

Household cash transfer access and memory decline in people with diabetes and prediabetes: evidence from South Africa

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Increased household cash transfer access was associated with **slower memory decline only in men with prediabetes**, offsetting the equivalent of nine months of cognitive aging over the seven-year study.

INTRODUCTION

- People with diabetes have a 40%-60% greater risk of ADRD
- Low household income poses challenges for diabetes diagnosis and control
- Income supports such as cash transfers could mitigate income-associated diabetes management challenges, resulting in reduced ADRD risk from diabetes, but no studies have yet explored this association

METHODS

Study: Black South Africans age 40+ with self-reported or biomarker-indicated glucose impairment from the HAALSA Indepth cohort

Exposure: average monthly household cash transfer access between 2000 and 2014/15

Outcome: episodic memory score decline between 2014/15-2021/22

Analysis: multivariable mixed effects linear regression, weighted for mortality and attrition

RESULTS

Rate of memory decline associated with household cash transfer access (HCT)

	Baseline memory score			Difference in rate of decline		
	β	95% CI	P value	β	95% CI	P value
Diabetes only						
By Sex ²						
Men	-0.0474	-0.0785, -0.0164	0.003	-0.0010	-0.0067, 0.0047	0.732
Women	-0.0024	-0.0309, 0.0261	0.800	-0.0011	-0.0062, 0.0040	0.675
By Age ¹						
Ages 40-59	-0.1119	-0.1873, -0.0366	0.004	0.0047	-0.0105, 0.0198	0.545
Ages 60-79	-0.0219	-0.0491, 0.0053	0.114	-0.0013	-0.0066, 0.0040	0.631
Ages 80 and older	0.0119	-0.0307, 0.0545	0.584	-0.0077	-0.0157, 0.0003	0.059
Prediabetes only						
By Sex ²						
Men	-0.0347	-0.0584, -0.0110	0.004	0.0047	0.0008, 0.0085	0.017
Women	-0.0031	-0.0260, 0.0197	0.788	-0.0022	-0.0059, 0.0016	0.259
By Age ¹						
Ages 40-59	-0.0517	-0.1143, 0.0110	0.106	-0.0019	-0.0139, 0.0102	0.759
Ages 60-79	-0.0208	-0.0419, 0.0003	0.054	0.0039	0.0002, 0.0075	0.036
Ages 80 and older	-0.0229	-0.0545, 0.0087	0.156	0.0032	-0.0017, 0.0081	0.199

¹Adjusted for sex and continuous age.
²Adjusted for continuous age.
Note: Effect estimate in standard deviation units.

- Increasing HCT was associated with lower baseline memory (y-intercept)
- Increasing HCT was not associated with slower decline in all people with diabetes/prediabetes (parallel slopes)
- Increasing HCT was associated with slower decline in men with prediabetes (positive rate value)

CONCLUSIONS

Our findings suggest that cash transfers slow the rate of memory decline for men in the earliest stages of glucose impairment, but not for women or people with diabetes. Future research is needed on if larger or targeted cash transfers could extend cognitive benefits to women and people with more advanced glucose impairment.

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