

Post-delirium Cognitive Impairment 6 Months after Hospitalization among Older Ghanaians

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Background

Delirium is a potentially modifiable risk factor for dementia¹. However, post-delirium cognition has hardly been studied in Africa, where the burden of both disorders is rising disproportionately².

This pilot study estimated the incidence of new-onset cognitive impairment (NCI) among hospitalized older Ghanaians, 6-months after hospitalization with non-stroke delirium

Results

- **CIF of NCI= 0.22** (95%CI: [0.80 – 0.37])
 - ❖ Significan association between NCI and age >80 years (Fisher’s exact- .010)
- **Total attrition: 39/60 (65%)**
 - ❖ Mortality 32/60 (53%). Predictors- Table
 - ❖ Withdrawal/Loss-to Follow-up 7/60 (12%)

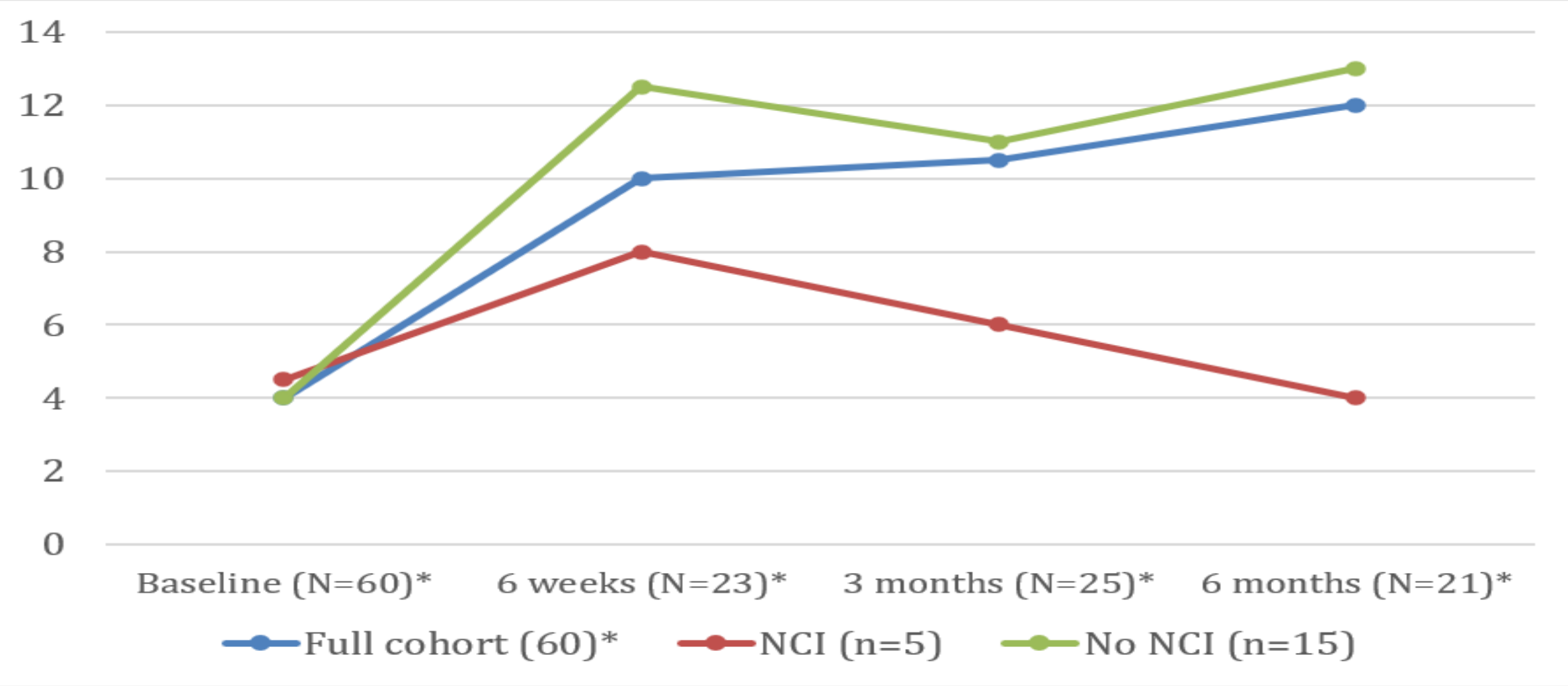


Figure 2: Trend of Median IDEA scores for full cohort, NCI and No NCI

Methods

Design & Population

Prospective observational study assessing cognitive functioning of 60 older adults 6 months after medical hospitalization with prevalent delirium (presumably present on admission).

- **Inclusion criteria:** age ≥60 yrs; prevalent delirium; during medical admission via A&E
- **Exclusion criteria:** stroke; ICSOL; confirmed or probable dementia (Short Form of the Informant Questionnaire for Cognitive Decline in the Elderly, short IQCODE score >3.31); terminal diagnoses, inability to speak English or Twi, interfering medical/mental illness or intervention; or inability to attend follow up visits

Data Collection

- **Delirium:** Confusion Assessment Method: (confirmation) + CAM-S (severity) within 24-72 hours of admission, twice weekly until discharge, and at each follow-up visit (6w, 3m & 6m).

- **Global Cognitive Assessment:** IDEA Study Cognitive Screening tool (0-15)³

Outcomes

- **Primary:** NCI= IDEA <8 + CAM-negative @6 months
- **Secondary:** Attrition (mortality & loss-to follow-up/withdrawal)

Data Analysis

- Calculated **cumulative incidence factor (CIF)** for NCI with competing mortality risk and right censoring due to dropout. Attrition-presented as %
- Fitted **Cox regression models** and estimated **unadjusted hazard ratios of mortality** with 95% confidence intervals (95%CI) to identify drivers of mortality in sample.

Figure 1: Study Flow Chart

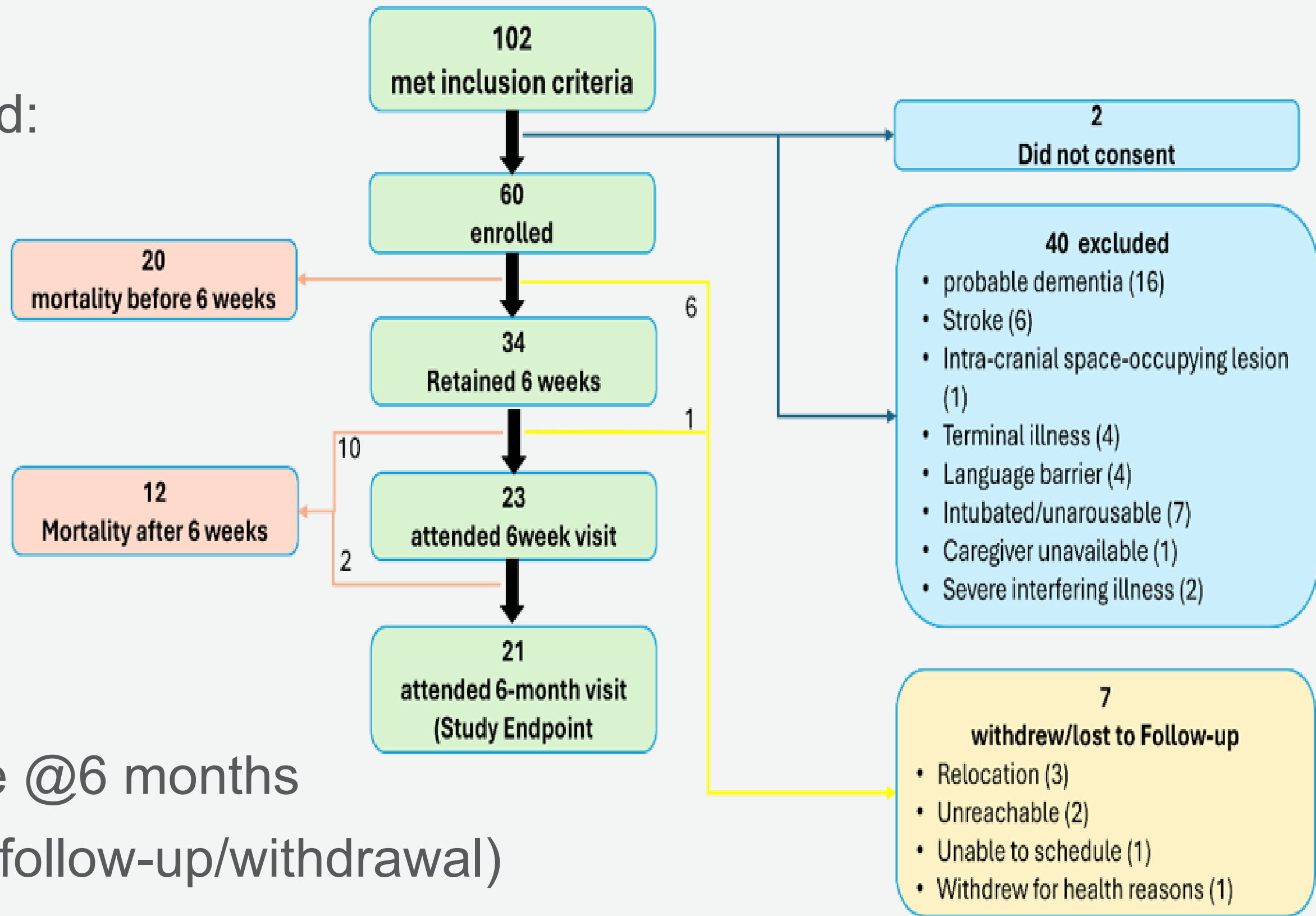


Table: Univariate Cox regression analysis for predictors of mortality (N=60)

Variable	n	HR	95%CI	P value
Age (years)	59	1.004	[0.967-1.041]	.852
Potentially inappropriate medications	14	0.214	[0.065-0.706]	.005*
CAM-S score at enrolment	58	1.153	[1.020-1.303]	.021*
Mean CAM-S	59	1.423	[1.261-1.605]	<.001*
Hyperactive Delirium	10	2.632	[1.119-6.188]	.019*
Frailty at 6 weeks (CFS[1-9])	23	1.817	[1.001-3.297]	.032*

HR- Hazard ratio; 95%CI- 95% Confidence interval; IWI- International Wealth Index CFS- Rockwood Clinical Frailty Scale; CAM-S-Confusion Assessment Method-Severity Scale

Discussion

- NCI incidence proportion of 22% aligns with broader evidence which identifies delirium as a marker of elevated risk of cognitive decline^{4,5}.
- High mortality: survivor bias? lower incidence estimate?
- First African study to estimate post-delirium cognition in this population. Highlights the need and feasibility of longitudinal investigation of the potential role of delirium in accelerating cognitive decline among hospitalized older Africans.
- Limitations: small sample size; outcome= NCI, not formal dementia diagnosis.

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