accuracy, impartiality, and reliability.





OBJECTIVES



Examine the interaction between SMC and objective measures of cognitive performance.

Assess cognitive differences in population of older adults (i.e. age, gender) presenting to Osler's Memory Clinic based on a review of standardized assessments.

Ascertain SMC and correlations to objective tests of memory

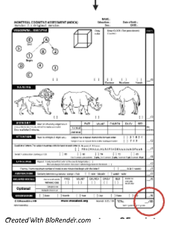
Summarize differential associations between subjective and objective memory

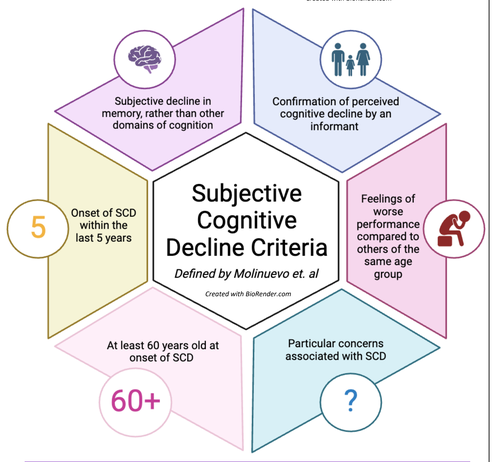
STUDY DESIGN

Investigate if SMC can be used as a useful tool for identifying neurocognitive impairments through a retrospective chart review

n=300

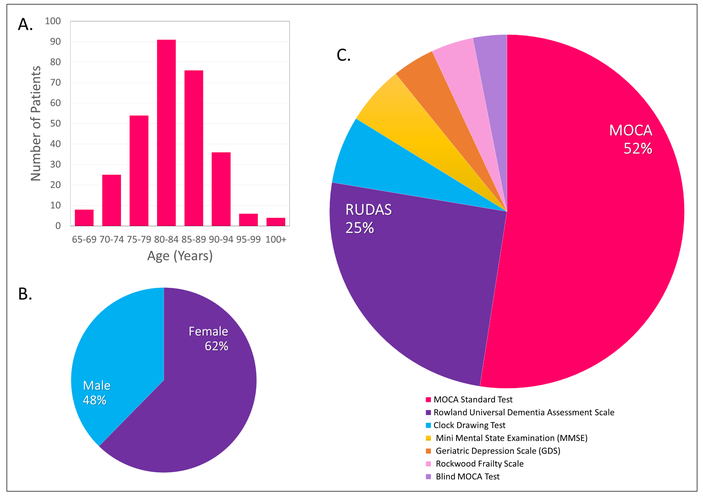
Inclusion	Exclusion
Patients seen in Memory Clinic between April 1st, 2022 and March 31, 2024.	Patients seen in Seniors Ambulatory Clinics instead of Memory Clinic
Patients referred to Memory Clinic through a referral from a family physician and / or self-referral.	Patients that were last seen in the Memory Clinic outside of timeline

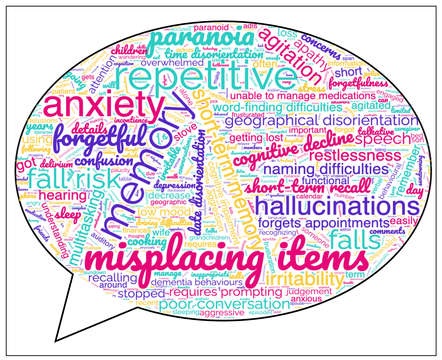


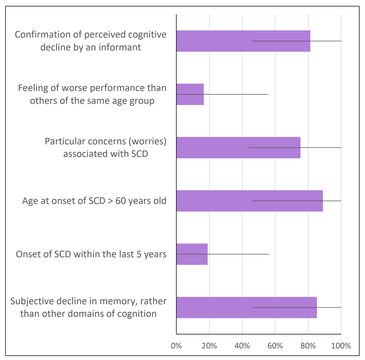


Neurocognitive Assessments	Cognitive Cutoff Score
Montreal Cognitive Assessment (MOCA)	< 26 / 30
MOCA-Blind	< 18 / 22
Geriatric Depression Scale (GDS)	> 9 / 15
Rockwood (Clinical) Frailty Scale	> 5/9
Mini Mental State Examination (MMSE)	< 26/30
Rowland Universal Dementia Assessment Scale (RUDAS)	< 23 / 30
Clock Drawing Test (CDT)	< 14.5 / 20

RESULTS







Variables in the Equation							
Subjective Decline Criteria (SDC)		**B**	**S.E.**	**Wald**	**df**	**Sig.**	**Exp(B)**
Subjective decline in memory, rather than other domains of cognition	Gender	0.168	0.393	0.183	1	0.669	1.183
	Age	-0.020	0.030	0.460	1	0.498	0.980
	MOCA Total Score	-0.055	0.028	3.902	1	**0.048***	**0.946**
	Constant	4.057	2.553	2.526	1	0.112	57.780
Onset of SCD within the last 5 years	Gender	-0.237	0.344	0.476	1	0.490	0.789
	Age	0.014	0.027	0.283	1	0.595	1.014
	MOCA Total Score	0.006	0.024	0.055	1	0.815	1.006
	Constant	-2.403	2.240	1.151	1	0.283	0.090
Age at onset of SCD > 60 years old	Gender	0.345	0.431	0.639	1	0.424	1.411
	Age	-0.039	0.034	1.349	1	0.246	0.961
	MOCA Total Score	-0.027	0.031	0.766	1	0.381	0.974
	Constant	5.396	2.868	3.540	1	0.060	220.568
Particular concerns (worries) associated with SCD	Gender	0.206	0.330	0.391	1	0.532	1.229
	Age	-0.048	0.026	3.542	1	0.060	0.953
	MOCA Total Score	-0.035	0.023	2.238	1	0.135	0.966
	Constant	5.439	2.186	6.194	1	0.013	230.271
Feeling of worse performance than others of the same age group	Gender	-0.063	0.397	0.025	1	0.873	0.939
	Age	0.026	0.030	0.751	1	0.386	1.027
	MOCA Total Score	0.027	0.028	0.924	1	0.336	1.027
	Constant	-4.234	2.580	2.693	1	0.101	0.014
Confirmation of perceived cognitive decline by an informant	Gender	-0.309	0.370	0.700	1	0.403	0.734
	Age	-0.039	0.027	2.055	1	0.152	0.962
	MOCA Total Score	-0.085	0.026	10.314	1	**0.001***	**0.919**
	Constant	5.979	2.359	6.424	1	0.011	394.934

Variables in the Equation							
		B	**S.E.**	**Wald**	**df**	**Sig.**	**Exp(B)**
Patients expressing over 50% of SDC	Gender	0.330	0.308	1.147	1	0.284	1.391
	Age	-0.052	0.024	4.629	1	0.0314*	0.949
	MOCA Total Score	-0.049	0.022	4.986	1	0.0256*	0.952
	Constant	5.464	2.048	7.115	1	0.008	235.968

DISCUSSION

- All patients are over 65 years old
- 56% of patients are between the ages of 80-89
- The mean age is 82.8, n=300
- MOCA and RUDAS were administered for 52% and 25% of cases respectively; n=389.
- The most relevant SMC included: misplacing items, repetition, increased anxiety, and poor memory.
- 69% of patients in Osler's Memory Clinic express more than half of the SDC (Molinuevo et al.)
- Since the odds ratio of Exp(B) is less than 1, a 1 point increase in MOCA score leads to a decrease in the likelihood of reporting subjective memory complaints or confirmation of cognitive decline.
- Contrary to literature, age did not have an impact on SMC or confirmation of cognitive decline since the odds ratio of Exp(B) is not significant (likely attributed to sample size).

NEXT STEPS

- Investigate the relationship between SMCs and ethnicity to discover early predictors of dementia in ethnically diverse subgroups that Osler serves.
- Study the prevalence of specific self-reported SMCs based on age and gender.
- Further work on representative sample with a larger sample size to confirm associations in the characteristics

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