

Grandparenting in Selected West African Countries: Implications for Health and Hygiene Behaviours in the Household

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Cover Page Footnote

The authors hereby acknowledge ICF International, Calverton, MD, USA for the permission to use the data

*Research Brief***Grandparenting in Selected West African Countries:
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in the Household**

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Ile Ife, Nigeria**Abstract**

This is a descriptive study of the health and hygiene behaviors of grandparents who are the primary caregivers of their grandchildren in four West African countries, Ghana, Liberia, Nigeria, and Sierra Leone. The article utilizes data from each country's most recent Demographic and Health Survey (DHS). The study identified 20,841 households where grandparents were primary caregivers. As expected, most of these households are in Nigeria given their population exceeds the collective population of the other three West African countries. However, the number of grandfamilies in Ghana, Sierra Leone and Liberia is still worrisome for their population size. In each country, over half of the children in the care of their grandparents are preschool age or younger, suggesting the type of services in early child care that may be required. Regarding health and hygiene behaviors, over 60% of grandparent households have access to mosquito bed nets, but

over 50% of the grandparents report not using, with Nigeria report the largest non-usage rate of 78.6%. Although the available data is limited in scope, the descriptive analysis provides a foundation upon which more rigorous research can be built to address the health risks and needs confronting grandfamilies in African countries.

Keywords: grandparenting, West Africa, grandparent households, health and hygiene behaviors

Background

The elderly occupy special positions and play important roles in traditional African Societies (Diop, 1989; Oppong, 2006). They are regarded as the custodian of traditional knowledge including customs, norms, and spirituality, while the younger generation are expected to reverence and consult them for important traditional issues (Apt, 1997; Cohen, 1994; Diop, 1989). The younger generation, especially their children, are also expected to provide adequate care and look after their general wellbeing at old age when they can no longer work to support themselves. This is well codified in a Yoruba adage “*Bi Okete ba dagbatan, omu omo re ni o maa nmu,*” meaning when *okete* (a nocturnal rodent) becomes very old, it depends on the breastmilk of her own children for survival.

Evidence from the literature, however suggests that there have been changes in this traditional arrangement over the years (Bongaarts & Zimmer, 2002; Hashimoto, Coppard, & Kendig, 1992; Shetty, 2012). Principal factors bringing about these changes include the economic depression ravaging many African societies (Barrientos, Gorman, & Heslop, 2003; Edmonds, Mammen, & Miller, 2005; Mokomane, 2013; Zimmer & Das, 2014), the transformation from agrarian to industrial economy, as well as rapid urbanisation, globalisation, and migration becoming more pronounced

(Buffel & Phillipson, 2012). The traditional extended family system arrangement for caring for the aged thus has been disrupted due to labor migration of the economically active population. In many instances, the aged are left behind either in the rural areas or in urban centers away from their adult children. Additionally economic problems are creating difficulties for the adult children to provide adequate care and necessary supports for their elderly parents (Aboderin, 2004a, 2004b). Instead, they often put an additional burden of day-to-day care for their own children (i.e., the grandchildren to the aged) on the grandparents. Even in situations where the aged co-reside with their adult children, evidence suggests that the former become primary caregivers for their grandchildren as necessary supports for the adult children who may need to multitask in order to meet family demands (Izuhara, 2010).

Furthermore, the problem cannot be totally divorced from the challenges of HIV/AIDS, communal conflicts, and insurgencies ravaging many African countries with the consequence of depleting economically active families. Literature is replete on the burden of HIV/AIDS across many African countries including the West African region (Akinsola, 2016; Schatz & Ogunmefun, 2007). Evidence has revealed that grandparents are taking over the responsibilities of caring for AIDS orphans (Apata, Rahji, Apata, Ogunrewo, & Igbalajobi, 2010; Demmer, 2011; Nsagha et al., 2012; Oduaran & Oduaran, 2010; Schatz & Gilbert, 2012; Scholten et al., 2011; Seeley, Dercon, & Barnett, 2010; Zagheni, 2011). The increasing incidence of communal conflicts and civil wars in many African societies has also contributed immensely to the burden of caring for children by the elderly. Evidence from the literature affirms the increase in orphan children as a consequence of war and communal crisis leaving behind the aging grandparents to care for their grandchildren (Arber & Timonen, 2012; Shetts y, 2012). In the past few decades, many societies in Africa have witnessed a series of communal conflicts and civil war (Blattman & Miguel, 2010; Butler &

Gates, 2012; Fearon & Laitin, 2011). Added to this is the problem of insurgences because of religious fundamentalism in many African countries. According to Annan (2014), “countries such as Liberia, Sierra Leone, Côte d’Ivoire, and Guinea-Bissau were crippled by conflicts and civil strife in which violence and incessant killings were prevalent.” (pg. 1) The recent insurgencies in the Sahel region, including Mali, Niger, and Mauritania in West African region as well as the case of Boko Haram in Nigeria, have contributed to an increase in orphans and burden of care by the aged.

A survey of living arrangements in West Africa revealed that 13% of old adults live with at least one grandchild but without adult children, i.e., birth parents (Zimmer & Dayton, 2005). Grandfamilies consist of grandparents and grandchildren without the presence of the middle generation or direct biological parents, or where grandparents assume parenting responsibilities, or become caregivers to their grandchildren with occasional presence of the direct parents. The consequences of grandfamilies on both the grandparents and the grandchildren are numerous and have been explored widely in the literature. This article is therefore anchored on structural models of family social health theory. The theory was adapted from the works of Zeitlin and colleagues at the United Nations University (Zeitlin et al., 1995), and it posits that family resources have direct influence on family management, beliefs, and caring behaviours, including emotional climate and child-care quality within the home. These factors in turn influence the development of the children. In this article, we hypothesize that the grandfamilies as a form of family structure will influence the available resources for the households which will in turn influence the family management, beliefs, and caring behaviours and consequently the development of the children raised in the households, as well as the general health and wellbeing of the grandparents. The grandparents’ health is often frail due to aging, and because of that, they may be incapable of raising

social and material resources needed for the smooth running of the family. The availability of material resources such as housing and income may affect the hygiene practice within the households while social resources such as literacy, media and residential location will influence grandparents' level of hygiene practices, the affection and attention given to the children, and the level of academic stimulation. These factors will have either positive or negative influences on the child growth and development, as well as the general health and wellbeing of the grandparents.

Adapting the perspective of Zeitlin et al (1995) model on influence of family structure on child and grandparents' health and wellbeing as illustrated by other studies in western societies, involvement in grandfamilies by older people is related to stress, physical, and emotional problems, as well as inadequate social supports, and poor health conditions (Hidaka, 2012; Kautz, Bendavid, Bhattacharya, & Miller, 2010; Komjakraphan & Chansawang, 2015; Letiecq, Bailey, & Kurtz, 2008; McKinnon, Harper, & Moore, 2013; Mills, Gomez-Smith, & De Leon, 2005; Velkoff, 2001; Woodbridge, 2010). Older persons already face challenges related to aging such as increase in chances of functional disability or limitations, non-communicable diseases, chronic diseases, income insufficiency, among others. Bearing sole responsibility for caring for grandchildren in the absence of parents or becoming primary caregivers for the grandchildren may be additional burdens further compromising their wellbeing. Reports in the literature revealed that when grandparents raise grandchildren in the absence of biological parents, there are consequences, some positive, but the majority of which have grave potentials for compromising the wellbeing of the two generations (the grandparents and the grandchildren) in the household (Arber & Timonen, 2012; Chen, Liu, & Mair, 2011; Kelley, Whitley, & Campos, 2010; Musil et al., 2011).

In addition, studies have documented that educational outcomes for the majority of children raised in grandfamilies (i.e., households where grandparents are the primary caregivers) are problematic and issues such as teen pregnancy, cultism, poor school attendance, and child labor are common among them (Kelley, Whitley, & Campos, 2010; Musil et al., 2011). Evidence abounds to show that grandparenting is associated with psychological maladjustment in children (Smith & Palmieri, 2007), and various behavioral problems including drug abuse and truancy (Kelley, Whitley, & Campos, 2011). Studies among teachers also affirmed the impacts of grandparenting on emotional instability and behavioral maladjustment in schoolchildren (Edwards, 2006).

Despite all the evidence on the impact of grandparents caring for grandchildren in Western societies and the evidence of the magnitudes of these forms of households in West Africa, the implications for health and hygiene behaviours in the households (i.e., grandfamilies where grandparents are the primary caregivers) are not yet understood in the West African region. This article specifically explores the implications of grandfamilies on the spread of some preventable diseases such as malaria, diarrhea, and cholera. Malaria is the leading cause of death among children in Sub-Saharan Africa (Okafor & Amzat, 2007; Tambo et al., 2012). In response to this problem, the governments in various countries have initiated programs to address the spread of malaria especially through the distribution of insecticide-treated nets at an affordable cost and sometimes free to vulnerable households. Evidence however abounds that distribution of insecticide-treated nets does not guarantee its use and that many households do not either use them or they use them incorrectly (Afolabi et al., 2009; Rugemalila, Wanga, & Kilama, 2006), thereby defeating the essence of malaria prevention programs.

Similarly, diarrhea (Brennan & Nandy, 2001; Mekasha & Tesfahun, 2003), cholera (Akoto & Tambashe, 2002) and other diseases that thrive in environment with poor hygiene

have been found to contribute significantly to childhood morbidity and mortality in Sub-Saharan Africa. The governments across African countries have also initiated programs, especially handwashing programs, to address these health problems. But in spite of these actions, these health problems continue to remain major causes of morbidity and mortality (Nsona et al., 2012). Therefore, it becomes important to ask in what ways the household structure (in this case, grandparenting) can contribute to poor health and hygiene behaviors in the selected West African countries.

To date, there is no empirical work that provides some basic statistics and patterns of grandfamilies' households in West Africa. This article seeks to fill that gap. The main focus is to provide some health and hygiene behavior patterns of this family group in selected West African countries. Specifically, the paper seeks to describe the health characteristics and behaviors of grandfamilies where grandparents are the primary caregivers for their grandchildren in selected West African countries, and to provide a preliminary rationale for the results.

Methods

The study utilized secondary data obtained from the most recent Demographic and Health Surveys (DHS) for four West African countries: Ghana (2014), Liberia (2013), Nigeria (2013), and Sierra Leone (2013). The choice of the countries was predicated on the fact that they were Anglophone ECOWAS countries with very similar sociocultural and linguistic inclination. Also all four countries have recent data. The DHS contains nationally representative surveys of households and individuals of reproductive age in over 90 developing countries. These surveys were conducted with the technical support of ICF International, USA in conjunction with designated authorities of the respective countries. The surveys used a multi-stage, stratified cluster sampling technique. The individual datasets (Female Individual Recode

and Male Recode) contain information on only respondents of reproductive ages who were successfully interviewed and the children of interviewed women. This study is however based on the analysis of the Persons Recode (PR) datasets in each of the countries. The PR dataset contains information on *all* persons living in a selected household, thus ensuring that information is collected on individuals previously not eligible for individual interview surveys, including grandparents above reproductive age, children whose mothers were not interviewed, and orphans.

This study is limited only to households headed by a grandparent (grandfamilies), and the analysis is descriptive with no inferential statistical tests. All tabulations were however weighted to reduce sampling variability and non-response bias. This is secondary data based on family interviews. The organizations responsible for its collection have obtained necessary ethical approvals prior to fieldwork as stated on the DHS Program's website (DHS, Macro International). Formal approval to use the data was however obtained from ICF International, the USAID-funded agency responsible for the Demographic and Health Surveys.

Results

A total of 20,841 households were identified as headed by a grandparent who also served as breadwinner across households in the four West African countries, with the highest number in Nigeria (35.1%) and lowest in Ghana (12.0%). See Table 1. The wealth status of households with grandparents as primary caregivers reveal 45% of such households in Ghana, 43% in Liberia, 35% in Nigeria, and 40% in Sierra Leone were in the poorer or poorest wealth categories. Only 11% of grandparent-headed households in Ghana, 15% in Liberia, 14% in Nigeria, and 17% in Sierra Leone were in the upper wealth quintile as shown in Table 1. The only available data on grandchildren across all four countries is grade level.

Table 1
Sample Distribution and Wealth Status of Grandparents as Primary Caregivers in Four West African Countries by (n = 20,841)

West African Countries	Number (%) of Grandparents as Primary Caregivers
Ghana	2,507 (12.0%)
Liberia	4,472 (21.5%)
Nigeria	7,317 (35.1%)
Sierra Leone	6,545 (31.4%)
Total	20,841 (100%)

Wealth Status of Households with Grandparents as Primary Caregivers by Country								
Variables	GHANA		LIBERIA		NIGERIA		SIERRA LEONE	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Wealth Index								
Poorest	459	18.3	853	19.1	1072	14.7	1284	19.6
Poorer	663	26.4	1060	23.7	1448	19.8	1316	20.1
Middle	589	23.5	1113	24.9	2080	28.4	1262	19.3
Richer	509	20.3	737	16.5	1679	23.0	1523	23.3
Richest	287	11.4	709	15.9	1038	14.2	1160	17.7

Table 2 presents the education level of the grandchildren in the households at the time of the survey. A clear majority of the grandchildren are in preschool across the selected countries, with the highest proportion (75.8%) in Liberia. Ghana has the highest proportion of grandchildren in primary grades (39.4%) followed by Sierra Leone (36.8%), Nigeria (34.9%), and Liberia (22.1%). Nigeria has the highest proportion (13.5%) of grandchildren in secondary grades.

Table 2.

Distribution of Grandchildren in Household by Grade Level

Grade Level	Ghana		Liberia		Nigeria		Sierra Leone	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Preschool	1,262	51.3	3,012	75.8	3,288	51.5	3,282	56.6
Primary	968	39.4	881	22.1	2,254	34.9	2,147	36.8
Secondary	230	9.3	81	2.0	874	13.5	383	6.6

Health and Hygiene Behaviors in Households

The health and hygiene behaviors considered here are prevention methods against malaria, diarrhea, and cholera. Malaria is a common and highly prevalent disease in Sub-Saharan countries with its attendant consequences on high infant and child morbidity. A major intervention in the prevention of malaria in the sub-region is through the provision of mosquito nets at an affordable cost (sometimes free of charge). The findings, as shown in Table 3, suggest 39.9% of households in Nigeria with grandparents as primary caregivers had no mosquito nets in the household, followed by Sierra Leone (37.4%), Liberia, (37.1%) , and Ghana (22.6%). More than half of the grandchildren across the four West African countries with access to bed nets did not sleep under mosquito nets the night previous to the survey being conducted.

As reported by a portion of the total respondents who indicated they have bed nets in their households, both Ghana (37%) and Sierra Leon (36%) had similar response rates showing the proportion of grandchildren who slept under a bed net the night before the survey. Liberia and Nigeria had much smaller results with 29% and 16%, respectively. This is a major public health issue as children in households with grandparents as primary caregivers may be more vulnerable to malaria exposure. Two reasons may be responsible for this finding. First, households with very limited financial resources may not consider mosquito nets as a priority in terms of their

hierarchy of needs. Also, knowledge and information on the effectiveness of mosquito bed nets may not be fully understood by the grandparents who could have less formal education.

Table 3

Frequency of Presence and Use of Mosquito Nets Against Malaria in Grandparent Households by Country

Health/Hygiene Behaviors	GHANA (n=2507)		LIBERIA (n=4472)		NIGERIA (n=7317)		SIERRA LEONE (n=6545)	
<i>Has mosquito net for sleeping</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
No	566	22.6	1660	37.1	2922	39.9	2448	37.4
Yes	1941	77.4	2813	62.9	4394	60.1	4098	62.6
Frequency of Grandchildren Who Slept Under Bed Net Night Preceding Survey								
<i>Number of Respondents</i>	GHANA n=1410	%	LIBERIA n=3375	%	NIGERIA n=4562	%	SIERRA LEONE n=5037	%
No	794	56.3	1909	56.6	3585	78.6	2666	52.9
All children	521	36.9	983	29.1	710	15.6	1791	35.6
Some children	95	6.8	483	14.3	267	5.9	580	11.5

Home hygiene, such as hand washing, has been identified as a major preventive measure against certain medical conditions. The findings showed that 53% of grandparent-headed households in Ghana, 34% in Nigeria, and 23% in Sierra Leone observed the practice, compared with only 2% in Liberia. The proportion of households that actually observed hand washing practices and had water available on the home site varied across the countries. In Liberia, 75.5% of the grandparents reported they had available water for hand washing, followed by Ghana (58.1%), Nigeria (44.0%) and Sierra Leone (42.2%). Grandparents also reported the availability of soap or hand detergent for hand washing. Approximately 1/5 of such households in Ghana had soap in a

designated place for handwashing, approximately 8% in Nigeria and Sierra Leone, while only 1% in Liberia. The findings suggest that hygiene practices among households with grandparents as the primary caregivers in Liberia are very poor, while they are relatively fair in Nigeria and Sierra Leone, and far better in Ghana.

Table 4
Distribution of Selected Hygiene Indicators in Household in Grandparent Households

Hygiene Indicators	GHANA		LIBERA		NIGERIA		SIERRA LEONE	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Handwashing								
Observed Handwashing	1318	52.6	106	2.4	2479	33.9	1515	23.1
Not observed; not in dwelling	876	34.9	1118	25.0	2733	37.4	4286	65.5
Not observed; not able to see	29	1.2	238	5.3	295	4.0	253	3.9
Not observed; other reasons	285	11.4	3011	67.3	1809	24.7	491	7.5
Presence of water								
Water not available	552	41.9	26	24.6	1388	56.0	875	57.8
Water is available	766	58.1	80	75.5	1091	44.0	639	42.2
Hygiene Items: Soap/ detergent								
No	1992	79.4	4423	98.9	6699	91.6	6044	92.4
Yes	516	20.6	50	1.1	618	8.4	501	7.7

Discussion and Conclusion

The study suggests that the health and hygiene behavior of grandfamilies varies across the selected West African countries. The absolute number of this family group is highest in Nigeria, which aligns with the country's general population. However, there are concerns about such household

types in Sierra Leone and Liberia. This finding is particularly important because of the evidence of the devastating effect of civil war experienced in these countries in less than two decades ago (Blattman & Miguel, 2010; Butler & Gates, 2012). Nigeria has also witnessed the problem of the Boko Haram insurgency since 2009 and is the country with the second highest HIV/AIDS burden in the world (Adebajo, Bamgbala, & Oyediran, 2003; Alubo, Zwandor, Jolayemi, & Omudu, 2002; Chaplin et al., 2015; Charurat et al., 2015). These problems may have also contributed to the number of grandparents caring for grandchildren in these four countries, but evidence from the data available is not suggesting these as prime factors since the majority of the households do not have orphans and vulnerable children. Therefore, more research is needed to determine the causes of this type of household in the selected countries.

The prevalence of grandchildren who are preschool age or younger calls for special attention to grandparents raising very young children. Children less than 5 years and even those in preschool age need special care and are highly susceptible to childhood illnesses and diseases that predispose them to high mortality rates. Leaving such children to the care of the grandparents who may be physically fragile and economically weak may make them (the children) more vulnerable to diseases and dropping out of school even if they have an opportunity to attend. Therefore, there is a need to explore the prevalence of young grandchildren raised by grandparents in West African countries and to strategically target these households for specialized services. Any intervention may also require targeting grandparents' households with OVCs for special support.

The prevalence of households where grandparents are primary caregivers across the different wealth quintiles also presents interesting data. The distribution followed a similar pattern across the selected countries (i.e., the population rose from poorest to middle class and fell from that point to the

richest class) and showed that this type of household is not limited to any socioeconomic category. Therefore, it is important to stratify the households in any intervention program to demonstrate how needs may vary across these different socioeconomic statuses.

Malaria is one of the leading causes of death among children (Liu et al., 2015; Walker et al., 2015). Although the proportion of households where grandparents are primary caregivers who have mosquito nets to prevent malaria is good in Liberia, Nigeria, and Sierra Leone, and highest in Ghana, quite a number of the families who have the nets are not using them. The case appears worst in Nigeria, while it should raise concerns in all the described countries including Ghana where more than three-quarter of the households have access to mosquito nets.

The practice of handwashing to prevent diseases has been affirmed in the literature (Ejemot-Nwadiaro, Ehiri, Arikpo, Meremikwu, & Critchley, 2015; Medeiros et al., 2015). This practice is however poorest in Liberia despite the fact that a majority of the households in the country are between the middle wealth to richest quintile and more than three quarters of the households have water within their households. This issue is very important, particularly considering its implications for communicable diseases and other preventable diseases including diarrhea.

It is important to note that the DHS data in this article is limited in scope to the type of households explored here and therefore could not permit more detailed and rigorous analysis. However, it does thus far provide a preliminary understanding of health and hygiene behaviors as well as some social context within the households where grandparents are the primary caregivers. Significantly it helps to lay the foundation for more rigorous future research in this area.

In conclusion, there is a need for more proactive and pragmatic efforts to provide better supports for grandfamilies' households' positive health and hygiene behaviors aimed at

improving the conditions of both grandchildren and grandparents in the families.

References

- Aboderin, I. (2004a). Decline in material family support for older people in urban Ghana, Africa: Understanding processes and causes of change. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 59(3), S128-S137.
- Aboderin, I. (2004b). Modernisation and ageing theory revisited: Current explanations of recent developing world and historical Western shifts in material family support for older people. *Ageing and society*, 24(01), 29-50.
- Adebajo, S. B., Bamgbala, A. O., & Oyediran, M. A. (2003). Attitudes of health care providers to persons living with HIV/AIDS in Lagos State, Nigeria. *African journal of reproductive health*, 103-112.
- Afolabi, B. M., Sofola, O. T., Fatunmbi, B. S., Komakech, W., Okoh, F., Saliu, O., . . . Fasiku, D. (2009). Household possession, use and non-use of treated or untreated mosquito nets in two ecologically diverse regions of Nigeria—Niger Delta and Sahel Savannah. *Malaria journal*, 8(1), 1.
- Akinsola, H. A. (2016). Effects of the AIDS epidemic and the community home-based care programme on the health of older Batswana. *Southern African Journal of Gerontology*, 9(1), 4-9.
- Akoto, E., & Tambashe, B. (2002). *Socioeconomic inequalities in infant and child mortality among urban and rural areas in sub-Saharan Africa*. Paper presented at the first seminar of the IUSSP Committee on Emerging Health Threats, Max Planck Institute for Demographic Research, Rostock.

- Alubo, O., Zwandor, A., Jolayemi, T., & Omudu, E. (2002). Acceptance and stigmatization of PLWA in Nigeria. *AIDS care*, 14(1), 117-126.
- Annan, N. (2014). Violent conflicts and civil strife in West Africa: causes, challenges and prospects. *Stability: International Journal of Security and Development*, 3(1).
- Apata, T., Rahji, M., Apata, O., Ogunrewo, J., & Igbalajobi, O. (2010). Effects of HIV/AIDS epidemic and related sicknesses on family and community structures in Nigeria: Evidence of emergence of older care-givers and orphan hoods. *Journal of Science and Technology Education Research*, 1(4), 73-84.
- Apt, N. A. (1997). *Ageing in Africa*: World Health Organization Geneva.
- Arber, S., & Timonen, V. (2012). *Contemporary grandparenting: Changing family relationships in global contexts*. Bristol: Policy Press.
- Barrientos, A., Gorman, M., & Heslop, A. (2003). Old age poverty in developing countries: contributions and dependence in later life. *World Development*, 31(3), 555-570.
- Blattman, C., & Miguel, E. (2010). Civil war. *Journal of Economic Literature*, 3-57.
- Bongaarts, J., & Zimmer, Z. (2002). Living arrangements of older adults in the developing world an analysis of demographic and health survey household surveys. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 57(3), S145-S157.
- Brennan, R. J., & Nandy, R. (2001). Complex humanitarian emergencies: a major global health challenge. *Emergency Medicine*, 13(2), 147-156.
- Buffel, T., & Phillipson, C. (2012). Ageing in urban environments: Developing 'age-friendly' cities. *Critical Social Policy*, 32(4), 597-617.

- Butler, C. K., & Gates, S. (2012). African range wars: Climate, conflict, and property rights. *Journal of Peace Research*, 49(1), 23-34.
- Chaplin, B., Meloni, S., Eisen, G., Jolayemi, T., Banigbe, B., Adeola, J., . . . Okonkwo, P. (2015). Scale-up of networked HIV treatment in Nigeria: creation of an integrated electronic medical records system. *International journal of medical informatics*, 84(1), 58-68.
- Charurat, M., Emmanuel, B., Akolo, C., Keshinro, B., NOWAK, R., Kennedy, S., . . . Baral, S. (2015). Uptake of treatment as prevention for HIV and continuum of care among HIV-positive men who have sex with men in Nigeria. *Journal of acquired immune deficiency syndromes (1999)*, 68(Suppl 2), S114.
- Chen, F., Liu, G., & Mair, C. A. (2011). Intergenerational ties in context: Grandparents caring for grandchildren in China. *Social Forces*, sor012.
- Cohen, L. (1994). Old age: cultural and critical perspectives. *Annual Review of Anthropology*, 137-158.
- Demmer, C. (2011). Experiences of families caring for an HIV-infected child in KwaZulu-Natal, South Africa: an exploratory study. *AIDS care*, 23(7), 873-879.
- Demographic and Health Surveys (Macro International): <http://dhsprogram.com/What-We-Do/Protecting-the-Privacy-of-DHS-Survey-Respondents.cfm>
- Diop, A. M. (1989). The place of the elderly in African society. *Impact of science on society*, 153, 93-98.
- Edmonds, E. V., Mammen, K., & Miller, D. L. (2005). Rearranging the family? Income support and elderly living arrangements in a low-income country. *Journal of Human resources*, 40(1), 186-207.
- Edwards, O. W. (2006). Teachers' perceptions of the emotional and behavioral functioning of children raised by grandparents. *Psychology in the Schools*, 43(5), 565-572.

- Ejemot-Nwadiaro, R. I., Ehiri, J. E., Arikpo, D., Meremikwu, M. M., & Critchley, J. A. (2015). Hand washing promotion for preventing diarrhoea. *The Cochrane Library*.
- Fearon, J. D., & Laitin, D. D. (2011). Sons of the soil, migrants, and civil war. *World Development*, 39(2), 199-211.
- Hashimoto, A., Coppard, L. C., & Kendig, H. L. (1992). *Family support for the elderly: the international experience*. New York: Springer.
- Hidaka, B. H. (2012). Depression as a disease of modernity: Explanations for increasing prevalence. *Journal of Affected Disorder*, 140(205-214).
- Izuhara, M. (2010). *Ageing and intergenerational relations: Family reciprocity from a global perspective*. Bristol: Policy Press.
- Kautz, T., Bendavid, E., Bhattacharya, J., & Miller, G. (2010). AIDS and declining support for dependent elderly people in Africa: retrospective analysis using demographic and health surveys. *BMJ*, 340, c2841.
- Kelley, S. J., Whitley, D. M., & Campos, P. E. (2010). Grandmothers raising grandchildren: Results of an intervention to improve health outcomes. *Journal of Nursing Scholarship*, 42(4), 379-386.
- Kelley, S. J., Whitley, D. M., & Campos, P. E. (2011). Behavior problems in children raised by grandmothers: The role of caregiver distress, family resources, and the home environment. *Children and Youth Services Review*, 33(11), 2138-2145.
- Komjakraphan, P., & Chansawang, W. (2015). Maintaining Harmony of Life in Skipped-Generation Households of the Older Adults. *Asian Pacific Island Nursing Journal*, 2(1). doi: 10.1177/2373665815569505
- Leticq, B. L., Bailey, S. J., & Kurtz, M. A. (2008). Depression Among Rural Native American and European American Grandparents Rearing Their

- Grandchildren. *Journal of Family Issues*, 29(3), 334-356. doi: 10.1177/0192513x07308393
- Liu, L., Oza, S., Hogan, D., Perin, J., Rudan, I., Lawn, J. E., . . . Black, R. E. (2015). Global, regional, and national causes of child mortality in 2000–13, with projections to inform post-2015 priorities: an updated systematic analysis. *The Lancet*, 385(9966), 430-440.
- 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*, 13:682. Retrieved from <http://www.biomedcentral.com/1471-2458/1413/1682>.
- Medeiros, E. A., Grinberg, G., Rosenthal, V. D., Angelieri, D. B., Ferreira, I. B., Cechinel, R. B., . . . Spessatto, J. L. (2015). Impact of the International Nosocomial Infection Control Consortium (INICC) multidimensional hand hygiene approach in 3 cities in Brazil. *American journal of infection control*, 43(1), 10-15.
- Mekasha, A., & Tesfahun, A. (2003). Determinants of diarrhoeal diseases: a community based study in urban south western Ethiopia. *East African medical journal*, 80(2), 77-82.
- Mills, T. L., Gomez-Smith, Z., & De Leon, J. M. (2005). Skipped Generation Families: Sources of Psychological Distress Among Grandmothers of Grandchildren Who Live in Homes Where Neither Parent Is Present. *Marriage & Family Review*, 37(1-2), 191-212. doi: 10.1300/J002v37n01_12
- Mokomane, Z. (2013). Social protection as a mechanism for family protection in sub-Saharan Africa. *International Journal of Social Welfare*, 22(3), 248-259.
- Musil, C. M., Gordon, N. L., Warner, C. B., Zauszniewski, J. A., Standing, T., & Wykle, M. (2011). Grandmothers and caregiving to grandchildren: Continuity, change,

- and outcomes over 24 months. *The Gerontologist*, 51(1), 86-100.
- Nsagha, D. S., Bissek, A.-C. Z., Nsagha, S. M., Assob, J.-C. N., Kamga, H.-L. F., Njamnshi, D. M., . . . Njamnshi, A. K. (2012). The burden of orphans and vulnerable children due to HIV/AIDS in Cameroon. *The open AIDS journal*, 6, 245.
- Nsona, H., Mtimuni, A., Daelmans, B., Callaghan-Koru, J. A., Gilroy, K., Mgalula, L., & Kachule, T. (2012). Scaling up integrated community case management of childhood illness: update from Malawi. *The American journal of tropical medicine and hygiene*, 87(5 Suppl), 54-60.
- Oduaran, A., & Oduaran, C. (2010). Grandparents and HIV and AIDS in Sub-Saharan Africa. *Ageing and Intergenerational Relations: Family Reciprocity from a Global Perspective*, 95.
- Okafor, E. E., & Amzat, J. (2007). Problems of malaria menace and behavioural intervention for its management in Sub-Saharan Africa. *Hum Ecol*, 21, 155-162.
- Oppong, C. (2006). Familial roles and social transformations older men and women in sub-Saharan Africa. *Research on Aging*, 28(6), 654-668.
- Rugemalila, J. B., Wanga, C. L., & Kilama, W. L. (2006). Sixth Africa malaria day in 2006: how far have we come after the Abuja Declaration? *Malaria journal*, 5(1), 1.
- Schatz, E., & Gilbert, L. (2012). "My heart is very painful": Physical, mental and social wellbeing of older women at the times of HIV/AIDS in rural South Africa. *Journal of Aging Studies*, 26(1), 16-25.
- Schatz, E., & Ogunmefun, C. (2007). Caring and contributing: The role of older women in rural South African multi-generational households in the HIV/AIDS era. *World Development*, 35(8), 1390-1403.

- Scholten, F., Mugisha, J., Seeley, J., Kinyanda, E., Nakubukwa, S., Kowal, P., . . . Grosskurth, H. (2011). Health and functional status among older people with HIV/AIDS in Uganda. *BMC Public Health, 11*(1), 1.
- Seeley, J., Dercon, S., & Barnett, T. (2010). The effects of HIV/AIDS on rural communities in East Africa: a 20-year perspective. *Tropical Medicine & International Health, 15*(3), 329-335.
- Shetty, P. (2012). Grey matter: ageing in developing countries. *The Lancet, 379*(9823), 1285-1287.
- Smith, G. C., & Palmieri, P. A. (2007). Risk of psychological difficulties among children raised by custodial grandparents. *Psychiatric Services, 58*(10), 1303-1310.
- Tambo, E., Adedeji, A. A., Huang, F., Chen, J.-H., Zhou, S.-S., & Tang, L.-H. (2012). Scaling up impact of malaria control programmes: a tale of events in Sub-Saharan Africa and People's Republic of China. *Infectious Diseases of Poverty, 1*(1), 1.
- Velkoff, V. A. (2001). Living Arrangements and Well-being of the Older Population: Future Research Directions. *Department of Economic and Social Affairs, Population Division, UN Population Bulletin Nos. 42/43*.
- Walker, P. G., White, M. T., Griffin, J. T., Reynolds, A., Ferguson, N. M., & Ghani, A. C. (2015). Malaria morbidity and mortality in Ebola-affected countries caused by decreased health-care capacity, and the potential effect of mitigation strategies: a modelling analysis. *The Lancet Infectious Diseases, 15*(7), 825-832.
- Woodbridge, S. (2010). *Exploring the Relationship between Grandparents and their Grandchild who has a disability*. (Doctoral thesis, Queensland University of Technology).

- Zagheni, E. (2011). The impact of the HIV/AIDS epidemic on kinship resources for orphans in Zimbabwe. *Population and Development Review*, 37(4), 761-783.
- Zeitlin, M. F., Megawangi, R., Kramer, E. M., Nancy D. Colletta, N. D., Babatunde, E. D., & Garman, D. (1995). *Strengthening the family - Implications for international development*. Tokyo: United Nations University Press.
- Zimmer, Z., & Das, S. (2014). The Poorest of the Poor: Composition and Wealth of Older Person Households in Sub-Saharan Africa. *Research on Aging*, 36(3), 271-296. doi: 10.1177/0164027513484589
- Zimmer, Z., & Dayton, J. (2005). Older adults in sub-Saharan Africa living with children and grandchildren. *Population studies*, 59(3), 295-312.