


Sociodemographic Factors and Health-Related Characteristics That Influence the Quality of Life of Grandparent Caregivers in Zimbabwe

Gerontology & Geriatric Medicine
 Volume 4: 1–11
 © The Author(s) 2018
 Reprints and permissions:
sagepub.com/journalsPermissions.nav
 DOI: 10.1177/2333721418756995
journals.sagepub.com/home/ggm


Magen Mhaka-Mutepfa, PhD¹

Abstract

Very few studies have examined quality of life (QOL) in elderly carers of orphaned children in African settings. This study explored sociodemographic factors and health-related characteristics that influence QOL of grandparent carers in Zimbabwe. A cross-sectional study stratified by district was done to collect information on socioeconomic factors, health-related characteristics, and QOL of grandparent carers ($N = 327$; age: $M = 62.4$, $SD = 11.2$). Data were collected on socioeconomic factors, self-perceived health, health care access, chronic disease condition, health insurance status, types of health care services, and medications taken using the World Health Organization Quality of Life Questionnaire (WHOQOL-BREF). Bivariate and multivariate analyses were used to investigate the associations between QOL and the predictor variables. Caregivers' level of education (odds ratio [OR] = 3.0; confidence interval [95% CI] = [1.0, 27]), fostering orphans only (OR = 0.4; 95% CI = [0.2, 0.7]), self-perceived health (OR = 10.2; 95% CI = [4.5, 25]), medical insurance (OR = 9.8; 95% CI = [1.9, 54]), and satisfaction with health care services (OR = 2.2; 95% CI = [1.2, 4.4]) were associated with QOL, after adjusting for all influencing factors. The results confirm that QOL is compromised by specific demographic and self-rated health characteristics. Thus, eradicating poverty and providing services and changing caregiver's perceptions about self-rated health may enhance QOL among grandparent caregivers.

Keywords

grandparents, caregivers, health, quality of life, health-related characteristics, Zimbabwe

Manuscript received: December 2, 2017; **final revision received:** January 5, 2018; **accepted:** January 10, 2018.

Introduction

Historically, most aging adults in African settings were cared for by a family member, but due to several socioeconomic factors, for instance, the economic depression, changes from agrarian to industrial economy, urbanization, globalization, civil strife, AIDS deaths, and migration, the aging adults have now taken up primary caregiving roles (Hondras, Myburgh, Hartvigsen, Haldeman, & Johannessen, 2015; United Nations, 2016) such as providing a safe environment, education, good nutrition, and guidance and counseling. The change of roles is likely to affect the older caregivers' quality of life (QOL), particularly when they are income insecure. Literature is replete with burdens of HIV and AIDS and income insecurity across many sub-Saharan African countries including Zimbabwe (Aboderin & Beard, 2014; Aransiola, Akinyemi, Akinlo, & Togonu-Bickesteeth, 2017; Hondras et al., 2015; Mhaka-Mutepfa, Cumming, & Mpfu, 2014; Mhaka-Mutepfa, Hunter, Mpfu, & Cumming, 2016; Shaibu, 2016). Income insecurity also

affects the children in the aging adult's care because 50% to 60% of orphans live with grandparents (Murray et al., 2012; United Nations Programme on HIV and AIDS [UNAIDS], 2015) in sub-Saharan African settings.

For aging caregivers, QOL and well-being refer to the ability to adapt to the caregiving roles and living a full and satisfying life despite own health challenges (Craig, 2012). QOL includes the physical, mental, and social well-being of individuals and societies and the ability to self-actualize (World Health Organization [WHO], 1996). The WHO also defines QOL as "an individual's perception of their position in life in the context of the culture and value systems in which they live, and in relation to their goals, expectations,

¹University of Botswana, Gaborone, Botswana

Corresponding Author:

Magen Mhaka-Mutepfa, University of Botswana, Box 00705, Gaborone, Botswana.
 Email: magen.mhaka@yahoo.com; mutepfam@ub.ac.bw



standards and concerns” (WHO, 1997, p. 1). People should be understood in terms of their needs, culture, perceptions, standards, and preferences to enhance their QOL. Older caregivers may need assistance to be able to partake the carer roles with efficacy for them to exhibit higher QOL. Nonetheless, the assistance needed is hard to get because sub-Saharan African countries have other urgent and pressing demographic problems—unemployment, high infant and child mortality rates, and high maternal mortality rates (Aboderin & Beard, 2014)—to prioritize the needs of the aging adult. Unemployed youths are more likely than the aging adults to create social and political upheaval if their demands and life chances are not fulfilled (Nabalamba & Chikoko, 2011); therefore, governments would prioritize the needs of youths rather than those of the vulnerable elders. Lack of priority to older people’s needs has a negative impact on their QOL, particularly those with carer roles, in addition to their aging requirements (e.g., nutritional and health needs).

In African settings, all countries will be obliged to deal with aspects of an aging population despite aging not being as visible as stakeholders would want in most policy documents (Van Rooy, Mufume, & Amadhila, 2015). It is vital to understand that populations are growing older with huge implications for health, social, and economic institutions, suggesting the need to prognosticate the demand for services and how they can be met. However, where aging is visible, the implementation of policies is not enforced as aging is not a priority in terms of budgetary allocations in many of these countries (e.g., Zimbabwe, Tanzania, Nigeria, etc.), thereby increasing the vulnerability and marginalization of older Africans (Nabalamba & Chikoko, 2011), especially orphan caregivers. However, when prioritized and well managed, provision of health care and social protection programs can provide a vital opportunity for older people to enjoy a fulfilling and active life that is better than that of previous generations (Nabalamba & Chikoko, 2011). Although not directly addressing QOL, social protection programs were found to reduce the negative impact of social determinants on health (e.g., access to resources: food, housing, provision of health services, etc.) and QOL (Bastagli, 2013).

Furthermore, diseases and illnesses associated with aging (e.g., arthritis, diabetes, high blood pressure [HBP], back pain, depression, etc.) were found to have a negative influence on QOL (Lloyd-Sherlock, Beard, Minicuci, Ebrahim, & Chatterji, 2014; Nölke, Mensing, Krämer, & Hornberg, 2015). Prevalence of diseases and illnesses among aging adults was also studied in Zimbabwe to understand their impact on QOL. QOL assessment also measures the extent to which a carer’s normal life activities have been compromised by disease (chronic condition) and treatment, for example, medication taken (Taylor, 2013) and caregiving, which was also a focus for this study.

QOL Situations in Other Developing Countries

There is dearth of information on QOL among the aging adults in Zimbabwe and other developing countries. An exploratory study on QOL of orphans living in child-headed households was done by Germann in 2005 in Zimbabwe (unpublished thesis). Other few studies in Nigeria were on QOL of the aging population (Adebowale, Atte, & Ayeni, 2012; Fajemilehin & Odebiyi, 2011; Gureje, Kola, Afolabi, & Olley, 2008). Lifestyle, education status, personal income, and gender were associated with better QOL among older adults (Adebowale et al., 2012; Cao et al., 2016; Fajemilehin & Odebiyi, 2011). In addition, the study in rural Nigeria revealed that living in a multigenerational household, support, and marital status were associated with higher well-being (Adebowale et al., 2012). Further, another Nigerian study revealed that social factors (support and participation) were the strongest predictors of QOL (Gureje et al., 2008). Furthermore, a QOL score among older adults was found to be average in India (Praveen & Rani, 2016). The score for the social relationship domain was lower than the scores for psychological, physical, and environmental domains in the Indian study. The authors reported the mean QOL score to be 60, and social relationship had the highest score (61.9).

Measuring QOL is a growing area of interest in dementia research (Rosness, Mjorud, & Engedal, 2011), but no studies have examined the associations between sociodemographic and health-related factors and QOL in grandparent caregivers of orphaned children in Zimbabwe. In systematic reviews of several studies, poor QOL was found to cause distress among different groups of caregivers which could lead to poor physical and mental health (Crellin, Orrell, McDermott, & Charlesworth, 2014; McKinnon, Harper, & Moore, 2013). The context of people’s lives determines their health and their QOL (UNAIDS, 2015); therefore, people should not be judged for their QOL, particularly grandparent caregivers, who are struggling to cope with the aging process, let alone caregiver roles. Aging caregivers are less likely to be able to directly control many of the determinants of health that impact their QOL.

Due to population aging, stakeholders (e.g., Global Coalition on Aging) have now acknowledged the challenges of keeping older persons healthy and are concerned about what happens after age 60 (McKoy-Davis et al., 2017). Full integration and participation of older persons in society were considered as some of the main determinants of healthy aging and good QOL (Gureje et al., 2008; McKoy-Davis et al., 2017). Caregiving is viewed as one aspect of social participation and integration of older persons into the social networks of the family and community (Gureje et al., 2008; Timonen, Yumiko, & Siobhan, 2011), which could boost QOL. Furthermore, in sub-Saharan African countries,

intergenerational relationships and access to resources (e.g., social and personal) were found to make a vital contribution to older people's health (Adebowale et al., 2012; McKinnon et al., 2013; Mhaka-Mutepfa et al., 2016; Mhaka-Mutepfa, Mpofu, & Cumming, 2015; Zhou, Mao, Lee, & Chi, 2016), therefore influencing QOL.

Most of the orphans in Zimbabwe (1,943,845 of whom 1,008,480 are due to AIDS) are being cared for by grandparents living in abject poverty (UNAIDS, 2015). In Kenya and Tanzania, households headed by older people have a poverty rate that is over 20% higher than the national average, which is the case in most sub-Saharan African countries (Helpage, 2015). These figures suggest urgent action is essential to reduce poverty among older caregivers, thereby boosting QOL.

Relationships Between Health-Related Characteristics and QOL

Relationships between health-related characteristics and QOL are underresearched in African settings. Some researchers in Spain and Iran reported that poor QOL in caregivers increases the risk of the caregiver being admitted to a nursing home (Argimon, Limon, Vila, & Cabezas, 2005; Cheraghi, Doosti-Irani, Nedjat, Cheraghi, & Nedjat, 2016). In Norway, younger caregivers were found to have more emotional stress and financial worries than their counterparts (Rosness et al., 2011), as they may not be ready to partake caregiver roles, which affects their QOL. Younger caregivers in sub-Saharan Africa may also experience emotional and financial worries because of lack of resources, particularly if caring for orphaned children. It is, therefore, pertinent to examine what can enhance the QOL in grandparent caregivers of orphaned children in an African setting so as to prevent poor QOL among the caregivers.

Previous research in Nigeria, Spain, Iran, and Italy revealed that to a large extent, factors such as where we live, the state of our environment, genetics, our income, and education level, gender, and our relationships with friends and family all have considerable impacts on QOL (Adebowale et al., 2012; Argimon et al., 2005; Cheraghi et al., 2016; Fajemilehin & Odebiyi, 2011; Gureje et al., 2008; Vellone, Piras, Talucci, & Cohen, 2008), whereas the more commonly considered factors such as access and use of health care services often have less of an impact (Rosness et al., 2011). However, Jamaican studies (McKoy-Davis et al., 2017; Mitchell-Fearon et al., 2015) and a U.S. study (Taylor, 2013) found that access to health care services made a vital contribution to older people's QOL. Timonen et al. (2011) revealed that good self-rated health was highly associated with better QOL in Ireland. The current study explored the sociodemographic and health-related characteristics that influence QOL, the associations, and the distribution of health-related characteristics in different aging carer groups in Zimbabwe.

There is need to identify the health-related characteristics that impact QOL of grandparent caregivers in Zimbabwe so as to enable stakeholders (e.g., government) to directly control the requisite health-related characteristics and QOL. Determining the associations between health-related characteristics and QOL may be difficult as there are many confounding factors. It is therefore pertinent to be explicit about the health-related characteristics that have an impact on QOL. For instance, illness affects vocational, social, and personal activities, thereby affecting QOL. QOL measures can help reveal problems and inform decision makers to explore treatment and intervention strategies that prolong life with the highest QOL possible (Kaplan & Perez-Porter, 2014).

Goals of the Study

This article is part of a larger study that explored the health and well-being of grandparent caregivers fostering orphans and nonorphans in Zimbabwe. This article focuses on identifying socioeconomic factors and health-related characteristics that influence the QOL of grandparent caregivers in Zimbabwe. The mean scores for the four domains of QOL were also measured so as to compare the levels of QOL among grandparent caregivers in Zimbabwe and levels of QOL of other caregivers elsewhere.

The questions of interest were as follows:

What sociodemographic factors and health-related characteristics are associated with QOL among grandparent caregivers in Zimbabwe?

How do the mean scores for QOL of grandparent caregivers compare with QOL mean scores for other countries?

Method

This cross-sectional study was based on grandparent caregivers fostering orphans and nonorphans in Zimbabwe. The study sought to examine the relationships among grandparent caregivers' sociodemographic factors, health-related characteristics, and their QOL. QOL is a comprehensive variable and, therefore, is able to evaluate different levels of the QOL of grandparent caregivers in the four domains: social relationships, environment, physical health, and psychological health. The interpretation of which factors were related to high or low QOL was also done.

Sampling Frame and Strategy

Zimbabwe is made up of 10 provinces. This study was carried out in the two Zimbabwean provinces of Harare and Mashonaland East. Three geographic areas were chosen for the study: one low-density (high socioeconomic status) suburb, one high-density (low socioeconomic

suburb, and a rural district. Harare is the capital city of Zimbabwe and is a province made up of seven districts. Mashonaland East is made up of eight districts, mostly rural and farming area. The sampling frame for this study was grandparents fostering orphans only ($n = 95$), nonorphans ($n = 129$), both orphans and nonorphans ($n = 103$), and living in these two provinces. Cluster sampling stratified by district was done to collect information about sociodemographic factors, health-related characteristics, and QOL. Households could either be skipped or multi-generational. A rolling enrollment framework was used to schedule appointments and interviews. Most of the respondents were interviewed in their homes; a few were interviewed at work. All participants spoke the local language (Shona) and/or English. Interviews were conducted in the language of preference for the grandparent caregivers.

Participants

A secondary analysis of data for a subsample of 327 grandparent caregivers (females = 241: 74%) was undertaken. Age was recoded in three categories: <60 years (young-old), 60 to 69 years (middle-old), and 71+ (old-old). Economic status was measured using income, education, and livelihood (profession). The covariates of interest in the present analysis were basic sociodemographic variables such as age, gender, marital status, and place of residence (see Table 1).

Data Collection Instrument

An interviewer-administered questionnaire was used to collect data on grandparent caregivers' demographics (see Table 1) (e.g., livelihood, income) and health-related characteristics (e.g., use of health care services). The study questionnaire also comprised the World Health Organization Quality of Life Questionnaire (WHOQOL-BREF; WHO, 1996). This scale has four categories or domains: physical health (seven items), psychological health (six items), social relationships (three items), and environment (eight items). Items inquire "how much," "how completely," "how often," "how good," or "how satisfied" the respondent felt in the last 2 weeks; different response scales are distributed across the domains (Skevington, Lotfy, & O'Connell, 2004). Results of WHOQOL-BREF were summed to get an overall score, which was then transformed to a 0 to 100 scale, called the Total Quality of Life (TotQOL), with higher scores indicating a better QOL and other areas of life. Cronbach's alpha was .84. The mean scores for the four domains were also measured. Well-being included facets on personal relationships, social support, sexual activity, physical safety, home and physical environment, financial resources, and others. For example, a statement like "How often do you have negative feelings such as blue mood, despair, anxiety, depression?" was ranked from (1) *never* to (5) *always*. Other health-related

Table 1. Sociodemographic Characteristics ($N = 327$).

Sociodemographic data	$N = 327$	%
Place of residence		
Rural	166	50.8
Urban high	91	27.8
Urban low	70	21.4
Age group		
<60 (young-old)	136	41.6
60-70 (middle-old)	123	37.6
71+ (old-old)	68	20.8
Gender		
Female	241	73.7
Male	86	26.3
Highest qualification		
None	76	23.2
Primary (low)	182	55.7
Secondary (high)	36	11
College (high)	25	7.6
University (high)	8	2.4
Marital status		
Married	156	47.7
Single (widowed + divorced)	171	52.3
Socioeconomic status (monthly income)		
Low	291	89
Middle	17	5.2
Upper	19	5.8
Religiosity		
Non-Christian	37	11.3
Christian	290	88.7
Orphan care/nonorphan care		
Nonorphan care	129	39.4
Orphan care	198	60.6
Received support (any)		
None	38	11.6
Yes	289	88.4
Income		
None/low	291	89
Middle/high	36	11
Livelihood/profession		
None	12	3.7
Farming	119	36.4
Vending	48	14.7
Employed	39	11.9
Domestic worker	9	2.8
Assistance from children	85	26

characteristics in the questionnaire were self-perceived health, health insurance status, and chronic conditions (see Table 2). For instance, in addition to the 13 questions on health of the grandparent carers, health was also measured on a 5-point scale ranging from (1) *very bad* to (5) *very good*. Health status was determined by self-reports of hypertension, diabetes, arthritis, HIV, stroke, coronary heart disease (CHD), cancer, depression, and others. Questions on the types of chronic conditions caregivers had, medications taken, medical insurance, their religiosity, and others were also included.

Table 2. Health-Related Sample Characteristics (N = 327).

Variable	n	%
Self-perceived health		
Bad	87	26.6
Moderate	140	42.8
Good	100	30.6
Chronic disease condition		
No	38	11.6
Yes	289	88.4
Health insurance status		
No insurance	288	88.1
insurance	39	11.9
Use of health care services (past 12 months)		
No	129	39.4
Yes	198	60.6
Health service utilized		
Doctor surgery	58	17.7
Clinic	152	46.5
Hospital	59	18
Church	29	8.9
Pharmacy	16	4.9
Traditional healer	1	.3
Type of services		
Free services	108	33
Paid services	208	63.6
No access to services	11	3.4
Taking any medication		
No	153	46.8
Yes	174	53.2
Experienced stigma		
No	288	88.1
Yes	39	11.9
Quality of life		
Poor (<50)	124	37.9
Good (50+)	203	62.1

Ethics

The grandparent caregivers were informed of the study in oral and written form by the author. The voluntary nature of participation, anonymity, and confidentiality of data were observed as no names were used to identify questionnaires. The grandparent caregivers agreed to sign consent forms to participate in the study. Permission to partake research was granted by the University of Sydney Ethics Committee and the Medical Research Council of Zimbabwe.

Data Analysis

Statistical analysis was performed using Statistical Package of Social Sciences (SPSS 24). Descriptive statistics were used to characterize the sample. The means for the four domains of QOL (social relationships, environment, psychological health, and physical health) were also calculated. Chi-square and bivariate analyses were used to explore associations. Data pertaining

to demographics and health-related characteristics of grandparent caregivers with co-resident grandchildren below 18 years were analyzed. Multiple logistic regression analysis was performed to investigate the adjusted association between QOL and independent variables as well as the joint explanatory effect of the predictor variables on QOL.

Three models were tested: The first one included only sociodemographic variables, the second included health-related characteristics, and the third and final model included all explanatory variables. Variance inflation factors (VIFs) were calculated to assess multicollinearity among covariables, and all VIFs ranged between 1 and 2; thus, all predictor variables were included in the multivariate analyses. The intended sample size for the study was 384, and the actual sample size was 327. This gave adequate statistical power (80%) to detect statistically significant ($p < .05$) associations of sociodemographic factors, health-related characteristics, and QOL in grandparent caregivers.

Results

Descriptive Results

A response rate of 93% (327 participants) was achieved during the survey. The grandparent caregivers (age: $M = 62.4$ years, $SD = 11.2$) fostered an average of three children. Of the fostered children, 52% were males and 48% were females. Eighty-three percent of the grandparents were primary caregivers of their grandchildren. Grandparents rated their QOL as poor (48%), neither poor nor good (35%), and good (17%). The means for physical health (56.1) and psychological health (62.4) were above average (53.8). The means for environmental health (48.6) and social relationships (48.3) were below average. The mean scores were lowest in social relationships and highest in psychological health.

Attendance at religious services was very high at 89%. The main sources of income for the grandparent caregivers were salaries (17%), nonformal employment (29%), contract work (13.5%), and rentals (12%). Seventeen percent of the caregivers had no source of income, and a small percentage got income from pensions and social security grants (7.4%). Five percent got income from church, and 26% received assistance from surviving children. Thirty-six percent were subsistence farmers, and 15% were small traders. Table 1 shows the distribution of the rest of the sociodemographic factors.

Eighty-eight percent of caregivers were suffering from one or more chronic conditions, and 53% were on medication. The most prevalent diseases among the caregivers were HBP (41%), back pain (40%), arthritis (35%), and HIV and AIDS (12%). Sixty-one percent of the caregivers had utilized medical services in the last 12 months, mostly clinics (47%). Thirty-three percent had accessed free health services although 88% of the participants had no health insurance. Sixty-seven percent paid for consultations and the medications. Table 2

shows the distribution of the rest of the health-related characteristics.

Bivariate Unadjusted Estimates

The results of the bivariate logistic regression analyses are shown in Table 3. The sociodemographic factors associated with QOL were age (middle-old and old-old), gender (males) (odds ratio [OR] = 2.1; confidence interval [95% CI] = [1.2, 3.6]), education (higher), marital status, higher income, and caring for orphans and both "orphans and nonorphans." The odds of being single were 0.3 times the odds of being married (OR = 0.3; 95% CI = [0.2, 0.5]). The health-related characteristics associated with QOL were moderate and good self-perceived health, chronic disease condition, health insurance status (OR = 13.6; 95% CI = [3.2, 57]), paid health services, and being on medication. The odds of having good health were 13.4 times (95% CI = [6.1, 29]) the odds of bad health (see Table 3). Caregivers who used health care services and those on medication had lower QOL than their counterparts.

Multivariate Adjusted Estimates

The results for multivariate logistic regression are shown in Table 3. Model I shows that the old-old age group (which was 71+) was associated more with lower QOL (OR = 0.3; 95% CI = [0.2, 0.6]) as compared with the young-old. Higher education (OR = 2.9; 95% CI = [1.3, 6.3]), being married, residing in a low-density area, and caregiving nonorphans were associated with higher QOL among grandparent caregivers, $\chi^2(15) = 76.3$, $p < .001$. Model I explained 28% (Nagelkerke R^2) of the variance in QOL and correctly classified 70% of cases. Model II (Table 3) showed that good self-perceived health (OR = 7.8; 95% CI = [3.3, 18]), having health insurance, and being satisfied with care provided by health centers influenced QOL of the aging caregivers, $\chi^2(9) = 84$, $p < .001$. Grandparent caregivers on medical aid were 13 times more likely to exhibit higher QOL than those without. Model II explained 32% (Nagelkerke R^2) of the variance in QOL and correctly classified 70% of cases.

The final model (Model III) was statistically significant, $\chi^2(23) = 125$, $p < .001$, and had the strongest explanatory power. The model explained 44% (Nagelkerke R^2) of the variance in QOL and correctly classified 75% of cases. This model had the best fit, Hosmer–Lemeshow goodness-of-fit test (0.86). Grandfathers were 2.3 times (95% CI = [1.0, 5.1]) more likely to exhibit better QOL than grandmothers after controlling for age, residence, marital status, income, and education. However, the significant effects of gender and marital status on QOL were mediated to nonsignificant levels ($p < .06$) after inclusion of control variables, but the magnitude remained.

Education and caring for orphans were still associated with QOL after inclusion of control variables.

Caregivers of orphans (OR = 0.4; 95% CI = [0.2, 0.8]) had lower QOL than their counterparts. In addition, perceptions of caregiver health as moderate or good, having health insurance (OR = 9.8; 95% CI = [1.9, 54]), and satisfaction with health care services were still associated with exhibition of higher QOL by grandparent caregivers after adjustment. The strength of association for good self-rated health and QOL increased (OR = 10.2; 95% CI = [4.5, 25]) after inclusion of control variables (Table 3).

Discussion

The total QOL mean score (53.6) was lower than that of previous studies (Cao et al., 2016; Cheraghi et al., 2016; Praveen & Rani, 2016; Skevington et al., 2004) in China (60), Iran (55.4), and India (62.9), respectively. Grandparent caregivers in the current study had low mean scores for environmental health (48.6) and social relationships (48.3) when compared with previous studies (Cao et al., 2016; Cheraghi et al., 2016; Praveen & Rani, 2016; Skevington et al., 2004). The current study's low mean scores mostly suggested lack of financial resources, negative perceptions of health and social care services, and poor home environments. The low means for the two domains suggest the necessity for stakeholders to focus on social relationships and improving environments so as to improve caregivers' QOL. Even though 89% of caregivers in the current study attended religious gatherings, their social relationship score was still low. Previous studies (e.g., Mhaka-Mutepfa et al., 2016) attest to the influence attending religious gatherings has in enhancing social relationships; thus, the perception that the social relationship score should have been higher. The results probably suggest that grandparent caregivers had no other types of social support, confirming Gureje et al.'s (2008) and Cao et al.'s (2016) findings that social factors were the strongest predictors of QOL. Similar to the previous studies (Cao et al., 2016; Cheraghi et al., 2016; Rosness et al., 2011; Vellone et al., 2008), poverty-stricken environments (rural and high urban areas) in the current study were associated with poor QOL in the first model.

Associations Between Sociodemographic Factors and QOL

Age (middle-old and old-old), grandfathers, higher education, higher income, being married, living in a low-density suburb, and caring for nonorphans were associated with better QOL among grandparent caregivers. The percentage of variance (28%) explained by the first multivariate model of the current study showed that sociodemographic factors exerted a considerable influence on QOL and so did the previous studies (Skevington et al., 2004; Cheraghi et al., 2016). Caregivers fostering orphans only (skipped generation households) exhibited

Table 3. Bivariate and Multivariate Associations of Sociodemographic and Health-Related Factors With QOL.

Explanatory variables	Bivariate logistic regressions N = 327 (unadjusted estimates)	Multivariate Model I N = 327 R ² = 28	Multivariate Model II N = 327 R ² = 32	Final Multivariate Model III N = 327 R ² = 44 (adjusted estimates)
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Age group				
<60 (young-old)	1.00 (ref.)	1.00 (ref.)		1 (ref.)
60-70 (middle-old)	3.0 [1.7, 5.6]*	0.7 [0.4, 1.2]		1.1 [0.6, 2.3]
71+ (old-old)	2.1 [1.2, 3.9]*	0.3 [0.2, 0.6]*		0.5 [0.3, 1.5]
Gender				
Female	1.00 (ref.)	1 (ref.)		1 (ref.)
Male	2.1 [1.2, 3.6]*	1.7 [0.9, 3.3]*		2.3 [1.0, 5.1]
Education				
Low	1.00 (ref.)	1 (ref.)		1 (ref.)
High	4.7 [2.3, 9.5]*	2.9 [1.3, 6.3]*		2.5 [1.0, 5.9]*
Marital status				
Married	1.00 (ref.)	1 (ref.)		1 (ref.)
Widowed	0.3 [0.2, 0.5]***	0.4 [0.2, 0.7]***		0.5 [0.3, 0.9]
Type of residence				
Rural	1.00 (ref.)	1 (ref.)		1 (ref.)
Urban high	1.2 [0.7, 2.0]	1.8 [1.0, 3.3]		1.6 [0.8, 3.6]
Urban low	4.0 [2.0, 8.0]*	3.3 [1.5, 7.2]*		2.1 [0.8, 4.7]
Income				
Low	1.00 (ref.)	1 (ref.)		1 (ref.)
High	6.3 [0.7, 54]***	4.9 [1.5, 26]*		2.3 [0.6, 9.0]
Orphan care/nonorphan care				
Nonorphan care	1.00 (ref.)	1 (ref.)		1 (ref.)
Orphan care	0.4 [0.2, 0.6]*	0.5 [0.3, 0.9]*		0.4 [0.2, 0.8]*
Both orphans and nonorphans	0.4 [0.3, 0.8]*	0.6 [0.3, 1.1]		0.7 [0.3, 1.3]
Self-perceived health				
Bad	1.00 (ref.)		1 (ref.)	1 (ref.)
Moderate	1.9 [1.1, 3.2]***		1.8 [1.0, 3.2]***	2.0 [1.0, 3.7]***
Good	13.4 [6.1, 29.2]***		7.8 [3.3, 18]***	10.2 [4.5, 25]***
Chronic disease condition				
No	1.00 (ref.)		1 (ref.)	1 (ref.)
Yes	6.0 [2.1, 17]*		0.3 [0.1, 1.2]	0.3 [0.1, 1.2]
Health insurance status				
No insurance	1.00 (ref.)		1 (ref.)	1 (ref.)
insurance	13.6 [3.2, 57]***		13 [2.9, 60]***	9.8 [1.9, 54]*
Use of health care services				
No	1.00 (ref.)		1 (ref.)	1 (ref.)
Yes	0.4 [0.3, 0.7]*		0.6 [0.3, 1.4]	0.6 [0.3, 1.2]
Type of services				
Free services	1.00 (ref.)		1 (ref.)	1 (ref.)
Paid services	1.6 [1.0, 2.6]*		0.5 [0, 5.0]	0.9 [0.5, 1.6]
On medication				
No	1.00 (ref.)		1 (ref.)	1 (ref.)
Yes	0.7 [0.5, 1.1]*		1.2 [0.7, 2.1]	1.1 [0.6, 2.1]
Satisfaction with care				
No	1.00 (ref.)		1 (ref.)	1 (ref.)
Moderately	1.2 [0.5, 3.0]		1.4 [0.5, 4.2]	1.3 [0.5, 5.4]
Yes	1.9 [1.0, 3.5]*		2.1 [1.0, 4.5]*	2.2 [1.2, 4.4]*

Note. Use of health services refers to the last 12 months. OR = odds ratio; ref. = reference category; CI = confidence interval (95%).

* $p < .05$. *** $p < .001$.

lower QOL, maybe because they lacked support as most of their children had died, making them primary caregivers of the orphaned children. The collectivist culture also places a high value on responsibilities of caregiving, and these responsibilities may not achieve intended purposes if family support is not forthcoming (Chang & Im, 2014).

Model I findings that the old-old caregivers had lower QOL scores were consistent with previous studies (e.g., McKoy-Davis et al., 2017; Skevington et al., 2004). Increase in age was significantly associated with dropping of QOL after age 70 and less capability of providing regular care. The old-old in this study had the lowest QOL scores, followed by the middle-old. These results were in contrast to Rosness et al.'s (2011) findings in Norway that younger caregivers had lower QOL, hence more emotional stress and financial worries than their older counterparts. This may be because Norway ranks number 1 in terms of QOL for over 60s, based on income security, health care access, social benefits, and community involvement.

Although low income and being single were associated with lower QOL in bivariate analysis and in Model I, the associations disappeared after inclusion of control variables. Eighty-nine percent of grandparent caregivers were found to be income insecure in the current study, consistent with previous studies in other countries (Cheraghi et al., 2016; McKoy-Davis et al., 2017) that revealed the vulnerable financial status of grandparent caregivers. Limited finances may affect the abilities of grandparent caregivers' to take care of their own daily needs, thereby reducing their QOL and well-being.

The sex differences in caregivers (74% females, 26% males) may be because culturally, females tend to partake most of the caregiving roles than males (Mhaka-Mutepefa et al., 2015). Moreover, women have been found to live longer because of lifestyle and their genetic makeup. However, more research is required to verify sex mortality differences and their determinants.

Associations Between Health-Related Characteristics and QOL

Bivariate analysis revealed that health-related characteristics associated with QOL were moderate and good self-perceived health, chronic disease condition, and health insurance status, paid health services, and being on medication. The chronic health conditions (e.g., HBP, arthritis, back pain, CHD, etc.) reported in this study as affecting QOL were also revealed in previous studies in Ghana and South Africa (U.S. Census Bureau, 2012) and other countries (McKoy-Davis et al., 2017; Mitchell-Fearon et al., 2015; Skevington et al., 2004). Caregivers who perceived themselves as healthy with no chronic conditions exhibited higher QOL in bivariate analysis. However, the association disappeared after adjustment. Stressors resulting from caregiving may also make

caregivers vulnerable to a range of chronic diseases, thereby lowering QOL of grandparents, particularly grandmothers. Grandmothers exhibited lower QOL, maybe because in low-income cultures, women tend to do most of the caregiving roles, leading to burnout, hence the association with QOL, although the association was weak after inclusion of control variables.

Similar to the current study, previous studies (Crellin et al., 2014; McKinnon et al., 2013; Skevington et al., 2004; Taylor, 2013) found that people who were chronically ill were more likely to suffer from depression, anxiety, and generalized distress, thereby impacting their QOL. Grandparent caregivers suffering from a chronic condition in the current study experienced lower QOL in the bivariate analysis. However, the association disappeared in the multivariate analysis after inclusion of control variables. In addition, caregivers on medical aid in the current study had better QOL as they could seek medical care in private institutions, thereby managing their chronic conditions. Access to health care services was also found to make a vital contribution to older people's QOL in Jamaican studies (McKoy-Davis et al., 2017; Mitchell-Fearon et al., 2015).

The final model (III) demonstrated that a higher education and fostering nonorphans only were significantly associated with better QOL. Educated people in low-income countries have health insurance policies and better coping mechanisms, are more capable of maintaining a health status, and understand the need to stay healthy more than their counterparts (Mhaka-Mutepefa et al., 2014), thereby possessing higher QOL. Income, gender, marital status, and type of residence were no longer associated with QOL after inclusion of control variables. This finding was dissimilar to Rosness et al.'s (2011) findings that sociodemographic factors (e.g., income and marital status) have greater influence on QOL than access and use of health care services. The influence of demographic variables was present in the final model, but the associations were weak for marital status and gender. Rosness et al. (2011) and Taylor (2013) might not have adjusted for the predictor variables in their studies as there was no mention of adjusting, hence the different findings.

In addition, after adjusting for predictor variables, moderate and good self-rated health, having health insurance, and satisfaction with health care services were the only variables associated with higher QOL. Similar to previous findings in Ireland (Timonen et al., 2011), good self-rated health was highly associated with better QOL. However, caregivers who sought medical treatment and those on medication in the current study had lower QOL, maybe because of unsatisfactory services or lack of medication in the public health facilities, and the hustles associated with disgruntled health workers. This finding needs further investigation.

Most studies that have examined differences in health and QOL, after adjusting for sociodemographic

factors, have found that the differences disappeared or were substantially reduced (Braveman & Gottlieb, 2014), which was the case in the current study. In the current study, caregivers' perceptions on self-rated health influenced QOL more than access and use of health care services which supports Rosness et al.'s (2011) and Taylor's (2013) findings. Thus, stakeholders should work on provision of education, assistance to caregivers fostering orphans, provision of medical insurance to older people, and counseling to strengthen caregivers' perceptions so as to boost QOL. Education, like Braveman and Gottlieb's (2014) study in the United States, is associated with less number of deaths, therefore high QOL. Nevertheless, medication use, pain, and discomfort were of great concern among older people in a Japanese study (Yoshitake et al., 2015), unlike in the current study where use of medication and chronic disease conditions were not associated with QOL in adjusted models. Future researchers should look into this result. In addition, future studies in other developing countries should explore the associations among sociodemographic and health-related factors and QOL, after adjusting for control variables in multivariate analysis to make comparisons with current findings.

Policy Implications

The results imply that there is need to strengthen perceptions of self-rated health, environment, and social relationships among caregivers if the QOL and well-being of older grandparent caregivers in Zimbabwe are to improve. A multisectoral approach to tackling the caregivers' perceptions and provision of medical insurance should be prioritized. Without social security grants, health insurance, literate nations, and well-resourced health systems for aging caregivers, the QOL and well-being of older people in Zimbabwe will always be compromised, thereby exacerbating health needs.

Caregivers suffering from chronic conditions (e.g., CHD, HBP, depression) and with negative perceptions of self-rated health can benefit from counseling (Matshalaga, 2004), while those suffering from fatigue or physical ailments and are without support may benefit from respite or other professional services. Furthermore, the government at district level should be encouraged to provide older caregivers with education: Counseling support, information on caregiving and health issues, transportation, resourcefulness, and life skills training to empower them and enhance their caregiving styles, social security grants, and medical insurance alone are not enough. Grandparent caregivers who are primary caregivers of children, and stakeholders, should advocate for improved programs, policies, and services to support the caregivers, particularly those fostering orphans.

Satisfaction with care was significantly associated with QOL; therefore, service providers should be made aware of the difficulties caregivers experience in trying

to obtain services (e.g., health services). The awareness may help service providers propose and implement changes in the procedures to mitigate the difficulties experienced in accessing services. In addition, service providers, particularly health personnel, may be impelled to change their attitudes, which could result in older caregivers altering their perceptions of health services.

Furthermore, national resources in Zimbabwe are hardly accounted for, hence the poor status of health services which results in poor perceptions by most citizens. The government should start with accountability of resources by monitoring and evaluating projects which will lead to the implementation of policies. While there are numerous advantages to embracing and implementing programs, the effectiveness will always be limited if authorities do not monitor and evaluate them (Ijeoma, 2014), and use the information appropriately. Future research, particularly longitudinal studies, should focus on the health-related factors that influence the QOL of the older adult caregivers to implement effective intervention and improve caregivers' lifestyles.

In conclusion, with the current economic challenges facing Zimbabwe, it seems a mammoth task for Zimbabwe to fully support this marginalized and vulnerable group (Mwanaka, 2014), without addressing the social determinants of health first. Caregivers who had positive perceptions of their health and had health insurance had better QOL; therefore, every caregiver should be a beneficiary of medical insurance, counseling, and protection grants regardless of status.

Declaration of Conflicting Interests

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author received no financial support for the research, authorship, and/or publication of this article.

References

- Aboderin, I. A. G., & Beard, J. R. (2014). Older people's health in sub-Saharan Africa. *The Lancet*, 385(9968), e9-e11. doi:10.1016/S0140-6736(14)61602-0
- Adebowale, S. A., Atte, O., & Ayeni, O. (2012). Elderly well-being in a rural community in North Central Nigeria, sub-Saharan Africa. *Public Health Research*, 2(4), 92-101.
- Aransiola, J. O., Akinyemi, A. I., Akinlo, A., & Togonubi-Bickesteeth, F. (2017). Grandparenting in selected West African countries: Implications for health and hygiene behaviors in the household. *Grandfamilies: The Contemporary Journal of Research, Practice and Policy*, 4(1), Article 11.
- Argimon, J. M., Limon, E., Vila, J., & Cabezas, C. (2005). Health-related quality-of-life of care-givers as a predictor of nursing-home placement of patients with dementia. *Alzheimer Disease and Associated Disorders*, 19, 41-44.
- Bastagli, F. (2013). *Feasibility of social protection schemes in developing countries*. Retrieved from www.europarl.

- europa.eu/meetdocs/2009_2014/documents/deve/dv/study_social_protecti/study_social_protection.pdf
- Braveman, P., & Gottlieb, L. (2014). The social determinants of health: It's time to consider the causes of the causes. *Public Health Reports, 129*(Suppl. 2), 19-31.
- Cao, W., Guo, C., Ping, W., Tan, Z., Guo, Y., & Zheng, J. (2016). A community-based study of quality of life and depression among older adults. *International Journal of Environmental Research and Public Health, 13*(7), E693.
- Chang, S. J., & Im, E.-O. (2014). A path analysis of internet health information seeking behaviors among older adults. *Geriatric Nursing, 35*, 137-141. doi:10.1016/j.gerinurse.2013.11.005
- Cheraghi, Z., Doosti-Irani, A., Nedjat, S., Cheraghi, P., & Nedjat, S. (2016). Quality of life in elderly Iranian population using the QOL-Brief Questionnaire: A systematic review. *Iranian Journal of Public Health, 45*, 978-985.
- Craig, A. (2012). Resilience in people with physical disabilities. In P. Kennedy (Ed.), *The Oxford handbook of rehabilitation psychology* (pp. 474). Oxford University Press. Retrieved from <http://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199733989.001.0001/oxfordhb-9780199733989-e-26>
- Crellin, N. E., Orrell, M., McDermott, O., & Charlesworth, G. (2014). Self-efficacy and health-related quality of life in family carers of people with dementia: A systematic review. *Aging & Mental Health, 18*, 954-969. doi:10.1080/13607863.2014.915921
- Fajemilehin, B. R., & Odebiyi, A. I. (2011). Predictors of elderly persons' quality of life and health practices in Nigeria. *International Journal of Sociology and Anthropology, 3*(7), 245-252.
- Gureje, O., Kola, L., Afolabi, E., & Olley, B. O. (2008). Determinants of quality of life of elderly Nigerians: Results from the Ibadan study of ageing. *African Journal of Medicine and Medical Sciences, 37*, 239-247.
- Helpage. (2015). Global AgeWatch Index 2015. *Ageways*. Retrieved from www.helpage.org/global-agewatch/
- Hondras, M., Myburgh, C., Hartvigsen, J., Haldeman, S., & Johannessen, H. (2015). How can we assess the burden of muscle, bone and joint conditions in rural Botswana: Context and methods for the MuBoJo focused ethnography. *Chiropractic & Manual Therapies, 23*, Article 11. doi:10.1186/s12998-015-0056-9
- Ijeoma, E. (2014). *Introduction to South Africa's monitoring and evaluation in government*. Pretoria, South Africa: Verity Publishers.
- Kaplan, M., & Perez-Porter, M. (2014). Support for grandfamilies: A mosaic of intervention strategies. *Journal of Intergenerational Relationships, 12*, 99-112. doi:10.1080/15350770.2014.901076
- Lloyd-Sherlock, P., Beard, J., Minicuci, N., Ebrahim, S., & Chatterji, S. (2014). Hypertension among older adults in low- and middle-income countries: Prevalence, awareness and control. *International Journal of Epidemiology, 43*, 116-128.
- Matshalaga, N. (2004). *Grandmothers and orphan care in Zimbabwe*. Harare: SAFAIDS.
- McKinnon, B., Harper, S., & Moore, S. (2013). The relationship of living arrangements and depressive symptoms among older adults in sub-Saharan Africa. *BMC Public Health, 13*, Article 682. doi:10.1186/1471-2458-13-682
- McKoy-Davis, J. G. M., Willie-Tyndale, D., Mitchell-Fearon, K., Holder-Nevins, D., James, K., & Eldemire-Shearer, D. (2017). Caregiving among community-dwelling grandparents in Jamaica. *Grandfamilies: The Contemporary Journal of Research, Practice and Policy, 4*(1), Article 6.
- Mhaka-Mutepe, M., Cumming, R., & Mpofu, E. (2014). Grandparents fostering orphans: Influences of protective factors on their health and well-being. *Health Care for Women International, 35*, 1022-1039. doi:10.1080/07399332.2014.916294
- Mhaka-Mutepe, M., Hunter, C., Mpofu, E., & Cumming, R. (2016). Personal and social resourcing of everyday health and wellbeing in Zimbabwean grandparents carer roles. *The International Journal of Aging and Society, 6*(3), 51-64.
- Mhaka-Mutepe, M., Mpofu, E., & Cumming, R. (2015). Impact of protective factors on resilience of grandparent carers fostering orphans and non-orphans in Zimbabwe. *Journal of Aging and Health, 27*, 454-479. doi:10.1177/0898264314551333
- Mitchell-Fearon, K., Willie-Tyndale, D., Waldron, N., Holder-Nevins, D., James, K., Laws, H., & Eldemire-Shearer, D. (2015). Cardio-Vascular Disease and Cancer: A Dichotomy in Utilization of Clinical Preventive Services by Older Adults in a Developing Country. *Gerontology and geriatric medicine, 1*. doi: 2333721415611821
- Murray, C. J., Vos, T., Lozano, R., Naghavi, M., Flaxman, A. D., Michaud, C., & Memish, Z. A. (2012). Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990-2010: A systematic analysis for the Global Burden of Disease Study 2010. *The Lancet, 380*, 2197-2223. doi:10.1016/s0140-6736(12)61689-4
- Mwanaka, H. (2014, July 20). Zimbabwe fails its senior citizens. *The Standard*. Harare, Zimbabwe. Retrieved from <https://www.thestandard.co.zw/2014/07/20/zimbabwe-fails-senior-citizens/>
- Nabalamba, A., & Chikoko, M. (2011). *Aging population challenges in Africa*. African Development Bank. Retrieved from <https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Aging%20Population%20Challenges%20in%20Africa-distribution>
- Nölke, L., Mensing, M., Krämer, A., & Hornberg, C. (2015). Sociodemographic and health-(care)-related characteristics of online health information seekers: A cross-sectional German study. *BMC Public Health, 15*, Article 31. doi:10.1186/s12889-015-1423-0
- Praveen, V., & Rani, M. A. (2016). Quality of life among elderly in a rural area. *International Journal of Community Medicine and Public Health, 3*(3), 754-757.
- Rosness, T. A., Mjørud, M., & Engedal, K. (2011). Quality of life and depression in carers of patients with early onset dementia. *Aging & Mental Health, 15*, 299-306. doi:10.1080/13607861003713224
- Shaibu, S. (2016). Caring for HIV-positive orphans in the context of HIV and AIDS: Perspectives of Botswana grandmothers. *International Journal of Older People Nursing, 11*, 315-323. doi:10.1111/opn.12122
- Skevington, S. M., Lotfy, M., & O'Connell, K. A. (2004). The World Health Organization's WHOQOL-BREF quality of life assessment: Psychometric properties and results of the international field trial. A report from the WHOQOL group. *Quality of Life Research, 13*, 299-310. doi:10.1023/b:qure.0000018486.91360.00

- Taylor, S. (2013). *Health psychology*. New York, NY: McGraw-Hill.
- Timonen, V., Yumiko, K., & Siobhan, M. (2011). Social engagement of older people. In A. Barrett (Ed.), *The Irish Longitudinal Studies of Aging*. Dublin, Ireland: The Irish Longitudinal Study on Aging (TILDA). Retrieved from <http://epubs.rcsi.ie/cgi/viewcontent.cgi?article=1047&context=psycholrep>
- UNAIDS. (2015). *On the fast-track to end AIDS by 2030: Focus on location and population*. Retrieved from http://www.unaids.org/sites/default/files/media_asset/WAD2015_report_en_part01.pdf
- United Nations. (2016). *International migration report 2015* (Report No. ST/ESA/SER.A/384). New York, NY: Department of Economic and Social Affairs Population Division. Retrieved from <http://www.un.org/en/development/desa/population/migration/publications/migrationreport/docs/MigrationReport2015.pdf>
- U.S. Census Bureau. (2012). *Shades of Gray: A Cross-Country Study of Health and Well-Being of the Older Populations in SAGE Countries, 2007–2010*, U.S. Government Printing Office, Washington DC.
- Van Rooy, G., Amadhila, E. M., Mufune, P., Swartz, L., Mannan, H., & MacLachlan, M. (2012). Perceived barriers to accessing health services among people with disabilities in rural northern Namibia. *Disability & Society, 27*(6), 761-775.
- Vellone, E., Piras, G., Talucci, C., & Cohen, M. Z. (2008). Quality of life for caregivers of people with Alzheimer's disease. *Journal of Advanced Nursing, 61*, 222-231. doi:10.1111/j.1365-2648.2007.04494.x
- World Health Organization. (1996). *Introduction, administration, scoring and generic version of the assessment*. Geneva, Switzerland: WHO.
- World Health Organization. (1997). *Measuring QOL: Division of mental health and prevention of substance abuse*. Retrieved from http://www.who.int/mental_health/media/68.pdf
- Yoshitake, N., Sun, Y., Sugawara, M., Matsumoto, S., Sakai, A., Takaoka, J., & Goto, N. (2015). The psychometric properties of the WHOQOL-BREF in Japanese couples. *Health Psychology Open, 2*(2). Retrieved from <http://doi.org/10.1177/2055102915598089>
- Zhou, J., Mao, W., Lee, Y., & Chi, I. (2016). The impact of caring for grandchildren on grandparent's physical health outcomes: The role of intergenerational support. *Research on Aging, 39*, 612-634. doi:10.1177/0164027515623332