

Prevalence of cognitive frailty in rural Tanzania: Interim analysis of the Akili Mali study (P3-13)



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Dementia affects around 57 million people worldwide. Most people living with dementia live in low and middle-income countries (LMICs) where dementia prevalence is predicted to increase rapidly. Cognitive frailty (CF) is defined as the intersection of physical frailty and cognitive impairment but not dementia. CF increases individuals' risk of developing dementia though it may be reversible. However, there is paucity of appropriate data and knowledge to inform dementia prevention and delay efforts based on CF prevalence, especially in LMICs. This study aimed to provide data on CF prevalence among people living in rural Northern Tanzania.

Methods

1058 adults aged ≥ 60 years residing in three rural villages in Northern Tanzania participated in the Akili Mali study. The assessment was designed in collaboration with a lay Community Advisory Board to ensure appropriateness for this population and included the Clinical Frailty Scale (**CFS**; Moorhouse & Rockwood, 2012), the Identification and Intervention for Dementia in Elderly Africans cognitive screen (**IDEA**; Paddick et al., 2015) and questions regarding subjective cognitive decline (**SCD**). The data presented here are preliminary, based only on CFS, IDEA and SCD as we await collection of data to carry out consensus diagnoses of dementia and Mild Cognitive Impairment (MCI).

Definitions of CF

A crude definition used to calculate possible CF included being frail (cut-off ≥ 5 on CFS) and having possible cognitive impairment (cut-off ≤ 9 on IDEA). We also calculated the preliminary prevalence of CF and its subtypes in individuals with SCD awaiting the collection of data for consensus diagnoses. The CF subtypes included here were:

- **pre-CF** (CFS 4, IDEA ≥ 10),
- **reversible CF** (CFS ≥ 5 , IDEA ≥ 10),
- **potentially reversible CF** (CFS 4, IDEA ≤ 9 , SCD), and
- **CF** (CFS ≥ 5 , IDEA ≤ 9 , SCD).

Results

Participants' characteristics are displayed in Table 1. Physical frailty was infrequent (6.6%), over a quarter of the sample had possible cognitive impairment (26.7%) and around half reported SCD (49.1%).

References

Moorhouse, P., & Rockwood, K. (2012). Frailty and its quantitative clinical evaluation. *Journal of the Royal College of Physicians of Edinburgh*, 42(4), 333-340; Paddick, S. M., Gray, W. K., Ogunjimi, L., Lwezuala, B., Olakehinde, O., Kisoli, A., ... & Ogunniyi, A. (2015). Validation of the Identification and Intervention for Dementia in Elderly Africans (IDEA) cognitive screen in Nigeria and Tanzania. *BMC Geriatrics*, 15(1), 53; Qiu, Y., Li, G., Wang, X., Zheng, L., Wang, C., Wang, C., & Chen, L. (2022). Prevalence of cognitive frailty among community-dwelling older adults: a systematic review and meta-analysis. *International Journal of Nursing Studies*, 125, 104112.

Table 1 Participant characteristics

Variable	Valid N	n	%	Mean	SD	Range
Age	1052			70.10	9.31	60-114
Sex	1057					
Female		632	59.7%			
Education	1056			4.10	3.46	0-21
None		334	31.6%			
1-7 years		661	62.5%			
7+ years		61	5.8%			
Still working	1057					
Yes		671	63.4%			
Literate	1055					
Yes		419	39.6%			
IDEA	1012			11.06	3.33	0-15
≤ 9 (low)		283	26.7%			
SCD	975					
Yes		519	49.1%			
CFS	1019			3.62	0.78	1-9
4 (pre-frail)		461	43.6%			
≥ 5 (frail)		70	6.6%			



Crude definition of possible CF

43 (4.1%) participants were categorised as having **possible CF** (CFS ≥ 5 and IDEA ≤ 9) according to this crude definition of CF.

Subtypes of CF

290 (27.4%) participants were categorised as **pre-CF**, 14 (1.3%) as **reversible CF**, 85 (8.0%) as **potentially reversible CF**, and 12 (1.1%) as **CF**.

Conclusions

This is the first study to report on the prevalence of CF in Tanzania's rural settings. Generally, in this preliminary analysis, the prevalence of CF is low compared to global estimates though comparable with data from countries, such as Japan and Brazil (Qiu et al., 2022). We were unable to incorporate the consensus diagnoses of MCI and dementia as these data are still outstanding. Consequently, we were unable to exclude those with a diagnosis of dementia and assess the possible presence of CF more robustly by including MCI diagnosis. Additionally, as many participants scoring low on IDEA did not report SCD, the rates presented here are likely underestimates of CF and its subtypes. Further data collection will help us better understand whether CF is a robust target for dementia prevention in Tanzania.