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## Association between depression, anxiety, and dementia among older people in Central Africa: EPIDEMCA population-based study.

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**Background:** Mental health issues such as depression and anxiety are common in older people. Yet, in sub-Saharan Africa, there is limited evidence on their co-presence and/or involvement in dementia. In this study, we investigated the cross-sectional and longitudinal association between depression, anxiety and dementia among older people living in two Central Africa countries.

**Methods:** Participants were from EPIDEMCA study, a multicenter cross-sectional study conducted between 2011 and 2012 in Republic of Congo (ROC) and in Central African Republic among people aged  $\geq 65$  years. An annual follow-up was performed only in ROC until 2015. Data were collected using a standardized questionnaire and participants underwent a short physical examination. Dementia diagnosis was performed by a neurologist according to DSM-IV criteria. Depression and anxiety symptoms were collected at baseline and were ascertained using a community version of the Geriatric Mental State (GMS-B3). Probable cases were defined as having a GMS-AGECAT score  $\geq 3$ . Cross-sectional and longitudinal associations were investigated using logistic and Cox delayed entry (with age as the time scale) regression models, respectively.

**Results:** Sample for cross-sectional analyses was 1773 participants (median age: 72 [interquartile range: 67-77] years) and 1053 (59.4%) were female. In total, 650 (36.7%), 133 (7.5%) participants presented respectively depression and anxiety symptoms, and 135 (7.6%) participants were diagnosed with dementia. After accounting for several covariates, depression significantly increased the odds of dementia (adjusted Odds Ratio= 1.72; 95%CI: 1.10-2.69). However, the association with incident dementia was no longer significant after accounting for residence area (adjusted Hazard Ratio= 2.24; 95%CI: 1.05-4.78 vs. aHR= 1.99; 95%CI: 0.92- 4.31). Regarding anxiety, it was not associated with either prevalent (aOR= 0.76; 95%CI: 0.38- 1.54) or incident dementia (aHR= 1.00; 95%CI: 0.32-3.17).

**Conclusions:** Depression seems to be an independent determinant of dementia in older people in Central Africa and many of them experience this condition more than anxiety. Therefore, promoting and strengthening social support around depressive older people could help to delay or manage dementia in this population.

Keywords: Depression, anxiety, dementia, epidemiology, sub-Saharan Africa. Words: /