Social Engagement and survival in people aged 50 years and over living with HIV and without HIV in Uganda: A prospective cohort study

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Running head: Social engagement and survival in older people in Uganda.

Abstract

We conducted this study to examine the association between social engagement and survival in people with or without HIV aged 50 years and over in Uganda. We analyzed two waves of a survey from two sites in Uganda to assess predictors of mortality between waves. The first wave was conducted between 2009-2010 while the second wave was conducted between 2012-2013. A standardized questionnaire adapted from the World Health Organization study on global ageing and adult health was administered through face-to-face interviews at both survey waves. Cox proportional hazards models and Nelson-Aalen cumulative hazards functions were used to investigate associations between the strength of participants' social ties, using distance and intimacy metrics, and their social engagement with mortality between waves. Sixty three (12.3%) of the original 510 participants, died between waves. Being more socially engaged and able to provide in-kind or financial contributions to family or friends were protective. After adjusting for covariates neither social tie measure was predictive of mortality. There were no significant differences in social engagement and survival by HIV status. Further research is needed in African settings on the relationship between social relationships and subsequent mortality in older adults to assess if improved social relationships could moderate mortality.

Key words: Ageing, mortality, social engagement, Uganda

Introduction

Research on the association between older persons' social relationships and mortality in sub-Saharan Africa is extremely limited. Thus, we do not understand the link between social relationships and mortality among older people in general, and even less is known about how social relationships are related to mortality for adults living with HIV, specifically within African settings. Social relationships in other settings have been shown to have a strong positive impact on survival among older populations (Holt-Lunstad, Smith, & Layton, 2010; Sugisawa, Liang, & Liu, 1994). Understanding the link between social relationships and survival in Africa is increasingly important as the numbers of older persons (Pillay & Maharaj, 2013), and the number of older persons living with HIV, grow (Negin & Cumming, 2010; Negin et al., 2012).

Data are scarce on social relationships and mortality in older people within the African settings, a number of studies have looked at the association between social networks and mortality in older people in high-income countries (Bowling & Grundy, 1998; Giles, Glonek, Luszcz, & Andrews, 2005; Lyyra & Heikkinen, 2006; Steptoe, Shankar, Demakakos, & Wardle, 2013; Sugisawa et al., 1994). Most studies within high income countries indicate that large strong networks improve survival. A meta-analytic review of social relationships and mortality conducted on 148 studies found a 50 percent increased likelihood of survival for participants with large social networks (Steptoe et al., 2013).

However, socio-cultural conditions in African settings differ greatly from those in high-income countries. Previous studies have shown that social interaction patterns vary between and within cultures by socio-economic position and gender (Grundy & Sloggett, 2003; Turner & Marino, 1994; Turner & Turner, 1999). Social interactions may include proximity to family including children and other kin, living arrangements and the value placed on community support/interdependence versus individualism. In addition, the presence of the HIV epidemic in eastern and southern Africa may further complicate these relationships..

Social ties, social engagement and social support are common measures of social relationships. Social ties capture the existence or quantity of relationships, while social engagement shows the degree of participation in a community or society, and social support focuses on the quality or functional contents of the relationships (I. A. Kodzi, S. O. Gyimah, J. B. Emina, & A. C. Ezeh, 2011; Martinez, Lien, Landheim, Kowal, & Clausen, 2014). Social support has also been defined as social contacts with others that entail a certain level of qualitative exchange such as socio-emotional aid, instrumental aid and informational aid (Pillay & Maharaj, 2013). Support networks are often measured as the number of support providers that are available to a person (Agneessens, Waege, & Lievens, 2006).

Studies that have examined the relationship between social relationships and health in older people have also shown better health in those with large social networks and better social support (Giles et al., 2005; Zunzunegui et al., 2004). In African settings, studies have shown that poor social relations negatively impact older persons' mental health (Negin & Cumming, 2010), increasing the risk of depression (Efron, 1977; Hontelez et al., 2012; Hontelez et al., 2011) and self-harm (Lin, Wei, & Ying, 1993; Negin & Cumming, 2010), while strong social

networks were shown to have a positive impact on health in a study in South Africa (Ramlagan, Peltzer, & Phaswana-Mafuya, 2013).

Findings from research looking at the differential effects of older people providing versus receiving social support are mixed. Some studies in high income settings show that providing social support to others is more beneficial to older people's wellbeing than receiving social support (Thomas, 2009; Warner, Schüz, Wurm, Ziegelmann, & Tesch-Römer, 2010). Others have shown that both giving and receiving support have almost equal benefits to the wellbeing of older people (Liang, Krause, & Bennett, 2001). One study that looked at the separate effects of providing or receiving social support with mortality outcomes indicated that mortality was significantly reduced among older people who reported providing instrumental support to others compared to those who received the support (Brown, Nesse, Vinokur, & Smith, 2003).

In Uganda and other sub-Saharan African settings, family members are expected to provide care (Schatz & Seeley, 2015). The hollowing of the middle generation by HIV in much of east and southern Africa as well as labour migration, as younger people search for employment away from the rural area, has left some older people without caregivers, while at the same time older people have been asked to provide care to others who are living with or affected by HIV (Asiki et al., 2013; Fung, Carstensen, & Lang, 2001; Kautz, Bendavid, Bhattacharya, & Miller, 2010; Scholten et al., 2011).

In Uganda there are older people without any form of social support and limited social ties because they have lost their children or other caregivers to HIV. The work with older adults of Macia et al. in Dakar(Macia, Duboz, Montepare, & Gueye, 2015), Kodzi et al , in Nairobi(Ivy A Kodzi et al., 2011) and Gureje et al in Ibadan(Gureje, Kola, Afolabi, & Olley, 2008), highlights the importance of social engagement and social involvement for enhancing health and life satisfaction.

This paper contributes to the literature on social relationships and survival in older people living with or without HIV in Africa. We use longitudinal cohort data collected in Uganda from people aged 50 years and over, the majority of whom were living with or affected by HIV, to study the association between social relationships and survival.

Methods

The Medical Research Council/Uganda Virus Research Institute (MRC/UVRI), Uganda Research Unit on AIDS in collaboration with the World Health Organization Study on global AGEing and adult health (SAGE) conducted The Wellbeing of Older Persons Study (WOPS). The SAGE-WOPS study in Uganda was implemented with older people (50-plus years) with a focus on those living with or affected by HIV and AIDS. To date, two waves of data are available: SAGE-WOPS1 in 2009-2010 and SAGE- WOPS2 in 2013-2014; data collection for a third wave (2016-2017) was recently completed. A fourth wave is planned. The questionnaire for this study can be found at http://www.who.int/healthinfo/sage/hiv_studies/en/.

The study setting, study population and data collection methods have been previously described(J. O. Mugisha, Schatz, Seeley, & Kowal, 2015; J. Mugisha et al., 2013; Scholten et al., 2011) In brief, SAGE-WOPS participants were enrolled and are followed up at two sites on the shores of Lake Victoria in Uganda —one in Kalungu district and another in Wakiso district, near Entebbe. At enrolment, the SAGE-WOPS cohort consisted of 510 older people (61.2% female, mean age 65 with range 50-96 years). The 510 older people were randomly selected by strata using a stratified random sample structure; strata were defined by HIV status of the participant. The sampling frame was created using information from other, ongoing studies within the MRC/UVRI population cohorts at the two study sites. In the second wave, we re-interviewed those same respondents who were still living in the area and data were collected on survival. For those who had died between the baseline survey and the follow-up survey, the date of the death was reported by the relatives of the deceased if these were available.

Cohort data

Baseline data were collected by face-to-face interviews using a tool adapted from SAGE (Kowal et al., 2012). Baseline data included sociodemographic and household characteristics, health state descriptions, chronic conditions, health service coverage, health care utilization, risk factors, behaviors and health measurements that included hand grip strength and blood pressure. Hand grip strength was measured using Smedley's hand grip strength dynamometer (Stoelting co; Wood Dale IL), with the respondent in a seated position and the elbow flexed at 90 degrees and the upper arm close to the chest. The participant was asked to apply as much grip pressure as possible on the dynamometer, starting with the dominant hand first. Two measurements of grip strength were taken for each arm and the best score was recorded. Blood pressure (BP) was measured in sitting position after participants had been resting for at least 15 minutes using the Omron M4-1 with appropriate cuffs. Three measurements of systolic BP, diastolic BP and heart rate were recorded at an interval of 3 minutes. Each BP measure was recorded as the mean of the three respective blood pressure readings.

HIV status

At the initial recruitment for the first WOPS wave, HIV-testing was conducted following an algorithm using three HIV- 1 rapid tests, as recommended by the Uganda Ministry of Health. The algorithm for HIV rapid testing consisted of an initial screening with the rapid test Determine HIV 1/2 (Abbot Laboratories by Abbot Japan, CO LTD, Minato-Ku, Tokyo Japan). If the test result was negative the participant was given a diagnosis of HIV negative with no further rapid testing. If the test result was positive the sample was retested with the rapid test HIV 1/2 Stat-Pak (Chembio Diagnostics System 3661 Horseblock Road, Med Ford, New York 11763, USA). If both tests gave a positive result the participant was given a diagnosis of HIV positive with no further rapid testing. If the second test gave a negative result, the sample was further evaluated with the rapid test Uni-Gold Recombinant HIV-1/2 (Trinity Biotech PLC, IDA Business Park, Bray, Cowicklow, Ireland). For those samples assessed by all three tests, two positive test results were interpreted as a positive diagnosis. If two of the three tests gave negative results then the participant was diagnosed as being negative for HIV. During the

second WOPS wave, all study participants who were HIV negative during wave 1 were retested using the same algorithm in order to avoid misclassification of study participants.

Social relationship variables

Social relationship measures, included: (a) basic measures: number of living children and marital status. (b) measures of social ties – how close participants were with their living children (intimacy) and whether these children lived in close proximity with the study participants (distance), (c) measures of social engagement and (d) measures of social support – receiving support from family, friends, community and government, and providing support to family, friends and community.

Two metrics were used capture participants' ties with their living children. The first is the *intimacy metric*, designed to measure how emotionally close participants were with their living children. It is measured as the proportion of children whom participants "felt close to", of the total number of living children. Secondly, the *distance metric* is the average response for two survey questions that were designed to measure how many living children "live near" each participant.

Social engagement assesses how engaged participants were with their family/friends/neighbors, religious community, and other communities; Participants were asked whether they participated in religious, social, public service and community groups. If they did, we asked them how often they participated in these groups. We also asked participants how often they left their houses to attend church services, weddings and other social meetings. In addition, we asked participants how often they left their houses to visit friends, neighbors and relatives. Social engagement measure ranged from 0 to 3, where larger values indicate more social engagement.

Social support included measures of provision and receipt. *Providing* social support is a measure of the amount and scope of help that participants could give or provide to others in their family, friends, and their community as gifts, money, supplies, etc. in the last 12 months. Providing (all) ranged from 0 to 18 and larger values indicate greater levels of providing help or support. *Receiving social support* is a measure of the amount and scope of received help or support that participants received from others (family, friends, community, and government). The measure of receiving (all) ranged from 0 to 15 and larger values indicate that participants received greater levels of help or support.

Ethical statement

We obtained ethical clearance for SAGE-WOPS2 from the Uganda Virus Research Institute Research and Ethics Committee and from the Uganda National Council for Science and Technology. All study participants gave a written/thumb printed consent after the study interviewers read for them an information sheet about the study.

Statistical Methods

All survey data were cleaned and analyses were performed using SAS software v9.4. Time-to-death was the outcome of interest and was calculated as the duration from the date of baseline interview until the date of death, if known. If only year of death was known, then the day and month was assigned at random with equal probability on all days of the year, or all days between the interview date and 31 December if the year of death and year of interview coincided. The month and day of death were imputed for 34 of the 63 people who died (54%).

Cumulative hazards were estimated using Nelson-Aalen cumulative hazards functions and hazard ratios were estimated using Cox proportional hazards models, with the social relationship measures, health, and demographic covariates. The analysis was stratified by sampling strata defined by the impact of HIV/AIDS within each participant's family, allowing different baseline hazards for each stratum. The Efron tie method and Lin method to check proportional hazards assumptions (Lin et al., 1993) were used and met for all analyses.

As is common in longitudinal community-based survey studies we were unable to locate and follow up on a portion of the original cohort. The main analysis presented in the paper is of the participants whose survival status was known at follow-up. However, to assess the robustness of our findings from this complete-case analysis we also conducted a sensitivity analysis using multiple imputation to predict the vital status and observation time of the participants who were lost-to-follow-up. The imputation models for both vital status and observation time included sex, age, grip strength, hypertensive status, and all the social relationship variables.

Results

Description of study participants

At baseline (SAGE-WOPS 2009/2010), a total of 510 study participants were recruited of whom 199(39%) were living with HIV (Table 1). Interviews were conducted between 1 July 2009 and 3 October 2010. At the second wave of SAGE-WOPS (2012-2013), 345 (67.6%) participants were re-interviewed. A total of 63 participants were known to have died (12.3%) and a date of death was recorded; the remaining 102 (20%) were lost to follow-up. Median time between waves for those interviewed was 1282 days (IQR=58 days); median time to death was 413 days (IQR=585). The main analysis was restricted to the 408 whose survival status was known at follow-up.

Table 1. Baseline characteristics of participants

Characteristic		Percent (Frequency) Dead (n=63)	Alive (n=345)	Lost to FU (n=102)
Study group	HIV+	37 (23)	39 (133)	42 (43)
	HIV-	63 (40)	61 (212)	58 (59)
Overall Health	Very good	2 (1)	3 (9)	2 (2)
	Good	19 (12)	26 (90)	30 (31)
	Moderate	49 (31)	57 (197)	54 (55)
	Bad	25 (16)	14 (47)	12 (12)
	Very bad	5 (3)	1 (2)	2 (2)
Sex	Male	51(32)	38 (131)	33 (34)
	Female	49 (31)	62 (214)	67 (68)
Marital Status	Never married	2 (1)	1 (3)	3 (3)
	Married/cohabitating	21 (13)	35 (122)	29 (29)
	Divorced/separated	19 (12)	19 (65)	28 (27)
	Widowed	59 (37)	45 (155)	40 (41)
Education Level	No formal Education	37 (23)	21 (73)	22 (22)
	Primary	54 (34)	67 (230)	66 (67)
	Secondary	6 (4)	9 (30)	8 (8)
	Tertiary	3 (2)	3 (9)	5 (5)
Tobacco Use	Regular Use	13 (8)	14 (50)	7 (7)
	Irregular Use	3 (2)	5 (17)	5 (5)
	None	84 (52)	81 (278)	88 (90)
Alcohol Use	Yes, regular	11 (7)	13 (45)	12 (12)
	Not regular	89 (55)	87 (300)	88 (90)
Hypertensive	Not hypertensive	76 (48)	88 (305)	78 (80)
Status	Hypertensive	24 (15)	12 (40)	22 (22)
Religion	Catholic	65 (41)	60 (207)	52 (53)
	Protestant	19 (12)	29 (100)	31 (32)
	Islam	13 (8)	8 (26)	12 (12)
	Other	3 (2)	3 (12)	5 (5)

Not surprisingly, those who had died were likely to be older than those who were still alive (mean age 73.8 years vs 64.1 years, p<0.0001). However, they were likely to have fewer living children as compared to those who had not died (4.1 children vs 5.9 children, p=0.003), and were likely to have reported low levels of social engagement at baseline compared to those who survived at the second wave (0.37 vs 1.12, p<0.0001). Those who had died were also more likely to have reported providing fewer resources in the form of gifts, money, money for school fees/supplies, food, paying for medical bills, clothing or provisions, help with household work, help with medicine/care, transportation, goods, social/emotional or other supplies to friends, relatives and the community at baseline compared to those who were still alive at follow-up (lower providing score 2.14 vs 4.42, p<0.0001). In terms of health predictors, those who died were more likely than those who did not die to have had low maximum grip strength at baseline (20.6 Kgs vs 27.2 Kgs; <0.0001, Table 2).

Table 2. Baseline characteristics by mortality status at the second wave

Variable	Mean (Std Dev)		
	Dead (n=63)	Alive (n=345)	Lost to FU (n=102)
Age	73.8/74 (12.1)	64.1 (9.9)	62.8/60.0 (10.4)
# of living children	4.1/3.0 (3.9)	5.9 (4.6)	5.4/4.5 (5.0)
Social Engagement	0.4/0.0 (0.9)	1.1 (1.3)	0.9/0.0 (1.2)
Receiving (all groups)	4.4/3.0 (3.6)	3.7 (3.1)	4.1/4.0 (3.4)
Receiving from Family	3.0/3.0 (2.8)	2.1(2.1)	2.6/2.0 (2.5)
Receiving from Friends	0.8/0.0 (1.3)	0.8 (1.2)	0.8/0.0 (1.3)
Receiving from Community	0.4/0.0 (0.9)	0.5 (1.0)	0.5/0.0 (1.0)
Receiving from the Gov't	0.2/0.0 (0.6)	0.2 (0.6)	0.2/0.0 (0.5)
Providing (all groups)	2.1/1.0 (3.0)	4.4 (3.6)	4.0/3.0 (3.4)
Providing to Family	0.9/0.0 (1.7)	2.1 (2.4)	2.0/1.0 (2.4)
Providing to Friends	0.7/0.0 (1.1)	1.2(1.3)	1.1/1.0 (1.2)
Providing to Community	0.6/0.0 (0.9)	1.1 (1.1)	0.9/0.5 (1.1)
Intimacy Metric (Emotional closeness to Children)	0.5/0.3 (0.5)	0.4 (0.3)	0.4/0.3 (0.3)
Distance metric (How far live from children)	0.9/1.0 (1.1)	1.3 (1.8)	1.1/1.0 (1.5)
Max Grip Strength (kg)	20.6/20.0 (8.9)	27.2 (8.6)	26.3/24.0 (9.5)

Time to event results

After inclusion of covariates (marital status, age, sex, education level, overall health, number of living children, hypertensive status, grip strength, alcohol use, tobacco use, and religion) in the Cox proportional hazards model, social engagement, providing and receiving measures were associated with time to death (p-values= 0.047, 0.014 and 0.024, respectively, Table 3). These analyses indicated a protective effect on survival for greater levels of social engagement (HR=0.72, 95% CI [0.52, 1.0]) and total aid provided to family, friends, and the community (HR=0.86, 95% CI [0.75, 0.97]) and a hazardous effect on survival for greater levels of total aid received from family, friends, the government and community (HR=1.10, 95% CI [1.01, 1.20]). No associations for the distance or intimacy metric were observed with survival. Threshold effects were investigated and after adjusting for covariates, no threshold effects were observed for social engagement or those that received or provided support or aid to others. When we compared the results of HIV positive and HIV negative individuals analyzed separately (results not shown), the effects of social engagement did not differ.

Table 3: Time-to-event analysis estimating risk factors for mortality during follow-up.

	Main analysis				Analysis using multiple imputation			
	Hazard Ratio	**95% CI**		**p-value**	**Hazard Ratio**	**95% CI**		**p-value**
Married/Cohabitating	0.915	0.101	8.286	0.937	1.037	0.099	10.92	0.974
Divorced/Separated	1.001	0.112	8.913	0.999	1.138	0.106	12.17	0.910
Widowed	1.058	0.123	9.091	0.959	1.057	0.110	10.12	0.960
Female	0.378*	0.196	0.728	0.004	0.368	0.192	0.703	0.003
Primary Education	1.034	0.547	1.957	0.917	0.988	0.544	1.795	0.968
Secondary Education	1.130	0.336	3.797	0.844	0.915	0.289	2.899	0.880
Tertiary Education	0.547	0.093	3.223	0.505	0.860	0.149	4.968	0.862
Health								
Good Overall Health	0.458	0.090	2.324	0.346	0.461	0.088	2.413	0.353
Moderate Health	0.277	0.062	1.238	0.093	0.391	0.06	2.566	0.309
Bad Overall Health	0.403	0.088	1.851	0.243	0.544	0.116	2.537	0.431
Social Engagement	0.720*	0.519	0.998	0.049	0.731	0.539	0.993	0.045
Hypertensive	2.002*	1.041	3.849	0.038	1.837	0.923	3.656	0.082
Max Grip Strength	0.941*	0.904	0.981	0.004	0.940	0.896	0.987	0.016
Age	1.034	1.000	1.070	0.052	1.028	0.998	1.059	0.064
Providing	0.855*	0.754	0.968	0.014	0.899	0.802	1.008	0.067
Receiving	1.103*	1.013	1.202	0.024	1.083	0.998	1.174	0.056
Intimacy Metric	1.537	0.715	3.306	0.271	1.339	0.673	2.663	0.405
Distance Metric	0.928	0.717	1.200	0.567	0.976	0.784	1.215	0.827

The results from the multiple imputation sensitivity analysis presented in table 3 alongside the main analysis results were consistent with the main analysis and showed hazard ratios that were consistently similar in direction and magnitude, however the standard errors were somewhat larger reflecting the increased uncertainty resulting from the predictions around the incomplete data. Confidence intervals for some of the exposures were therefore wider, and p-values larger, than those presented for the main analysis, though there was still evidence that female gender (p=0.003), social engagement (p=0.045), grip strength (p=0.016), providing (p=0.067) and receiving support (p=0.056) were important predictors of survival.

In summary, older people that reported providing the least support to relatives, friends and the rest of the community had a shorter estimated survival as compared to those who reported providing the most. Being able to provide support to others may itself be due to mobility, being able to interact, and sustained good health. Those who reported receiving more support had a shorter survival time compared to those who received less. Older persons who

are sickly may be more likely to be recipients of support from their family and community. Further significant factors included being hypertensive, which was hazardous, while being female was protective. However, after adjusting for covariates, we observed no threshold effects for social engagement or those that received or provided support or aid to others.

Discussion

This study examines social engagement and survival in older people in Uganda, an African country that has been greatly affected by the HIV epidemic. There has been limited research in this field, particularly within African rural settings. Through the use of social relationship measures designed by the WHO Study on global AGEing (SAGE) and adult health (Kowal et al., 2012) in a Cox proportional hazards model, we have demonstrated that older people who were not socially engaged had shorter expected survival as compared to those who were highly socially engaged. This could be due to mobility and ability to interact with others because of sustained good health. Our paper does not examine orphan / grandparent relationships, or specifically look at families with members who have previously died from HIV.

There have been conflicting results on whether older people who *receive* social support survive longer than older people who *provide* social support. Whereas some research has shown that providing social support increases survival more than receiving support (Brown et al., 2003; Thomas, 2009; Warner et al., 2010), others have argued that engaging in both providing and receiving support has a greater positive effect on survival (Liang et al., 2001). Findings from our study suggest that providing social support is associated with better survival compared to receiving social support. This may be because older people who could provide social support to others were in better health during the first wave of the study, compared to those who reported receiving social support (results support this but are not shown in this paper). Studies done elsewhere have indicated that when controlling for health differences, benefits of giving to others include reduced distress (Midlarsky, 1991; Nemeroff, Midlarsky, & Meyer, 2010) and improved health (Carter & Golant, 2013; Schwartz & Sendor, 1999), including self-reported health and life satisfaction (I. A. Kodzi, S. O. Gyimah, J. Emina, & A. C. Ezeh, 2011). In the context of our study, being able to give to others, to engage in the norms of social exchange, is important as part of a local community (Seeley, 2014, p. 49ff.), a finding corroborated in the work of Ramlagan and colleagues (Ramlagan et al., 2013) in South Africa.

The mechanisms through which social networks have an impact on health are not clear but a number of pathways have been suggested in the literature including influencing the immune and endocrine systems, influence of health behaviors such as smoking, alcohol consumption, diet, exercise, adherence to health medication and health seeking behavior, and also through influence on self-efficacy, coping effectiveness, stress management, depression and sense of wellbeing (Berkman, Glass, Brissette, & Seeman, 2000; Brown et al., 2003; Negin et al., 2012; O'Reilly, 1988). Some of this information exists within our data set, but much of it would need to be collected in ancillary studies to understand the mechanisms in this population.

To our knowledge, this is the first longitudinal study to examine the link between social relationships and survival in a population of older people living with and without HIV in Uganda. One weakness with our study is that we were not able to collect data on the quantity and quality of the social ties. Our social support variables are also limited in that they only focused on whether support was given or received, not the quality or amount of support. There is also a possibility for a reverse causal relationship between social engagement and mortality which we have not explained in this paper. It is quite plausible that serious underlying health problems could cause social detachment in older adults. However, the biggest proportion of our study participants especially those who were HIV positive were on antiretroviral drugs and reported good health probably because of their close contact with health facilities. In addition, although HIV used to be a highly stigmatised disease in our study population, this is no longer the case. These notwithstanding, the results give us an insight into social relationships and survival in older people in an African setting. In subsequent planned WOPS surveys, it will be important to collect data on the quality and quantity of the social networks and social support, as well as mechanisms through which these social relationships might affect survival.

Social engagement, the involvement in community life and ability to provide support and care, have an impact on older people's health, and consequently their survival. Given the continued impact of labour migration and the legacy of the HIV epidemic on the care networks of older people in Uganda, and elsewhere in east and southern Africa, methods to improve social support for older people must be developed. In particular, support for older people is essential for their wellbeing and should be characterized by the care they provide for others as well as for those that they may look after (Barrientos & Hulme, 2009; Seeley, Wolff, Kabunga, Tumwekwase, & Grosskurth, 2009).

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