The 'Kisoro Elders Project' in villages of rural southwest Uganda: A model for geriatric care in developing countries?

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Abstract. This brief report describes the inception of a healthcare project aimed at offering interventions meant to have an immediate impact on the quality of life of older adults living in rural villages in Uganda. Given the rapid ageing of the developing world and the crisis of shortages of health professionals seen in most countries, it may serve as a model for similar efforts elsewhere.

Keywords: rural health care, older adults, Village Health Worker, quality of life.

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The Kisoro Elders Project aims to screen for and treat major health problems which are prevalent among older persons world-wide. The target problems, which significantly negatively impact quality of life, are visual impairment, hearing deficits, mobility and pain problems, depression and dementia. Interventions are delivered in rural villages by trained Village Health Workers, thereby overcoming significant usual barriers to care. To our knowledge, this program is unique in sub-Saharan Africa, and offers the potential to be a model to fulfil dual goals of better addressing health care needs of older adults in Africa while grappling with a critical shortage of health care personnel.

Kisoro District is a small district in the far southwest corner of Uganda, near borders with Rwanda to the south and the Congo (DRC) to the west. Just a few miles from both borders is Kisoro, the district capital, a bustling town centre of around 13,000 persons, which includes the government-funded Kisoro District Hospital and Clinics. There are 400 rural villages in the surrounding district, comprised of widely spaced family compounds (2-10 small houses/compound) set among agricultural fields. A very beautiful area dominated by three large inactive volcanoes and dotted with breath-taking lakes, its terraced fields rise steeply up hillsides. Located near the equator, its 2000-meter elevation means the weather is cool, high teens C^{o} by day and low teens C^{o} at night, with rainy seasons during significant blocks of the year, and three growing cycles per year. Older adults (age 60+) comprise five per cent of the population of the villages, as they do elsewhere in Africa (Wandera, Kwagala and Ntozi, 2015). Historically they have been an integral part of the family unit; however, loss of significant segments of the middle generation due to out-migration to the cities in search of jobs, and the devastation of the HIV/AIDS epidemic, has left many older persons without adequate social supports (authors observations).

Training for this project added a skill set to the previously trained Village Health Workers of the Doctors for Global Health Uganda Project, based at Kisoro District Hospital (KDH). The Ugandan health professional staff of KDH has been supported and enhanced for the past 13 years by faculty level and resident physicians and medical students of Doctors for Global Health (DGH) and two New York medical schools, Albert Einstein and Hofstra University, under the direction of one of the authors (GP). DGH has trained Village Health Workers (VHWs) in 52 villages in the sub-counties closest to Kisoro. Rigorous training of 1-2 years has equipped VHWs to address routine acute care problems (fever, diarrhoea, cough), hypertension and diabetes detection and control, prenatal care, common issues of maternal and child health, and follow-up after hospitalization. Although there are older adults followed by the CDCom program (Chronic Disease in the Community), until the inception of this project, there had been no training for specific problems affecting older adults; in fact, VHWs reported that older persons in the villages complained that they were being ignored. VHWs live in and are recruited from their own villages. They are farmers with largely a primary school education. Exploratory visits to conduct needs assessments and ascertain interest were made by one author (HGB) to villages in April and October of 2017, and training modules for 6 VHWs each time were held in February and September 2018, conducted by two authors (HGB, PAB) and a Ugandan project director (MI).

During the initial two-day training module, VHWs learned about the focus areas of the project: Vision, Hearing, Mobility and Pain, Depression, Dementia, and Function. They learned to screen for problems in these areas using E-charts for far vision, reading or figure clarity screening for near vision, the Whisper Test for hearing impairment, Timed Up and Go for mobility, a pain intensity rating scale, the Patient Health Questionnaire – 9 (PHQ-9) for depression, (Gelaye et al., 2013), the Six Item Dementia Scale for Africa (SIDSA) (Paddick et al., 2015), and an adapted Activities of Daily Living and Contributive Functions scale. In addition, they learned simple interventions: identification of significant myopia for referral to the optometrist, dispensing of reading glasses, inspection of ear canals and removal of cerumen impaction, dispensing of low cost hearing aid devices, assessment of suitability of canes (to replace traditional walking sticks), measurement for cane height, referral of older persons for follow-up mental health care in the villages for mild-moderate depression or the hospital for severe depression/suicidality, and education of family members and caregivers concerning dementia. Current developments include the formation of support groups for mild to moderate depression, modelled on the Interpersonal Therapy intervention tested elsewhere in Uganda in younger persons (Bolton et al., 2003), in conjunction with the project director (MI), who has a Masters of Social Work education, and a nurse mental health specialist (IO). In-home instruction for caregivers of dementia patients has been added to the home talk curriculum.

After the two-day training module, follow-up visits in the villages gathered older persons identified by the VHW as having vision, hearing, and mobility and pain problems. Many of the older persons had to walk several kilometres over difficult terrain to the gatherings, which proved to be happy reunions of friends for many who are socially isolated. The beneficial impact of reading glasses for many was evident: wide smiles when they realized they could once again read their Bible and participate in church, or thread a needle for sewing, or help sort beans from stones during the harvest. Listening devices for hearing impairment also had immediate and highly appreciated impact. Almost all the older persons, having worked in the fields their whole lives, have musculoskeletal pain but have never taken analgesics due to cost barriers. Acetaminophen (paracetamol), which is quite inexpensive, was dispensed by the VHW with excellent results for many of the older persons. Despite fears that canes may not be culturally acceptable compared with traditional walking sticks, frail older persons with mobility problems felt much more stable using them. A local carpenter has been given a contract for their low-cost production (with rubber cane tips obtained in the US). In-home visits for depression and dementia screening were conducted by the VHW, accompanied by the project director. Both the project director and the mental health nurse give ongoing support for VHWs' acquisition of skills in these more nuanced areas, and provide individual follow-up, as well as supervision and training in the establishment of support groups. Depression is common in rural older persons and suicidality not rare, in many if not most cases intimately related to abject poverty, hunger, loss of family or the all-important role of being able to dig in the fields, loneliness, and neglect. While the prevalence of dementia is not known, it is seen, but frequently attributed to spirits or curses.

A new aspect of the project, which began in September 2018, is the dispensing of solar lights for older persons. A serendipitous meeting of a New Yorker engaged with a solar light charity

lead to an introduction of HGB and PAB to the NGO Let There Be Light International (LTBLI), based in Buffalo, NY, and working in Uganda in partnership with Solar Health Uganda. The mission of LTBLI is to solarize community health centres and provide individual lights to vulnerable people (MODES= mothers, orphans, disabled, elderly, and students) in Uganda and Malawi. LTBLI donated 100 lights, which were dispensed to selected older persons, and promised 250 more for summer 2019. Lights offer the possibility of reducing social isolation, especially if they attract members of the family into the home of the older person at night to converse and study, and improving health and safety, as the usual kerosene candles often cause house fires, burns, respiratory diseases due to exposure to smoke and soot, and prevent the use of mosquito nets for fear of fire.

In 2018, 24 VHWs were trained, using a training manual developed by HGB and PAB and translated into 'Rufumbira', the local language, by MI. 12 VHWs were trained by HGB, PAB, and MI, and 12 subsequently by a training team lead by MI and comprised of 6 selected VHW "co-supervisors". 970 screenings were performed: 391 for vision impairment, 110 for hearing impairment, 34 for depression, 30 for dementia, and 405 for mobility and pain problems. 221 pairs of reading glasses were dispensed, and on follow-up, 182 older persons reported benefit from using the glasses for reading, sewing, peeling, and separating beans from chaff. 24 older persons have received and reported benefits in conversation from use of hearing aid devices. 45 older persons had major mobility issues that would potentially be benefited by using a cane more than the traditional walking stick; 26 have received canes and a town carpenter is proceeding with producing the others. 380 older persons were given paracetamol for musculoskeletal pain. Detailed flow sheets being used by the VHWs will capture all visits, test results, interventions made, and follow-ups (i.e. is the older person using the reading glasses, what function are they helping?) Screening gatherings and individual home visits have become a part of VHWs' calendars. The extent to which they embrace the delivery of geriatric care will be reflected in their stipend sheets, as each task they perform is rewarded by a small stipend. VHW stipend income adds significantly to family agricultural revenues; a project goal is to increase VHW stipend income by 30%. The Activities of Daily Living and Contributive Functions Scale has been incorporated into the biannual census conducted by VHWs and hospital Supervisors.

In early 2019 the project was rolled out to all 52 villages. Two authors (HGB, PAB) will continue to visit twice yearly to assist in monitoring, continuing education, and data collection. The budget for equipment, support of the project director, and VHW stipends is modest and sustainable. The project has received support from the International Institute on Aging, United Nations, Malta (INIA), the Stroud Center for the Study of Quality of Life in Older Adults of Columbia University, New York, NY, and from individual contributions by family, friends, and colleagues to Doctors for Global Health, Uganda. Two authors (HGB, PAB) continue to seek philanthropic and foundation support. With adequate support there is the possibility of extending the project to other districts in Uganda and more broadly.

"We thank you from the bottom of our hearts" is a sentiment commonly expressed by Kisoro older persons who have benefited from the project. Health care for older persons is not only morally correct, but also economically indicated in the light of the significant contributions

they make to their families and communities: support of food security, child care, and social guidance (Aboderin & Beard, 2015). In the face of the phenomenon of global ageing, particularly in the developing world, this low cost, practical project, when appropriately modified for local culture, demographics, and existing health care infrastructure, could serve as a sustainable model, with an immediate impact on quality of life, for geriatric care in rural areas currently lacking access to health care. Since most of the VHWs are women, it also addresses multiple international calls for the education and empowerment of women.

The authors warrant that this work is original, non-defamatory, and that all statements contained herein as facts are true. None of the authors have any conflicts of interest.

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