

Dementia in Uganda: prevalence, aetiology, and lived experience – a protocol

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Background

How common is dementia in Uganda?

There have been no previous dementia prevalence studies in Uganda using detailed cognitive assessment tools.

Causes and drivers of dementia

Dementia is a syndrome describing progressive cognitive decline affecting a person's ability to function. Globally Alzheimer's disease is the most common cause, followed by vascular dementia.¹

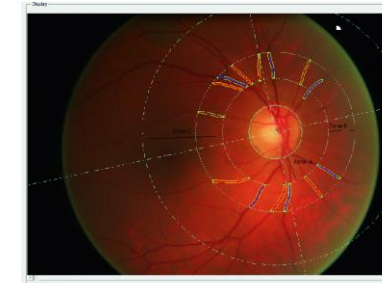
From limited data, it is suggested that cerebrovascular pathologies account for a greater proportion of dementia in African populations than elsewhere. Crucial exposures differ in Africa from other more intensely studied global areas, including a high burden of cerebrovascular disease (evidenced by high stroke incidence) and HIV prevalence, but lower rates of other risk factors such as physical inactivity.² Cardiovascular risk factors have been demonstrated as important risk factors for dementia in high-income countries, but within the limited data available, this relationship has not consistently been seen in African settings.³ In the pre-antiretroviral therapy (ART) era, dementia was a common consequence of HIV infection. However, it is not clear from existing literature what effect, if any, chronic and well-controlled HIV has on cognition with ageing, due to difficulties disentangling the effects of comorbidity and ART, and a paucity of studies in older people.⁴

Subtyping dementia in an African setting has historically been challenging as it relies on neuroimaging and CSF biomarkers that are prohibitively expensive, invasive, or both.⁵ However, recent advances in biomarkers for both Alzheimer's disease and cerebrovascular disease will allow novel insights into dementia drivers in Africa.

- **Blood-based biomarkers** have recently become a reality. Plasma amyloid beta and phosphorylated tau concentrations are highly correlated with the well-established CSF and PET biomarkers, while blood levels of neurofilament light and glial fibrillary acidic protein are informative biomarkers of neurodegeneration.⁶



- **Retinal imaging** can identify cerebrovascular disease at an early stage, using automated analysis of retinal vascular morphology. This is thanks to the close correlation of pathological processes in the retinal and cerebral vasculature.⁷



Impact of dementia on people and their families

Dementia has a profound effect on individuals, families and societies, and is a leading contributor to disability among older people in low- and middle-income countries.⁸ Caregivers for people with dementia in Uganda have described financial, physical, psychological and social challenges.⁹ The need for carer support has been consistently identified in studies in Africa.¹⁰

Aims

Among adults over 60 in a rural Ugandan population:

- 1) Evaluate the prevalence of dementia.
- 2) Establish the causes and associated factors of dementia to inform risk reduction strategies.
- 3) Examine the impact of dementia on individuals and their caregivers and consider potential interventions.

MRC/UVRI and LSHTM Uganda Research Unit



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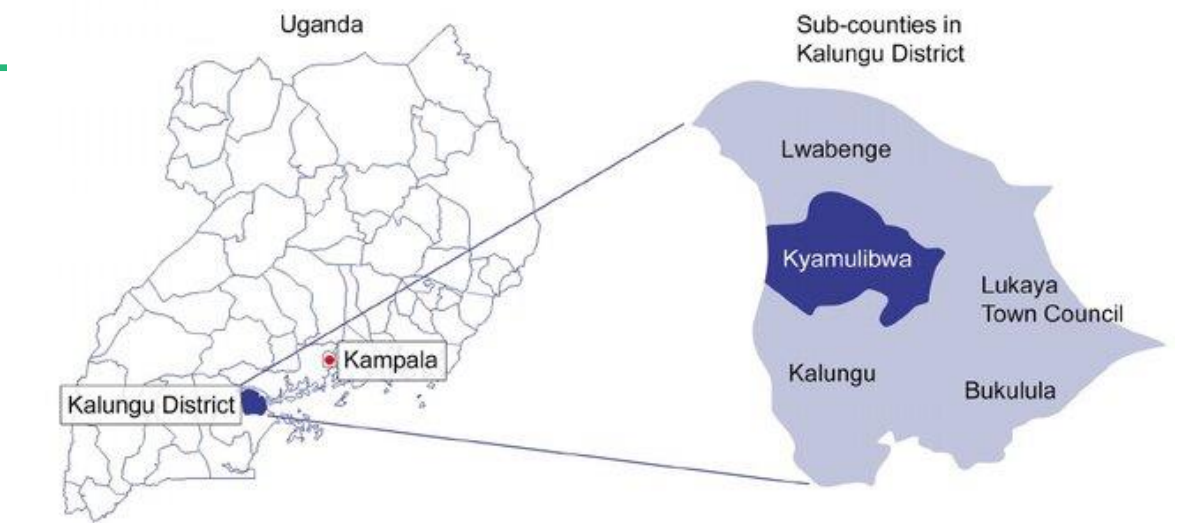
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Methods

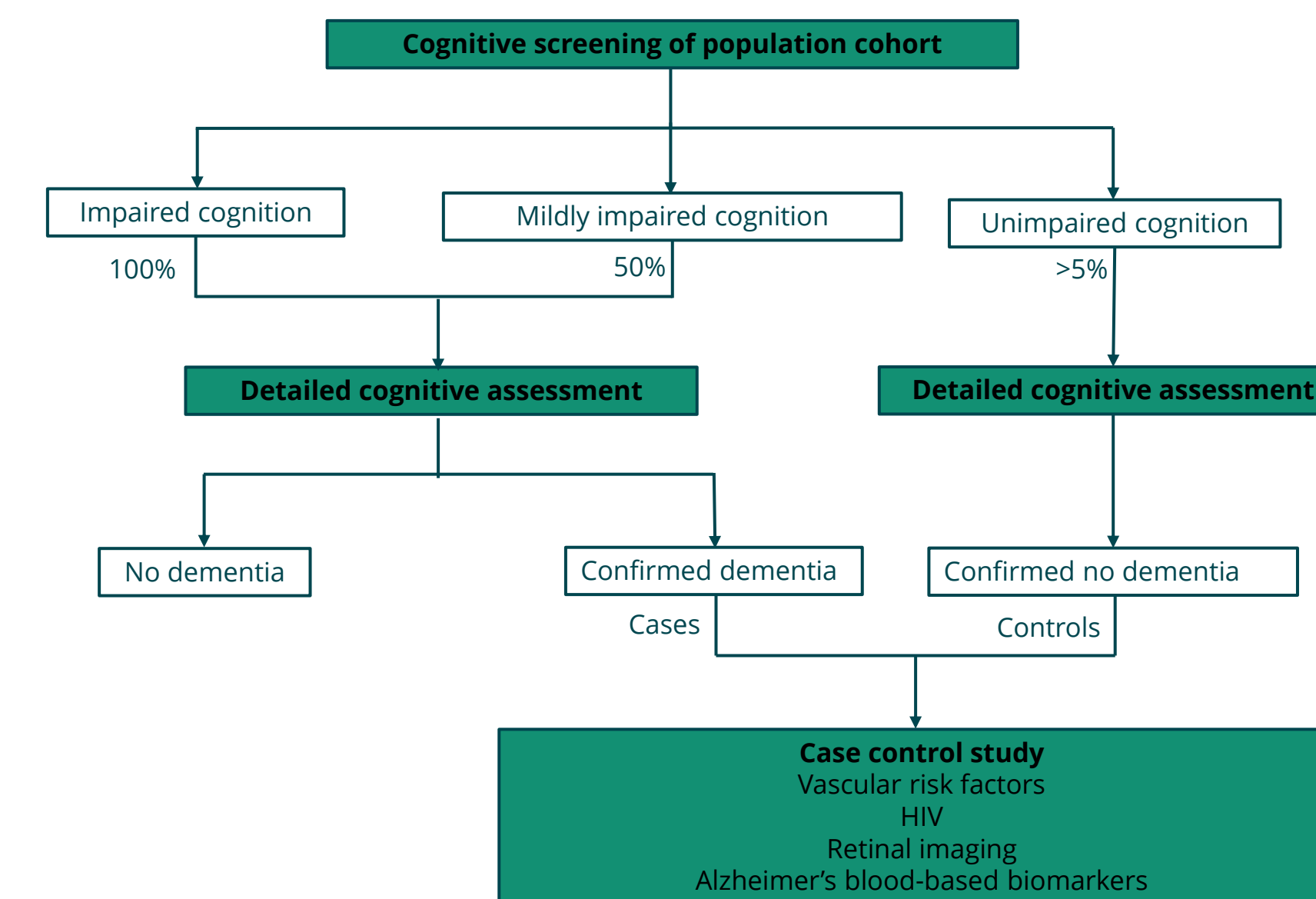
Setting

Nested within the General Population Cohort (GPC) in Kalungu District, adults over 60.



Phase 1: Cohort Participants will undergo cognitive screening at the next routine data collection in 2024. In a subgroup selected based on screening scores, I will perform a detailed cognitive assessment to determine dementia diagnoses.

Phase 2: A case control study of people with and without dementia using antecedent data, questionnaires, physical assessment, retinal imaging and Alzheimer's blood-based biomarkers. I will also be comparing disability, frailty, quality of life, and social engagement in people with and without dementia.



Phase 3: A situational analysis to understand the context in which people with dementia and their families are seeking care and support.

- Desk review of publicly available data on the health and social care context related to dementia.
- Interviews with experts:
 - Experts by experience – people with dementia and their caregivers
 - Key decision making and topic expert interviews

References

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