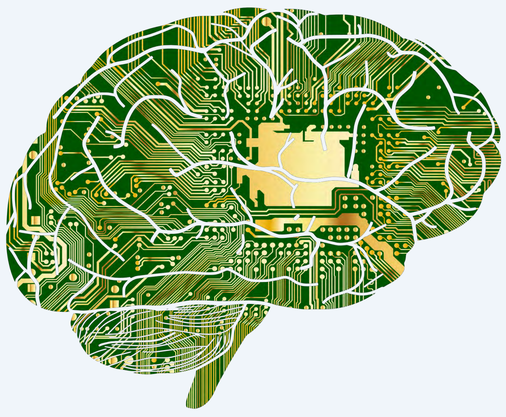
Cognitive Screening in People with Type 2 Diabetes Attending an Outpatient Diabetes Clinic: A Pilot Study

Jane Ludington [1,2], Jing Liang [4], Roger Chen [3,4], Danijela Gnjidic [2]

[1] Department of Pharmacy, St Vincent's Hospital, Sydney, Darlinghurst, NSW, [2] School of Pharmacy, University of Sydney, Sydney, NSW,
[3] Department of Diabetes and Endocrinology, St Vincent's Hospital Sydney, Darlinghurst NSW, [4] Faculty of Medicine and Health, University of New South Wales, Kensington, NSW



Introduction

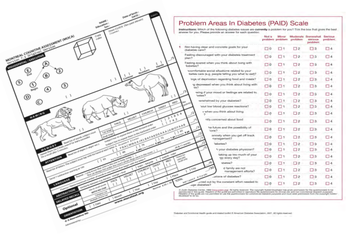
- Effective self management is required to optimise diabetes outcomes and requires daily application of knowledge and skills in complex decision making.
- People with type 2 diabetes have an increased risk of cognitive decline which may compromise diabetes outcomes.
- Despite guidelines to screen for cognitive impairment, this is not currently routine practice.

Aims

- To assess cognitive function in people with type 2 diabetes attending a tertiary referral diabetes clinic
- To assess diabetes distress, clinical characteristics and medication use in this cohort.

Method

- Prospective cohort study
- Institutional ethics approval obtained
- Eligibility: Type 2 diabetes, age >55 years, no known cognitive impairment, sufficient English language skills
- Montreal Cognitive Assessment (MOCA) and Problem Areas in Diabetes (PAID) tools completed with a certified investigator.
- Demographic and clinical data obtained from healthcare records
- Initial 10 participants were reviewed to test study protocol feasibility.



Results

- Enrolment commenced 20.7.2022
- For the initial 10 participants the protocol was completed without issue
- Enrolment is ongoing, 22 participants to date, limited by reduced face to face scheduled appointments. Aim 50 participants.
- Mean age of participants 70 years (56-87)
- n=17 (77%) male participants
- Mean duration of diabetes 15 years (1-32)
- Mean HbA1c 7.7% (6-10.4)
- Mean number of medications/participant 7.7

Results cont. (n=22)

Mean MOCA score 23.2 (range 16-28), represented in Figure 1:

- 14 participants (64%) with a MOCA score of 18-25 indicative of mild cognitive impairment
- 2 participants (9%) with a MOCA score of 10-17 indicative of moderate cognitive impairment

Cognitive domain scores are illustrated in Figure 2.

- Areas of concern include executive thinking, recall and language.
- All participants with impaired recall improved with cues

Problem Areas In Diabetes median score 6.9 (range 0-55)

- 1 participant with a significant score (55), all other scores<20

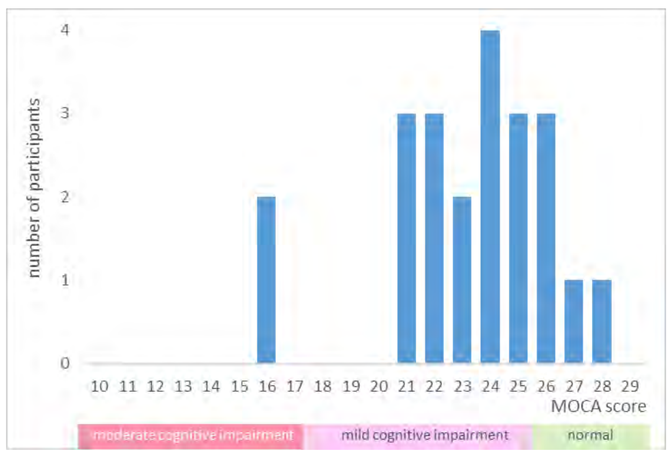


Figure 1. Distribution of MOCA scores by number of participants. Legend represents interpretation of result.

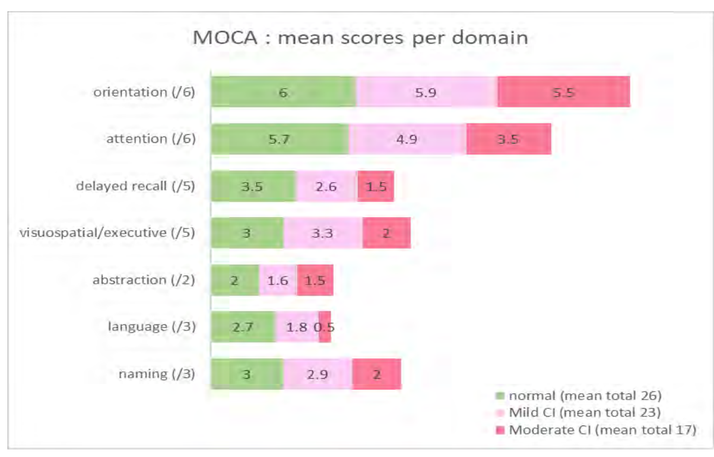


Figure 2. Distribution of MOCA scores by domain. Legend represents interpretation of total score.

- There was no association of MOCA scores with age, HbA1c or diabetes duration (Figure 3)

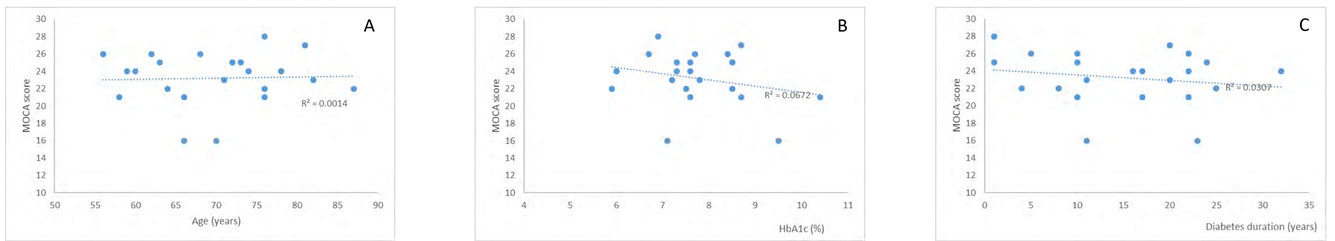


Figure 3. Distribution of MOCA scores by Age (A), HbA1c (B), Diabetes duration (C).

- 18/22 (82% of participants) were prescribed medication with potential clinical risk

Medication with potential clinical risk	Number of participants
Insulin	12
Sulphonylureas	2
SGLT2i	9
Anticoagulant	4

Conclusion

- 73% of participants were identified to have mild or moderate cognitive impairment which may adversely contribute to diabetes outcomes and medication safety
- Enrolment is ongoing with collection of clinical characteristics.
- Despite the limitation of small participant numbers cognitive impairment is prevalent in this cohort. Data from this project will be used to explore opportunities to embed cognitive screening in the diabetes clinic, prioritise strategies for pharmacist medication review and collaboration to optimise modifiable risk factors and investigate outcomes.

Acknowledgements: The people with diabetes who willingly participated and the inspiration of Professor Lesley Campbell

Contact: jane.ludington@svha.org.au