Direct and indirect effects of HIV on health and wellbeing among older people in Uganda

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Background: HIV among older people

- Limited data on HIV and aging in developing countries
- The available data points to a substantial burden of HIV among persons 50 years and above:
  - Kenya HIV prevalence among people aged 50-54 yrs (8%), compared in 15-24 yrs (4.1%)

(Kenya AIDS indicator Survey of 2007)
Background:
HIV among older people

- In Uganda HIV prevalence among 50-59 yrs (5.8%), among 14-49 yrs (6.1%)
  (The Uganda National Survey 2004-05)

- MRC Unit in Uganda has collected data on older people since 1990 in a community cohort study
  - HIV incidence among older people has been shown to be lower than that at ages under 50 years, but only slightly so
Background:
Unique characteristics of HIV/AIDS among older persons

• More likely to have comorbid medical conditions

• More rapid progression to AIDS, and lower survival rates

• Increased risk of side effects of ART

• Elevated risk of psychiatric disorders (HIV-related psychosis, mood disorders, HIV associated dementia)

(Llorente and Malphurs, 2006)
Background: Impact of the HIV/AIDS epidemic on Older persons

• This has placed an enormous care giving burden on the extended family, particularly on the older persons (Ssengonzi, 2009)

• This enormous care burden has been shown to negatively affect the physical and psychological wellbeing of older caregivers.

• Reported to lead to short term weight loss, physical pain, and depression (Ssengonzi, 2009; Dayton et al, 2002; Knodel et al, 2003; Nyambedha et al, 2003; Oburu et al, 2005)
Background:
Impact of HIV on older people

HIV/AIDS affects older people in high prevalence LMIC countries through two main mechanisms:

i) Through direct HIV infection
ii) Indirectly through caring responsibilities imposed by the epidemic
Study objective

To describe the health and wellbeing of older people who are *directly* and *indirectly* affected by HIV/AIDS, with special attention to the effects of the introduction of ART
Study setting

• Study MRC/UVRI Unit in Uganda

Study sites:
• MRC Unit in Uganda has been running a general population cohort in rural southwestern Uganda since 1989 (pop. 18,000)
• Urban site established in 1995 current pop. 4,000 people.
• 2003 Anti-Retroviral Therapy (ART) became accessible
Study design

• Cross sectional study design
• Participants drawn from different MRC population cohort studies

Five study groups

• **HIV infected**
  – Older persons who are HIV+ and are on ART for more than a year
  – Older persons who are HIV+ waiting to get on ART or who are on ART for less than 3 months

• **HIV affected**
  – Older persons who have lost an adult child due to HIV/AIDS
  – Older persons who have a sick HIV+ adult child

• **Comparison group**
  – Older persons who are not HIV positive themselves and do not have a child infected or dead due to HIV/AIDS
Survey instruments

• Questionnaires (adapted from the WHO Study on Global Ageing and Adult Health (SAGE) instruments, expanded care giving burden)

• Health examination at home:
  – blood pressure, anthropometry, vision, grip strength, walking speed and cognition and a dry blood sample (to assess for biomarkers)
Results are preliminary

• Field work urban area ended late April 2010
• Data for care giving sections not yet available
• Re-visits to check ages scheduled for selected rural participants
• Income quintile data not yet available for all participants
• Dried blood spot data not yet available
Scales/Measures reported in this presentation:

- **WHODAS** (provides a profile of functioning across six activity domains)
- **Average grip strength** (good predictor of mortality risk in older ages)
- **BMI**
- **Hypertension**
- **Social Network Index (SNI)**: based on marital status, church and club membership, closeness to friends, closeness to family
- **WHOQoL**: used 8 item index to assess the quality of life including physical health, psychological health, social relationships, and environment
General Characteristics

Response rate: very few refusals (<1%)

Total 510 respondents
256 rural, 254 urban

61% women, 39% men

Mean age: 64.7 years
HIV positive younger: 59.0 years
WHODAS by age and sex

Men have better scores than women

Poorer scores from about 65-69
WHODAS
multivariate regression analysis

• Model with age, sex, place of residence, education and study groups

• **Significant effects**
  – Age: older people, more disability (p=.000)
  – Sex: women have poorer score (p.000)
  – Education: higher Educ., better score (p=.005)

• **Not Significant**
  – Residence
  – Study group - HIV status; ART status; child with AIDS
Grip strength by age and sex

- Men have better scores than women at all ages.
- Almost linear decline with age.
- Steeper slope of decline among men.
**Grip strength**

**multivariate regression analysis**

- Model with age, sex, place of residence, education and study group (and HIV/ART)
- **Significant effects**
  - Age: lower strength at older ages \( (p=.000) \)
  - Sex: women lower strength \( (p=.000) \)
  - HIV & not on ART: less grip strength \( (p=.031) \)
- **Not Significant**
  - Residence, education
  - HIV and on ART
BMI by comparison group

Mean Body Mass Index (multi-variate regression)

Significantly lower BMI:
- HIV+ (irrespective of ART),
- older,
- male
- rural lower than urban
Hypertension (systole>140 or diastole>90) (multi-variate regression) Significantly lower prevalence:
- HIV+ (irrespective of ART),
- older age
- rural lower than urban residents
WHOQoL

Multivariate regression analysis
Significant effects
- SNI stronger: better quality \((p=.000)\)
- age: younger is better \((p=.001)\)
- HIV, ART: higher quality \((p=.013)\)
- education: higher is better \((p=.023)\)

Not significant
- Sex;
- HIV not on ART,
- AIDS in family
- urban rural

Lower score implies better quality of life
Social network index (SNI)

- **Significant associations with SNI:**
  - Age: older people (over 70) have lower SNI ($p=0.000$)
  - Sex: women have lower SNI than men ($p=0.002$)
  - Education: higher education, better SNI, than lower education ($p=0.002$)
  - HIV, not on ART: lower SNI ($p=0.003$) than other older people groups

- **Not significant**
  - Urban rural residence
  - HIV and on ART;
  - Older people who had a child who is living with or died of AIDS
Conclusions (preliminary)

- HIV infection in older persons is associated with impaired BMI, grip strength, and impaired social network index.

- Health of the older persons affected by HIV/AIDS were not significantly impaired in BMI, Social network index, and quality of life.

- People on ART do better than HIV infected people not on ART in terms of quality of life, social network index and grip strength and score equally as well as HIV negative people on almost all indicators.
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